

# Role of Monetary Politics on Financial Risk Management

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DOI: 10.29322/IJSRP.9.02.2019.p8634  
<http://dx.doi.org/10.29322/IJSRP.9.02.2019.p8634>

**Abstract-** Risk exists as a consequence of uncertainty and is present in all activities whatever the size or complexity and whatever industry or business sector. It is important to understand that risk is a broader concept than the traditional view of merely a threat.

Risk is a complex and vital topic which has been discussed for decades and risk management is a dynamic and well established discipline forming a core part in organizational strategic management. Good understanding of risk is critical for generating an analysis about the ways it can be controlled and in order to find the most effective method of this control.

Nowadays, there are many tools available which can deal with the underlying theory concept of risk which identify and manage risk. It has become well known that risk management can be an effective formalization system that can be addressed and manage a whole lot of risk activities in a company.

## I. INTRODUCTION

Risk management is about making the most of opportunities (making the right decisions) and about achieving objectives once those decisions are made. This is achieved through transferring risks, controlling risks, and living with risk.

When financial markets experience a significant disruption, a systematic approach to risk management requires policymakers to be preemptive in responding to the macroeconomic implications of incoming financial market information, and decisive actions may be required to reduce the likelihood of an adverse feedback loop. The central bank also needs to exhibit flexibility, not only in moving decisively to reduce downside risks arising from a financial market disruption, but also in being prepared to take back some of that insurance in response to a recovery in financial markets or an upward shift in inflation risks.

## II. FINANCIAL RISKS

Financial risks involve contractual or potential contracted payments where the cash flows either are known for certain or are conditional. A conditional cash flow requires some event to make it take place. For instance, an insurance company may expect to make claims on policies, but it will not know the exact amount until a claim is made. The timing of these cash flows is also either certain or conditional. Conditional timing is where the exact

date that the cash flow will occur is not known for certain ahead of time, although it might be expected.

Various risks will affect an organisation's reported accounting numbers. The most common type of exposure is transaction exposure, which is based on contracted transactions. This is most evident in terms of foreign exchange rate risk where the value of payables and receivables in a foreign currency will vary directly with changes in the foreign exchange rate. There is, therefore, a risk of an actual cash loss if the position is not managed or completely hedged. The second kind of accounting exposure arises from the translation of foreign currency items into the reporting currency (and hence it is also known as accounting exposure). Although no cash transactions arise, since the organisation is merely consolidating different sets of accounting numbers, changes in the rate used to convert currencies between one reporting date and another will create bookkeeping losses or gains. The translation problem arises because of two different effects.

Accounting numbers are a combination of historic and current activities, and one view holds that it is the inherent contradictions within accounting conventions for creating sets of financial statements that create the problem.<sup>1</sup>

Contingent exposures are those created by expected but not, as yet, contracted transactions. Typically an organisation will have some expectation of sales to be made or costs to be incurred in the future on its recurring business. Although these revenues and expenses are not yet binding, there is a high probability that some or all of the anticipated cash flows will materialise. If such cash flows are denominated in a foreign currency or sensitive to changes in commodity prices or interest rates, then the value or magnitude of such expected cash flows may change in line with changes in these risk factors. A typical example would be an organisation bidding for a project or contract in a foreign currency where the value will fluctuate in line with changes in currency rates, adding a large undesirable element of unpredictability to the profitability of the contract.

Nowadays modern banking is about controlling risk and returns. The ability of a financial institution to control risk is a key factor that determines its success or its failure in markets. As the late financial crisis has demonstrated institutions that were not properly prepared to face the crisis, failed and they were either bailed out by governments or serve economists as bad example. This is the reason risk management is an important field of every financial institution.

<sup>1</sup> Moles Peter, (2016), Financial Risk Management, Sources of Financial Risk and Risk Assessment, Edinburgh Business School, Heriot-Watt, University Edinburgh

Risk matters only when it causes financial losses and financial risk is the one linked with financial assets and portfolios and is classified in broader categories; market risk, credit risk, liquidity risk and operational risk. There is evidence that these types of risk can affect one another.

