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ARTICLES

INTRODUCTION TO RECENT INSIGHTS INTO FINANCIAL, HOUSING, AND MONETARY MARKETS

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This short note gives an overview of recent research on topics concerning Financial, Housing, and Monetary markets. In particular, I introduce a special issue that includes a selection of papers presented at the second International Workshop on Financial Markets and Nonlinear Dynamics (FMND) held in Paris in June 2015 (www.fmnd.fr). The papers investigate various issues and discuss hypotheses that help us to understand asset price dynamics and their impact on real activity, as well as the new rules governing financial markets. Furthermore, their conclusions can help us to improve the forecasting of market trends in the future.

Keywords: Financial Markets, Housing, Exchange Rate, Monetary Policy, Macroeconomic Dynamics

1. INTRODUCTION

Financial markets have always been considered as markets that enable finance to be raised either in the long term via Capital markets (Stock markets and Bond markets) or in the short term through the Money markets. These markets have developed very rapidly over the two last decades. Furthermore, their ability to raise capital and to provide high liquidity for investors has led to a more rapid and a more significant increase of these financial industries than the goods and service markets.

The boost to the financial markets has also been facilitated by the implementation of recent Information and Communications Technology tools and the Internet, resulting in the emergence of the so-called financial innovation. The latter encapsulates the development of diverse sophisticated financial products, derivatives, and instruments. It also reflects the modernization of financial systems that have been rapidly shared among investors in the markets in industrialized and emerging economies.

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The extensive growth of the financial markets since the 1980s and the 1990s has gradually led several governments and institutions to follow the upsurge without sufficiently taking into enough account the fact that the procedure is not without risk. Indeed, several markets have been liberalized to enable investors to easily invest anywhere and thus to gain exceptional profit from their investments, resulting in widespread financial globalization. Different measures have also been taken to enhance deregulation and to rapidly step up the passage through the financial market to raise capital, thereby increasing credit market and public debt. Shiller (2015) analyzed this market behavior as one consequence of "animal spirits" [Akerlof and Shiller (2009)].

Consequently, financial asset prices have reached their highest ever levels over the last decade, and increasingly appear less benchmarked toward their fundamentals or fair values. Thus, the financial markets have appeared volatile and somewhat disconnected from the real economy, which might suggest that markets are tending toward a bubble. But as householders have kept their preferences unchanged for some time and have not changed their "animal spirits," the financial markets have continued to increase with no indication of mean-reversion toward fundamentals, or even a sign of disconnect from the real economy.

Interestingly, this growth in the financial markets has had—at least in a first step—a positive impact on the real economy. Interestingly, it offers further evidence of the stability of volatility regarding both inflation and gross domestic product growth, leading to the so-called *Great Moderation*. This *Great Moderation* has of course different advantages and characteristics (easier economic planning, weak inflation risk and cost, low level of uncertainty, credible policy makers, stable monetary policy, etc.). Consequently, during this Great Moderation, financial asset prices have continued to rise, reaching extremely high levels without drawing the attention of policy makers and central banks. For example, house prices have surged due to high demand through the application of "animal spirits," and the take-up of housing supply to benefit from these conditions (high prices and low building costs), with the whole US real estate market experiencing extreme overvaluation.

Since 2007 and the appearance of the US "housing bubble," considered by Shiller (2015) as a kind of shift in "animal spirits," the financial markets have experienced a global financial crisis. This financial downturn led to losses for several markets, bankruptcy for different banks and investors, and a general Great Economic Downturn that resulted in the End of the Great Moderation. Consequently, governments, central banks, and policy makers implemented a range of actions and new rules to reduce the impact of the crisis and overhaul the financial systems. These different actions affect not only the Housing and Financial Markets, but also the whole real economy.

The current issue of Macroeconomic Dynamics presents a selection of recent research papers to discuss some of the Housing, Financial and Monetary market issues in order to better understand their dynamics and follow their mutations. The next section presents the different contributions of this special issue.

2. PRESENTATION OF THE CONTRIBUTIONS

The papers in this special issue of *Macroeconomic Dynamics* were presented at the second International Workshop on Financial Markets and Nonlinear Dynamics (FMND), organized in Paris on June 4–5, 2015 (www.fmnd.fr). Their selection was made through a double-review process.

