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## Debt and banking System

*A threat to the economy*

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### Abstract

This paper presents the different aspects of the global banking system in today's world and explains the various mechanisms involved in the system as explained by earlier economists in their theories of banking namely; financial intermediation theory, fractional reserve theory and the credit creation theory. Each theory presents a different approach adopted by economists during their time in order to understand the system of debt and whether it helped to boost the economy or on the other side act as a slow poison to it. The aim of this study is to examine the nature of debt, the various systems used by the banking sector in order to facilitate debt and find out whether debt could be a threat to the economy in the future. The study is further conducted by finding out the key factors which are the root cause for economic downturns throughout history and in particular the "Great Recession of 2008" is taken as a case study. Along this study, two hypotheses are formed to arrive at an empirical opinion on debt and the entire banking system of today. This study establishes the various sides of banking today, including its advantages and ill effects to the balance in society, proves that debt can be a huge threat to the global economy and defines what measures need to be taken in order to control this threat in today's economy.

### 1. Introduction

#### 1.1. History of Banking

Banking, which is an integral part of the Global Economic system, has become the way of circulation of money in the world today. The terms: Cash and Bank go hand in hand. Global banking has been there to accommodate and steer the process of economic growth in the world during the Industrial Revolution in the 19th century and the most recent Internet revolution in early 21st century. Banking as we know today was forged in the foundries of Goldsmiths centuries ago. For hundreds of years, gold had been universally accepted as a type of currency. It was accepted as a currency because it was cost dense, chemically stable, easy to work with and had limited supply. Gold had become the intermediary for trade and people no longer had to rely on barter and other currencies. Goldsmiths had the resources and skills to mint gold into coins with their own seal. This seal was used in identifying the value of the coin and the goldsmith who made it. The only problem with these coins was that of safety. Soon the goldsmiths incorporated in their business model a way of safely storing one's coins in their vaults. Even in those times it was trust

that binded the people with the banks of the time. The business of the goldsmiths really took off when they started “Commodifying their trust”. In exchange for people’s deposits, goldsmiths would write receipts detailing the amount of gold on deposit. Soon, the deposit receipts given out by them started being used for trade directly as people found it much easier to carry these receipts rather than coins. This was the origin of modern day bank notes. The respect and value that people had for these notes was the turning point that kicked off what we know today as Global Banking. What this allowed Goldsmiths to do was to issue loans to borrowers in the form of receipts of the gold they possessed, due to the fact that people trusted that in exchange for the receipts they could receive gold. Although some “crafty” goldsmiths took advantage of this and issued more receipts than the gold they possessed, which worked as a win-win situation where the people traded the receipts amongst each other in exchange for commodities and the goldsmith earned interest on the receipts. This would work for a while until the point when the people would demand gold back in exchange for their receipts, in which case the goldsmith would go broke. As soon as one person is unable to withdraw their gold, the news would spread quickly and people would swarm through the doors to trade in their receipts for gold that never existed.

So what we infer from this is that this whole system relies on people really ever withdrawing their gold deposits to prevent what came to be known as a “Bank Run”. Throughout the years this system became more institutionalized and goldsmiths became Banks which were the go-to place for deposits and lending. To curb the threat of bank runs, the solution was introduction of a Central Bank to regulate all other banks and provide them with reserves; in a way being a bank for banks.

Although this problem might have been solved, banks today still deal in a lot of credit by ways of giving loans to borrowers. This process has surely boosted the global economy in many ways but at the same time put people in the endless cycle of debt wherein they are bound to pay high interest rates on loans and other credit instruments. Many economists would argue that this system boosts the economic growth, but the purpose of this study is to dig deep into this phenomenon and to ponder on whether this system of loans on interest is really boosting the economy or is it just increasing the debt burden of people and making banking institutions richer and richer?

## 1.2. Theories of Banking

In order to go ahead with the study, it is essential to thoroughly understand how a commercial bank works and what are the mechanisms involved. In this paper the question of credibility of the methods and ways of modern banks is examined by way of looking deep inside the ability and ways of banks to create and manage money. A review of literature identifies three mutually exclusive views on the banking system which have been dominant throughout the twentieth century.