- **Market risk** is the one linked with the movements of the price level of market.
- **Credit risk** is generated when parties involved in an economic contract are either incapable or reluctant to satisfy their commitments.
- **Liquidity risk** can be classified into two forms:
  - a. Asset liquidity risk arises when a transaction cannot be conducted at prevailing market prices owing to the size of the position relative to normal trading lots, varies across categories of assets and across time as a function of prevailing market condition.
  - b. Funding risk refers to inability to meet payments obligations which may force early liquidation, thus transforming “paper” losses into realized losses.<sup>2</sup>
- **Operational risk** can be created from various factors such as “control failure”, referring to a failure to control market exposures, “liquidity risk”, created by lack of funds, “money transfer risk”, loss due to unsuccessful settlement, “model risk”, when a financial instrument is not properly valued. Due to the fact that operational risk is affected by lots of factors is also hard to measure it.

Controlling risk after the recent financial crisis is as important as ever, and everyone in the field is trying to improve the necessary means to do it. Regulators announced measures against excessive risk taking in an attempt to avoid another financial crisis and risk managers are trying to improve their instruments in order to be able to minimize or even eliminate effects of another financial crisis. Management of financial risk is to design and exercise techniques to recognize, calculate and control risk.

Banks, insurance companies need to be able to measure the risk that their portfolios might face, in order to prepare their “defense” against it. VaR (variation of risk factors) is a way to measure market risk. The two of the most acceptable explanation of VaR explains that “the aim of VaR is to calculate the likely loss a bank might experience on its trading book”<sup>3</sup> or that: “VaR describes the quantile of the projected distribution of gains and losses over the target horizon. If  $\alpha$  is the chosen level of confidence, VaR is the  $1-\alpha$  lower tail of the distribution.”<sup>4</sup> VaR is an estimation of the greatest loss that a portfolio might suffer.

Capital requirements the past decades were simple-minded and not flexible and did not reflect the underlying economic risks. For this reason regulators established rules for capital requirements based on risk, in order to avoid other unpleasant

economic disasters. These rules were based on VaR methods about the calculation of market risk.

In April 1955, the Basle Committee on Banking Supervision provided banks certain parameters to use in their own VaR models in order to calculate their capital requirements for market risk. The US Federal Reserve (June 1995) proposed an approach allowing banks to use their own VaR models to calculate capital requirements for market risk, forcing penalties if the losses exceed capital requirement. In 1996 EU’s applied Capital Adequacy Directive allowing VaR models to be used to calculate capital requirements for foreign exchange positions, making a decision to allow VaR to compute capital requirements for other market risks.<sup>5</sup>

### III. RISK MANAGEMENT

Risk management is a rapidly developing discipline and there are many and varied views and descriptions of what risk management involves, how it should be conducted and what it is for.

Risk management is increasingly recognized as being concerned with both positive and negative aspects of risk. Therefore this standard considers risk from both perspectives. In the safety field, it is generally recognized that consequences are only negative and therefore the management of safety risk is focused on prevention and mitigation of harm. Risk management should be a continuous and developing process which runs throughout the organization’s strategy and the implementation of that strategy. It should address methodically all the risks surrounding the organization’s activities past, present and in particular, future.

While executives have an interest in avoiding large losses in the future, ultimately they are agents of investors, and incentive for risk management should come from this diffuse group. More thoughtfully designed, shareholder approved pay packages that incorporate risk-adjusted performance measures can send important messages to firm managers about the risk level with which they are comfortable.

Many regulations are aimed at preventing the powerful from taking advantage of the weak, but the real problems with the credit crisis were caused by people systematically acting in opposition to their long-term self interest. Designing an effective system is a difficult task, but a principle-based approach to regulation focusing on the enterprise-wide risk position of a firm, and the role the firm plays within the economy, could help limit systemic problems in the future.<sup>6</sup>

Risk management, financial or otherwise, follows a logical process. At its simplest it involves three steps:

- awareness of the risks being taken by the firm, organisation or individual;
- Measurement of the risks to determine their impact and materiality; and

<sup>2</sup> Jorion Philippe, (2007), Value at Risk – The New Benchmark for Managing Financial Risk, Switzerland.

