

UNDERSTANDING LIQUIDITY CRISES: THE THEORY OF HYMAN MINSKY

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In this topical paper Michael Bracken endeavours to clear up the confusion surrounding the term ‘liquidity’, a concept that is frequently misinterpreted, misused and misunderstood. Using the theory of Hyman Minsky, he outlines the crucial role played by liquidity in the stability of the global financial system. In this context, there is a brief discussion of the Long-Term Capital Management debacle and the origins of the current market turmoil. Like Keynes before him, Minsky emphasized the unstable nature of a system built on expectations of future cash flows, and advocated government intervention in order to stabilize the system in times of crisis. In terms of crisis prevention, the conclusion is somewhat negative: crisis is inevitable under a capitalist structure; the best we can hope for is to minimize the damage.

Introduction

Our financial system was struck by a crisis again this summer and liquidity was at its heart. This paper begins by defining the term ‘liquidity’ and goes on to examine why it plays such a fundamental role in the stability of the global financial industry. By using the theory of Hyman Minsky, this paper aims for an understanding of why financial crises keep reoccurring. The paper concludes by presenting Minsky’s proposals on minimising the damage of such crises.

Defining Liquidity

‘Central bankers have drowned the world in it, oil producers are awash with it, while an excess of it distorts everything from treasury yields to the copper forward curve. Yet overnight this all-powerful force can vanish, causing markets to tumble...

Liquidity in its first, narrow, definition is an important economic concept. But in its more fashionable second usage, liquidity is too, well, wishy-washy, to be useful'(The Financial Times, August 2007).

George Orwell, in a 1946 essay¹, said that the inaccurate use of written words eventually confuses our thinking and this is evidently the case with liquidity, a term which has had its popular meaning expanded greatly by sloppy usage. The above excerpt from the FT gives an insight into the importance of liquidity in financial markets and the development of its 'fashionable second usage', which uses 'excess liquidity' as a catch-all phrase to denote: 'loose central bank policy rates, broad money supply growth, aggressive lending to private equity, yen borrowing and even the growth of debt derivative products' (ibid). The grouping of such diverse phenomena under one term is worse than useless; it clarifies nothing and only serves to confuse. It is therefore preferable to look beyond this 'fashionable' usage to the term's historical origins.

It was centuries ago that realising the assets and discharging the liabilities of a firm in distress was first referred to as liquidation. Then in the nineteenth century bankers began to refer to government bills as self-liquidating. However, an understanding of the notion of liquidity as applied to assets is a relatively recent concept, emerging from the work of J.M. Keynes: he first discussed it in his *Treatise on Money* (1930) and brought it to prominence through his central role in the writing of the Macmillan Report². It was established as a principal contribution of Keynes with the publishing of *The General Theory of Employment, Interest and Money* in 1936 and the widespread discussion of his liquidity preference theory (Hicks, 1962).³

Keynes' first definition of liquidity in the *Treatise* has proven remarkably robust and is what the FT calls the 'first, narrow definition' of liquidity: 'Bills and call loans are more liquid than investments, i.e. more certainly realisable at short notice without loss' (Hicks, 1962: 4). A liquid asset will have high marketability and high capital certainty; the asset can be realised relatively promptly for close to its full market price (Moore, 1968). The most liquid asset then is clearly cash as it can be realised instantly for its entire value and other assets can be ranked in liquidity relative to it.

¹ *Politics and the English Language* (Orwell, 1946)

² More formally known as the British Treasury Committee on Finance and Industry Report (1931)

³ Keynes' liquidity preference theory established a link between liquidity and risk by redefining interest as a reward for surrendering liquidity rather than a reward for saving.

It is important to have a clear understanding of liquidity as it is, generally speaking, central to all financial crises; people wish to sell assets but they cannot do so at a speed and price that is favourable to them. It is fundamentally what led to the insolvency of Northern Rock in August 2007, as it could find nobody to rollover its commercial paper in the money markets, and goes back to John Law's Mississippi System. Kindleberger (2005: 28) uses the wonderful German word *Torschlusspanik*⁴ to describe the resulting panic selling that a liquidity decrease generates. But it must be noted that liquidity is therefore simply a descriptive term, to describe it as the cause of anything is to put the cart before the horse. For example, during the endgame of Law's system, to say that a decrease in liquidity led to a fall in prices is a tautology – to understand the liquidity crisis we must know the causes that have led to this lack of liquidity.

