LIQUIDITY AND FINANCIAL INSTABILITY: AN INTRODUCTION

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What are the causes of economic crises? Why do financial markets crash? Why are there banking panics? What causes currency crises? These are all fascinating and important questions that have received a great deal of attention. All of these crises have been linked in one way or another to liquidity issues and have much in common. Yet, more often than not, each type of crisis has been studied in isolation and has given rise to its own specialized literature. This special issue aims to bring together some of the latest research on liquidity and financial fragility, whether viewed as a banking issue, a macroeconomic phenomenon, or an international finance issue.[1] By putting side-by-side these different types of approaches, this issue aims to highlight the common themes and the interconnections between the various types of crises.

Liquidity is a multifaceted concept that may encompass several different meanings. If an institution is liquid it means that it has ready access to cash. It may be liquid because it holds cash directly or because it holds liquid assets. An asset is generally described as liquid if it can be easily and quickly sold for cash at minimal cost and price impact. An important issue is where the cash comes from to buy an asset. In models without a central bank, liquidity is chosen by participants and is endogenous. Crises can occur because the supply of liquidity is low and this in turn can lead to low asset prices. There can be contagion if these low asset prices cause banks or other agents to go bankrupt, which in turn leads to more assets being liquidated. Liquidity crises pose a major policy challenge. One of the main rationales for the existence of central banks is to provide liquidity in times of crisis. How should they intervene? What is the role

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of banking regulators? How should trading in financial markets be regulated? In a macroeconomic context the absence of liquidity and the resulting low asset prices can have important impacts on economic activity. In a world with multiple currencies there are different forms of liquidity. Expectations of a change in the exchange rate can lead to large flows from one currency to another, or in other words there can be speculative attacks. These various aspects of liquidity are studied in this special issue.

How important are the types of crisis considered here? We start with an analysis of an important historical episode, which starkly illustrates how contagion in financial markets can cause the spread of a financial crash to the banking system. It is often argued that one of the main functions of a banking system is to provide liquidity both to depositors and to firms. It should thus come as no surprise that five articles in this issue deal with banking. Two more papers study the role of liquidity provision of monetary policy and the monetary transmission mechanism. Finally, the last two articles of the issue deal with liquidity and currency crises in foreign exchange markets.

Schnabel and Shin's article, "Liquidity and Contagion: The Crisis of 1763," provides an illuminating historical account of a major financial crisis that hit northern Europe in 1763. The article makes a striking parallel of this episode, which took place in a world with less sophisticated financial markets and institutions, and more recent examples of financial crises. The article argues that cross-holdings of liabilities and the high leverage of market participants were the critical factors exacerbating the crisis caused by fire sales of assets. It underlines that the type of phenomena considered in this special issue are not just important historically but are still very relevant today.

The second article by Fecht, "On the Stability of Different Financial Systems," considers a model where a banking system coexists along with financial markets and shows how such a hybrid financial system may be more fragile than more specialized bank-dominated or financial market-dominated systems. The reason is that fire sales of assets provoked by the sudden failure of a bank or group of banks is more likely to cause a sudden drop in asset prices that precipitates failures of other banks in such a system.

The third article by Allen and Gale on "Financial Fragility, Liquidity, and Asset Prices," is concerned with contagion and how even a small shock may trigger a large crisis. Allen and Gale study the endogenous supply of liquidity in the absence of a central bank when the demand for liquidity is stochastic. In order for market participants to be willing to supply liquidity by holding low-yielding liquid assets rather than investing all of their resources in high-yielding illiquid assets, there must be price volatility. This price volatility allows agents with liquid portfolios to buy up the illiquid assets cheaply when prices are low to compensate for the opportunity cost of holding liquid assets. The price volatility may be so severe that it causes agents to default and leads to crisis. Importantly,

even as the liquidity shocks become arbitrarily small, the asset-price volatility is bounded away from zero. It is shown that in the limit economy, with no shocks, there are many equilibria differing in liquidity provision but the robust equilibria, if banks face idiosyncratic liquidity shocks, involve stochastic consumption as well as volatile asset prices.