The current belief of the masses and the most modern theory banking which has been prevailing since about the late 1960s is the *financial intermediation theory*. This theory is mainly developed from the insights of Hicks (1951) and Keynes (1936). The present conventional view is that banks are mere intermediaries that gather resources (deposits from depositors) and re-allocate them (lend them to borrowers) like any other non-banking financial institutions and do not have any ‘special’ powers or power to create money as argued by older economists’ theory. This theory although widely accepted in the modern day, is quite contradictory to the claims and analysis made by earlier economist in throughout the twentieth century.

Between the 1930s and 1960s, the dominant view was based on the *fractional reserve theory* or ‘Money multiplier’ model in which banks acted as intermediaries by which injection of money is multiplied through creation of credit by issuing loans and through the checking system. This model works in the following way; supposing \$1000 is deposited in bank1, according to regulations the banks must keep a portion of this deposit in reserves and is allowed to loan out the rest of the amount to borrowers. In this case \$100 is kept in reserves (eg:10% reserve amount) and \$900 is lent out to a borrower. The borrower then draws this loan by a depositing a check into bank2 and this goes on multiple times. This process in turn creates funds of \$1000 in bank1 and \$900 in bank2 which is a total of \$1900 even though the real amount was \$1000, thus creating \$900 of credit into the economy.

Explained by Richard Werner, *“In this scheme, funds move between the public, the banks and the central bank without any barriers. Each bank is a financial intermediary, but in aggregate, due to fractional reserve banking, money is created (multiplied) in the banking system. Specifically, each bank can only grant a loan if it has previously received new reserves, of which a fraction will always be deposited with the central bank. It will then only be able to lend out as much as these excess reserves, as is made clear in major textbooks.”* (Werner, 2014)

Going further back in time, during the first two decades of the 20th century, the common belief about the banking sector was that they create money in the form of creating loan amounts out of nothing. This differs from the other theories in many aspects but particularly that the bank is not a mere intermediary in the process but it also has the power to create money out of nothing. This view was called *the credit creation theory of banking*. Although the claim sounds odd, it was justified by the term ‘credit money’. Banks do not only lend out deposits but also create credit money while generating a *bank deposit* which is a consequence of fulfilling a loan agreement, extending an overdraft facility or purchasing assets.

*“A bank’s ability to create new money, which is referred to as ‘credit money’, is a consequence of a range of factors. Firstly, non-cash transactions account for more than 95% of all transactions conducted within the economy, with non-cash transactions being settled through non-cash transfers within the banking system. Banks’ ability to create credit money arises from combining lending and deposit taking activities. Banks’ act as the ‘accountant of record’ within the financial system, which enables banks to create the fiction that the borrower deposited money at the bank. Members of the public are unable to distinguish between money that a bank has created, and money saved at the bank by depositors.”* (STARKEY, 2018)

These theories although showing contrast views on banking, emphasize on the power possessed by banks in the economy today and method by which huge amounts of debt is created. The objective of this paper is to analyze economic data, empirical evidence and historical events and determine reasons of growing economic imbalance with respect to policies of banking and rising amounts of debt.

The remainder of the paper is structured as follows; Section 2: provides a thorough review of past literature addressing this problem or related to the concepts used in this paper. In Section 3: the objectives of the study is mentioned and Section 4 consists of the methodology used in the study. The results, some implications and the final conclusion are discussed in Section 5 & 6.

## 2. Literature Review

Much has been written in the view of role of banks in the economy, empirical tests of interest rates with economic metrics, debt and its implications and the concept of credit creation in lending and borrowing by renowned authors throughout the past few decades. The purpose of this review is to analyze the past literature of authors and theories presented by various schools of thought in the field of banking so as to determine the overall view of economists and go ahead with the study in accordance with the laid out theories.

Richard A. Werner (2014, 2018) gives strong evidence and a detailed study on how banks in the economic realm are creating money in the form of credit. Henry Kaufman (1986) in his works showed the disadvantages and threats which the economy is likely to face in the future due to high interest rates and excessive debt which later proved to be true. Cohran, Call & Glahe (1999) conduct a analytical comparison between the two theories of Credit creation as well as Financial intermediation. In the following sub-sections, the literature mentioned above have been thoroughly analyzed in relation to the subject of this paper.

