Stock market booms, endogenous credit creation and the implications of broad and narrow banking for macroeconomic stability

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ABSTRACT

In this paper we study the implications of the present broad banking system for macroeconomic stability. We show that when commercial banks are allowed to trade in financial assets (here equities) as a substitute for traditional lending, the macroeconomic system is likely to be an unstable one. We then consider a narrow banking system defined by a Fisherian 100 percent reserve ratio for checkable deposits and the ban for commercial banks from trading in stocks and other financial assets. Within the stylized theoretical framework set up here, we show that in the second system macroeconomic stability is guaranteed by some weak assumptions on the behavior of economic agents. Moreover, while a sufficient loan supply can be guaranteed in such a framework, the rationale for bank runs can be eliminated, in contrast to what is likely to happen under traditional broad banking. Though narrow banking is an extreme banking system unlikely to be adopted in the short-run, its features highlight the stability and efficiency properties that the separation between commercial and investment banking bring about.

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1. Introduction

Over the last 25 years a great deal of research has demonstrated both theoretically and empirically how the financial markets, and especially the commercial banking sector amplify – through the financial accelerator mechanism described by Bernanke and Gertler (1989) – developments that originated in the real side of the economy. However, as pointed out by Bordo (2007), the prominent role of credit in the amplification of shocks at the macroeconomic level was acknowledged much earlier. According to Kindleberger and Aliber (2005), it is the instability of credit that has lead historically to macrofinancial instability, while for Minsky (1982, 1986) it is the way financing becomes de-linked from the collateral that contributes to a downward spiral once large real or financial shocks occur.

In recent times, however, the role and extent of commercial banking itself and the issue of whether it adds to macroeconomic instability has become the focus of a large body of literature (see e.g. Adrian et al., 2010; Brunnermeier and Sannikov, 2010; Gorton, 2009, 2010). Along the lines of this new generation of studies which depart from the rational expectations paradigm in macroeconomic modeling of the last two decades, in this paper we set up a behavioral theoretical macrofinancial framework to study the implications of broad and narrow banking for macroeconomic stability. In the first instance

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we study a broad banking system characterized by the non-separation of commercial and investment banking (such a system was put in place by the partial repeal of the Glass-Steagall Act of 1933 and the Bank Holding Company Act of 1956 through the Gramm-Leach-Bliley Act of 1999).[1] In particular we focus on the destabilizing credit channel effect that comes into operation if commercial banks are strongly stock market oriented in their decision on new loan supplies.[2]

Thereafter we contrast such a system with a narrow banking system, characterized in turn by a Fisherian 100 percent reserve ratio for checkable deposits and the exclusion of trade in stocks and other assets for commercial banks.[3] According to the narrow banking view, commercial banks should not be allowed to endogenously create (perfectly liquid) checkbook money out of the central bank money in their balance sheet, where they are therefore simply offering services in the form of depositary institutions, nor should they be allowed to purchase equities through ink stroke money (which would return to them in the form of checkable or time deposits through the circuit of money). If equities cannot be purchased by money creation of type M1 (or vice versa), commercial banks will not so easily engage in speculative behavior, because in such a system banks would no longer hold equities as bank capital. Equities prices would no longer be of importance for the conduct of banks' businesses and would thus be removed from the loan rate setting policy (see Section 2) of these narrowly defined banks. Furthermore, if the process of checkable money supply remains fully in the hands of the central bank (since it can set the reserve ratio on checkable deposits equal to 100 percent), the rationale for bank runs on checkable deposits would disappear, as the public would know that all checkable deposits in the hands of the commercial banks are backed up by reserves at the central bank. The primary role of the commercial banks – besides being depositary institutions – would then be confined to the active creation of sufficient time deposits through their loan rate and deposit rate setting via the circuit of money, possibly supported in addition by a money supply or withdrawal rule of the central bank in view of what happens in the interaction between the real and the financial markets (to be considered briefly later on). As we will show, such narrowly defined commercial banks (where all sorts of investment banking are excluded) are able to support macroeconomic stability and can be efficient in the satisfaction of the credit demand of firms, besides being safeguarded against banks runs.

The remainder of this paper is organized as follows: in the next section the general theoretical framework featuring a broad banking system is introduced by means of the discussion of the balance sheets and flow accounts of the different sectors of the economy. In Section 3 the stability properties of a broad banking macrofinancial system are discussed. Thereafter, in Section 4 the model is modified towards a narrow banking system and its stability properties are analyzed. Finally, Section 5 concludes.

2. The theoretical framework

For the sake of expositional clarity we introduce the theoretical model by way of balance sheets and flow accounts for the four sectors of the economy considered here: firms, commercial banks, households and the central bank. Commercial banks create loans – if this is sufficiently profitable – by selling equities on the stock market to the household sector (and vice versa with respect to credit reduction). Moreover they can create new deposits by providing loans through what we shall call "ink stroke money", which they generate when loans reappear at first as checkable deposits in the household sector. This latter process of credit creation will however only concern us when the concept of a narrow banking system is introduced.

We denote in the following by $\dot{x}$ the time derivative of a variable x, by $\hat{x}$ the growth rate of x and by f' the first derivative of a function $f(\cdot)$. We do not consider goods price inflation and normalize the corresponding price level at 1. The only variable price of the model is the share price p_e.

2.1. The entrepreneurial sector

Firms are assumed to produce an output good – which is assumed to have a constant price normalized to one – using labor N and capital K as input factors. In principle, firms can of course finance their investment in capital stock K through the issue of equities E, loans L, or by their period's profits Π_f (to be defined below). However, in the analysis of this paper we will abstract from the first external financing source (equity issuance), as well as from the feedback effects of the accumulation of assets $\dot{E}$ and $\dot{K} = I$ (investment). Accordingly, for notational simplicity we therefore assume that $K = E$ holds. Further, since the Metzlerian inventory adjustment process is not incorporated into the present framework, inventories V are adjusted passively to the difference between aggregate demand and supply $Y^d - Y = -\dot{V}$, the latter being in turn determined by a dynamic multiplier process to be discussed later. These variables are summarized in Table 1.