CHAPTER 1

CONCEPTUAL FRAMEWORK

1.1 Introduction

“Financial sector ups and downs and the real sector in the open economy: Up by the stairs, down by the parachute” a study by Aizenman et al. (2013) has examined how financial expansion and contraction cycles affect the broader economy through their impact on real economic sectors. The previous researches had established the linkage between the financial sector and the real sector of economy. Countries to have more economic activity would require efficient financial sector primarily banking sector which extends more credit to borrowers. The fact of co-movement of bank lending and economic activity has been analyzed in feedback mechanism between the banking and real sectors of economy.

Banking Industry in India is not only mere the supplier of credit but also the harbinger of social and economic development. Banks are playing significant role in the growth of economy henceforth makes worthwhile to observe its behavior during economic cycle. The term economic cycle refers to economic wide fluctuations in economic activity over several months or years. Economic cycle typically involve expansion phase and contraction phase. It is observed that there are banking variables which increase in expansion phase and decrease in contraction phase, exhibiting the most sought after fact of co-movement of banking sector variable and real sector variable. Such behavior of banking variables is said to exhibit procyclicality. In business cycle theory and finance, any economic quantity that is positively correlated with the overall state of economy is said to be procyclical. In recent years the issue of possible procyclicality of banks’ activity notable bank lending has drawn the attention of both academics and policy makers on its role in amplifying fluctuations which affect macroeconomic stability. “Indeed, to guarantee macro and financial stability, it is crucial to understand if, and to what extent, banks are
affected by the evolution of the macroeconomic environment and if there are second round impacts.” (Quagliariello, 2004)

1.2 Procyclicality- Concept and Definitions

The recent economic crisis in 2007-2012 has highlighted the issue of procyclicality in banking system. It is first essential to dwell into the concept and the various definitions of procyclicality.

Procyclicality means moving along with economic cycle. The concept of procyclicality when applied to bank credit is said to show the procyclical behaviour. Bank credit is said to be procyclical. When economy is in upward phase, there is an atmosphere of optimism prevails in economy, gross domestic product in economy increases, banks sanction more and more credit to the borrowers and when economy is in downward phase, there is an environment of pessimism prevails, gross domestic product decreases, banks overestimate the risk of default and become over cautious and sanction less and less credit to the borrowers. Bank Credits are therefore said to be (or likely to be) procyclical because they might amplify the fluctuations of the business cycle.

In the similar way Ayuso et al. (2004) has defined “The concept of procyclicality, when applied to the new capital requirements. As is well known, one of the primary aims of the BASEL accord is to link capital requirements more closely to risk. Accordingly, in a downturn, for instance, when risks are more likely to become visible, capital requirements might increase. Thus, capital requirements and output growth will move in opposite directions. But if capital requirements increase, banks would have to reduce their loans and the subsequent credit squeeze would add to the downturn. Capital requirements are therefore said to induce procyclicality in bank credit because they might amplify the fluctuations of the business cycle.”
Model 1: Explaining concept of procyclicality during downward phase of economic cycle.
Model 2: Explaining concept of procyclicality during upward phase of economic cycle

Some authors have defined procyclicality as the magnification of swings in the economic cycle by the financial sector activities most notably by bank lending. The main feature of procyclicality is the underestimation or overestimation of
risk to which banking sector is exposed. Banks underestimate the risk during upward phase of the cycle and gives out more and more credit to the borrowers. This increases the supply of money and the consumption in the economy which leads to relatively high growth during the upward phase of the cycle. On the other side during downward phase of the economy, bank shows strong risk aversion. Banks put a brake on the sanctioning of credit to the borrowers in apprehension of probability of default by borrowers. Thus “The banking industry changes from effective mechanism of allocating funds to a mechanism that exacerbates cyclical fluctuations, hindering the efficient allocation of resources in the economy and adversely affecting credit growth and financial stability.” (Athanasoglou and Daniilidis, 2011).

The concept of procyclicality is further explained in Figure 1 and Figure 2.