### 2.1. Which theory of banking holds truth?

Richard Werner in his most popular work in the International Review of Financial Analysis, presents the first empirical evidence in the history of banking on the question of whether banks can create money out of nothing. In this paper all three theories in the banking history namely; Credit creation theory, Fractional reserve theory and Financial intermediation theory are thoroughly explained. Werner in his study conducts an empirical test using a bank loan of €200,000 to observe and record the accounting transactions and processes taking place in a real bank. For this test, he took into consideration small/medium sized banks from U.K and Germany. In the conclusion of the paper, there is enough evidence to support the statement that out of the three theories, the oldest one of Credit Creation holds most relevance to the present banking scenario.

*“The empirical evidence shows that of the three theories of banking, it is the one that today has the least influence and that is being belittled in the literature that is supported by the empirical evidence. Furthermore, it is the theory which was widely held at the end of the 19th century and in the first three decades of the twentieth. It is sobering to realise that since the 1930s, economists have moved further and further away from the truth, instead of coming closer to it.”* (Werner, 2014)

### 2.2. Relationship Between Interest Rates and Nominal GDP Growth in Major economies.

In (Leea & Werner, 2018), it is mentioned how without equilibrium in the economy, quantity constraints are more than prices in determining market outcomes. The paper further mentions how all major economic schools of thought namely; classical, neoclassical, Keynesian, monetarist, new classical, ‘neo-Wicksellian’, as well as post-Keynesian, Austrian and some ecological economics *claim that lower rates stimulate economic growth and vice versa*. Moreover the study conducts an empirical examination comparing nominal GDP growth with nominal interest rates (government bond rates) of 4 major economies- USA, UK, Japan and Germany using correlation and causation results between growth and long-term/short-term rates. The results of this study showed rejection of the canonical view that interest rates somehow affect economic growth, and in an inverse manner. To the contrary, long-term and short-term interest rates follow the trend of nominal GDP, in the same direction, in all countries examined. This suggests that markets are not in equilibrium and the third factor driving GDP growth is quantity; as shown by Werner.

### 2.3. *The Debt problem*

In older literature of the Economic Review 1986 (Debt: the threat to economic stability), light has been shed on the growing debt problem in the world and especially in countries like U.S.A. The paper explains the many dimensions of the debt problem. At the end of 1985, total credit market debt consisting of mainly households, businesses, government, financial sectors totaled to 8.2 trillion compared to 4.6 trillion at the start of 1980. Moreover the author explains how debt expansion was outrunning the Gross National Product (GNP) growth. Rising debt in corporate area, accelerated use of credit and the most dramatic step-up in borrowing was that by governments, due to which there was a rapid change in credit ratings of corporates as well as government/state bonds, which did not seem like a good sign of a healthy economy. A significant deterioration in the quality of credit accompanied this swift debt growth. In the United States, it had been most noticeable in the business sector, where more credit ratings have been downgraded than upgraded since the start of the current business expansion in 1982.

The author then emphasizes on the risk and policy challenges of financial stability,

*“The fact is that the debt buildup in the past two decades has been greater than most would have thought tolerable. Several credit crises have been surmounted, and both the economy and financial markets have survived. Interest rates rose to levels that were unimaginable in earlier years. But while the financial system remained intact, its structure and financial practices were altered dramatically. Nevertheless, it cannot be denied that our system is now more marginal and more highly leveraged than at any time in the past 40 years. This might be less disturbing if business cycle volatility had been sharply curtailed, but this has not been the case. Another matter of concern is that debt can severely restrict freedom of action when income slows and debt servicing needs preempt much of the income that is left. In contrast, of course, large equity positions relative to debt provide society with enhanced freedom and maximum economic flexibility. Given these observations, huge debt will add a very troubling dimension to the next business recession. If a major economic or financial upheaval is to be avoided, official policymakers must act with alacrity. There will be less leeway for errors in policy decisions and implementation.”* (Kaufman, 1986)

Although this was published in the late 1980s, it still holds true in today’s world, interestingly being proved in 2007, U.S.A had one of the largest economic crisis, a few decades after this study.