<sup>3</sup> Matthews, Kent and Thompson, John, (2005), The economics of banking. New Jersey.

<sup>4</sup> Philippe, (2007), Value at Risk – The New Benchmark for Managing Financial Risk, Switzerland,

<sup>5</sup> Dowd, Kevin, (2005), Measuring Market Risk, John Wiley & Sons.

<sup>6</sup> Hubbard, Douglas, (2009), The Failure of Risk Management: Why It’s Broken and How to Fix It. John Wiley & Sons.

- risk adjustment through the adoption of policies or a course of action to manage or reduce the risks.

Some risks will be well known since they have been identified, other risks will emerge as a result of changing conditions. Management may have a prior awareness, or there may be a specific experience of certain risks. Other methods of becoming aware of risks include standard analytic methods such as fault tracing; the use of experts (for instance Delphi forecasting); scenario building (via an investigation of Murphy's law – that is, what can go wrong will go wrong); brainstorming; and other similar approaches used to identify the factors in a particular industry, economic environment or within the firm.<sup>7</sup>

Risk measurement transforms that which is difficult to measure into quantifiable risks. The principal task initially is to model risk in order to measure its impact. Once the extent of the exposure has been determined, decisions about the appropriate course of action can be made. Typically, the procedure is to evaluate these risks using a cost–benefit approach (or, alternatively, the risk–reward trade-off) according to predetermined criteria. In principle the decision will depend on the costs and benefits involved in the different courses of action. There will be a trade-off between the benefits of risk reduction and the costs to be incurred.

Risk adjustment involves changing the nature of the risk from an undesirable level to an acceptable one. Three different approaches exist that include elements of risk pooling and risk transfer. The first involves insurance, where the risk is transferred to another party better able to accept the risk. The second approach uses hedging. This is the principle of off setting one risk with an opposite position in the same or similar risk. If the hedge works, the two risks should be self-cancelling. A decision can be made about how much of the total risk is to be hedged.

#### IV. MONETARY POLICY

Monetary policies are actions of a central bank, currency board or other regulatory committee that determine the size and rate of growth of the money supply, which in turn affects interest rates. Monetary policy is maintained through actions such as increasing the interest rate, or changing the amount of money banks need to keep in the vault (bank reserves).

The global financial crisis has challenged the conventional views on the role of monetary policy. Post-crisis, the weight of arguments tilts towards acceptance of financial stability as an objective of central bank or monetary policy. However, the key challenge is to evolve a consistent framework for implementation. While interest rate can continue as the dominant instrument for

implementing monetary policy, supplementing it with other quantity or macro prudential instruments even in normal times will not only enhance the flexibility of monetary policy to attain multiple objectives but could also obviate the risk of hitting the zero lower bound.<sup>8</sup>

The international central banking community has always been eager to learn from past developments and experiences, also with respect to different experiences across countries. Differences exist in the way monetary policy is conducted across countries. It is precisely because of the open-mindedness in discussing and the willingness to learn from each others' experiences during the past century that monetary policy making went through an evolutionary process.<sup>9</sup>

It has now become clear that the Global financial crisis was not an outcome of any single cause rather the result of the complex interaction between a host of macroeconomic and microeconomic factors. From a macroeconomic perspective, the crisis has been viewed as being caused by the persistence of global imbalances, excessively accommodative monetary policy pursued in major advanced economies and lack of recognition of asset prices in policy formulation. The microeconomic causes highlighted in the literature are the excessive credit growth and associated leverages, the lowering of credit standards, rapid financial innovations without adequate regulation, inadequate corporate governance, inappropriate incentive structure in the financial sector and overall lax oversight of the financial system.<sup>10</sup>

First line of defense against financial instability involves the tools that will make the structure of the financial system less prone to crisis. These structural resiliency tools include higher capital standards (including a minimum non-risk-based leverage ratio, as well as risk-based capital standards), liquidity standards, stress tests, living wills, and effective resolution methods for systemically important bank and nonbank financial institutions.

