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Expectations vs. fundamentals-driven bank runs: When should bailouts be permitted?

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ABSTRACT

Should policy makers be permitted to intervene during a financial crisis by bailing out financial institutions and their investors? We study this question in a model that incorporates two competing views about the underlying causes of these crises: self-fulfilling shifts in investors' expectations and deteriorating economic fundamentals. We show that – in both cases – the desirability of allowing intervention depends on a tradeoff between incentives and insurance. If policy makers can correct incentive distortions through effective regulation and supervision, then allowing intervention is always optimal. If regulation is imperfect and the risk-sharing benefit from intervention is absent, in contrast, it is optimal to prohibit intervention. Our results show that, in some cases, it is possible to provide meaningful policy analysis without taking a stand on the contentious issue of whether financial crises are driven by expectations or fundamentals.

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1. Introduction

The recent financial crisis saw governments and central banks undertake a range of unusual and, in some cases, unprecedented actions that could be characterized as “bailing out” financial institutions and investors. Many of these actions remain controversial and have led to calls for restricting policy makers' ability to intervene in future crises. Some restrictions of this type have already been put into place. For example, the Dodd–Frank Act in the United States requires any future Federal Reserve emergency lending programs to be approved by the Secretary of the Treasury, imposes stricter collateral and disclosure requirements on these programs, and prohibits programs that are designed to aid a particular financial institution. In addition, the Act prohibits the Treasury from issuing the type of guarantees offered to money market mutual funds beginning in September 2008. These legal changes raise an important question: When is it desirable to restrict policy makers' ability to intervene in a future crisis? While there has been much debate about the effects of such restrictions in policy circles, no clear principles have emerged to guide these decisions. One common view holds that the desirability of restricting intervention depends critically on the underlying cause of a financial crisis. Gorton (2010) argues that the recent crisis was – at its heart – a run on certain elements of the financial system, similar in structure to the events that plagued the U.S. banking system in the 19th century. In such an event, many investors withdraw their funds from banks and other financial institutions in a short period of time, placing severe strain on the financial system. Lacker (2008) proposes a simple rule to guide decisions about whether intervention should be allowed that focuses on the underlying cause of these runs:

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Researchers have found it useful to distinguish between what I'll call 'fundamental' and 'non-fundamental' runs. ... This distinction is important because the two types of runs have very different policy implications. Preventing a non-fundamental run avoids the cost of unnecessary early asset liquidation, and in some models can rationalize government or central bank intervention. In contrast, in the case of runs driven by fundamentals, the liquidation inefficiencies are largely unavoidable and government support interferes with market discipline and distorts market prices.

In other words, [Lacker \(2008\)](#) argues that intervention may be useful when runs on the financial system are self-fulfilling in nature, caused by shifts in investors' expectations. In particular, if the economy has multiple equilibria, allowing intervention may help eliminate undesirable equilibria and thereby prevent a run from occurring. If, however, the economy has a unique equilibrium and runs are instead driven by deteriorating economic fundamentals, restricting policy makers from intervening is claimed to lead to better outcomes.

Support for this view can be found in the growing literature on bank runs and financial crises. In the classic paper of [Diamond and Dybvig \(1983\)](#), for example, a bank run is non-fundamental in nature; depositors who are not in immediate need of funds will run on their bank only if they expect other depositors to do so. In their setting, intervention in the form of deposit insurance is desirable if it can remove the strategic complementarity in depositors' actions and ensure that no run occurs. This pattern – where bank runs are driven by agents' expectations and where allowing intervention may be desirable – can be found in many subsequent papers; examples include [Chang and Velasco \(2000\)](#), [Cooper and Kempf \(2013\)](#) and [Keister \(2014\)](#), to name only a few. Other papers in the literature, in contrast, study environments where a crisis results from a fundamental shock and have the property that restricting intervention, if feasible, would generate a superior outcome by eliminating the incentive distortions that arise when investors anticipate being rescued in the event of a crisis. See, for example, [Farhi and Tirole \(2012\)](#) and [Chari and Kehoe \(2013\)](#) for environments with these features.

While the results in these papers are consistent with the view that allowing intervention may be desirable if runs are caused by shifting expectations but is otherwise undesirable, none of the papers directly *test* this view. The models studied differ across papers along a number of dimensions, making it difficult to isolate the precise source(s) of the differing policy prescriptions. In this paper, we investigate the desirability of restricting intervention using a model in which an equilibrium bank run may be driven by either expectations or fundamentals, depending on parameter values. By including both possibilities in a unified framework, we are able to study the extent to which the desirability of restricting intervention depends on the underlying cause of a crisis and the extent to which it depends on other factors.

Our model is in the tradition of [Diamond and Dybvig \(1983\)](#) and builds most closely on that in [Keister \(2014\)](#), where a bank run can occur when depositors' actions are coordinated on an extrinsic “sunspot” variable. We extend the model by introducing intrinsic uncertainty: the level of fundamental withdrawal demand is random. We say that a bank run in this expanded setting is driven by expectations when depositors' behavior depends on the sunspot variable and, hence, is driven in part by their beliefs about the actions of other depositors. In contrast, we say that a bank run is driven by fundamentals if a run necessarily occurs whenever fundamental withdrawal demand is high, independent of the sunspot variable. We ask whether the desirability of restricting intervention in this setting depends critically on which form a run takes, that is, on whether runs are driven by expectations or by fundamentals.

We show that the optimal policy regime in our model depends on a basic tradeoff between incentives and insurance. When banks and depositors anticipate that policy makers will intervene in the event of a crisis, they have less incentive to provision for bad outcomes. In response, banks increase their short-term liabilities, which distorts the allocation of resources and tends to make the financial system more susceptible to a run. At the same time, however, intervention can provide an important source of risk sharing in the economy. By mitigating the potential losses depositors suffer during a crisis, a “bailout” can both smooth depositors' consumption across states and encourage them to leave their funds in the financial system rather than trying to withdraw. Thus, while the incentive distortion associated with intervention tends to make the financial system more fragile and lower welfare, the insurance effect tends to raise welfare and promote stability. Importantly, this same tradeoff arises regardless of whether runs in the model are driven by expectations or by fundamentals.

The desirability of restricting intervention depends on which of these two effects dominates. If policy makers are able to eliminate the incentive distortion through effective regulation and supervision of banks, then allowing intervention is always optimal. If regulation is imperfect and the risk-sharing benefit from intervention is absent, in contrast, it is optimal to prohibit intervention. In between these extreme cases, we show that allowing intervention is optimal whenever regulation is sufficiently effective for the insurance effect to dominate. The precise cutoff point will depend on the specific features of the economy, including whether runs are driven by expectations or by fundamentals. However, the same tradeoff between incentives and insurance arises in both cases and the same basic principle should guide the policy choice. In this sense, our model provides meaningful policy advice that applies regardless of the underlying cause of these crises.

In the next section, we present the model and discuss the distinction between fundamental and non-fundamental runs in our framework. In Section 3, we study equilibrium outcomes when policy makers are restricted from intervening during a crisis. In Section 4, we study equilibrium when intervention is allowed, highlighting both the resulting incentive distortion and the insurance benefit that arise. We compare these outcomes in Section 5, deriving conditions under which each regime is optimal and illustrating these conditions with a series of examples. Finally, in Section 6, we offer some concluding remarks that relate our results to the long-standing debate about the role of self-fulfilling expectations in financial crises.

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