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Liquidity risk and bank portfolio management in a financial system without deposit insurance: Empirical evidence from prewar Japan

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ABSTRACT

Using data from prewar Japan, this paper investigates the impact of a liquidity shock induced by depositors' behavior on bank portfolio management during financial crises in a system lacking deposit insurance. It is found that banks reacted to the liquidity shock sensitively through an increase in their cash holdings not by liquidating bank loans but by selling securities in the financial market. Moreover, banks exposed to local financial contagion adjusted the liquidity of their portfolio mainly by actively selling and buying their securities in the financial market. Finally, there is no evidence to conclude that the existence of the lender of last resort mitigated the liquidity constraints in bank portfolio adjustments.

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1. Introduction

One of the most important roles of banks is to perform the maturity transformation of assets by issuing short-term liabilities and holding long-term assets. Therefore, given a system where depositors are insufficiently protected, banking systems are potentially exposed to the probability of bank runs. In fact, during prewar periods, bank runs occurred frequently in the U.S., Europe, Japan, and contemporary emerging countries where deposit insurance was nonexistent.

Since [Diamond and Dybvig \(1983\)](#), a considerable number of studies have been conducted on bank runs and panics. The majority of these studies have focused on the origin and causes of bank runs, which can be classified into two alternative views. The first is the random withdrawal theory, which considers bank runs as self-fulfilling phenomena (e.g., [Chang & Velasco, 2000, 2001](#); [Postlewaite & Vives, 1987](#); [Waldo, 1985](#)). The other is the information based theory, which considers bank runs as phenomena induced by the market discipline of depositors under asymmetric information (e.g., [Chari & Jagannathan, 1988](#); [Calomiris & Gorton, 1991](#); [Gorton, 1985](#)). Recently, there has been renewed interest in portfolio management with respect to economies where runs are possible ([Cooper & Ross, 1998](#); [Ennis & Keister, 2006](#); [Franck & Krausz, 2007](#); [Peck & Shell, 2003](#)). These studies, further developing [Diamond and Dybvig \(1983\)](#), analyze how banks manage the liquidity of their portfolios, taking into account the strategic behavior of depositors. [Cooper and Ross \(1998\)](#) and [Ennis and Keister \(2006\)](#) examine the relation between the probability of a bank run and the level of liquid assets held by banks. [Peck and Shell \(2003\)](#) investigate how restrictions on the holding of illiquid assets affect the level of liquid assets chosen by banks. [Franck and Krausz \(2007\)](#) analyze the impact of the stock market and the presence of a lender of last resort (LLR) on the portfolio allocations of banks when they are faced with random withdrawals by depositors. Despite such theoretical developments, empirical evidence is lacking on the liquidity management of

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