Svādhyāya - International Journal of Transdisciplinary Research and Development (SIJTRD) ISSN Online : 2583-1739

Vol 3(2), March 2024, pp 32-45

WHY SHOULD A PROGRESSIVE CASH RESERVE RATIO BE ADOPTED?

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ABSTRACT:

Cash reserve ratio refers to the percentage of deposits that commercial banks must keep as cash with the central bank. This Keynesian tool was introduced to stabilize the economic and monetary conditions of the economy in the 1930s. Despite its pure intentions, the Cash Reserve Ratio has not been able to achieve the desired effect today. Consequently, this paper tries to identify those reasons and aims to eliminate it.

KEYWORDS: *Monetary Theory, Monetary Policy, Business Cycles, Cash Reserve Ratio*

INTRODUCTION:

WHAT IS THE CASH RESERVE RATIO AND HOW DOES IT WORK?

After The Great Depression of the 1930s, economists around the world began to realize that the classical postulations about the economy did not hold true, and a need for new economic thought was sought to revive the downtrodden economy. It was during this time that the eminent economist, John Maynard Keynes introduced the tool of Cash Reserve Ratio to regulate the liquidity of the economy. In other words, the Cash Reserve Ratio was founded as an efficient method through which central banks could regulate quantum of credit circulation in the economy properly. The most important feature of the cash reserve ratio was the fact that it allowed central banks to regulate liquidity in the economy without having to resort to tweaking of interest rates - by doing so had adverse economic effects on many macroeconomic variables like inflation, employment etc.

So, what is the Cash Reserve Ratio? The Cash reserve ratio (CRR) refers to the minimum percentage of deposits of a bank that must be kept in the form of cash with the central bank. This allows the bank to regulate the lending operations of the commercial bank by directly controlling its cash reserves. If the Cash Reserve Ratio percentage fixed is high, the lending money supply is low, because banks who use deposit money to finance their lending operations, no longer have adequate amount of money required to maintain

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Svādhyāya - International Journal of Transdisciplinary Research and Development (SIJTRD) ISSN Online : 2583-1739
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their previous level of lending operations. Thus, having a high Cash Reserve Ratio results in low money supply in the economy and likewise, a low Cash Reserve Ratio results in high money supply.

This can be substantiated by the following table.

Table 1: Net lending capital of 8 Indian Banks from 2010-2020

YEAR	HDFC BANK NET CAPITAL AVAILABLE FOR LENDING	HDFC BANK ADVANCES (IN INR CRORE)	BANK OF BARODA ADVANCES (IN INR CRORE)	BANK OF BARODA NET CAPITAL AVAILABLE FOR LENDING (IN INR CRORE)
2010-11	210465.2854	159982.67	228676	309419.66
2011-12	255750.563	195420.03	287377	385351.74
2012-13	316663.0734	239720.64	328185	480321.9725
2013-14	392082.9708	303000.27	397005	582950.24
2014-15	477977.374	365495.04	428065	628120.64
2015-16	577585.6924	464593.96	383770	584546.52
2016-17	691922.9336	554568.2	383259	608219
2017-18	880324.7844	658333.09	427431	567661.44
2018-19	1003300.413	819401.22	468818	706210.44
2019-20	1246230.728	993702.88	690120	975345.64

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YEAR	SBI BANK NET CAPITAL AVAILABLE FOR LENDING (IN INR CRORE)	SBI BANK ADVANCES (IN INR CRORE)	AXIS BANK NET CAPITAL AVAILABLE FOR LENDING	AXIS BANK ADVANCES (IN INR CRORE)
2010-11	997466.02	756719	204149.78	1,42,407
2011-12	1108034.18	867579	240968.76	1,69,759
2012-13	1320806.55	1045617	285827.9475	196965
2013-14	1521763.64	1209829	319996.24	230066
2014-15	1718871.28	1300026	389301.36	281083
2015-16	1984838.12	1463700	442874.32	338773
2016-17	2280654.96	1571078	502833.88	373069
2017-18	3152232.24	1934880	583493.12	439650
2018-19	3197947.56	2185877	679308.16	494798
2019-20	3426612.16	2325290	762454.8	571424

When we compute correlation between net capital available for lending (i.e., the amount of money available with the bank for conducting lending operations after deducting the Cash Reserve Ratio sum) and bank advances, the numbers indicate that there is almost perfect correlation between the same. For SBI bank the correlation between the two is 0.9901, for Bank of Baroda bank it is 0.9925, for HDFC bank it is 0.9983 and so on.

In other words, Cash Reserve Ratio has a very important role to play in the regulation of credit in the economy. Consequently, it becomes very necessary to fix the right cash reserve ratio for the appropriate working of the economy.

