VIEW POINT

ECONOMIC CYCLE REFRESH FOR BANKS

UNDERSTANDING IMPACT, RISKS, AND SURVIVAL STRATEGIES

"What goes up must come down." - *Isaac Newton*

Throughout the history of economics, periodical ups and downs define the very nature of it. Behind revolving peaks and valleys, there is balancing act of supply and demand forever.

Study of economic indicators often recognizes certain patterns of this cyclical nature of business of which Economic cycle is one of the most influential patterns. In a sinusoidal curve, between rise and fall of credit, this cycle depicts a true state of economics.

In this study, nature of economic cycle is explained by taking note of historical evidences and current economic indicators. Based on the analysis further efforts has been made to determine if current economy is nearing the end of current cycle.

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Acknowledgements

We would like to thank all the reviewers, approvers and technical writers for their participation and contribution to the development of this document.

Special thanks to all the awesome people who had contributed their valuable tools, knowledge, experiences, and insights to the public using World Wide Web.

Introduction

In the third decade of eighteenth century, classical economics started recognizing the fact, that economic activities are periodic in nature. From middle of eighteenth century many notable economists started studying this pattern and by 1950, modern economics had completely convinced itself on the importance of economic cycles on everything around.

Banking and financial institutions are the driving institutions of global economy and thus are the most sensitive towards the change of economic cycles.

Without deep understanding of economic cycle, banks cannot sustain, operate and become profitable. But this understanding is nearing impossible to perfectly master, as there are thousands of factors and variables in economics - and considering complex interrelations and ever changing nature of those, no amount of efforts will be enough.

But it is absolutely necessary to have a good understanding of the economic cycle and there is no escaping from it.

Hence, in this paper, we have tried to explain basics of economic cycle to the reader, and then based on economic data, tried to understand the current phase in the cycle. This understanding is further used to determine the impact of current cycle on the banking industry and the best strategies to deal with the same.

What Is an Economic Cycle?

Economic cycle means expansion and contraction of borrowing and lending between companies and investors.

Significant swings in economic parameters are observed naturally in The United States and all other modern industrial economies, though their duration may vary. During peak, industries are growing and unemployment is lower; but in few years during phase of contraction, most industries are not operating well with high levels of unemployment.

Phases of economic prosperity are known as expansions and phases of economic downtrend are called recessions/ depressions. The combination of these two phases of expansions and recessions is called the business cycle.

Three phases of economic cycle are:

1. Recovery Phase: This phase comes after a recession where evaluation is at the cheapest level where most of the companies are involved in proving their credit profile.
2. Expansion Phase: Where we see increased borrowing and lending, with increment in underlying asset value.
3. Deterioration Phase: Today we are in this phase. It is seen that we are through the best of the cycles and proceeding with caution. Deterioration phase can actually last for years and end of the phase depends on the combination of factors like weakening economy and recession, steps taken by central banks, etc.

Also the question arises as to how investors should be positioning their portfolios in this environment. It is better suited for focusing on capital preservation and generating a reasonable return rather than trying to maximize earnings.

Below diagram shows the phases of economic cycle. This diagram is just for depiction and does not correspond to any data.

