



Towards a new research programme on ‘banking and the economy’ – Implications of the Quantity Theory of Credit for the prevention and resolution of banking and debt crises [☆]

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ABSTRACT

The financial crisis has triggered a new consensus among economists that it is necessary to include a banking sector in macroeconomic models. It is also necessary for the finance and banking literature to consider how best to incorporate systemic, macroeconomic feedbacks into its modelling of financial intermediation. Thus a new research programme on the link between banking and the economy is needed. This special issue is devoted to this theme. In this paper an overview of the issues and problems in the economics and finance literature is presented, and a concrete, simple approach is identified of how to incorporate banks into a macroeconomic model that solves many of these issues. The model distinguishes between the type of credit that boosts GDP and credit that is associated with asset prices and banking crises. The model is consistent with the empirical record. Some applications are discussed, namely the prediction and prevention of banking crises, implications for fiscal policy, and a solution to the European sovereign debt crisis that stimulates growth while avoiding the corner solutions of euro exit or fiscal union.

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1. Introduction

Since the outbreak of the financial crisis emanating from the US and UK in 2007 and 2008, macroeconomics has been the target of severe criticism.¹ Thanks to the banking crisis, a broader spectrum of the public became aware of the fact that leading economic theories and models, as well as influential advanced textbooks in macroeconomics and monetary economics, did not feature money (e.g. Woodford, 2003), or banks (Walsh, 2003; Woodford, 2003). In the UK in 2010, the most

commonly used textbook in macroeconomics on MSc Economics programmes was that of Romer (2006), *Advanced Macroeconomics*.² On page 3, Romer explains that he is virtually not covering money in his book, because:

“Incorporating money in models of growth would only obscure the analysis” (p. 3).

Without money there is also no financial sector. Likewise, the hitherto popular DSGE models had not included a financial sector, a deficiency not easily remedied due to their particular methodology and assumptions. Economists have increasingly conceded that this state of affairs is unsatisfactory. Alan Greenspan confessed in 2008 that he recognised a ‘flaw’ in mainstream models (Congress, 2010). Simon Johnson (2009) of the Peterson Institute of International Economics concluded:

“Whether or not our economies manage to avoid a major global depression, economics is in crisis. ... [We need] to rethink a great deal about economics and how economies operate” (Johnson, 2009).

Donald Kohn (2009), as Vice-Chairman of the Federal Reserve, reflected the sense of embarrassment of the economics profession

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¹ For instance, Nassim Taleb said: “People who were driving a school bus blindfolded (and crashed it) should never be given a new bus. The economics establishment (universities, regulators, central bankers, government officials, various organisations staffed with economists) lost its legitimacy with the failure of the system. It is irresponsible and foolish to put our trust in the ability of such experts to get us out of this mess. Instead, find the smart people whose hands are clean” (Taleb, 2009).

² Survey of top 40 MSc programmes conducted by author in September 2010.

when having to admit to the public that most economic models simply assumed that banks did not exist:

"It is fair to say ... that the core macroeconomic modelling framework used at the Federal Reserve and other central banks around the world has included, at best, only a limited role for ... credit provision, and financial intermediation. ... asset price movements and the feedback among those movements, credit supply, and economic activity were not well captured by the models used at most central banks."

These insights did not arrive a moment too early. Macroeconomics has experienced a number of major empirical challenges over the past 30 years or so, which have largely remained unaddressed by the mainstream literature. The time may now be ripe for a more fundamental rethink in order to address them.

While economists seem to have taken the brunt of the public critique triggered by the crisis, researchers in the fields of banking and finance, often situated at business schools and supposedly more keenly interested in real world applications of their work, seem to have largely avoided criticism. However it could be argued that banking and finance research also failed in delivering prescriptions, tools and recommendations for appropriate regulation, supervision and risk management. While economists had dropped banking from their work, entire disciplines that focus almost exclusively on financial intermediaries exist. Why did they not warn about the looming banking crisis? Alan Greenspan said in 2008 that "modern risk management ... the entire edifice ... has collapsed" (Congress, 2010). Why did the apparently sophisticated approaches in risk management, portfolio optimisation and asset allocation seem of little help when the banking crisis struck?

A fundamental problem seems to be the very separation of disciplines into economics on the one hand, with the potential to capture systemic and macroeconomic aspects, and finance and banking on the other, with the potential to model banks in detail. The separation allowed the systemic importance of banks to remain unnoticed: The economists have tended not to model the financial infrastructure and banking, and the finance and banking researchers have tended not to be concerned with macroeconomic effects of the collective behaviour of financial institutions. Focusing on microeconomic studies of representative financial institutions, they neglected the systemic effects of collective bank behaviour that may affect the entire economy and thus generate important feedback to banks. Both disciplines had developed in a way that blindsided them concerning banking crises.

