

For release on delivery
3:15 p.m. EDT
April 14, 2008

Financial Market Turmoil and the Federal Reserve: The Plot Thickens

Remarks by

Kevin Warsh

Member

Board of Governors of the Federal Reserve System

at the

New York University School of Law Global Economic Policy Forum

New York, New York

April 14, 2008

What's past is prologue; what to come, in yours and my discharge.

-- Shakespeare, *The Tempest*, Act 2, Scene 1

Thank you to the New York University School of Law for inviting me to participate in today's Global Economic Policy Forum.¹

Prologue

A little more than a year ago, I began to recount a story--already long-in-the-making--of the transformation of financial institutions driven by abundant liquidity in global financial markets.² In those early chapters, one could not help but worry about the inherent risks to financial markets and the economy when the gloss of confidence wears thin, causing me to wonder aloud: "What happens when liquidity falters?"³ Let me briefly try to recount this tale over the last few quarters before offering some rough plot lines from which the balance of the story can be divined.

The sleepy complacency of a bygone era seemed rudely interrupted by a liquidity shock last August.⁴ A global margin call on virtually all leveraged positions began. As you know, the Federal Reserve found it necessary to begin to exercise its monetary muscles in unprecedented ways. The seasons darkened, and the plot thickened. New structured products and old financial institutions evidenced increasing signs of weakness.

¹ The opinions I express are my own and do not necessarily correspond with those of my colleagues in the Federal Reserve System. Dan Covitz and Nellie Liang, of the Federal Reserve Board's staff, provided valuable contributions to these remarks.

² Kevin Warsh (2007), "Market Liquidity: Definitions and Implications," speech delivered at the Institute of International Bankers Annual Washington Conference, Washington, March 5, 2007 www.federalreserve.gov/newsevents/speech/warsh20070305a.htm.

³ Kevin Warsh (2007), "Financial Intermediation and Complete Markets," speech delivered at the European Economics and Financial Centre, London, June 5, 2007 www.federalreserve.gov/newsevents/speech/warsh20070605a.htm.

⁴ Earlier in 2007, there were already concerns about the repayment of certain types and vintages of mortgages, and about loans to leveraged borrowers more generally.

Some central banks, including the Federal Reserve, helped supply liquidity to where it was most in need. Financial market turmoil, partly as a result, was periodically placed in abeyance. Casualties of the liquidity contraction nonetheless appeared; some remained in the narrative for awhile, others were removed with great dispatch.

The narrative continued to morph through the first quarter of 2008. Central banks, while generally more comfortable remaining behind the scenes, took center stage with new tools and policy prescriptions. The script was rewritten so that product innovation flowed, but this time from the public authorities. Many private market participants receded to the shadows of the stage, some anxiously anticipating intermission.

What some originally read as a short story punctuated by a liquidity shock evolved into a longer narrative. Credit is threatening to displace liquidity as the primary antagonist. A credit crunch, particularly for small businesses and consumers, poses meaningful downside risks to the real economy. And market participants are struggling to assess the possibility that the narrative turns into a multi-act, macroeconomic drama.

In the remainder of my remarks, let me explore three of the most trenchant and overlapping plot lines, none of which seem to avail themselves readily to a speedy resolution. First, a striking loss of confidence is affecting financial market functioning. Second, the business models of many large financial institutions are in the process of significant re-examination and repair. Third, the Federal Reserve is exercising its powers to mitigate the effects of financial turmoil on the real economy. This third plot line, however necessary, will not, in and of itself, ensure a more durable return of trust to our financial architecture. In my view, public liquidity is an imperfect substitute for private

liquidity. That is, only when the other plot lines advance apace--meaning that significant, private financial actors return to their proper role at center stage--will credit market functioning and support for economic growth be fully restored. And for that to happen, as I am confident it will, we will find that the financial markets and financial firms are outfitted quite differently.

Plot Line 1: Liquidity in Financial Markets

As I advanced in prior remarks, liquidity is confidence. Liquidity expands with confidence in the efficacy of our financial architecture. When information, securities, markets, and institutions work in a seamless fashion to intermediate the flow of funds between investors and borrowers, liquidity flourishes. When the confidence in the financial architecture is meaningfully impaired, liquidity flounders. A couple of examples highlight the dramatic change in liquidity that is gripping financial markets.

First, consider structured product markets. Recall the explosive growth in securitization markets in recent years.⁵ The loss in confidence in structured products was first evidenced last year in securities backed by subprime mortgages. Actual and projected credit losses began to mount across many housing-related assets.⁶ Participants also lost confidence in the value provided through the securitization process itself. Some highly structured products, such as collateralized debt obligations squared, vanished.

⁵ Securitization volumes peaked in 2006, accounting for more than \$1 trillion of net borrowing in U.S. credit markets, or more than one-fourth of the total.

⁶ In the more popular version of the narrative, housing was, and is, the dominant character on the stage. In my view, as I have discussed previously, these housing-related losses are consequential, but they were the spark, not the cause, of the turmoil. Kevin Warsh (2007), "Financial Market Developments," speech delivered at the State University of New York at Albany's School of Business, Albany, N.Y., September 21, 2007 www.federalreserve.gov/newsevents/speech/warsh20070921a.htm. In the housing-only version of the narrative, the establishment of a housing bottom is the *sine qua non* of an economic recovery. In my remarks today, I maintain that reestablishing effective credit intermediation is critical to economic recovery.