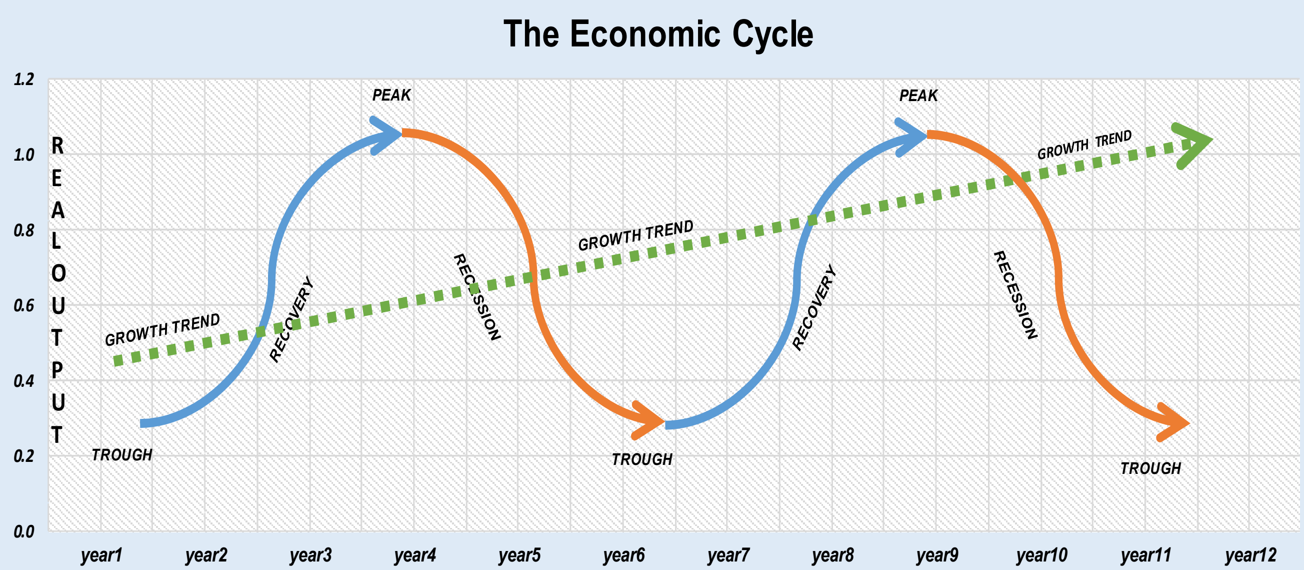


Figure 1: Theoretical depiction of economic cycle

Leading indicators which will explain economic cycle?

There are numerous factors across the globe, which are used quantatively and methodically in different studies for determining the economical state. In the below section we are explaining few of the most important factors in the context of this paper.

Leading Indicators:

1. Hours of production workers in manufacturing: Increase in hours indicates more work and more production. So more the man hours more is the manufacturing and more is the demand indicating the positive trend in the economy.
2. New claims for unemployment insurance: The more the claims indicate the slowness in the economy, as unemployment increases. An increase in unemployment rate is usually not a good sign of economic health.
3. Consumer spending: With increased consumer spending, new orders come in to manufacturing industry that in turn creates more number of jobs. This is a sign of a good economic state as positive economic activates increase.
4. New orders for plant and equipment: As new orders come in as per increased demand during time of expansion, more plants and equipment's are required. An increase in plant and equipment purchase by factories, generates more employment, more supply and more industrial lending.
5. Building permits for private houses: More new houses again increases employment for so many indirect jobs and also more spending by customers also indicate positive flow in the economy. Also to note, real estate has been a great contributor to GDP of the country.

6. Fraction of companies reporting slower deliveries: When a sector or industry reports slower deliveries for few consecutive quarters, that leaves a grim outlook on the economic growth prospect. Eventually if this trend continues, slowness in the economy may lead to a breakdown and recession period starts.

7. Index of consumer confidence: This is a very important point indicating the investing power of consumer into the market. When consumer confidence is increasing, that generates opportunity for business to greater revenue and profit margin, along with increases risk appetite for fresh investments.

8. Change in commodity prices: This indicates the inflation in the market and thus plays its part in deciding the spending power of consumers in the economy. For example, price of oil and gas sector has direct impact in profit margins of any large industry, rise in edible commodities points towards increasing inflation and lower purchasing power.

9. Money growth rate: It indicates the inflation in the economy. Inflation is zero if money supply is equal to money demand. Positive inflation is a good sign for economies, but only up to a threshold. Less inflation denotes poor return on capital investments, and very high inflation denotes weakness in supply demand system underlying.

Below figure can summarize the co relations and impacts on the current economic cycle of the above indicators.

Increasing Production hour in manufacturing	Increased man hours	Increased manufacturing output	"Increased supply and demand "	UPTREND
Increasing claims for unemployment insurance	more no of insurance claims	Increased unemployment	"less consumer spending , and demand"	DOWNTREND
Increasing consumer spending	fresh set of manufacturing orders	more plants and equipments	more employment	UPTREND
Increasing orders for plant and equipment	Increased demand	more employment	more investment and spending	UPTREND
Increasing building permits for private houses	increased employment	increased lending	increased GDP	UPTREND
Increasing companies reporting slower deliveries	Lower supply and demand	lower wages	lower purchasing power	DOWNTREND
Increasing Index of consumer confidence	higher consumption	more investment and risk appetite	more business growth	UPTREND
Increasing commodity prices	Higher inflation	lesser purchasing power	less profit by industry	DOWNTREND
Increasing money growth rate	Higher investment and lending	Higher healthy inflation	increased supply and demand	UPTREND

Figure 2: Incident indicators and co relations with economic cycle

Co - Incident indicators:

1. **Nonagricultural employment:** This indicates the increase of jobs in the market depending on the demand and thus one of the indicators.

2. **Index of industrial production:** Its increase shows the positive trend in the economy and decrease marks towards the slowing of the economy.

3. **Personal income:** This greatly varies depending on the market and plays a vital role in spending trend in the economy.

4. **Manufacturing and trade sales:** More sales in the manufacturing and increase in supply is the positive hint of a good economy.

When did economic cycle refresh happen last time?