![Figure 1: Explaining the risk arises due to procyclicality.](image-url)
Financial Stability Forum in its report addressed the procyclicality in financial system in 2009. Report says that “Procyclicality is the dynamic interactions (positive feedback mechanisms) between the financial and the real sectors of the economy. This mutually reinforcing interaction amplifies business cycle fluctuations and cause or exacerbate financial instability.”
Banks for International settlement has also defined the term “procyclicality”. “Procyclicality is generally used to refer to the mutually reinforcing (positive feedback) mechanism through which the financial system can amplify business fluctuations.”

Jean-Pierre Landau, Deputy Governor of the Bank of France, defined procyclicality as “The tendency of financial variables to rise and fall around a trend during the economic cycle. Increased procyclicality means fluctuations with broader amplitude. Financial systems can be observed as complex systems and they are also “human" systems. Their behaviour is driven by the way human beings react to shocks in a given situation. Herd behaviour is an essential feature of financial markets. More precisely, individual reactions in interaction with financial systems can results in strong amplification effects”. Landau (2009) further defined procyclicality which includes three components: (1) fluctuations around the trend (2) changes in the trend itself and (3) possible cumulative deviations from equilibrium value.”

The traditional concept of procyclicality has been defined by Borio et al (2001) “where real credit and output growth and other variables move together in a relatively smooth fashion over the cycle, is based on the experiences of industrial countries with stable financial systems. Further, the concept has been declared from the emerging market point of view. In some emerging markets, the experience has been somewhat different, with sharper and more sudden simultaneous fall in credit, output and asset prices often associated with financial instability. Procyclicality is a normal feature of economic systems. It reflects a process where credit expansion supports economic growth and asset prices rise to facilitate an efficient allocation of resources.”

Gersl and Jakubik (2010) have also defined “procyclicality as the magnification of swings in the economic cycle by financial sector activities. Procyclical behaviour can have particularly serious implications in an economic downturn, as under certain assumptions it can considerably prolong
and deepen the recession via feedback effect on the economy. Under certain conditions, procyclical behaviour of the banking system can lead to feedback effect where by banks, in response to an economic downswing; reduce their lending to the economy in order to maintain the required capital adequacy ratio. This then further negatively affects economic output and impacts back on banks in the form of nonperforming loans.”

1.3 PROCYCLICALITY IN THE DEMAND AND THE SUPPLY OF BANK LOANS
Several research studies had been carried out to understand procyclicality in the demand and the supply of bank credit. Bank credit is said to exhibit procyclicality. During expansion phase supply of bank credit and demand for bank credit expected to increase whereas during contraction period both the supply and the demand for credit is expected to decline. During expansion phase banks sanction more and more credit to the borrowers and when economy is in contraction phase, banks put a break on sanctioning credit to the borrowers. Both the supply of credit and the demand for credit are the important determinants of economic activity. Change in the supply of credit contributes to change in the level of economic activity. It has been found in US banks that decline in supply of loan contribute to decline in level of economic activity (Kashyap et. al, 1993). On the other hand change in the demand for loan also contributes to change in the level of economic activity. De Nicolo and Lucchetta (2010) found that decline in demand for loans contribute to decline in level of economic activity.

There are several factors which could affect the supply of loan. These are bank capital requirements, level of economic activity, loan loss provisioning etc. Any change in capital of bank brings change in amount of loans supplied (Bernake and Lown, 1991; Furfine, 2000). Low capital combined with low liquidity reduces loan supply during a period of falling economic growth. However during expansion phase, banks with lower capital and liquidity ratios
are more likely to approve a loan (Albetrazzi and Marchetti, 2010; Drehmann et al, 2010, Puri et al, 2011). As regards to capital buffer Marcucci and Quagliariello (2008) report that decline in level of capital buffers of Italian banks contributed to reduction of loan supply during 1990-2004, which has negatively affected the level of economic activity (GDP). Nag and Das (2002) also reported that stricter risk management practices with minimum regulatory capital requirements had dampening effect on overall credit supply. Further, Samantaraya (2007) reported that capital requirements and loan loss provisioning are the factors that magnify the effect of procyclicality of bank credit. Author reported that demand for credit is influenced by level of economic activity. Any increase or decrease in economic growth is estimated to expand/contract bank credit flow.