### 2.4. *Credit Creation theory vs. Financial Intermediation theory*

In the Quarterly Journal of Austrian Economics 1999 (Credit Creation or Financial Intermediation? Fractional Reserve Banking in a growing economy) the authors have given a comparison about the Austrian model of credit creation and financial intermediation. The authors explain how the money creation process made possible by fractional-reserve banking is not financial intermediation. It does not facilitate the transfer of savings to investors. Instead

fractional-reserve banking and the associated money-creation process is a credit creation process (Cochran, Call, & Glahe, 1999). The paper thoroughly explains the processes of credit creations and actual and fictitious savings in an economy through the Austrian business cycle theory as developed by Mises and Hayek;

*“Since there has been no actual saving, fractional-reserve banking may expand the supply of credit beyond the limits set by prior saving. Demand measured by monetary expenditure will increase. The initial responses of the economy will be determined by the tastes and preferences of those borrowing the newly created purchasing power. If the newly created credit enters the market as loans to businesses, spending by ultimate investors will be in*

*excess of savings. Economic activity is misdirected in favor of early recipients of the newly created credit and at the expense of those whose expenditures increase later in the adjustment to the monetary shock.”*

The study concludes with the view that “Money is a future good, not a present good.”. Cochran, Call & Glahe state that financial intermediation facilitates the flow of resources from savers to investors and that the neoclassical synthesis approach misinterprets the important economic and institutional features of the money demand, savings, and credit creation process. This theory may hold weight in the study but does not take into consideration a variety of factors which cause economic downturns and credit problems. These points are discussed further in this paper.

### 2.5. *Conclusion of Literature review*

The literature review has identified a gradual progression of views with respect to economic factors and banking systems, from the late 1980s when studies indicated the rising threat of debt to the world to major economic schools of thought namely; classical, neoclassical, Keynesian, monetarist, new classical, ‘neo-Wicksellian’, as well as post-Keynesian and Austrian agreeing with the view that lower interest rates facilitate economic growth and vice versa and Werner (2014) proving that banks create money into the economy through its borrowing and lending processes. Throughout the twentieth century the views on banking have slowly changed and unfortunately today the system is considered as any other business where the bank is a ‘financial intermediary’ and simply takes money from one place and gives to another. Ironically in an ideal world, this should be the very function of the bank, but succumbing to corporate greed and manipulative ways, they have indulged into processes which are not only creating a bubble in the economy but also widening the gap between different economic sections in the society.

We conclude from the literature review that all facts and economic theories have been well represented by authors in the past few decades and many empirical studies have also been conducted to analyze the effect of interest rates, loans and debt on the economy. What is missing from the literature and the gap identified is the lack of an empirical study conducted to compare data of interest rates on loans and debt to economic growth metrics like GDP or per capita income. The objective of this paper is to further extend these studies and conduct a critical analysis of interest debt in today’s world, what factors are affecting it, and what are its implications in the society.

## 3. **Research**

### 3.1 *Objective*

The objective of this study is to empirically examine the causes of economic downturns around the world over time and to compare different variables associated with Debt (interest rates, bank policies etc.) with one another and major macro-economic metrics in order to find if any relation exists and if so what can be done to tackle this issue and save the economy and protect the well-being of the economy’s contributors.

### 3.2 *Hypotheses*

The purpose of this study to gather and analyze enough information, data and facts in order to test the following hypotheses which have been formulated in the research.

*Hypothesis 1: Debt is a harmful form of financing and is a threat to the economy in the long run.*

*Hypothesis 2: The Banking system of today causes economic imbalance in the society.*

### 3.3 The Great Recession 2007-2009

The Great Recession which was caused by a financial crisis in 2007 originated from the United States of America but quickly spread to countries all over the world. Beginning in late 2007 and lasting until mid-2009, it was the longest and deepest economic downturn in many countries, including the United States, since the Great Depression (1929–1939).

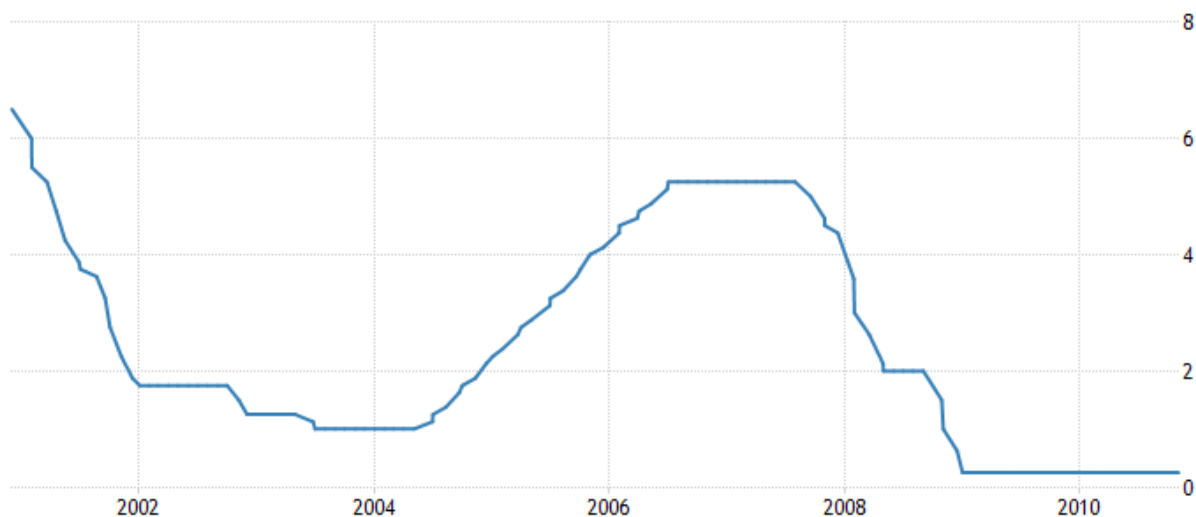
The primary cause for the Great Recession was the **Subprime mortgage crisis**.