Lets have a look at below data and then the graph, which can show the history of economic cycle refresh.

boom month	bust month	Duration, boom to bust	Duration, bust to boom	Duration, boom to boom	Duration, bust to bust
Feb-45	Oct-45	8M	80M	88M	93M
Nov-48	Oct-49	11M	37M	45M	48M
Jul-53	May-54	10M	45M	56M	55M
Aug-57	Apr-58	8M	39M	49M	47M
Apr-60	Feb-61	10M	24M	32M	34M
Dec-69	Nov-70	11M	106M	116M	117M
Nov-73	Mar-75	16M	36M	47M	52M
Jan-80	Jul-80	6M	58M	74M	64M
Jul-81	Nov-82	16M	12M	18M	28M
Jul-90	Mar-91	8M	92M	108M	100M
Mar-01	Nov-01	8M	120M	128M	128M
Dec-07	Jun-09	18M	73M	81M	91M

Source: U.S. Bureau of Economic Analysis (BEA)

So if below table data are averaged, we get into below numbers.

	Duration, boom to bust	Duration, bust to boom	Duration, boom to boom	Duration, bust to bust
From Year 1945 till year 2009 (11 cycles)	11.1M	58.4M	68.5M	69.5M

So this tells us, average recession period is of 11 months or 1 year roughly . but recovery is a longer period of around 5 years.

Why we believe economic cycle refresh could happen anytime soon?

Loan performance or flow of credit greatly denotes the range for phases of economic expansion and recession. In positive scenarios, lenders provide more loans to wider spread of marginal borrowers but when loan quality starts to degrade, lenders become more protective, which often accelerates an economic recession. Therefore, an understanding of the economic cycle is paramount for banks.

As the global economy is already in its 7th year of expansion following the traumatic great recession episode in 2008-2009 and as default rates have already started to climb, it is worth examining whether now is the appropriate time for a fresh cycle. Let's collaborate some views regarding this from some leading sources below.

1. As per CNBC, at present, after recovering from recession of 2008-2009, the current economic uptrend will age around on its eighth year and will be on its 96 months' age. As the historical probability suggests, in any particular year, probability of recession is around 15 percent. So based on the maturity and historical average, it can be predicted a 50 % chance of recession for the coming 1 year and 100 % in the coming two years.

   [Reference:https://www.cnbc.com/2017/06/27/op-ed-a-history-of-economic-cycles-suggests-a-recession-is-near.html](https://www.cnbc.com/2017/06/27/op-ed-a-history-of-economic-cycles-suggests-a-recession-is-near.html)

2. As per Huffington post, National Bureau of Economic Research data suggests, which tracks recessions on a monthly basis since 1854, current phase is already overdue for another recession.

Between 1854 to 1919, there were total 16 completed economic cycles, and the average recession period is about 22 months, and the average economic expansion is about 27 months.

Between 1919 to 1945, there were total 6 cycles, recessions period averaged of 18 months and expansions averaged for 35 months. And the period between 1945 to 2001 we saw 10 cycles, recessions lasted an average of 10 months, and expansions an average of 57 months.

So recessions are getting shorter and expansion periods longer over time.

The level of total debt is higher in aggregate and relative to output, reflecting higher leverage ratios. World debt to GDP has swollen from an already record high of 269% in 2007 to nearly 300% according to McKinsey, with average world GDP also lower by nearly 1% compared to the last decade, therefore reducing debt repayment capacity. Also past due debts were not resolved completely during the last cycle, leaving many organizations with an unsustainably high level of debt.

Reference:https: //www.huffingtonpost.com/daniel-wagner/history-tells-us-that-201_b_7763774.html

3. As per Qrius website and econominshelp website, this would further lead to slower investments and higher interest rates raise, thus increasing the inflation expectation. The inflation expectation comprises of parameters like household expectation, consumption etc. When an economy experiences inflation, the Central Bank will raise interest rates. Higher interest rates will reduce consumer spending and investment leading to lower aggregate demand which slows down the growth percentage and impacts the GDP of the economy significantly. However, if there is a decline in Real GDP, firms will employ fewer workers leading to a rise in unemployment. This concerns the general economy as it fears another credit crunch rise; with the banks at mercy of higher borrowing rates and reticent to lend.

Reference:https: //www.economicshelp.org/blog/571/unemployment/trade-off-between-unemployment-and-inflation/

https://qrius.com/interest-rates-and-gdp-growth-rate/

Based on the historical data, and current state of affairs, we are predicting US economy may start to show sign of recession period in coming 12 to 20 months.

As an illustration, below figure depicts unemployment rate of US economy in past years. Trough phases are indicated by blue downward arrow.