1.4 PROCYCLICALITY AND CAPITAL BUFFER

As defined earlier the concept of pro-cyclicality, when applied to the new capital requirements or capital buffer. Capital buffer is defined as the excess capital held by banks over and above the minimum required regulatory capital. During downturn phase of economic cycle, when risks are more likely to become visible, capital requirements or capital buffer might increase. Thus, capital requirements and output growth will move in opposite directions. But if capital requirements increase, banks would have to reduce their loans and the subsequent credit squeeze would add to the downturn. Capital requirements are therefore said to be or likely to be pro-cyclical because they might amplify the fluctuations of the business cycle.

A bank holding more than the minimum required capital signals the safety and the soundness of a bank. Capital buffer can also act as a cushion to absorb unexpected shock, thus limiting the pro-cyclical effect of capital. Furthermore, by holding capital buffer as an insurance to avoid cost related to market discipline or supervisory intervention if bank approached the regulatory minimum ratio. If the relationship between capital buffer and business cycle is
negative it is expected to show procyclicality in financial system (Ayuso et al., 2004; Lindquist, 2003; Bikker and Metzemakers, 2004). If the relationship between capital buffer and business cycle is positive then a positive relationship would mean that banks rebuild their capital during upward phase of economic cycle which might likely to be used to cover up the credit need during the next downturn.

The reasons why banks may wish to hold capital are various; there are different types of cost related to capital levels (Froot and Stain, 1998; Estrella 2001).

Firstly, holding capital has a direct cost for banks, as it has to be remunerated. In a context of asymmetric information, capital may even be more costly than alternative bank liabilities such as deposits or debt.

Secondly, “Holding capital reduces the probability of bankruptcy and therefore the so-called costs of failure, which include the loss of charter value, reputational loss and legal costs of the bankruptcy process” (Acharya, 1996). Higher capital levels also reduce the probability of not complying with those requirements, thus minimising the consequent cost.

Finally, “Changing capital level requires adjustment cost. Such cost includes pure transaction cost and cost related to the problem of asymmetric information in capital markets. As the issuer has an informational advantage over the potential buyers, issuing (repurchasing) stocks may be seen by the latter as a signal that the company considers that market prices are above (below) the true share value, which would increase the cost of the desired adjustment” (Ayuso et al., 2004).

1.5 PROCYCLICALITY AND ITS RELATION TO PROFITABILITY IN BANKS

Athanasoglou et al. (2005) explained procyclicality of bank’s profitability by exploring the relationship between bank profitability and business cycle. During period of economic growth, the supply and the demand of loan
increases owing to increased level of economic activity. Loan segment is considered to be the most profitable segment in banks as it generates interest income on credit granted to borrowers. Interest Income is affected by economic activity. During expansion phase of economic cycle, optimism prevails, lending increases and hence the profitability of banks also tends to increase. In period of high economic growth not only demand and supply of credit increases but also stock market transactions increases which generate fee based income to banks and hence increased profitability. On the contrary, profitability tends to decrease in downward phase of economic cycle. During recession, lending decreases due to increase in provisions held by banks due to deterioration of the quality of loans and increased probability of loan defaults. Banks lending also declines as banks are required to maintain capital adequacy which obstruct the funds available for granting loans. This reduction in lending results in decrease of income to banks and the profitability. A positive relationship is found between GDP and profitability of banks (Demirguc-Kunt and Huizinga, 2000; Bikker and Hu, 2001).