A mortgage is a loan given by banks to borrowers to purchase real estate with the real estate which is being purchased as the collateral, so in the case that the borrower defaults on payments to the bank, the bank would cease possession of the property. Mortgage Securities on the other hand are securities backed by a mortgage or a collection of mortgages or in other words investors buy bonds backed by the loans taken by borrowers from the bank. Usually this is done by Investment banks to earn fixed returns in the form of interest payments from the borrowers.

During the early 2000s the real estate market in the U.S.A was booming with prices increasing like never before which encouraged more and more investors to invest in the market. As a result the public started to take heavy mortgages from banks to purchase real estate at high interest rates, and at the same time commercial banks sold these mortgages to investment banks who were ready to pay for these securities and in turn the commercial banks used the money received to give out further loans. This supply chain cycle picked up a rapid speed starting in the early 2000s up till 2008.

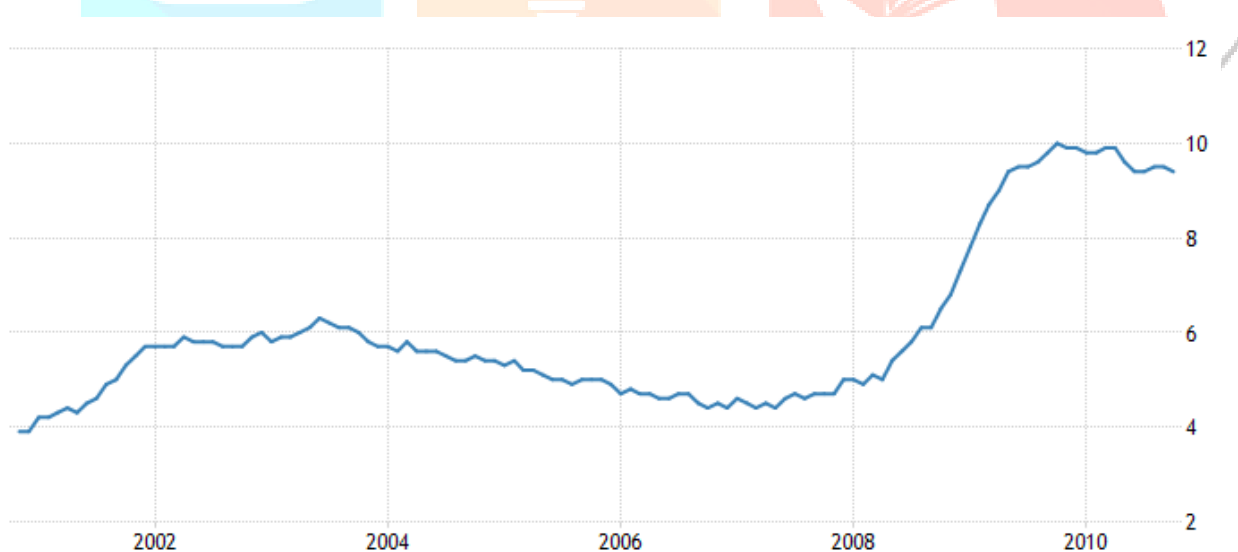
The main problem which led up to the financial crisis in late 2007 was originated from the policies of commercial banks. Because these banks started selling their loans to investment banks, they lost all incentive to avoid risk and as a result started giving out home loans to borrowers with **low credit scores** and **low incomes** in order to meet the high demand of mortgage backed securities in the market. These type of loans were called **Subprime Mortgages**. Furthermore these subprime mortgages were also predatory appearing as cheap loans but bundled with dangerous terms and conditions. These subprime loans were bound to be doomed as borrowers purchased properties without actually having the money for it and commercial banks willingly lent them the money knowing so. These borrowers would eventually run out of cash thereby crumbling the entire system forged by banks and mortgage securities.