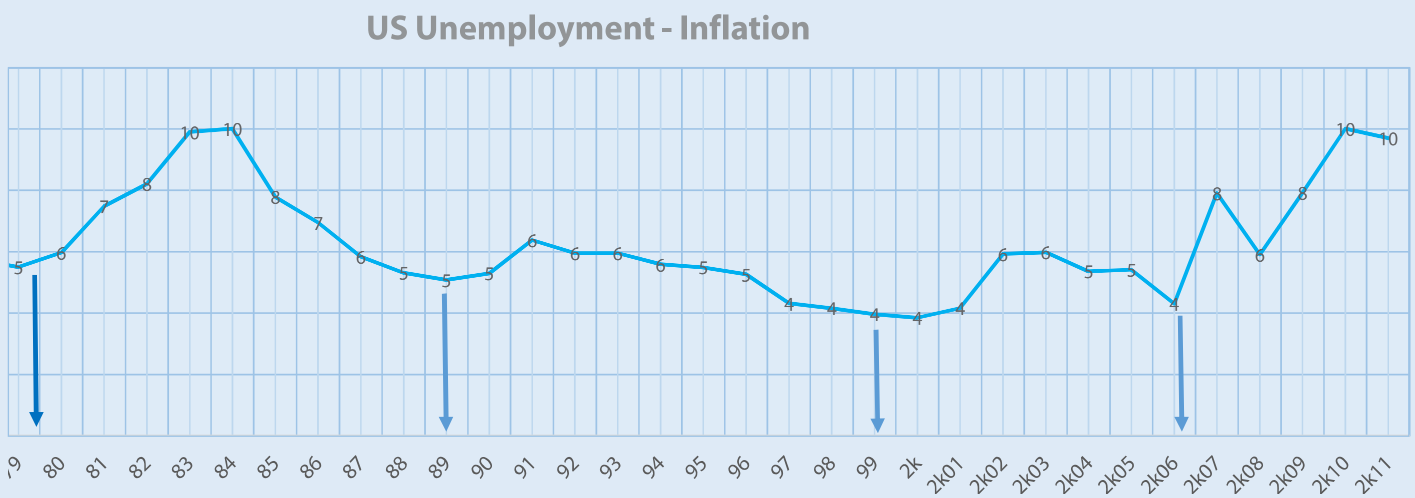


Figure 3: US annual employment rate from 1948 till 2017

Below graph shows slowed down growth parameters for business investment on US economics

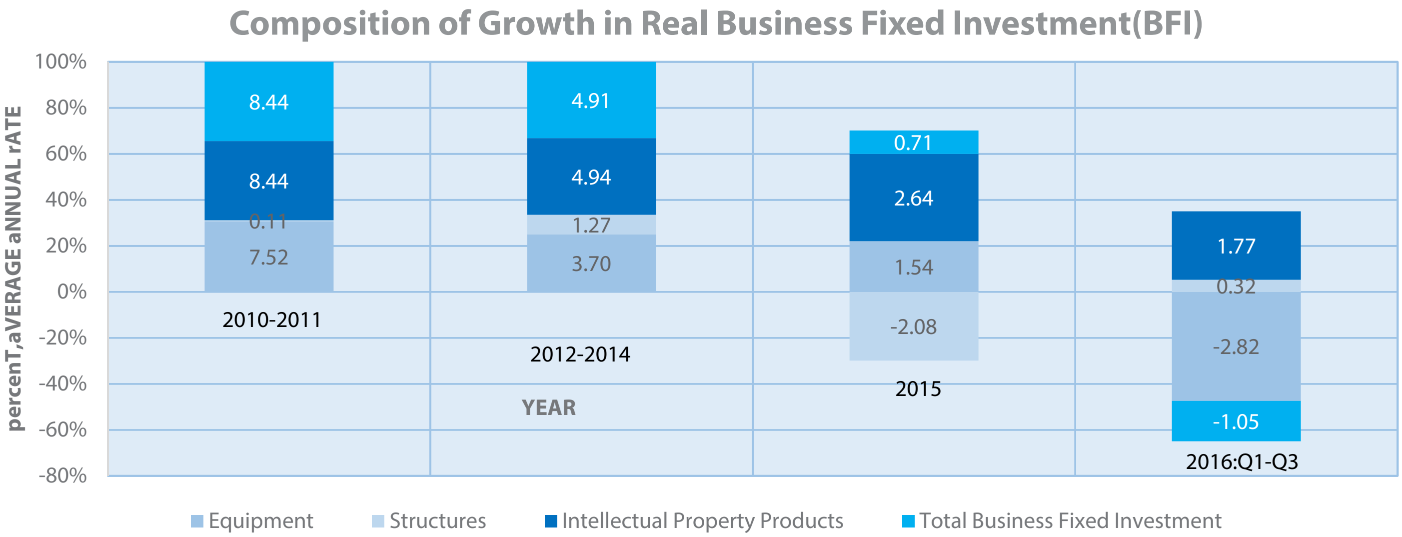


Figure 4: US Industry Investment growth composition

When will things be back to normal after refresh?

Earlier we have determined based on historical data, that average recession period is of 11 months to 1 year however recovery is a longer period of around 5 years.