Very loose monetary policy increases the likelihood that financial instabilities will develop, thereby increasing the likelihood that macroprudential policy tools will be needed. Tight macroprudential policy can tighten financial conditions more generally, thereby increasing the likelihood that a monetary policy response will be needed.

Monetary policy should remain focused on promoting price stability and maximum employment. When making monetary policy decisions, it is needed to be cognizant of the linkages between our monetary policy actions and financial stability. In the case of the housing market, which precipitated the last crisis, policymakers underestimated the breadth and depth of the negative impact this would have on the rest of the economy and financial system. To the extent that we misjudged the impact, there is a larger potential gain to carefully monitoring financial market conditions, implementing the structural macroprudential tools,

<sup>7</sup> Moles Peter, (2016), *Financial Risk Management, Sources of Financial Risk and Risk Assessment*, Edinburgh Business School, Heriot-Watt, University Edinburgh

<sup>8</sup> Bean, Charles, Matthias Paustian, Adrian Penalver and Tim Taylor, (2010), "Monetary Policy after the Fall", Paper presented at the Federal Reserve Bank of Kansas City Annual Conference Jackson Hole, Wyoming

<sup>9</sup> Carney M., (2009), "Some Considerations on Using Monetary Policy to Stabilize Economic Activity", Remarks at the

symposium on Financial stability and macroeconomic policy sponsored by the Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming.

<sup>10</sup> Bean, Charles, Matthias Paustian, Adrian Penalver and Tim Taylor, (2010), "Monetary Policy after the Fall", Paper presented at the Federal Reserve Bank of Kansas City Annual Conference Jackson Hole, Wyoming.

and being open to taking offsetting action should imbalances develop.<sup>11</sup>

If macroprudential tools proved to be inadequate and financial stability risks continued to grow, monetary policy should be on the table as a possible defense. In this case, the blurring between financial stability goals and monetary policy goals would be high.

Monetary policy mainly works through its ability to affect current and expected future interest rates; however, in certain circumstances, it also has the ability to affect risk-taking by investors and financial institutions, and thereby is linked to financial stability.<sup>12</sup>

Goals of monetary policy and financial stability are complementary. Price stability helps businesses, households, and financial institutions make better decisions, thereby fostering the stability of the financial system. And a stable financial system allows for more effective transmission of monetary policy throughout the economy.

Financial imbalances can build up even in a low-inflation environment, so that while price stability may promote financial stability, it is not a sufficient condition. Financial instability can arise from nonbanks and from institutions that are solvent and not necessarily highly leveraged. Good examples for this are shown during the world financial crisis.<sup>13</sup>

When borrowers cannot be forced to repay, all lending is collateralized. When the economy is performing well, the value of the collateral increases, which supports further borrowing and higher output. But when a negative shock hits the economy and output declines, collateral values also fall, which means borrowing falls, which depresses output even further.<sup>14</sup> Thus, the collateral constraint is a mechanism that amplifies and propagates the effects of temporary shocks on the economy.<sup>15</sup>

Economic boom increases bank capital levels high enough so that credit is amply available to borrowers. This lowers the volatility of both output and asset prices. The lower volatility induces banks to increase their leverage and lend even more, so much so that the system is now vulnerable to a negative shock.<sup>16</sup>

During the financial crisis, when financial markets are not functioning well, the transmission of monetary policy to the economy can be disrupted. In those circumstances, the actions taken to implement monetary policy can also affect financial stability. Nonconventional monetary policy, including large-scale asset purchases and the extended period of very low interest rates,

could pose potential risks to financial stability by affecting market functioning and by spurring risk-taking in a search for yield.<sup>17</sup>

In deciding whether to take action against a growing imbalance, policymakers need to balance the expected improvement in future economic conditions against the potential cost of unduly limiting credit extension. That may be a premature question at this point. There are likely things that can be done and that are being done to lower the risk to financial stability without much cost in terms of longer-run growth.