*Figure 1.1* shows the trend of increasing interest rates in the U.S going **up to about 5-6% till 2008** which was one of the main factors for the economic decline. Banks leveraged the rising real estate markets to gain higher returns by selling their loans to investors with approval of AAA ratings by some of the top credit rating agencies.



**Figure 1.1-** Interest Rates – United States of America | Source- TradingEconomics , Federal Reserve

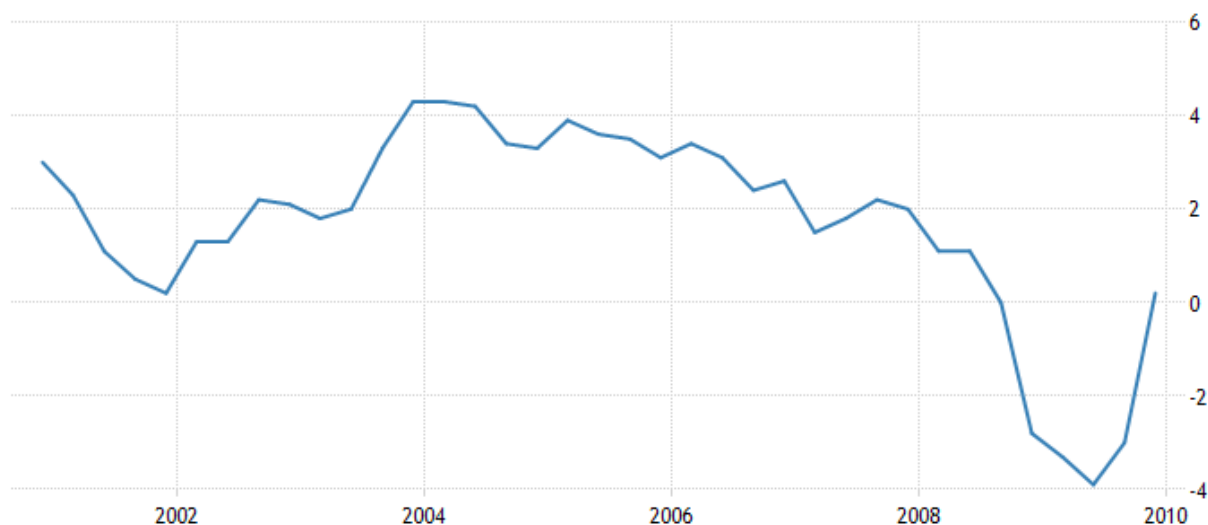
Figure 1.2 shows the Unemployment rate going to an all time low resulting in **roughly 8.7 million jobs were shed** from February 2008 to February 2010 (According to the Department of Labour). Unemployment rose due to various reasons but mainly due to the fact, in the crumbling effect of the crash of the real estate market, banks went bankrupt and companies associated with them suffered the consequences with decline in production and sales. Companies had no option but to lay off most of their employees or in a few cases shut down their entire operation.



**Figure 1.2-** Unemployment Rates – United States of America | Source- TradingEconomics , Federal Reserve

Table 1.3 indicates GDP growth showing a downward slope by a **contraction of 4.2%** between Q4 2007 and Q2 2009. Real GDP did not gain its pre-crisis level until Q3 2011 and the total number of jobs did not return to 2007 levels until May 2014. All these metrics indicate the intensity of the suffering of the economy during this recession caused by greedy banks and inadequate government policies creating a deadly system of credit which killed the livelihood of millions across the world.