The fourth article by Dasgupta, "Financial Contagion through Capital Connections: A Model of the Origin and Spread of Bank Panics," explores another banking model involving contagion and banking crises. He shows how in a unique dynamic equilibrium cross-holdings of liabilities across banks can give rise to contagious bank failures. This article is one among several in this issue that uses and extends the methodology of global games to determine a unique dynamic equilibrium in which contagious bank failures can occur following a negative aggregate shock and for some realizations of individual banks' signals about the state of the banking sector.

The fifth and sixth articles by, respectively, Freixas, Parigi, and Rochet, "The Lender of Last Resort: A Twenty-First Century Approach," and Rochet and Vives, "Coordination Failures and the Lender of Last Resort: Was Bagehot Right After All?" address the policy issue of how a central bank should respond to a contagious liquidity crisis in the banking sector. The article by Freixas, Parigi, and Rochet considers the wisdom of Lender of Last Resort (LOLR) policies in the presence of a problem of moral hazard in lending. The article shows that if the source of moral hazard is the lack of screening by banks of bad loans, then the interbank market is not efficient and it may be desirable for the central bank to intervene as a Lender of Last Resort. On the other hand, if the source of moral hazard is poor loan monitoring once loans have been extended, then the interbank market functions more efficiently and the central bank should not intervene as a lender of last resort.

The article by Rochet and Vives also uses the methodology of global games to determine a unique dynamic equilibrium in which a systemic bank failure can occur following the realization of a negative aggregate shock. The article shows how interventions by the central bank as a Lender of Last Resort can forestall inefficient banking crises when they arise.

Ehrmann and Worms' article, "Bank Networks and Monetary Policy Transmission," studies in unique detail how liquidity travels from small German banks to the larger banks they are connected with through a banking network. Their study of liquidity flows in the German interbank market provides new insights into the monetary policy transmission mechanism and into the possible existence of a bank lending channel. They find that small banks were able to manage their liquid assets in a way that their ability to lend remained relatively unaffected by monetary contractions. In other words, small banks were not liquidity constrained, suggesting that the bank-lending channel cannot be seen as operating primarily through small banks, as other prior research had assumed.

Cordoba and Ripoll's article, "Collateral Constraints in a Monetary Economy," takes a more macroeconomic perspective to the question of monetary policy in an economy where financial assets may be more or less liquid. They introduce money in a Kiyotaki and Moore (1997) model as a cash-in-advance constraint and explore the effects of a one-time monetary shock on equilibrium dynamics of investment and output. They show that a one-time monetary shock generates persistent movements in aggregate output that can involve large output fluctuations.

The last two articles of the special issue explore effects of liquidity shocks on currency markets and the implications for exchange rate management. Cukierman, Goldstein, and Spiegel, "The Choice of Exchange Rate Regime and Speculative Attacks," again uses the methodology of global games to determine a unique equilibrium in currency markets in which a currency attack can occur following the realization of a negative aggregate shock. Their framework is then used to study optimal exchange rate policy. They show that depending on underlying parameter values the optimal regime can be of three different types: a peg (with a zero bandwidth), a floating exchange rate, or an exchange rate band of finite width.

Finally, Guembel and Sussman, in an article entitled "Optimal Exchange Rates: A Market-Microstructure Approach," make an original analogy with market microstructure theory and argue that exchange-rate management is like market-making in a secondary market. They develop a microstructure model of exchange rate management to analyze the welfare benefits of different currency regimes like a free float or a fixed peg. They argue that central bank intervention in currency markets is more likely to be welfare improving in illiquid markets, mainly small economies and emerging markets.

Even though this special issue covers a broad range of issues concerned with liquidity there are many others that are not considered. Liquidity is an important topic in the market microstructure and asset-pricing literatures. Here the measure of liquidity that is often used is the bid-ask spread. The more liquid a security the lower its bid-ask spread. This kind of notion of liquidity introduces a somewhat different range of phenomena. An important issue, which has so far received little attention, is the relationship between (aggregate) liquidity in the sense that is used in many of the articles discussed above and liquidity in the sense used in the market microstructure and asset-pricing literatures in finance. This leads into a number of other important topics such as the effect of central banks' monetary policies on asset prices. For example, does a loose monetary policy affect asset prices and how do expectations about future monetary policy influence them? These are all important topics for future research.

Reference

Kiyotaki, Nobu and John Moore (1997). "Credit Cycles." *Journal of Political Economy*, 105, 211–248.