1.6 MECHANISM OF PROCYCLICALITY
The feedback mechanisms between the financial and real sectors of the economy are particularly apparent and disruptive during an economic downturn or when the financial system is facing strains. A weakened financial system cannot absorb further losses without causing amplifying retrenchment. As a result, the system acts as a shock amplifier rather than playing its usual role of shock absorber.
Figure 4: Mechanism of Procyclicality

Figure 4 shows the mechanism of feedback effect of procyclicality during upward phase of economic cycle. When macroeconomic scenario is favorable it indicates that economy is growing, cash flows and incomes of corporate or borrower’s rises, their risk appetite also increases. In this scenario risk taking capacity of banks also increases. Banks loosen the credit standards and
underestimate the risk of borrowers. Banks grants more and more loans and advances to the borrowers. This increases credit supply in the economy. Increase in money supply in economy leads to increases the production and consumption in economy. GDP of country rises.

Figure 5: Mechanism of Procyclicality

Figure 5 shows the mechanism of feedback effect of procyclicality during downward phase of economic cycle. When macroeconomic scenario is unfavorable it indicates that economy is not growing, cash flows and incomes
of corporate or borrower declines, their risk appetite also decreases. In such scenario risk taking capacity of banks also decreases. Banks tightens the credit standards and overestimates the risk of borrowers. Banks are now not willing to grant loans and advances to the borrowers. This decreases credit supply in the economy. Decrease in money supply in economy leads to decrease in the production and consumption in economy. GDP of country falls.

1.7 SOURCES OF PROCYCLICALITY

Procyclicality is the inherent feature of the economic cycle. The point why this procyclicality emerges has to be answered. The answer lies in the market which may function in a less efficient manner. This deviation from the efficient market hypothesis (ECB, 2005) could be due to the following reason, some of which are explained by hypothesis.

1. Err in Measurement of risk- The reason to consider is the error in measurement of risk during expansion and contraction phase of economic cycle. Banks do underestimate risk during expansion phase of economic cycle. Bank funds all the commercial projects with positive, zero or negative NPV. This flow of credit in the economy amplifies the upward phase of economic cycle. While in downward phase, banks keep a check on the flow of credit to different projects and to an extent banks even do not fund the project with positive NPV in the fear of its probability of default.

2. Asymmetric information hypothesis: This hypothesis is based on the fact that information is not available to all parties. It is based on the fact that borrowers have more knowledge than lenders about a project. This fact, combined with the adverse selection hypothesis (i.e. the lender is unable to verify one or more of the project’s key characteristics), affects banks’ behaviour: banks are willing to grant more loans in the upward phase of the cycle and reluctant in the downward phase (thereby significantly reducing the level of competition). The asymmetric information hypothesis is also directly
related to provisioning practices, since increasing provisions lowers banks’ profitability and possibly their dividends, transmitting negative messages (signaling) to the market about their financial condition. Even if dividends are not reduced, it is difficult for the management of a bank to make higher provisions than the rest of the industry, in view of the need to avoid giving a negative message about its loan portfolio quality. Consequently, banks will choose the level of provisions that minimizes negative effects (Rajan, 1994).

3. Principle-agent Hypothesis-There may be a conflict of interest between the principal and the agent, either due to their different risk profiles or due to principals’ difficulty in verifying that the agent has acted in his interest or has made an “adverse selection” (Eisenhardt, 1989). This assumption leads to procyclicality when: (a) agents, because of high incentives from the principal (i.e. high bonuses and commission), take excessive risks, which can lead to systemic instability; and (b) borrower underestimate risk, maintain a way of the possibility for excess profits, while lenders risk losing their capital (Landau, 2009). Problems arising from the principal-agent hypothesis can only partially be addressed by loan commitments, and therefore borrowers usually pledge collateral.

4. Herding Behaviour Hypothesis- A bank’s management tends to follow the group behaviour. Most of the time banks follow what other banks do. If all other banks are concentrating on lending then it will also start focusing on lending. Bank does not want to lose its position to its competitors even if they follow wrong personal choices. (Scharfstein and Stein 1990 and Rajan 1994).

5. Free riding Hypothesis – A bank’s management may not consider the impact factor of their business decision on the stability of financial system, more specifically during the expansion stage of economic cycle. Their focus
would be on earning more and more profit in short time. In this race banks do ignore the impact of their decision on long term stability of financial system.