## V. MONETARY POLICY AND RISK MANAGEMENT

The financial system has sustained many changes since the financial crisis and the Central Banks have had an unenviable task of stimulating the economy, encouraging lending, managing inflation and exchange rates. A central bank is commonly known as a lender of last resort, or as a “banker’s bank.” Most developing countries have a central bank that controls the credit system. These central banks exercise control by setting short-term interest rates (that is, the rates at which loans of last resort are made). Central banks may also control the money supply by requiring participating banks to keep a percentage of their holdings in reserve.

Central banks care about financial stability. Financial institutions are able to provide valuable credit, risk-management, and liquidity services to businesses and households because they are designed to take risks and are highly leveraged compared with nonfinancial businesses. But this risk-taking and leverage raise the possibility of systemic problems that could threaten the functioning of the financial system, hurt real economic activity, and impose significant economic costs.

Central bank should care about financial stability to the extent that it affects the health of the real economy. Volatility or minor disruptions in financial markets that represent the ebb and flow of a dynamic economy but do not threaten the health of the economy are not something the monetary policy authority should respond to. System resiliency is the ability of the financial system to continue to provide the core financial services of intermediation, risk management, and payments in the face of the inevitable shocks that will hit a dynamic economy.<sup>18</sup>

The preservation of stability in the financial system requires an understanding of how macroeconomic developments interact with institutional behaviour and prudential norms to support or

<sup>11</sup> Peek, Rosengren, and Tootell’s (2015) textual analysis of the transcripts of FOMC meetings from 1982 through 2009 suggests that the FOMC does consider financial stability when setting monetary policy

<sup>12</sup> Adrian, Tobias, and Hyun Song Shin, (2011), “Financial Intermediaries and Monetary Economics,” in *Handbook of Monetary Economics*, Vol. 3a, ed. by B. M. Friedman and M. Woodford. New York: Elsevier, pp. 601-650.

<sup>13</sup> Feroli, Kashyap, Schoenholtz, and Shin (2014) focus on market “tantrums,” which they define as periods in which risk premiums inherent in market interest rates fluctuate widely. Using data on inflows and outflows to open-end mutual funds, they conclude that market tantrums can arise independently of the degree of leverage in the system.

<sup>14</sup> Kiyotaki, Nobu, and John Moore, “Credit Cycles,” *Journal of Political Economy* 105, 1997, pp. 211-248.

<sup>15</sup> Ibid

<sup>16</sup> Brunnermeier, Markus K., and Yuliy Sannikov, “A Macroeconomic Model with a Financial Sector,” *American Economic Review* 104, 2014, pp. 379-421.

<sup>17</sup> Board of Governors of the Federal Reserve System, (2016), “Developments Related to Financial Stability,” in the *Monetary Policy Report*, pp. 20-21.

<sup>18</sup> Tucker, Paul, (2015), “Microprudential Versus Macroprudential Supervision: Functions That Make Sense Only as Part of an Overall Regime for Financial Stability,” paper presented at the Federal Reserve Bank of Boston 59<sup>th</sup> Economic Conference: Macroprudential Monetary Policy, October 2-3.

undermine equilibrating tendencies. And the implementation of monetary policy requires an understanding of the fact that the consequences of monetary policy for economic behaviour go much wider than their impact on the consumer price index.

This is much more than simply a matter of who does what, of whether responsibility for supervision of banks is located inside or outside the central bank. One could even argue that the loss of supervisory responsibilities by central banks has prompted a healthy re-examination of what is meant by systemic stability, and how it can be achieved in a world of many actors.

In the euro area, the full transmission of interest rate decisions to output has been estimated to be between one and two years, and even longer for inflation. A tail risk, if it materialises, may cause the economy to react in a non-linear and potentially disruptive way – hyperinflation and deflation being typical examples of risks central banks want to avoid.