I present these papers in the introduction and briefly discuss their main findings. The papers focus on various research topics, and their applications cover three important markets: housing, stock, and monetary markets.

The first three papers focus on monetary economics topics. The first paper, entitled "*A Nonlinear Analysis of the Real Exchange Rate-Consumption Relationship*," by Efthymios G. Pavlidis (Lancaster University Management School, United Kingdom), Ivan Paya (Lancaster University Management School, United Kingdom), and David A. Peel (Lancaster University Management School, United Kingdom), focuses on exchange rate modeling with recent developments of nonlinear times series models. In particular, the authors investigate the relationship between real exchange rates and real consumption for 14 Organization for Economic Co-operation and Development (OECD) countries using smooth transition models. Their findings point to further evidence of smooth transition nonlinearity, conditional heteroscedasticity, and a volatility change in the relationship between real exchange rates and consumption for several countries. Interestingly, they show that their new specification can account for the Backus and Smith as well as the exchange rate disconnect puzzles. Furthermore, their study contributes to the nonlinear exchange rate literature via the proposition of a theoretical link between volatility and persistence in smooth transition models.

The second paper is by Eiji Okano (Nagoya City University, Japan) and Hamano Masashige (Sophia University, Japan), and is entitled: "*Inflation Stabilization and Default Risk in a Currency Union.*" The authors develop a Dynamic Stochastic General Equilibrium Model with nominal rigidities under the hypothesis of a two-country currency union framework with sovereign risk. They highlight the absence of a trade-off between a policy aiming at stabilizing inflation and the prevention of default risk. In particular, the authors found that action on tax rates allows the inflation rate to remain stable. These findings led them to recommend that governments address taxation failures, while central banks should simultaneously fight price volatility and stimulate economic growth.

The third paper is by Olivier Damette (University of Lorraine, France) and Antoine Parent (Sciences Po-Lyon and CAC-IXXI, France) and is entitled: "*Did the Fed Respond to Liquidity Shortage Episodes During the Great Depression?*". In this paper, the authors analyzed the monetary policy conducted by the Fed in the 1930s and carried out nonlinear estimations to investigate US monetary policy during the October 1929 economic depression. According to the authors, there was a shift in the conduct of the Fed monetary policy in the early 30s. In particular, the Fed did not act to "*counteract the liquidity shortage episode identified in 1928–1929.*" Furthermore, the authors point to the presence of nonlinearities in Fed

policy reactions during the interwar period. They identify three distinct regimes in the Fed's reactions: a "regular regime" from 1922 to the end of 1927, a "liquidity shortage regime" from mid-1928 to January 1930, and a "regular regime" from 1930 to 1941.

"*Beliefs Shock and the Macroeconomy*" by Jacek Suda (Narodowy Bank Polski, Poland) is the title of the fourth paper. This also focuses on the Great Depression economic environment. Using Bayesian learning in a standard equilibrium cycle framework, the author studies the effects on the macroeconomy of belief shocks arising from the Great Depression. The author puts forward various hypotheses for his model: (i) productivity is distributed following an observable exogenous stochastic regime-switching model, (ii) households have subjective beliefs about productivity distribution, (iii) agents learn by starting with initial beliefs but update them using Bayes low, etc. The resulting findings point to the further evidence of the lingering effects of belief-twisting events on the behavior of economic agents and consequently on macroeconomic variables. In particular, it seems that a significant belief shock on the part of the agent could have a major and persistent macroeconomic effect. For the author, persistence is justified by the fact that it would require several decades to correct the pessimism induced by the belief shocks.

The paper "*Destabilizing Effects of Bank Overleveraging on Real Activity-An Analysis Based on A Threshold MCS-GVAR*" is coauthored by Marco Gross (European Central Bank, Germany), Jerome Henry (European Central Bank, Germany), Stefan Mittnik (University of Munich, Germany), and Willi Semmler (New School for Social Research, USA). The paper investigates the consequences of overleveraging on real activity, in particular, by modeling its impact on macro-financial linkages. To this end, the authors estimate a Threshold Mixed-Cross-Section Global Vector Autoregressive model. This model is interesting in that it combines different cross-section types (countries with banks, central banks, etc.). Accordingly, it highlights the presence of nonlinearities and shows that the more observed leverage there is in banks from optimal leverage, the more harmful the effect of deleveraged stock on both credit supply and economic activity.