In average, a typical complete economic cycle has taken about 58 months to refresh since 1945.

This point of time, based on the current state of economy and different global factors, our guess recovery phase will take longer than 5 years to recover from upcoming economic cycle refresh.

If we have to take an educated guess, recovery shall take around 70 to 80 months. That means somewhere around 2026 -2027.

Below are some factors that may lead to delayed recovery from economic cycles. Growth is slowing down in large economies Year on Year. Let's look at below figure on IMF growth forecast.

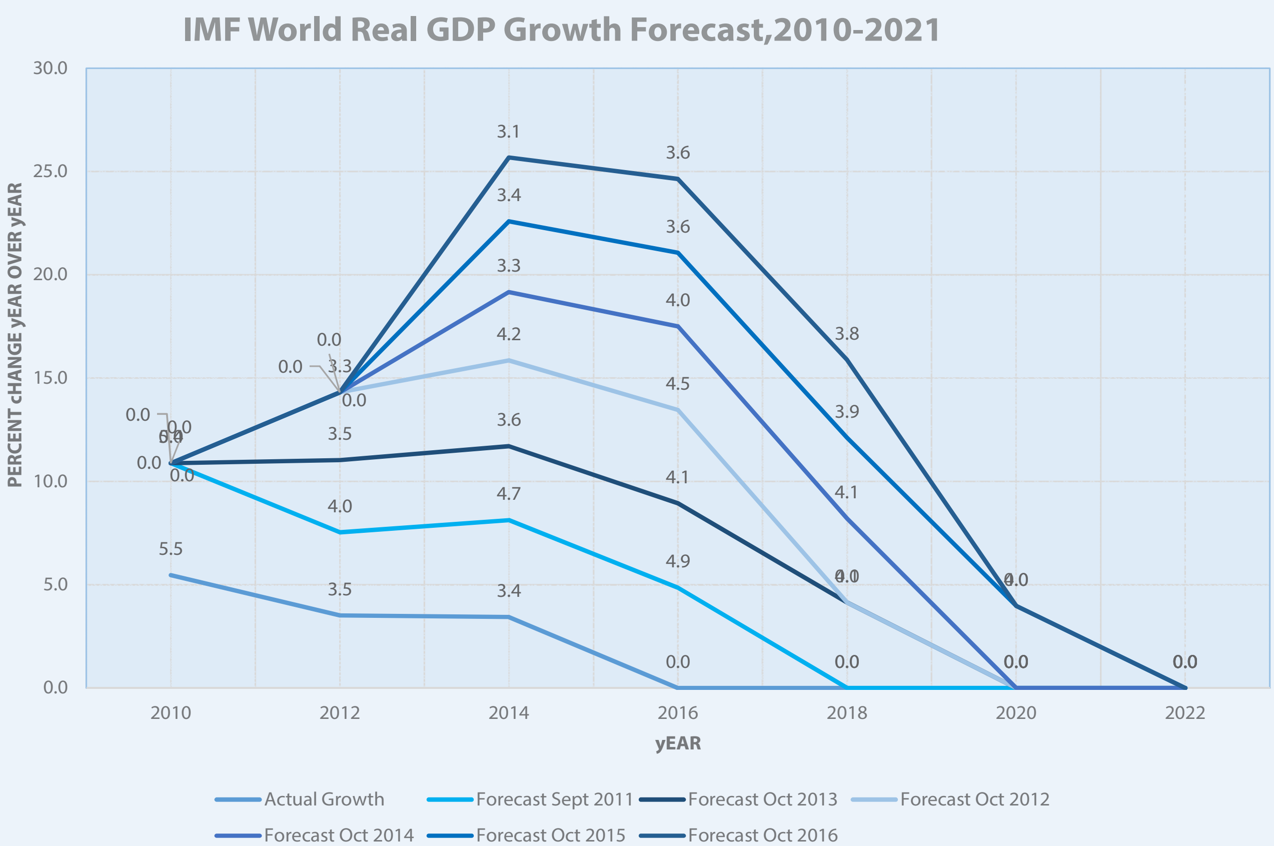


Figure 5: IMF World growth forecast 2010- 2022

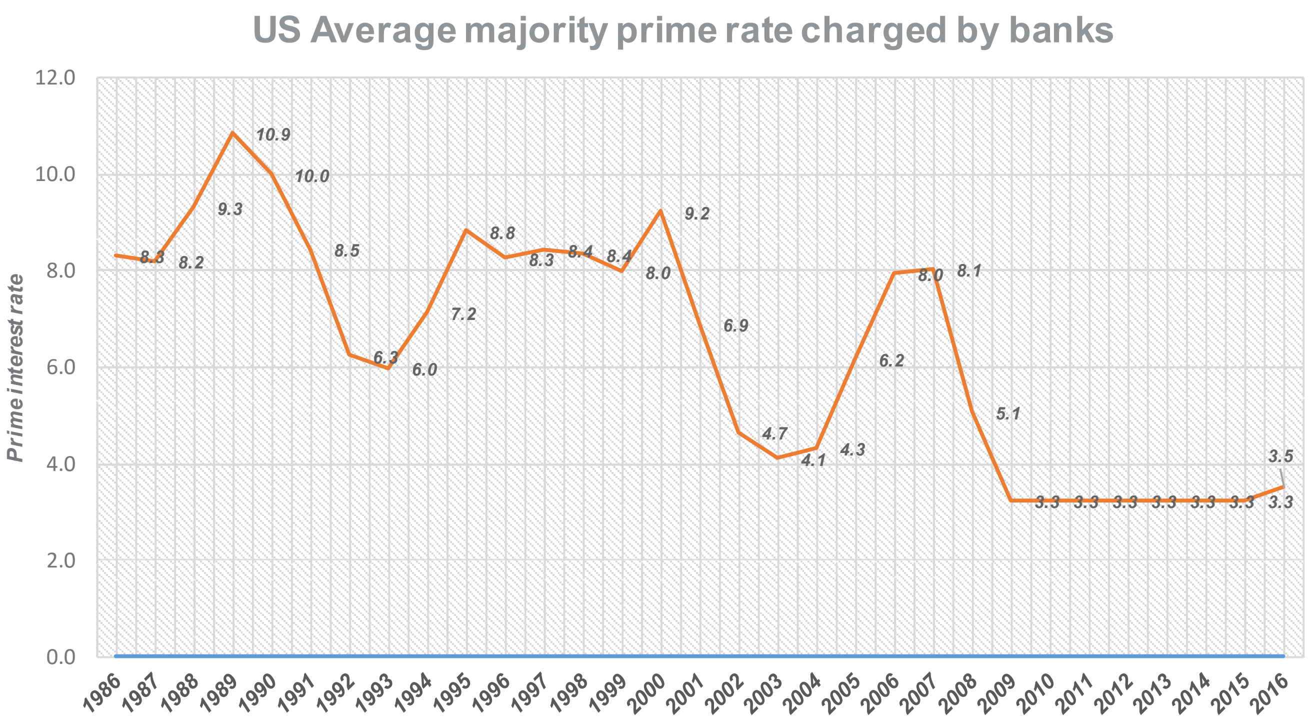
Why economic cycle refresh is important to banks?

Impact on bank earnings:

The economic cycle refresh has significant impact on the banking industry. During the economic cycle downturn, the lending and the bank earnings drops as higher interest rates are charged on the loans.

As a result, the banks refuse to lend to marginal customers and demand more collateral to reduce the cost of borrowing for banks. This increases the cost to the consumers in the form of increased interest rates. This impact could be seen when in July 1990 ,United States entered recession, that lasted for 8 months till March 1991. There was credit tightening by the banks. The effect of credit tightening plus lower demand during the downtime at US commercial banks is illustrated in Figure 5.

The growth rate of industrial and commercial loans tends to drop when economy enters recession, while lending rate increases.



Impact on ROE of banking sector:

During economic cycle refresh, banks primarily response by adjusting credit standards for the new loans. But the impaired credit quality of already existing loans remains primary concern as this impacts the return on equity (ROE) in the banking sector.

Figure 6 illustrates return on equity for banks in United States. ROE is a commonly used accounting term. This measures the performance of banks against industry earnings with respect to invested capital. ROE trend can be seen downwards throughout the decade of the 80s in US. Bank earnings drop, additionally, bank capital positions had reduced to the alarming level. In fact, few banks had difficulty managing fresh capital for fresh loans, even after the economic recovery from recession.

Also when banks profitability and growth are reduced, it leads to a chain effect across industry and consumers. When consumers demand less, and industries produce less, that in turn affect banks by bringing a deadlock situation.