For all these reasons, central banks usually augment their forecasts with an assessment of the risks surrounding them. This comprises a distribution of risks – the range of possible outcomes and the likelihood of their happening – which, in turn, allowing to form a view on the balance of risks, i.e. whether they are overall tilted to the upside or downside, and on the probability of tail events. Central banks' ability to contribute to the stability of the financial system is based on their unique capacity to create liquidity without constraints. Consequently, a central bank can make a substantial contribution to the resolution of a liquidity crisis through the provision of adequate amounts of liquidity.

The crisis exposed weaknesses in central bank liquidity management and in national and international crisis management frameworks. These weaknesses have created an awareness of the need for more flexible, formal, and better coordinated arrangements. The market-based single short-term policy interest rate approach helped establish and entrench price stability before the crisis.<sup>19</sup> For many advanced economy central banks, the operational framework is complemented by standing lending and borrowing facilities that establish a corridor around the policy rate, and remunerated and/or required reserves.

Before the crisis, most central banks conducted monetary operations through narrow channels, with the expectation that funds would be redistributed to the institutions and markets most in need of funding. During the crisis, some aspects of liquidity provision proved to be too rigid to address problems in specific markets and institutions that caused systemic stress. Thus, consideration can be given to broadening liquidity management frameworks to increase the crisis options available to central banks.

Central banks typically vary their liquidity provision to match reserve demand and thus stabilize market interest rates. Before the crisis, reserve levels were in some cases very small in relation to funding volumes. Larger equilibrium levels of reserves could help to better absorb liquidity shocks and thereby enhance policy flexibility and systemic resiliency. Larger reserve levels could also be useful in economies with more complicated financial structures, where stresses can rapidly increase the volatility of reserve demand.<sup>20</sup>

## VI. CONCLUSION

The crisis was a reminder that price stability is not sufficient for financial stability, financial crises are costly, and policy should aim to decrease the likelihood of crises, not only rely on dealing with their repercussions once they occur. It is clear that well-targeted prudential policies (including micro and macroprudential regulation and supervision) should be pursued actively to attenuate the buildup of financial risks.

The financial system has sustained many changes since the financial crisis and the Central banks have had an unenviable task of stimulating the economy, encouraging lending, managing inflation and exchange rates. By working in tandem with other agencies, central banks can make important contributions to the stability regime, based on their system-wide macrofinancial perspective and their analytical capacity. Monetary policy is more potent during financial crises because aggressive monetary policy easing can make adverse feedback loops less likely. The fact that monetary policy is more potent than during normal times provides a rationale for a risk-management approach to counter the contractionary effects from financial crises, in which monetary policy is far less inertial than would otherwise be typical – not only by moving decisively through conventional or non-conventional means to reduce downside risks from the financial disruption, but also in being prepared to quickly take back some of that insurance in response to a recovery in financial markets or an upward shift in inflation risks.

Expansionary monetary policy can have limited effects on growth by increasing asset prices and lowering the costs of borrowing, making companies more profitable. In addition, it has the psychological benefits of taking worse-case economic scenarios off the table.

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<sup>20</sup> Chailloux, A. et al., (2008), *Central Bank Collateral Frameworks: Principles and Policies*, IMF Working Paper, 2008

<sup>1</sup>Feroli, Kashyap, Schoenholtz, and Shin (2014) focus on market “tantrums,” which they define as periods in which risk premiums inherent in market interest rates fluctuate widely. Using data on inflows and outflows to open-end mutual funds, they conclude that market tantrums can arise independently of the degree of leverage in the system.

<sup>1</sup> Kiyotaki, Nobu, and John Moore, “Credit Cycles,” *Journal of Political Economy* 105, 1997, pp. 211-248.

<sup>1</sup> Ibid

<sup>1</sup> Brunnermeier, Markus K., and Yuliy Sannikov, “A Macroeconomic Model with a Financial Sector,” *American Economic Review* 104, 2014, pp. 379-421.

<sup>1</sup> Board of Governors of the Federal Reserve System,(2016), “Developments Related to Financial Stability,” in the *Monetary Policy Report*, pp. 20-21.

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