It could thus be said that economics needs more finance and banking, while finance and banking need more economics. A new interdisciplinary research programme on 'banking and the economy' is required, based on the inductive, empirically-based research methodology. This special issue is devoted to a first conference on this theme, the European Conference on Banking and the Economy (ECOBATE), held on 29 September 2011 at Winchester Guildhall, and organised by the Centre for Banking, Finance and Sustainable Development, University of Southampton Management School. This paper is meant as a call for such a new interdisciplinary research programme on banking and the economy. To illustrate the need and importance of this topic, I survey the state of modern macroeconomics, combined with commentary on relevant finance theory, and point out the many empirical challenges that need to be overcome. But to take the discussion a step further, I present an introduction to a concrete model linking banking and the economy via the reflection of a fundamental, yet usually neglected fact about banks of which both finance and economics experts are often unaware for the majority of their career: banks create the money supply through the process of 'credit creation'. This topic is also the focus of the keynote address at the ECOBATE conference, by Lord Turner (2012–this issue), FSA Chairman. This special issue carries selected contributions to the conference. As there is also a need for a forum to discuss policy-focused papers, a selection of such contributions, including Lord Turner's, can be found in the policy section.

In this paper I first discuss seven major empirical puzzles in macroeconomics and then a simple modification of the most basic macro

model, the quantity equation, namely my Quantity Theory of Credit, which I first proposed 20 years ago. It enables the introduction of the banking sector into macroeconomic models and offers solutions to the puzzles. I next discuss the justification for this model and its empirical record. This is followed by an application of the model to current questions of how to prevent banking crises, how fiscal policy can be effective or ineffective depending on the role and contribution of the banking sector, and how to solve the European sovereign debt crisis.

2. Major 'anomalies' in macroeconomics

2.1. The velocity decline and the inability to define money

The widespread criticism of recent macroeconomic approaches suggests that the research agenda culminating in models that neither feature banks nor incorporate monetary variables has not been successful. If macroeconomics has proceeded down the wrong path, one needs to return to the crossroads at which the path to moneyless real business cycle models, DSGE formulations or versions of Woodford's (2003) approach was taken.

It may not be possible to identify a single point in time, but the late 1980s cannot be far off: until about the mid-1980s, the hitherto prevailing approaches (classical, many neo-classical, Keynesian, monetarist and post-Keynesian approaches, as well as most eclectic models), despite their differences, had much in common. They still included a monetary aggregate that was linked to nominal GDP through the quantity equation:

$$MV = PY \quad (1)$$

whereby M stands for the money supply (measured and defined variously as M0, M1, M2, M3 or M4), V denotes the (income) velocity of money (originally the number of times gold was said to circulate during an observation period), P the GDP deflator (the appropriate price level) and Y symbolises real GDP. PY hence represents nominal GDP. Expressed in logarithms, this relationship can also be stated as:

$$m + v = p + y. \quad (2)$$

Friedman had famously claimed that this equation was characterized by a

"uniformity ... of the same order as many of the uniformities that form the basis of the physical sciences. And the uniformity is in more than direction. There is an extraordinary empirical stability and regularity to such magnitudes as income velocity that cannot but impress anyone who works extensively with monetary data" (Friedman, 1956, p. 21).

He still called it "an identity, a truism" decades later (Friedman, 1992, p. 39). Handa (2000) still wrote, somewhat confidently, that Eq. (1)

"is valid under any set of circumstances whatever since it can be reduced to the statement: in a given period by a given group of people, expenditures equal expenditures, with only a difference in the computational method between them" (p. 25).

Until about the mid-1980s Eq. (1) or (2) were the widely accepted work-horse that represented the link between the tangible ('real') economy and the financial/monetary sectors. However, from the early 1980s onwards, faith in this link had been increasingly shaken by the widespread and growing empirical observation that velocity had become erratic, was declining significantly and the money demand function was unstable (e.g. Belongia & Chalfant, 1990; Boughton, 1991; Hendry, 1985). The 'quantity equation' relationship, expressed as a stable income velocity, "came apart at the seams during the course of the 1980s" (Goodhart, 1989). This phenomenon is known as the 'velocity decline', 'breakdown of the money demand function', or even the 'mystery of the

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