6. Moral Hazard Hypothesis- It is seen that public sector banks (or state run banks) are of view that government will support them in times of significant financial problems. Public Sector Banks tend to take high risk in lending to earn higher profits, keeping in mind that government will support them if need arises. (Borio et al. 2001)

7. Disaster Myopia Hypothesis- This hypothesis says that banks consider short term risk. A bank’s management view is myopic (Guttentag and Herring, 1986). They do not take into account the long term risk involved in their choices.

8. Sales Target Pressure- It is widely seen that the banks managers many a times bow down to the pressure of sales targets given to them. Under this pressure, they take risky decisions to achieve their targets to retain market share ignoring the long term impact of their decision on the financial stability.

9. Over- Optimistic or Over-Pessimistic Expectations- During the upward phase of economic cycle banks get over optimistic about the repayment capacity of borrowers. They even go to the extent of funding the project with negative NPV. During the downward phase of the economic cycle, banks get over pessimistic and do not even fund the project with positive NPV.

10. Financial Regulations- Financial Regulation like BASEL II is said to induce procyclicality in economy. During the expansion phase of economic cycle, banks decrease their provisioning requirement which free up funds for lending. During the contraction phase of the economic cycle, banks increase their provisioning requirement which reduces funds available for lending.
1.8 FACTORS AFFECTING PROCYCLICALITY

Procyclicality in banking are affected by following factors: First category belongs to those factors that are related to economic policies and banking supervision. Second category belongs to those factors which are related to banking system’s regulations and practices and third category includes factors other than included in the above two categories (Athanasoglou and Daniilidis, 2011).

Economic Policy and Banking Supervision

(A) Fiscal Policy
Fiscal Policy is said to show countercyclical behaviour to influence aggregate demand and the level of economic activity. The two main instruments of fiscal policy are changes in the level and composition of taxation and government spending in various sectors. When economy is in recession, fiscal policy tends to lower taxes and increase government spending (expansionary fiscal policy), which provide boost to economy. Such countercyclical behaviour of fiscal policy gets the success only if public finances are managed properly. If public finances are not efficiently managed then fiscal policy exhibit procyclical behaviour. In this situation banks are forced to increase interest rates and decrease lending adding to the issues of procyclicality.

(B) Monetary Policy
Monetary policy can make a significant contribution in strengthening or mitigating procyclicality (ECB, 2009c) through the following channels:

First, Interest Rate Channel is a mechanism of monetary policy through which the loan demand is affected. Interest rate channel is a policy-induced change in the short-term nominal interest rate by the central bank that affects price level, and subsequently output and employment.
Second is Credit Channel, a mechanism of monetary policy describes the theory that a change in central bank's policy affect the amount of credit that banks issues to firms and consumers for purchases, which in turn affects the real economy. Credit channel is broken down into: Bank lending channel and Balance sheet channel. According to bank lending channel, changes in monetary policy will shift the supply of intermediated credit, especially credit extended through commercial banks. It is also referred to as narrow credit channel through which cost of funding and bank’s capital base are affected (Athanasoglou and Daniilidis, 2011). While balance sheet channel says that the size of the external finance premium should be inversely related to the borrower's net worth. It is also known as broad credit channel through which potential borrower’s property and collateral value is affected.

Third is risk taking channel in which low policy rates can induce banks to take higher risk in different ways. An expansionary monetary policy could therefore not only result in an increase in lending, in accordance with conventional transmission mechanisms, but could also result in lending being riskier. If the risks that are built up are high enough, they could eventually lead to a financial crisis. The risk-taking channel could therefore constitute a link between monetary policy and financial stability (Apel and Claussen, 2012).

(C) Banking Supervision
Banking Supervision is form of central bank’s regulation which subject banks to certain requirements, restrictions and guidelines. A very strict banking supervision during recession may restrict bank loan supply thus exacerbating procyclicality (Borio et al, 2001).
Banking system’s regulations and practices

The following factors are included in banking system’s regulations and practices:

(A) BASEL II norms.