The Theory of Hyman Minsky

The most compelling analysis of the causes of such liquidity crises is to be found in the work of Hyman Minsky. Minsky was an economist who, while too mild to be called an iconoclast, was certainly an anachronism in the post war era. His aspiration to expose the instability inherent in the capitalist system was conspicuously in opposition to the spirit of the 1950's: America was experiencing a prolonged period of growth and low inflation, while Howard Macmillan was telling the British people 'You've never had it so good' (Bellofiore, 2001: 35). Minsky was also a follower of Keynes and a macroeconomist in an era when the Chicago school and rigorous mathematical microeconomic underpinnings to theories⁵ were beginning to dominate the landscape. It is unsurprising then that Minsky's views on financial crises were largely ignored by his contemporaries and have only recently begun to receive widespread attention, with Kindleberger adopting them for his prominent work on the subject.

Minsky believed that 'the essential critical flaw in capitalism is instability' (Minsky, 1982: 86). He opposed the neoclassical belief that if undisturbed from outside⁶ the economy would naturally find an equilibrium that is consistent with full employment. Minsky maintained that instability is endogenous to system, a view he arrived at from focusing on elements of Keynes ignored by the neoclassical synthesis, namely: the pricing of capital assets, the

⁴ 'Door-shut-panic'. Investors crowd through the door before it shuts.

⁵ As exemplified by Arrow and Hahn's (1971) general competitive equilibrium model.

⁶ The textbook example of such an exogenous shock is a change in the supply of oil.

importance of capitalist financial institutions and the uncertainty surrounding decision-making. In short it was a more 'real world' view of the economy, and the opposite of the neoclassical approach which Minsky jokingly referred to as 'the economics of capitalism without capitalists, capital assets and financial markets' (Minsky, 1986: 120).

This Keynesian view of the importance of capital assets and companies as the buyers of these assets led Minsky to begin his analysis in a money economy with sophisticated financial institutions. Money here was the product of financial interrelations, a financing veil that hides the ultimate wealth owners from the financial assets.⁷ This money was created by banks in the process of financing investment, and so central banks could not control the effective money supply. Any attempt to do so would simply lead to a new innovation. Henry Simons describes this process as: 'the reappearance of prohibited practices in new and unprohibited ways... it seems impossible to predict what forms the evasion might take' (Minsky, 1982: 71). Minsky, appropriately for a student of Schumpeter, recognised that 'the history of money is the history of innovation around legislation to use existing money more efficiently and create new substitutes' (Kindleberger, 2005: 58).

This view of money necessarily equates money with purchasing power, and so, in the words of Mill, that a man's purchasing power: 'consists, first, of the money in his possession; second, of the money at his banker's, and all the other money due to him and payable on demand; thirdly of whatever credit he happens to possess' (ibid: 61). Minsky focused on the pro-cyclical nature of the credit supply as the source of economic instability, reflecting his other great influence (along with Keynes): Henry Simons. Simons would have supported the Baron de Rothschild's view that: 'If speculators could find unlimited credit, one can't tell what crises would ensue' (ibid: 177) and so called for a 100% reserve backed currency. This proposal was rejected by Minsky due to its knock-on effects on investment. However, he successfully went on to unite these aspects of Simons with Keynes and create his own unique view of the economy with his Financial Instability Hypothesis.

⁷ Owners of capital assets generally borrow to obtain them. Once this debt is repaid they owe money to the true owners of the assets who have a claim on this money. Money separates the true wealth owner from the financial asset.

The Financial Instability Hypothesis

‘A capitalist financial system will be capable of generating the signals that induce an accelerating desire to invest and of financing that accelerating investment’ (Minsky, 1982: 279).