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Svādhyāya - International Journal of Transdisciplinary Research and Development (SIJTRD) ISSN Online : 2583-1739
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WHY DO WE NEED A 'PROGRESSIVE' CASH RESERVE RATIO SYSTEM?

Majority of Indian households today, use popular banks like SBI, HDFC, Indian bank or Axis Bank, for conducting their day-to-day financial operations. House loans, personal loans, student loans, jewel loans etc. are usually borrowed by individuals through mostly such banks that act as the buffer between them and the central bank of the country. Such banks in this way, pocket the major share of deposits held by individuals in an economy and thus become very important variables that need to be considered while regulating money supply in the economy. When much of the individuals in an economy use such banks for conducting financial transactions, it becomes necessary that the CRR is used to increase/snatch away lending power from such banks for the central bank, rather than from banks who do not have as big a customer base as the former, to make an effective impact on the economy.

Agreeably, the Cash Reserve Ratio has many benefits that substantiate its importance in the monetary policy of the country. It allows the bank to regulate the quantum of money present in the economy and thus protect the economy from destructive inflationary or depressionary tendencies. It also allows the central bank to have a more control and supervision over the commercial banks and ensure that they do not act in ways that are harmful to the economy's welfare. Cash Reserve Ratios, in other words, help the central bank to regulate liquidity in a country. However, currently, the CRR is not generally fixed at percentages that can squeeze the larger commercial bank's lending power, during inflation, due to the other banks in the economy that cannot afford to keep so much credit as cash reserves with the central bank, for fear of bankruptcy. This in turn results in inefficient regulation of the central bank regarding the level of money supply in the country.

Thus, despite its many numerous advantages, one of the greatest criticisms of using the Cash Reserve Ratio as a monetary tool to regulate money supply in the economy has been its tendency to be discriminatory. Cash Reserve Ratio's generally extract larger lending power from smaller commercial banks and comparatively lower lending power from larger commercial banks. When a uniform percentage of Cash Reserve Ratio is levied, those commercial banks which have a larger quantum of deposit sum are not affected by the policy much whereas commercial banks that have a lower quantum of deposit sum are adversely affected.

For example, suppose hypothetically that the CRR is 10%; then bank A with a deposit amount of Rs.1,00,000 and consequently, Cash Reserve Ratio sum of Rs. 10,000 will have a net lending capital of

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Svādhyāya - International Journal of Transdisciplinary Research and Development (SIJTRD) ISSN Online : 2583-1739

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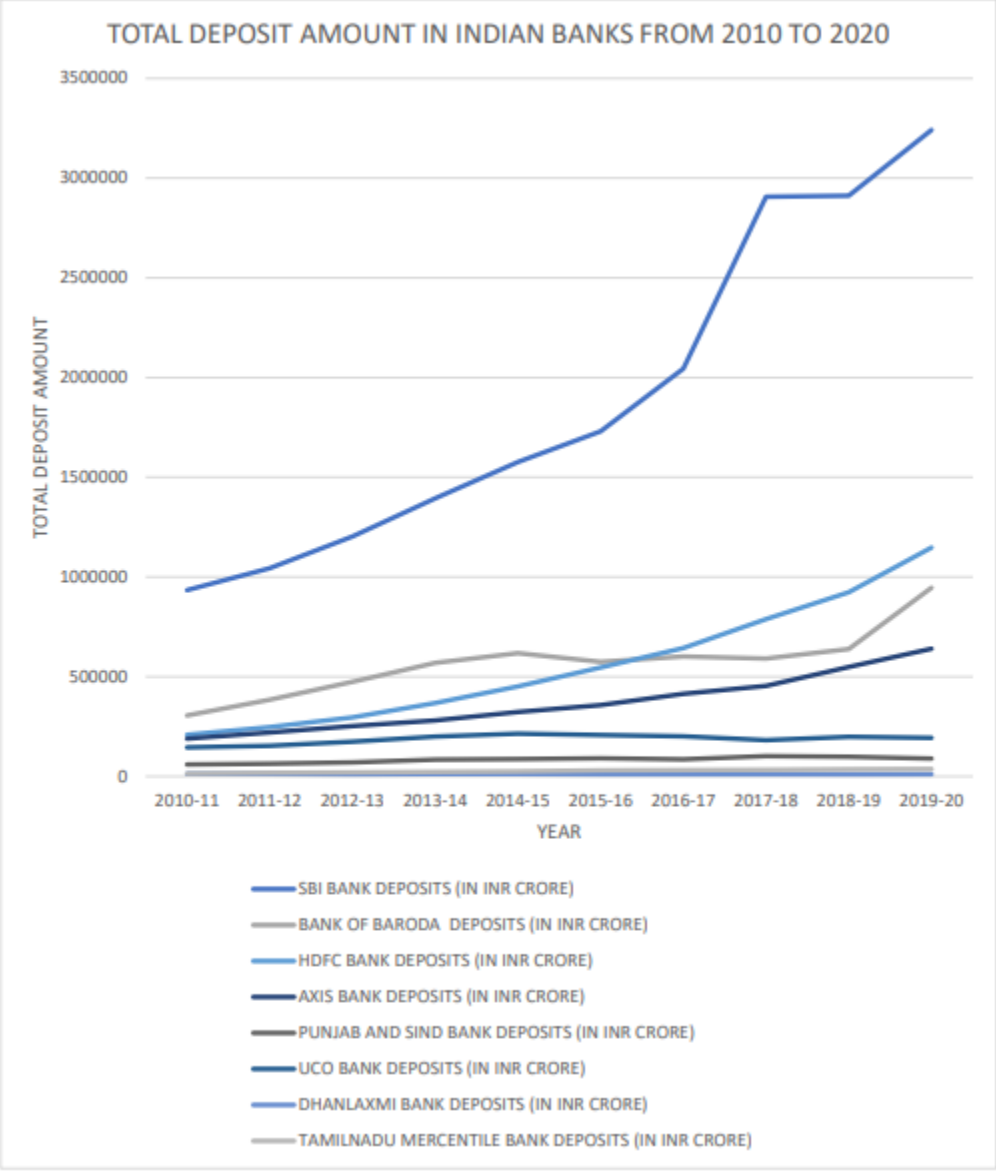
Rs.90,000 whereas bank B with a deposit amount of Rs.50,000 and (consequently) a Cash Reserve Ratio sum of Rs.5,000 will have a net lending capital of Rs. 45,000. The discrepancy in lending capital, as we can see is very large. Thus, levying a uniform CRR is considered to be problematic.