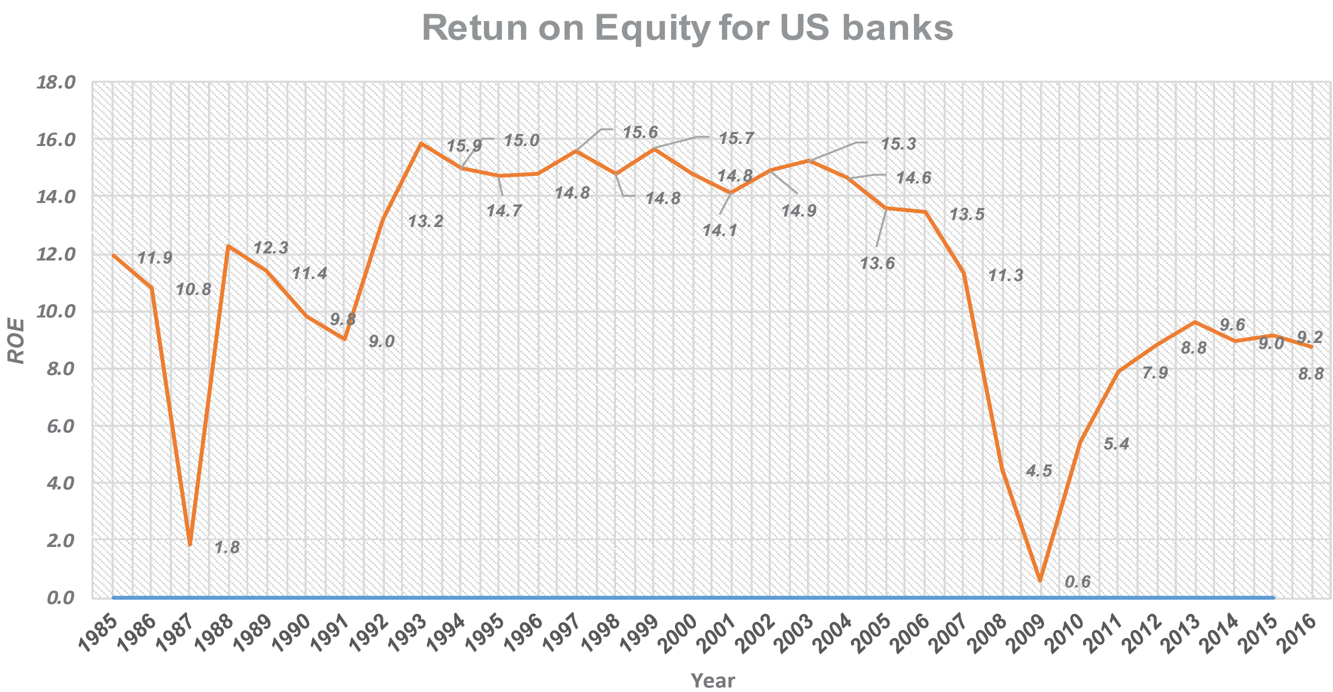


Figure 7: US bank ROE 1985 to 2016

Competitive environment for banks affected:

Based on the swing of economic activities, banking industry which operates with the larger trend, feels the change in its operating environment. Those who are well positioned as per the economical trend, has better asset qualities, and those who refrains from proving bad credit to its customers, possess a better chance to survive a downfall than the weaker ones.

The crunch in banking and financial sector during period of 1980s and 2008's, left many major players in the sector in a very poor position to survive further recession. As an example, one can observe the competitive environment for banks altered drastically when deregulation happened on bank Interest rates, some prohibitory regulations were imposed over banking organizations to expand over other states weakened the growth prospect.

As a double trouble, during that phase capital markets drawn many investors towards it from banks, by proving better safety margin with promise of better returns.

In below figure 7, we can see the widening gap between personal income and banks income during phase of recession., during 1980 and 1990s.

Deterioration of bank assets:

During recession, asset quality of banks' is subjected to deterioration, which increases risk exposure by a great extent. Now in order to cover this risk, banks need more capital, but supply is short.

Because of this short supply, during recession capital is more expensive even for banks. Now for weaker institutions, it is almost impossible to fulfil its capital requirements. This would infringe deadlock conditions in which is famously known as stagflation, which would in turn intensify the recession. It's a double edged sword, making recession a painful period for banks.

In below figure 7, we can see the detoriation of asset quality and banking income during period of recession, in 1980'S and 1990'S.