Francesco Carli (Deakin Business School, Australia) and Leonor Modesto (UCP, Catolica Lisbon School of Business and Economics, Portugal) coauthored the paper "*Endogenous Credit and Investment Cycles with Asset Price Volatility.*" They focus on the links between market frictions and macroeconomic fluctuations, as well as on the dynamics of asset price volatility. Using a general equilibrium model with production and investment in productive capital under the hypotheses of a specific credit friction, limited commitment, and agents who can trade bonds, the authors point to the stationary equilibrium in their model displays. In addition, they show that limited commitment might yield indeterminacy and stochastic fluctuations driven by self-fulfilling volatile expectations that can generate credit and investment cycles. Accordingly, the authors conclude that limited commitment might play an important role in explaining volatility in credit market.

The next paper, "*Modeling International Stock Price Comovements with High Frequency Data*," coauthored by Hachmi Ben Ameur (INSEEC Business School,

France), Fredj Jawadi (University of Evry, France), Wael Lohichi (ESSCA School of Management, France), and Karim Idi Cheffou (EDC Paris Business School, France), investigates the hypothesis of stock price comovements in the United States and major European countries (Germany, the United Kingdom, and France). To this end, the authors use high-frequency data and test this hypothesis for both "calm" and crisis periods. For the sake of robustness, they use the non-Gaussain Asymmetric Dynamic Conditional Correlation-GARCH model as well as the Marginal Expected Shortfall (MES) approach. Accordingly, their findings show the presence of significant asymmetric and time-varying co-movements across markets. Furthermore, the MES approach indicates that US and European markets contribute to each other's systemic risk, with significant input from Frankfurt to the French and US stock markets. Finally, their findings indicate that the propagation of systemic risk is higher during crisis periods and overlapping trading hours. Accordingly, the authors recommend the use of the MES test to better monitor market exposure to systemic risk and thus gauge expected losses for other markets.

The two last papers are about the housing market. Guido Ascari (Oxford University, United Kingdom), Nicolo Pecora (Catholic University, Italy), and Alessadro Spelta (Catholic University, Italy) coauthor a paper entitled "*Booms and Busts in a Housing Market with Heterogeneous Agents.*" In this study, the authors develop a dynamic partial equilibrium model of the housing market in which house prices result from the interaction between chartists and fundamentalists. In particular, they employ an Agent-based Model of Chartism and fundamentalism, where agents are not rational but use diverse adaptive learning rules to forecast future house prices. Interestingly, their model endogenously generates boom and bust episodes and shows the presence of exogenous and endogenous behavioral factors, including human psychology, "animal spirits," and mode effects [Tversky and Kahneman (1973), Akerlof and Shiller (2009), Hommes (2011), Shiller (2012a,b)], that might better explain the house price dynamics. It also reproduces the recent US subprime crisis. For the authors, housing market cycles can be explained by changes in housing demand as well as variations in household preference.

Luca Agnello (University of Palermo, Italy), Vitor Castro (University of Coimbra, Portugal), and Ricardo Sousa (University of Minjo and London School of Economics, Portugal) are the authors of the last paper in this special issue, entitled "*Economic Activity, Credit Market Conditions and the Housing Market.*" In this study, the authors investigate the characteristics of the housing market for 20 industrial countries over the period 1970Q1–2012Q2. To this end, they estimate a discrete-time Weibull duration model and show that the different phases of the housing market cycle significantly and strongly depend on economic activity, with the most important role played by credit market conditions during housing booms. Furthermore, the authors show that while European and non-European countries seem to echo similar housing booms in terms of length, housing busts are shorter in European countries. Accordingly, the authors suggest that their model could be helpful to improve forecasting of the length of housing boom-bust cycles.

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