The difference in deposit amount from one bank to another has been depicted in the following figure.

Figure 1: Total deposit amount of 8 Indian Banks from 2010-2020



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It can be seen from the chart that the difference in deposits from one bank to another is very large. The SBI bank has an average deposit sum (over the period of study) of about 18,98,634.6 INR crore, whereas HDFC bank has an average deposit sum (over the same time period) of 5,61,915.068 INR crore. The Tamilnadu Mercentile Bank on the other hand, has a mere 26,636.7 INR crore as its average deposit sum.

From this it can be inferred that since there are large deviations in deposit sum from one bank to another, the effect of CRR on the lending capacity of the bank would also be very skewed.

METHODOLOGY:

I have taken secondary data on the lending operations and deposit sum on 8 Indian Banks from 2010 to 2020, out of which four are public banks and four are private banks. Out of these four, two are "large" banks, and two are "small" banks, classified thus based on their deposit sum. The two "large" private banks are HDFC bank, which has an average deposit sum of 5,61,915.068 INR crore over the time period of study and AXIS bank who has an average deposit sum of 3,67,988 INR crore over the same time period. Likewise, the two "large" public banks are SBI bank which has an average deposit sum of 18,98,634.6 INR crore and Bank of Baroda which has an average deposit sum of 5,70,234.5 INR crore. The two "large" private banks are HDFC bank which has an average deposit sum of 5,61,915.068 INR crore and AXIS bank, which has an average deposit sum of 3,67,988 INR crore. However, their nature of being a "large" and "small" bank may have exceptions in certain time periods, due to unexpected economic conditions. The data on advances and deposits for each bank has been taken from their annual reports, which has been posted on their official website. The CRR rates too have been taken from the RBI's official website. It is important to note that I have taken net lending capital to only mean the deposit and borrowing funds of the banks, and have excluded other sources of bank funds that can be used for lending capital, for simplicity in analysis.

RESULTS AND FINDINGS:

After computing the net capital available for lending with banks after deducting the cash reserve sum from the deposit sum, the results indicate that the impact of CRR rates on non-identical banks across the country, is not uniform. This is true for both private sector banks as well as public sector banks. The CRR rates for the time period of study (obtained from the RBI database), inflation trends and the net lending capital of 8 Indian banks, namely HDFC bank, AXIS bank, SBI bank, Tamilnadu Mercentile Bank, Dhanalaxmi Bank, UCO bank, Punjab and Sind Bank and Bank of Baroda (obtained from the annual reports of each bank) from 2010-2020 have been represented graphically below.