Basel II is the second of the Basel Accords which are recommendations on banking laws and regulations issued by Basel Committee on Banking Supervision. BASEL II uses a “three pillar” concept – (1) Minimum capital requirements (2) Supervisory Review (3) Market Discipline. Basel II accord received a significant attention owing to its role in exacerbating the procyclicality in banking. Basel II accord, a system based on risk-sensitivity is seemed to some extent pro-cyclical: during a recession, the quality of credit deteriorates and the capital requirement rises. The opposite happens during an upswing. But there is a significant measure of "excessive" pro-cyclicality in the Basel framework that must be reduced by using several methods (De Larosière et al. (2009) in Report de Larosière).

The first pillar of BASEL II deals with minimum maintenance of regulatory capital calculated for three major components of risk that a bank faces: credit risk, operational risk, and market risk which are quantifiable. The capital requirements are calculated using Standardized Approach and Internal Rating-Based Approach. Under standardized approach the banks are required to use ratings from External Credit Rating Agencies to quantify required capital for credit risk. Credit ratings from credit rating agencies exhibit procyclicality. During recession credit rating firms downgrades the rating which force banks to maintain higher capital. Increase in capital requirement decreases the funds available for lending thus adding to procyclicality.

Under Internal Rating Based Approach, the calculation of capital requirement is done on the following risk parameters – probability of default (PD), loss given default (LGD), and exposure at default (EAD) and Maturity (M) to arrive
at risk weighted assets. Out of these risk parameters three are affected by economic cycle (ECB, 2005). Probability of default’s cyclical pattern is confirmed empirically by Altman (2004), Fama (1986) and Barnhill and Maxwell (2002). Loss given default is related to state of economy (Altman et al., 2002). Loss given default tends to rise. Further, exposure at default is higher during recession (Jimenez et al., 2007). Capital adequacy rules as per Basel II norms tend to restrict loan supply.

(B) Accounting Rules and its application.
Accounting Rules are considered to play an important role in exacerbating the procyclicality in financial system.

(C) Collateral
Procyclicality is further exacerbated by collateral required during different phases of economic cycle. Collateral value changes during economic cycle as the value of collateral increases during cyclical upswing and decreases during cyclical downswing. Such asset price dynamics and related wealth effects clearly increases borrowers capacity to obtain collateralized lending during booms. However, during the subsequent slowdown, the collateral backing for loans did not have the expected value. This factor influences lending as in downturn banks may ask borrowers to arrange more collateral as a margin for loan. Potential borrower may unable or unwilling to pledge additional collateral. This crisis shows that how decline in value of assets can have enormous effects on the banks’ balance sheets and the economy in general.

There are other factors also which are contributing in the procyclicality in the financial systems. Leverage also contributes in the procyclicality in the financial systems. Apart from leverage, Market Liquidity and Funding Liquidity also contribute in the procyclicality in the financial systems.
Other Factors

(A) Credit Rating Assessments
Credit Rating agencies generally assign ratings on a through-the-cycle basis whereas banks' internal valuations are often based on a point-in-time performance. During downward phase of economic cycle, credit rating firms downgrade the ratings of borrowers due to increased default risk. Downgrading the borrowers forced the banks to constraint the lending which in turn adds to procyclicality. While in upward phase of economic cycle, credit rating agencies give better ratings to borrowers as level of economic activity rises and optimism prevails and the probability of default by borrowers decreases. Credit ratings are procyclical and exhibit excess sensitivity to business cycle conditions. To the extent that ratings are procyclical, bank capital requirements will tend to higher during downturns, further reducing credit supply during downturns adding woe to procyclicality (Amato and Furfine, 2003).

(B) Use of VaR and other risk measurement systems.
Use of VaR and other risk management systems also add to procyclicality. Value at Risk (VaR) is a widely used as a measure of the risk due to loss on a specific portfolio of financial assets. VaR basically transform large nominal amounts into much smaller values-at-risk. This reduces the perceived order of magnitude of risk exposures and gives a sense of comfort that may turn out to be wrong. In fact, the current crisis proved that nominal and notional amounts do matter when looking at risk exposures (Fernández de Lis and Herrero, 2010).

