Available online at www.sciencedirect.com
SCIENCE DIRECT®
Journal of Financial Stability 1 (2005) 279–307
Journal of FINANCIAL STABILITY
www.elsevier.com/locate/jfstabil

Bank runs, welfare and policy implications

Haibin Zhu*

Bank for International Settlements, Basel-4002, Switzerland

Abstract

This paper studies the welfare implications of various government policies that have been used to prevent bank runs. The benchmark model suggests that a bank run is a business-cycle-state-related phenomenon and it leads to the failure of the risk-sharing mechanism provided by the banking sector. Extensions of the model show that a number of policy instruments, including the suspension of convertibility of deposits, the taxation on short-term deposits, reserve requirement and blanket guarantee, turn out to be inefficient. Instead, I propose that a limited-coverage deposit insurance scheme or capital requirements can be welfare-improving.

JEL classification: G21; G28; E53

Keywords: Bank runs; Bank regulation; Suspension of convertibility; Deposit insurance; Capital requirement

1. Introduction

The banking sector is vulnerable to bank runs because, by nature, banks issue liquid liabilities but invest in illiquid assets. When a bank run occurs, agents rush to the banks and withdraw their funds as quickly as possible. Banks are driven into bankruptcy due to liquidity problems. The breakdown of the banking industry distorts capital allocation and in most situations adds downward pressure to the real economy.

* Tel.: +41 61 280 9164; fax: +41 61 280 9100.
E-mail address: haibin.zhu@bis.org.

S1572-3089/$ – see front matter ©2005 Elsevier B.V. All rights reserved.
doi:10.1016/j.jfs.2005.02.002

Historically, bank runs occurred frequently in Europe in the 19th century, and plagued the United States until the reform of the Federal Reserve System after the crisis of 1933. In recent years, many emerging market economies have had severe banking problems, many of which have some form of bank run. For instance, Lindgren et al. (1996) find that 133 out of the 181 IMF's member countries suffered some form of banking crisis between 1980 and 1995. The banking problems distorted bank behavior and were detrimental to economic growth. In the same study Lindgren et al show that a banking crisis reduces annual real GDP growth rate by 1.5–7%, and generates a direct fiscal cost in the range of 3–17% of GDP. Furthermore, recent studies also suggest that bank runs not only cause financial instability, but also play an important role in generating balance of payments (BOP) crises (see Kaminsky and Reinhart, 1999, 2000). Such evidence has been observed in recent crisis episodes in Southeast Asia, Russia, Turkey, Ecuador and Argentina.

Given the frequent occurrence of bank runs and the associated destabilizing costs, various policy instruments have been implemented to avoid the undesirable phenomena. In early time, policymakers paid more attention on crisis resolution, or, how to stop a bank run once it occurs. Such policy instruments include the suspension of convertibility of deposits and a penalty on short-term deposits (Dwyer and Gilbert, 1989). More recently, the policymakers have shifted their emphasis to crisis prevention. The proposed policies include holding appropriate provisions and capital reserves, strengthening banks' self-regulation, and designing deposit insurance schemes (FSF, 2001). In this paper, I try to explore the welfare effects of these policy instruments. The question will be addressed in two levels. First, can these policies successfully stop a bank run once it has occurred (the ex post effect)? Second, and more importantly, what are the ex ante effects of these policies, that is, how will the introduction of these instruments change the operations of the banking sector, including the terms of demand deposit contracts and banks' portfolio decisions?

To start the analysis, it is important to explain the microeconomic underpinnings of bank runs. There are two general views. One group of economists, including Diamond and Dybvig (1983), Cooper and Ross (1998), Chang and Velasco (2000, 2001), Park (1997), Jeitschko and Taylor (2001), consider bank runs as self-fulfilling prophecies, unrelated to the state of the real economy. There exist two equilibria in the banking sector. On the one hand, if no agent expects that a bank run will happen, the risk-sharing mechanism provided by the banking sector functions well and the economic resources are allocated in an efficient way. On the other hand, if all agents anticipate a bank run, then they all have the incentive to withdraw their deposits immediately and a bank run occurs as expected. Which of the two equilibria happens depends on the expectations of agents, which, unfortunately, are not addressed in their models.

The second view, as reflected in the empirical studies of Gorton (1988), Calomiris and Gorton (1991), Calomiris and Mason (2003), and recent theoretic work by Allen and Gale (1998), Zhu (2001), Goldstein and Pauzner (2005), considers bank runs as a phenomenon closely related to the state of the business cycle. Allen and Gale (1998) show that the business cycle plays an important role in generating banking crises. They also show that bank runs can be first-best efficient and central bank intervention may be undesirable in some situations. Zhu (2001) develops a two-stage model in which agents make withdrawal decisions sequentially. He shows that bank runs happen only when agents perceive a low return on bank assets. When the asset return is perceived to be high, the front agents will