Yields on non-agency mortgage-backed securities and commercial mortgage-backed securities skyrocketed; and, in some cases, securitization markets simply shut down.

All in all, this decline in confidence, while painful, is understandable. Investors and financial institutions became complacent in their abilities--and the ability of credit rating agencies--to evaluate credit risks of complex structured products. And while the originate-to-distribute model entails legitimate principal-agent problems, investors did not demand or enforce safeguards. Even many large, sophisticated financial institutions chose to retain super senior and AAA-rated tranches for their own accounts. In so doing, they systematically erred in assessing the assets' risk profile. Moreover, these products--born in times of massive liquidity--were often not well designed to ensure efficient workout arrangements should the abundant pools of liquidity retreat or should unexpected defaults emerge.

Next, consider short-term credit markets. Many financial products, such as asset-backed commercial paper (ABCP), auction rate securities (ARS), interbank funding products, and repurchase agreements (RPs), were intended to be steady, supportive credit facilitators in a liquidity-rich environment. In reality, these products involved a good deal of maturity mismatching and rollover risk. So, when liquidity retrenched, these markets experienced substantial disruptions. ABCP outstanding fell by a staggering \$300 billion this past summer. Issuance of ARS--long-term bonds that reissue and reprice at very short intervals--came to an abrupt halt. And, the interbank funding and RP markets showed significant signs of strain.

Credit quality concerns alone do not appear, even now, sufficiently widespread to induce the depth of problems witnessed in financial markets during the past several

months. Some ARS that failed, for example, funded pools of federally guaranteed student loans. I do not mean to suggest that counterparties themselves are blameless--many had been less than fully transparent. Unclear disclosure by some financial institutions with respect to their off-balance-sheet commitments and liquidity support accentuated the uncertainty that is responsible for some of the poor market functioning.

More fundamentally, in my view, funding market disruptions reflect a striking decline in confidence in the financial architecture itself. Perhaps an analogue to banking systems without deposit insurance is appropriate: Depositors withdraw funds if they believe others will act similarly. In short-term credit markets with minimal liquidity support, investors balk if they lose confidence in other investors' willingness to roll maturing paper. Even when liquidity support exists, it may well prove insufficient to address market-wide concerns. Many dealers of ARS, for example, withdrew their implicit liquidity support when failures became more frequent. Even those ABCP programs purportedly with full explicit liquidity support were implicated in the turmoil. I hesitate to ascribe this loss in confidence simply to a change in animal spirits or to dismiss this occurrence as some kind of contagion. After all, a loss in confidence can be completely rational: Illiquidity forces issuers to sell assets into distressed markets.

So, I argue, the functioning of short-term credit markets is invariably tied to changes in confidence of our financial architecture--on the way up and on the way down. The arc of this narrative, thus, necessarily began some years ago. Increasingly abundant confidence when things were advancing apace--unsustainably so, it turns out--gave rise to levels of liquidity that engendered complacency among investors and counterparties. The financial architecture grew increasingly impervious to skeptics and dissenters,

perpetuating insufficient transparency and under-informed risk-taking. It was commonly believed that short-term, secured credit markets would perpetually remain open to finance high-quality assets. And the notion of liquidity risk management was anachronistic, or so it seemed.

Market participants now seem to be questioning the financial architecture itself. The fragility of short-term credit markets is a powerful manifestation of that loss of confidence. There are some encouraging, early signs of repair, but regaining the confidence that markets require will take time, and perhaps uncomfortably to some, patience. It may also require new forms of credit intermediation.

Plot Line 2: Transformation of Financial Institutions

The rise and fall of liquidity is not only changing fund flows in financial markets. It may also be transforming the business models of financial institutions themselves--no matter their size, regulatory structure, peer group, funding status, or geography.

The period that preceded the recent turmoil was marked by abundant liquidity, high transaction volumes, and remarkably low volatility. That environment proved exceptionally hospitable to significant profits across classes of financial institutions. It also was supportive of high leverage, and correspondingly high returns on equity for financial intermediaries. Of no less consequence, it drove a conflation of roles among commercial banks, investment banks, and asset managers. The core functions of credit intermediation--creating, distributing, and owning risk--remained constant, but more institutions came to believe that there were inescapable synergies by operating across all three primary functions. From 2002 to mid-2007, many large financial institutions did just that, and to great effect--creating products by aggregating and reconstituting assets,

distributing bespoke risks across institutional and retail channels, and retaining certain preferred positions for proprietary accounts.

A changing paradigm of financial intermediation may well be on the horizon. From the market's perspective, financial institutions overproduced goods and services that now have to be warehoused or liquidated. From the perspective of financial institutions themselves, the old business models may be in the process of being upended. And from the perspective of a dispassionate central banker, the contemporaneous changes in balance sheets and income statements by incumbent financial institutions--most notably, deleveraging and paring of business lines--are likely to prove highly consequential to the near-term outlook for the real economy.

