

Musical chairs: a comment on the credit crisis

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Uncertainty –that is, a rise in unknown and immeasurable risk rather than the measurable risk that the financial sector specializes in managing– is at the heart of the recent liquidity crisis. The financial instruments and derivative structures underpinning the recent growth in credit markets are complex. Because of the rapid proliferation of these instruments, market participants cannot refer to a historical record to measure how these financial structures will behave during a time of stress. These two factors, complexity and lack of history, are the preconditions for rampant uncertainty. We explain how a rise in uncertainty can cause a liquidity crisis and discuss central bank policies in this context.

Since the summer of 2007, world financial markets have been embroiled in a severe liquidity crisis. The current situation is particularly surprising if one considers the initial conditions. At the start of 2007, financial markets had substantial liquidity and investors were charging low prices for bearing risk. Banks were liquid and well capitalized, with a substantial buffer relative to their regulatory capital requirements. Similar statements of health could have been issued for all of the key pieces of the financial system. As late as May of 2007, it would have been hard to predict that losses on subprime mortgage investments could have precipitated a crisis of the magnitude we are witnessing. For one, the subprime losses were relatively small: even worst-case estimates put these losses at USD 250 billion, which is a drop in the bucket relative to the trillions of dollars of financial instruments traded in the world's marketplaces. Moreover, for anyone in the know, defaults on subprime mortgages were *expected*. The subprime market is the riskiest segment of the mortgage market, so it is hardly surprising that some borrowers would default on their loans. Yet the incidences of defaults have been the trigger for the current severe liquidity crisis that has ensnared markets from consumer credit to corporate credit.

Why has this happened? The heart of the recent crisis is a rise in *uncertainty* –that is, a rise in unknown and immeasurable risk rather than the measurable risk that the financial sector specializes in managing. The financial instruments and derivative structures underpinning the recent growth in credit markets are complex. Indeed, perhaps the single largest change in the financial landscape over the last 5 years has been in complex credit products: collateralised debt obligations (CDOs), collateralised loan obligations (CLOs), and the like. Because of the rapid proliferation of these instruments, market participants cannot refer to a historical record to measure how these financial structures will behave during a time of stress. These two factors, complexity and lack of history, are the preconditions for rampant uncertainty.

When defaults on subprime mortgages occurred, many market participants were taken by surprise at how their investments were reacting. The most prominent example of this is the case where AAA subprime tranches suffered losses. At this point, investors had become uncertain about their investments.

If the uncertainty was confined to subprime mortgage investments, given the relatively small size of the subprime sector, the financial system could have absorbed the losses without too much dislocation. However, investors started to question the valuation of the myriad other credit products –not just mortgage– that had been structured in much the same way as subprime investments. The result was uncertainty across the entire credit market.

To understand how uncertainty can move an economy from excess liquidity to a liquidity crunch, an analogy may be useful. In the children's game of musical chairs, when the music stops, only one child will be left without a seat. However if the children are confused about the rules and each is convinced that he will be the one left without a seat, chaos may erupt. Kids may start grabbing on to chairs, running backwards, etc.

In the same way, in today's market, uncertainty has led every player to make decisions based on imagined worst-case scenarios. Market players that have the liquidity stay out of markets or pull back dramatically. Some participants question whether their counterparties have hidden losses on their books and grow wary of trading with these counterparties. Others hoard their liquidity to cover a worst-case shock that may never occur. But the financial markets need participants and their liquidity in order to function. When many players disengage due to uncertainty, the effective supply of liquidity in the financial system contracts. Those that need liquidity are unable to get it and financial markets turn illiquid.

To make matters worse, the uncertainty over losses is concentrated in the world's largest and most reputable banks. In most previous crises, the largest banks would benefit from inflows during investors' flight to quality and could therefore act as a financial stabilizing force. This natural stabilizer is absent during the current episode. Today, banks do not lend to other banks. Less informed non-bank investors follow suit. The result is a halt in credit of all kind, which has transformed a financial markets' problem into a problem for the economy at large.

What should central banks do in this case? They must find a way to re-engage the *private sector's liquidity*. Re-engagement will only occur as agents' uncertainty over outcomes is reduced.

A central bank's mission is to stabilize the economy, as a whole, and not individual participants. When viewed as a whole, the worst-case scenarios that guide the behavior of each market participant cannot simultaneously occur. Like musical chairs, when the music stops, only one child will be left without a seat, not every child. The subprime shock at the end of the day is a small shock; it is only the actions of panicked investors that have made it large. The standard recipe in such a flight-to-quality scenario is for central banks to convincingly promise large liquidity injections in the event of a meltdown. Indeed, the response of central banks back in August 2007 to the emerging crisis was more or less textbook in terms of flight-to-quality containment, although with hindsight, we can say that it was behind the curve in terms of magnitude.

But if central banks have largely done the right thing, why is the turmoil not over? Part of the answer comes from "newness" itself. The current crisis is the result of the confusion created by complex credit products. As the initial response of the central banks failed to quell the crisis, markets have grown to fear whether central banks have the necessary

liquidity/instruments to act as a lender of last resort during the current crisis. This introduces a second layer of uncertainty aversion which in turn reduces the effectiveness of central banks to deal with the panic caused by the first layer of uncertainty.

At some level, these worries are misplaced. The central bank *can* affect the supply of liquidity; this is its core policy tool. The recent liquidity injection by the ECB of EUR 340 billion can go some way towards demonstrating that central banks exert control over liquidity supply. What's next? Possibly more dramatic steps need to be taken in order to convince the market that there is a lender of last resort.

At the end of the day, it is important to recall that the potency of a successful intervention comes from its credibility, and this requires that financial market participants be convinced that the lender of last resort is ahead of the game. The paradox is that with credibility, the likelihood of having to deliver on the promise is minimal, but the reduced anxiety fostered by a credible commitment restarts private liquidity circulation and over time helps restore normalcy.

REFERENCE

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