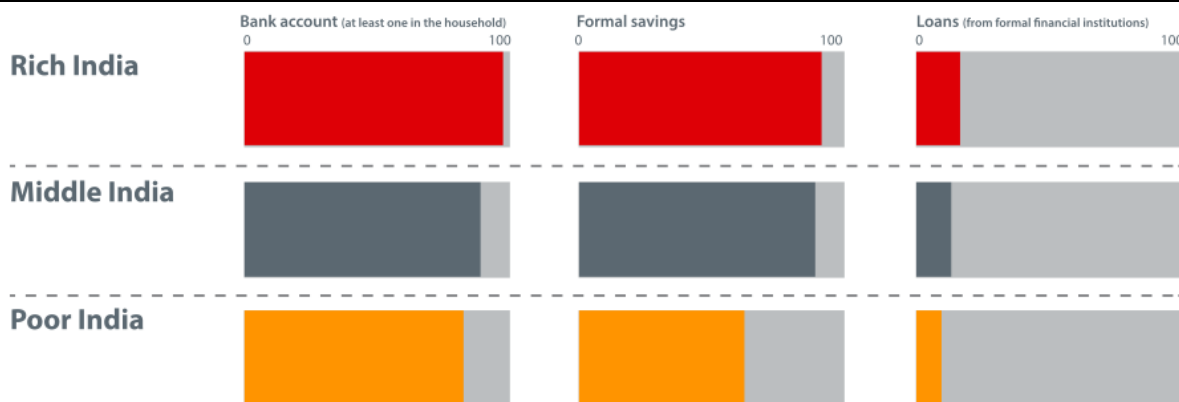
**Figure 1.3-** Annual GDP Growth Rate -United States of America | Source- TradingEconomics , Federal Reserve

### 3.4 Economic Imbalance caused by Debt

Debt which is one of the forms of financing not only for business but also individuals. In this study we shall be focussing our attention to individual contributors to the economy. These individuals like large companies and governments also use debt as a viable source of financing. If we dig deep into why debt is so widely opted for as a form of financing, we will reach to the conclusion that it is so because of debt is considered as a less risky investment. However contrary to popular belief, this is not the case. Debt can be less risky in the short term but over a longer period of time, it is the quite harmful to borrowers who take more debt than they can afford. This phenomenon is what is leveraged by the banking system of this era. By providing low interest rates (with hidden schemes) and making loans more affordable, banks are able to create a huge amount of credit in the economy.

This credit system (*as discussed in Literature Review*) provides funds to borrowers thereby increasing affordability. Affordability directly means more consumption in the economy by increase in demand and supply. What we don't see in this system is that a "Price Bubble" is formed in the economy which is bound to burst just like what we have observed in the Great Recession 2007-09. The most effected by economic downturns like these are not those with billion dollar net worths (the higher class) but the common man or what we call the *working middle class*. Furthermore even when the economy is flourishing, it is the upper class that is able to afford loans at high interest rates of banks and can leverage their debt to grow even more rich. The middle and lower classes are the ones with low incomes and less availability of funds who cannot afford debt and go further down under.

A study conducted by Mastercard Centre for Inclusive Growth on "From Middle India to the Middle class of India: Inclusive growth as a path to success" indicates how the richer sections of India take more loans and the Poor section takes the least.

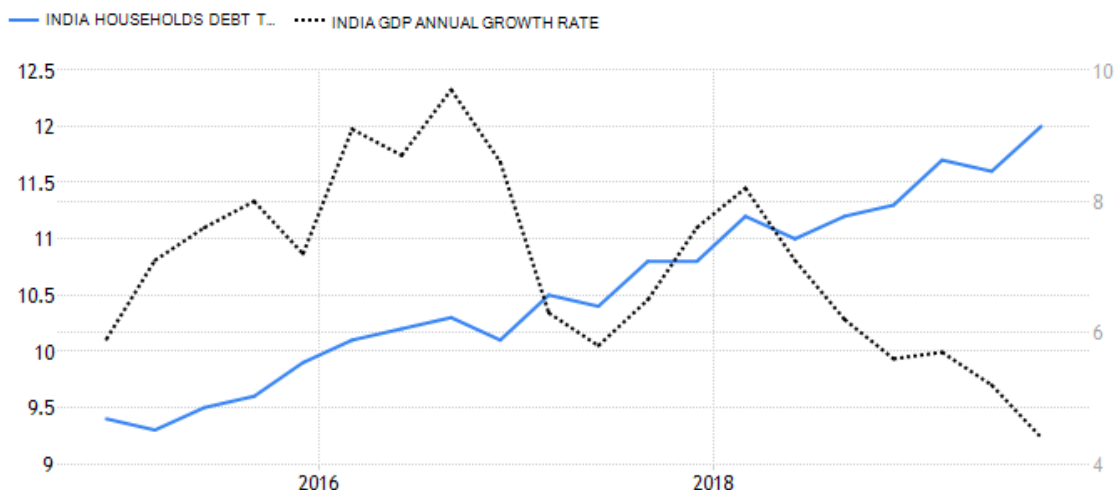


**Figure 2.1-** Taken from: “From Middle India to the Middle class of India: Inclusive growth as a path to success” - Mastercard Centre for Inclusive Growth

In this study two major macro-economic factors have been compared with each in order to test the formulated hypotheses.