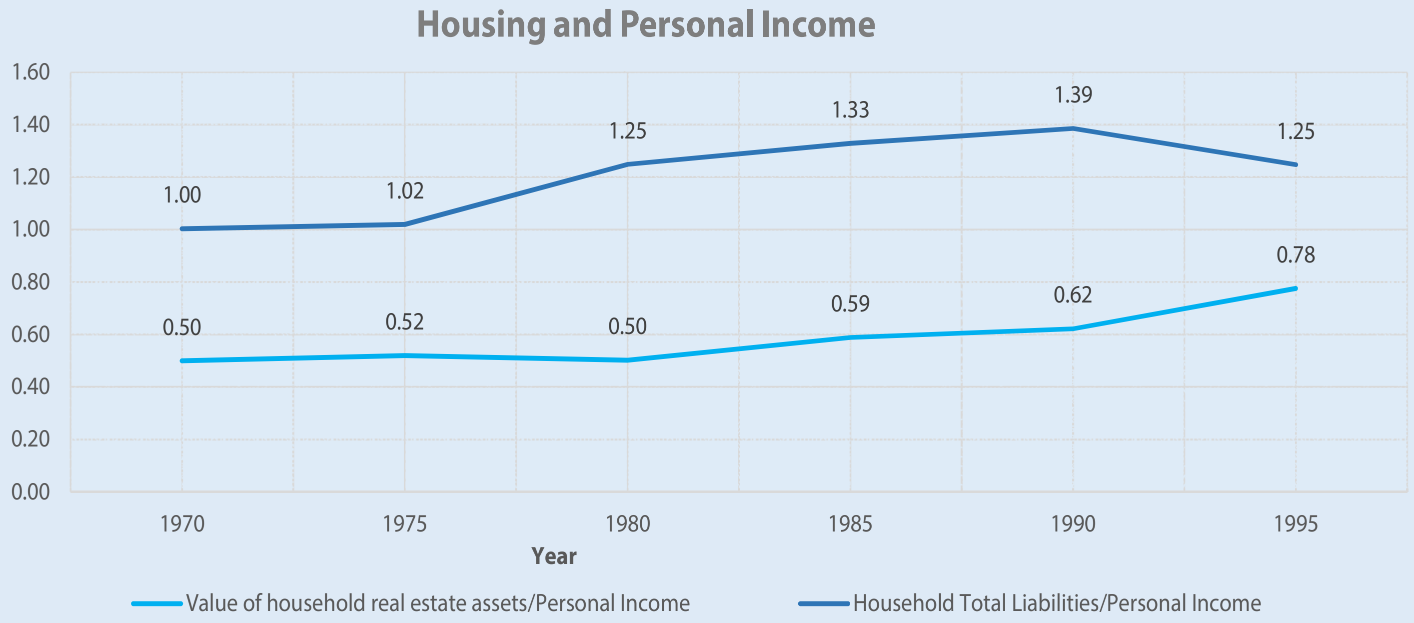


Figure 8: Asset decrement vs personal income 1970 to 1995

Why information technology is important for banks to handle economic cycle refresh?

Banking industry is the sector which is most influenced by the advancement of information Technology.

This is often regarded as an investment and also as a cost by the banks. But it has been seen times and again that its possibly the best strategic directions for the financial services industry during the period of downturn.

IT can pre-warn regulators of another credit crisis, it can find underlying asset qualities, cash management gaps, trends in market, and perform accurate statistical analysis of banks health.

Information technology can be used to build an information system that can stream real time market data, which on the other hand also can identify patterns, otherwise not visible in manual observations. usage of analytics, usage of big data, and other technology adoptions can really make the difference in bank's capability to outstand a bad economic phases, better than its competitors.

Other than crisis management during downtime, Information technology can also help during phases on boom, by identifying and capitalizing the newly available market opportunities. Banks who can position themselves in a safer stand, during period of prosperity, will have better leverage during phases of recession.

How should banks prepare themselves for the cyclical volatility?

The classical theory of economics indicates that risk increases proportionately with the fall, during economic cycle downtrend and vice versa. Poor economic conditions hamper loan portfolio quality, generate substantial credit losses, which results into reduction of bank's profits. Historical findings indicate that bank profitability is a very important measurement of financial health. Below are the few measures banks can adopt to be better prepared for the credit crisis.

Revenue diversification by banks:

Revenue diversification is in simple term, means banks should have multiple sources for income generation. This should be adopted in banks strategy as it allows banks' profits to be stable during the period of volatility. The banks should not only focus on net interest income but it must explore opportunities for non-interest income.

Other than traditional financial intermediation, Banks can opt for new sources of revenues, like capital and money market services, providing trading platforms, financial operations, etc. The ratio between non-interest income and interest based income (a traditional bank business of deposits and lending) should improve sharply.

This adaptation of revenue diversification can result into a smoothing effect on profitability. This also helps to reduce risk exposure by controlling bank lending during growth phase of the business cycle thus also reducing the impact of credit crunches in the recession time.

Provisioning policy:

loan provisions and capital, are closely related to each other. A strong and balanced provisioning policy should form the foundation of regulations on capital requirements. The banks must investigate the present links between loan provisioning methods and the business cycle. Also the link between capital requirements and the current state of economic cycle to be studied carefully.

The favorable conditions during economic expansion often results into an unpleasant increase in credit lending as creditworthiness of a loan seeker is done less diligently. On the contrary this reverses during the economic fall, thus generating less credit opportunities when the banks need them most. Hence an alternate approach is required to treat this practice as a risk and measures to be taken to manage the financial imbalances that increase the impact of a recession. According to counter cyclical view, provisions should be positively synced with the business cycle, and banks should asses and act on the cyclical pattern of credit risk. They must build up loan loss reserves in good times to balance against the credit crunch in bad times.

Though it's been enforced by regulatory and governing bodies that the banks should maintain minimum loan loss reserves and some capital stock which act as buffers to ensure bank's sustainable solvency. This reserve shields banks against, expected and unexpected losses during credit crunch.

Conclusion

Banking industry is the sector which is most influenced by the advancement of information Technology.

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