Minsky begins his model with an economy that has had a cyclical past but is now growing steadily. Here two particular time-series are important: expectations of future cash receipts that have yet to be realised i.e. expected profits, and past cash payments that have given rise to current liability structures. Liabilities are innate to any capitalist system as ‘entering and repaying debts are the essential processes of capitalism’ (ibid: 72) due to the need for external financing of investment. Minsky splits liability structures in the economy into three distinct types based on the two time-series:

1. Hedge Financing: Where expected future cash flows are large enough to pay both the interest and principal on a firm’s debt. The greater the equity in the liability structure, the greater the chance the unit is engaged in hedge financing.
2. Speculative Financing: Where expected future cash flows are only large enough to cover the interest payments on a firm’s debt. The unit is left open to refinancing risk, as it must rollover the principal in the money markets.
3. Ponzi Financing: Expected future cash flows are not even large enough to fully cover interest payments on debt. This type of financing is even more precarious than speculative, as debt must be issued rapidly to cover interest payments.

The economy continues on a path of steady even growth for some time, but this stability bears the seeds of instability. Looked at from a Wall Street or City boardroom, the best performing units during this period are the indebted units, their leveraged positions allowing them to realise greater profits. The optimistic forecasts of the past have been validated and high liquidity preferences now look overcautious. Firms recognize the opportunity for greater future profits from investing today and so views on acceptable debt structure change.⁸

⁸ Money is held because of uncertainty. When uncertainty declines, due to changing

In colloquial terms, greed begins to outweigh fear and expectations change accordingly. There exists little reason to be cautious in such an environment; management that cannot match the returns of levered competitors will be quickly ousted by shareholders. Indeed it can often be rational to follow the irrational mob; Kindleberger reports on a banker who purchased £500 of South Sea Company stock during the bubble, saying: ‘When the rest of the world are mad, we must imitate them in some measure’ (Kindleberger, 2005: 37). This mixture of greed and a herd mentality is neatly encapsulated in a quote from Citigroup CEO Chuck Prince in Summer 2007: ‘When the music stops, in terms of liquidity, things will be complicated. But as long as the music is playing, you’ve got to get up and dance. We’re still dancing’ (The Guardian, 2007). Prince was forced to resign less than four months after making this comment upon revelations of Citi’s exposure to potential write-downs of \$11bn on illiquid securities.

Now a liability system begins to emerge that Simons calls: ‘a mass of current obligations and a shoestring of equity’ (Friedman, 1969: 85). Asset and stock prices boom due to the increase in investment and the availability of credit on favorable terms. Lenders use financial innovation to increase the credit they can generate from their capital, also being driven by greed as they see faster acting rivals increase profits. This boom may continue for some time, with the number of ‘speculative’ and ‘Ponzi’ units increasing as lenders offer better and better terms in the battle to win profitable market share. Kindleberger notes that: ‘money always seems free in manias’ (Kindleberger, 2005: 9) However, the entire edifice of debt is built on unstable foundations, conditional on expectations of future cash flows being realised.

An event Minsky calls a ‘displacement’ will inevitably occur altering these expectations as: ‘the nature of the bubble is it that eventually it will be pricked and then as with a child’s balloon the air may escape sharply’ (ibid: 91). This event may be relatively minor, a bankruptcy perhaps or some similar event that leads to a small sell off, but the size is disproportionate to the change in expectations. Some borrowers’ indebtedness now begins to look large relative to their potential income and they may decide to sell assets to meet the shortfall. Lenders will now be reluctant to rollover ‘speculative’ and ‘Ponzi’ debt and the credit supply dwindles. As asset prices fall, brokers will ask for greater margin payments, resulting in bankruptcy in some cases. All of this leads to further asset sales. The resulting fall in asset prices shunts more units into the ‘speculative’ and ‘Ponzi’ categories and the problem continues. Liquidity preferences increase, there is a change in acceptable liability structures, and unless action is taken, a

expectations, it makes sense to move some holdings of liquid assets into higher yielding capital assets.

resulting fall in investment and corporate profits. The economy may then enter a recession.

Empirical Views of Minsky

If, as Friedman claimed: ‘theory is to be judged by the predictive power for the class of phenomena which it is intended to explain’ (Friedman, 1953: 8) rather than the complexity of the mathematics of the assumptions, then Minsky’s Financial Instability Hypothesis is a very good theory indeed. A definitive account of the Minsky theory applied to the history of financial crises can be found in Kindleberger (2005). In this paper, two particular instances of financial crises are discussed: Long-Term Capital Management and the current ‘Credit Crunch’.