**Household Debt** - Household debt is defined as the combined debt of all people in a household. It includes consumer debt and mortgage loans, but it may however be defined in several ways, based on what types of debt are included. Common debt types include home mortgages, home equity loans, auto loans, student loans, and credit cards. Household debt can also be measured across an economy, to measure how indebted households are relative to various measures of income (e.g., pre-tax and disposable income) or relative to the size of the economy (GDP). In this study we shall be considering figures of Household debt of India as an economy from 2014-2019.

**Annual Growth rate of Gross Domestic Product** - Gross domestic product (GDP) is the standard measure of the value added created through the production of goods and services in a country during a certain period. As such, it also measures the income earned from that production, or the total amount spent on all final goods and services (less imports). In this study we have taken the annual growth rate of GDP from 2014-2019.



**Figure 2.2-** Annual GDP Growth Rate Vs. Household Debt -India | Source- TradingEconomics

As we can clearly see from *Table 2.2*, in the period spanning from 2014-2019 there is a steady rise in household debt across the economy. From 2014 to around early 2017, GDP annual growth rate is increasing at a rapid rate which can be explained due to the rise in consumption in the economy due to the increasing debt taken by individuals and businesses. As we move further ahead to 2018, we can observe that as household debt continues to increase, GDP growth rate has declined steeply.

#### 4. Results

After careful analysis of data collected and conducting various tests and comparisons between various financial metrics, we can interpret two main conclusions from the data-

1. Economic crises like the *Great Recession 2007-09* gives enough evidence of the price bubble created by the credit system in today's world and the ill effects of the easily available debt created by banks which is a flawed system in which all entities right from the government to the consumer are involved and if not rectified will lead to many more economic crises in the future, impacting the lives of billions of people across the world and threatening their well being. From the facts and figures analyzed, we can prove *Hypothesis 1: Debt is a harmful form of financing and is a threat to the economy in the long run*, to be **TRUE**.
2. The growing imbalance in today's society with respect to monetary power has been caused by commercial banks. From our empirical study we can firmly say that the system followed by banks is highly dangerous for the middle and lower classes of the economy and favors the rich to get richer. This has been proved from our analysis in section 3.4 and from this we can further prove *Hypothesis 2: The Banking system of today causes economic imbalance in the society*, to be **TRUE**.

#### 5. Conclusion

In this study we have discussed a wide range of factors, all concentrating on the concept of Debt and the Banking system. From previous literature we reviewed that many authors have conducted studies on this issue and have dug deep into the methodology used by banks and the phenomenon behind credit and how it is created. The objective however of this study was to conduct a broader examination in order to find out what factors correlate to economic crises and if debt truly is as dangerous as it sounds.

From our empirical study conducted by taking into historical events like the Great Recession and analysing macro-economic metrics of India like the Household Debt and Annual GDP growth rate, we can conclude that our current banking system creates great amounts of credit in the economy which is very dangerous for the country's financial health in the long run. Not only this, but debt is killing the livelihood of billions of people around the world without them even knowing the actual root cause of it.

The solution to this problem, a problem is being faced not by one economy but all the economies in the world, is not an easy one but it is possible. Firstly, governments must take timely measures in order to control the policies of today's commercial banks and secondly, a new concept can be introduced, a concept of a "*Community Bank*". All though these type of banks exist but they do so only in remote places and in extremely less numbers, which are not enough to make a grave impact on the economy. These Community Banks can create a combined pool of money from those sections of the public with excess funds for usage to people who need these funds. The Lender provides loans to people who need funds at a nominal rate of interest only as a fee for the transaction and not anything more. By this method, not only do Banks earn

but at the same time, people from the lower and middle class sections also benefit with minimal amounts of risk and no underlying contingents. The money from the rich would be distributed equally amongst the economy to all sections of the society, ensuring equity and an economic balance just as the financial world should be.

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