Changing forms of financial intermediation are expected, given higher volatility and less leverage, in some cases building on old-fashioned banking products. Commercial and thrift deposits, for example, backed by a loyal customer base, may offer greater franchise value. Investment banks may reconfigure capital structures and core trading businesses to maximize benefits in a higher volatility environment. Asset-gatherers, whether in the form of traditional money-management firms or hedge funds, that survive this time of testing may rely more on term funding and seek equity returns across beaten-down classes of structured and debt products. And dependable, recurring revenues, even at lower levels, may warrant a premium valuation in the public markets.

The case for opportunistic capital is improving. Some curative steps by incumbent financial institutions are in the offing. Financial institutions should continue to reassess their sources and uses of funding, their risk-management systems, risk tolerance, and human capital. Generally, they should not hesitate to pare their dividend

and share repurchase programs. And, they should raise new capital to strengthen their balance sheets. These actions, in my view, are important signs of strength, and will ensure that financial institutions thrive in the emerging financial architecture replete with new opportunities. These actions will have concomitant benefits on real economic activity.

Plot Line 3: Federal Reserve's Policy Formulation

The central bank's responsibility is not to individual firms but to financial markets, and only then, to the extent that financial market stresses affect the real economy. Given the fragility evidenced in financial markets, and the toll it is taking on real activity, the Federal Reserve agreed to take center stage. This is a role for which we did not volunteer, but one in which we are prepared to serve. The role has been thrust upon us by a loss of confidence in our existing financial architecture. Hence, we should remain at center stage as long as is necessary, but no longer.

The Fed responded aggressively to mitigate spillovers to the real economy, exercising some authorities for the first time in decades. To prevent more serious financial fallout, the Fed established and expanded various lending facilities to depository institutions and primary dealers.⁷ Some facilities allow daily access to variable amounts of funding, and others provide access to a fixed amount of longer-term funding at pre-announced auction dates. Still other facilities target action involving repurchase transactions with primary dealers.

⁷ Primary dealers are banks and securities broker-dealers that trade in U.S. government securities with the Federal Reserve Bank of New York. On behalf of the Federal Reserve System, the New York Fed's Open Market Desk engages in the trades to implement monetary policy.

These recently implemented measures appear to have reduced, to some extent, strains in the financial situation. In particular, conditions in the RP market have improved. And, while Libor and commercial-paper spreads have remained elevated, they are below their year-end highs. In the corporate bond market, risk spreads have narrowed a bit in recent weeks and measures of secondary-market functioning are improved.

While the adjustment process by financial intermediaries is showing signs of promise, the healing process is not likely to be linear. More consequentially, we should recognize that Fed-supplied liquidity is a poor substitute for private-sector-supplied liquidity. When liquidity flows among private-sector participants, the players can more judiciously assess risk and reward, more adroitly learn from the recent turmoil to strengthen the resiliency of credit intermediation, and more ably allocate capital to its most productive uses in the real economy. Moreover, Fed-provided liquidity should not be mistaken for capital.

Volatility is generally a friend, not a foe, of market functioning. It should not be treated as an externality from which we suffer. Volatility, absent destabilizing moves, should be allowed to effectuate change in the financial architecture of private markets. Only then, I suspect, will a more robust recovery in market liquidity, investor confidence, and real economic activity be achieved.

Of course, monetary policy continues to play an important role in the Federal Reserve's policy formulation. We have reduced the policy target rate by a cumulative 3 percentage points since August. These actions, together with significant actions to support liquidity, are intended to promote growth and mitigate downside risks to economic activity. Consistent with our dual mandate of promoting maximum

employment and stable prices, we also need to be alert to risks to price stability. Increases in food and energy prices have pushed up overall consumer prices and are putting upward pressure on core inflation and inflation expectations. We will continue to monitor the inflation situation closely. And, more broadly, in my view, as financial intermediation channels reset, monetary policy will become still more efficacious.

Fed policy--both with respect to liquidity tools and monetary policy—is partially offsetting the consequences of the liquidity and credit pullback on real activity. But we must be careful to not ask policy to do more than it is rightly capable of accomplishing. The problems afflicting our financial markets are indeed long-in-the-making. Correspondingly, the curative process is unlikely to be swift or smooth. Time is an oft-forgotten, yet equally essential, tool of our policy response.

Epilogue

Some believe the story of the current market turmoil began in August, and will end when the housing market stabilizes. But, in my view, the narrative actually began in a seemingly more benign time with underpinnings more fundamental than the value of the housing stock. Financial institutions and other market participants grew increasingly dependent on the extraordinary liquidity around them. When liquidity faltered, the weaknesses of the existing architecture abruptly revealed itself. A metaphor, perhaps, is instructive: *Fish don't know they are wet. And they don't learn unless their memories are long or the water is gone.* A new financial architecture, born of the forces of creative destruction, is early in the process of construction with the aid of the Federal Reserve and other public authorities. But for the new paradigmatic architecture to be enduring,

market-supplied liquidity must come to predominate. To that end, I remain confident that financial institutions and financial markets will evolve to meet these challenges.