(C) Bank Managers Remuneration and Incentive Schemes.
Manager’s remuneration and incentive schemes are critically important in banking sector. If remunerations and incentives are designed to induce risk taking then it will add further to procyclicality. Indeed incentive schemes are designed in such a way that Managers in financial firms take big risk to earn
the incentives. Stock of option based wealth for managers and top executives also induce risk taking. In a study on US banks by Chen et al., (2006), banks have increased the use of stock option based compensation. This compensation scheme motivates managers to take risk for profit which will increase the value of stocks of banks. Manager’s risk taking hypothesis prevails over manager risk aversion hypothesis. Also some results indicate that equity-based pay (i.e. restricted stock and options) increases the probability of default, while non-equity pay (i.e. cash bonuses) decreases it (Balachandran et al., 2010).

1.9 IMPACT OF PROCYCLICALITY
As said earlier banking industry is not only a medium of credit disbursement in economy but also lead the social and the economic development in country. Procyclicality in banks is in the attention as it put negative pressure on the economic growth of a country as well as on the profitability and the solvency of banks and threatens the financial stability. The following are impacts which are visible due to procyclical behavior of banks:

(1) During upward phase of economic cycle, banks soften the lending standards; underestimate risk and sanctions more and more credit to borrowers. Loans are granted not only to projects with positive net present value but also to projects with negative or zero net present value. Whereas during the downward phase of economic cycle, banks overestimate risk and are reluctant to lend even to projects with positive net present value. It has been seen that loans granted to borrowers in upward phase of economic cycle shows higher probability of default (Jimenez and Saurina, 2006).

(2) It is expected from banks that in recession it shall support economy and shall help economy to come out from recessionary conditions. But in downward phase of economic cycle when economy is in need of funds to increase level of economic activity, banks become extremely reluctant to lend.
Banks overestimate risk associated with borrowers and projects and do not even lend to projects having positive net present value. So instead of mitigating the effects of recessionary conditions, banks intensify the effects and amplify the duration of recessionary period.

(3) Procyclicality also affects profitability and solvency of banks. During upward phase of economic cycle banks disburse more and more credit to borrowers by underestimating risk and by softening lending standards. Loan sanctions during this phase has higher chances of getting default (Jimenez and Saurina, 2006) leading to losses to banks when loans gets converted to non performing assets. NPA make a dent on profitability and consequently on capital adequacy ratios which in turns threaten the solvency of financial institutions.

1.10 CONCLUDING REMARKS ON CONCEPT OF PROCYCLICALITY

On the basis of above discussions on various aspects of procyclicality, the following are the important points. These points are the base for the present research study and on which review of literature has been designed.

1. There is a linkage between real sector and financial sectors in an economy.
2. Banks are said to exhibit procyclical behaviour.
3. Banks are said to exhibit procyclicality in bank credit.
4. Procyclicality in Bank Credit means that during upward phase of economic cycle, banks are believed to increase bank credit in view of business optimism and lower credit risk. Similarly during downward phase of economic cycle, banks are believed to decrease bank credit in view of higher credit risk and pessimism in business atmosphere.
5. There are some bank variables like capital adequacy ratio and loan loss provisioning which are likely to induce procyclicality in bank credit.
6. Capital adequacy ratio and loan loss provisioning are said to induce procyclicality in bank credit. During upward phase of economic cycle, banks lower capital buffer and loan loss provisioning due to decrease in credit risk and probability of loan losses. This action free up the funds available for lending by banks. During downward phase of economic cycle, banks increases capital buffers and loan loss provisioning due to increase in credit risk and probability of loan losses. This step blocks the funds available for lending by banks. The banks lower the lending to the economy when it needed most. This act results in amplification of economic cycle.

On the basis of these important points, review of literature has been carried out in the next chapter.