Long-Term Capital Management:

The crisis of Long-Term Capital Management (LTCM) effectively showcased the inadequacies of modern portfolio theory and highlighted the importance of Minsky’s unique focus on liquidity. The facts surrounding the infamous hedge fund are widely known. The fund essentially made arbitrage bets on similar securities, shorting an over valued liquid bond and buying a similar undervalued illiquid one, on the assumption that spreads would narrow as the securities moved back to the equilibrium of the capital markets line. Due to the minute differences in value, LTCM used huge levels of debt to magnify returns.⁹ In the view of modern portfolio theory the firm was relatively safe as it was engaged in a number of such trades and so had diversified away risk.

However, due to the Asian and Russian financial crises, the markets experienced a flight to the quality of US government bonds and LTCM’s spreads widened instead of narrowing. The fund’s brokers asked for more margin payments and LTCM found itself unable to borrow to meet these payments. However, the fund’s positions were still profitable in the long run, evidenced by the fact that the banks that were forced to bail LTCM out later made a profit on the equity stake they received for their trouble. Modern portfolio theory sees long-run profitability as a guarantee of short-run finance, but in practice this is clearly not the case. Minsky’s theory, of course, is based on practice and we clearly see that LTCM was exposed to a change in liquidity preferences, something which modern portfolio theory abstracts from.

⁹ See Kindleberger (2005: 67)

The Current Credit Shortage

The continuing relevance of Minsky's theory can be demonstrated by analyzing the ongoing events from Summer 2007 in the financial markets, which closely mirror his model of the economy. A period of low base interest rates and a stable economic environment after the September 11th terrorist attacks encouraged more debt heavy liability structures to emerge. This could be seen in a number of ways in the financial markets. Private equity firms like Blackstone and Kohlberg Kravis Roberts went through a self proclaimed 'golden age', selling larger and larger amounts of debt to fund more audacious takeovers. Investor appetite for this type of debt appeared to have no limit. Banks began to offer so-called 'covenant-lite' loans, in an effort to stay competitive.¹⁰ In America, home loans were offered to so-called 'ninjas', people with no income, jobs or assets. In many cases these loans were self-assessing. In short, credit terms were loosening, views on acceptable debt structures were changing and an edifice of debt was emerging.

The displacement occurred on the 9th August, when the market was simultaneously hit by two pieces of bad news. The ECB lent the sum of €95bn to lower inter-bank lending rates and the investment bank BNP Paribas halted withdrawals from three mortgage-backed security (MBS) funds as they could not give the assets a 'fair value'. It was clear that liquidity preferences had changed; MBS had become illiquid and banks were unwilling to lend cash to each other. The first bank run in the British Isles in more than a century occurred on Northern Rock, a bank whose business model epitomised the credit mania¹¹. Minsky's model could almost be an ex post description of the crisis.

Conclusion

Although Minsky presented a clear exposition of the inevitably of liquidity crises in capitalist economies, did he provide us with a solution? He certainly advocated a role for the government in stabilising a crisis. Minsky was a sup-

¹⁰ That is, loans with few protective covenants, which require the borrower to provide certain information, not take certain courses of action etc. Loans effectively became more like bonds.

¹¹ Instead of building a retail deposit base, like most banks, Northern Rock mainly funded itself through the cheaper wholesale markets, leaving it open to changes in market sentiment.

porter of the classic Bagehot ‘lender of last resort’ role for the central bank: to put a floor on asset prices and the government deficit spending to counter the fall in investment. In regards to crisis prevention, he failed to provide a practical solution. Whereas Simons believed that there was some stable form of capitalism possible through reform of the financial structure, and Keynes believed that government intervention could accomplish this (Friedman, 1969: 81-95), Minsky accepted neither. According to Minsky, instability is an intrinsic part of capitalism. He states that:

‘The history of money, banking, and financial legislation can be interpreted as a search for a structure that would eliminate instability. Experience showed this search failed and theory indicates a search for a permanent solution is fruitless’ (Minsky, 1986: 314).

However with proper institution and policy we can control this volatility, ‘we can, so to speak, stabilise instability’ (ibid: 9).

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