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Svādhyāya - International Journal of Transdisciplinary Research and Development (SIJTRD) ISSN Online : 2583-1739

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Figure 2: CRR rates in India from 2010-2020

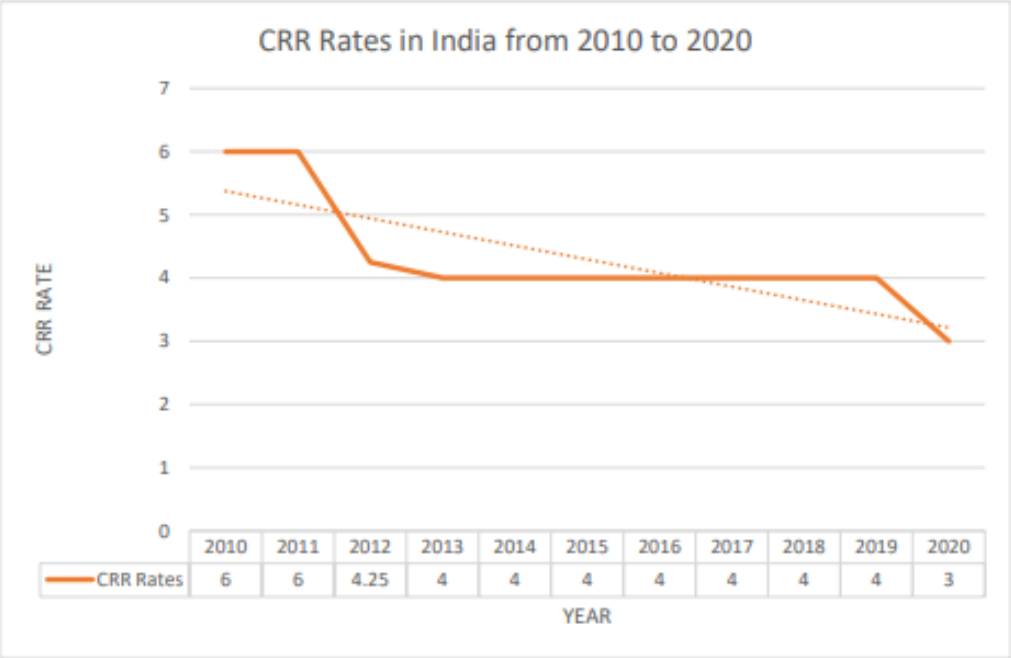
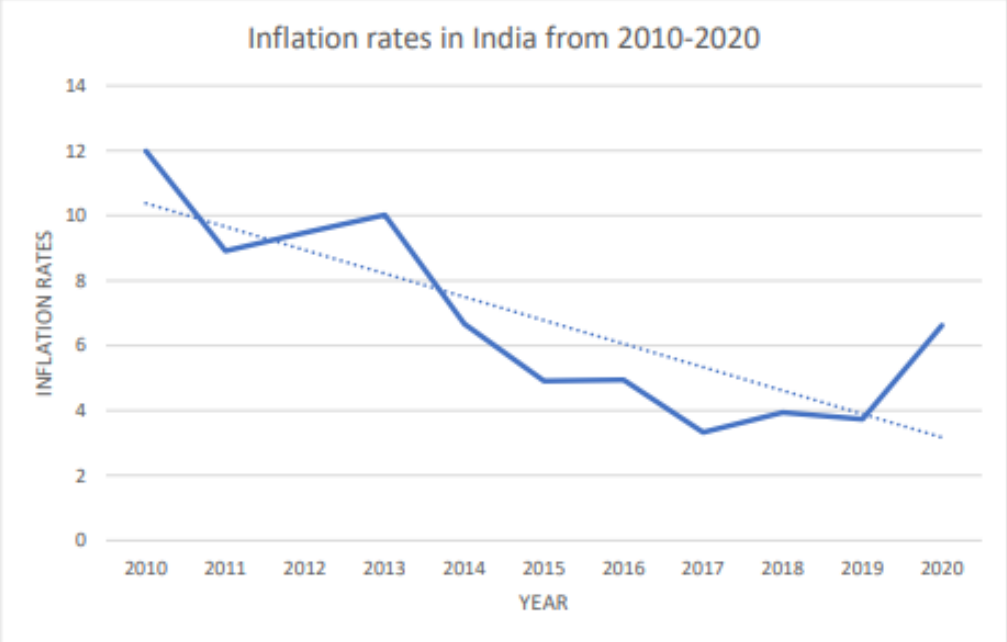


Figure 3: Inflation rates in India from 2010-2020



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Svādhyāya - International Journal of Transdisciplinary Research and Development (SIJTRD) ISSN Online : 2583-1739

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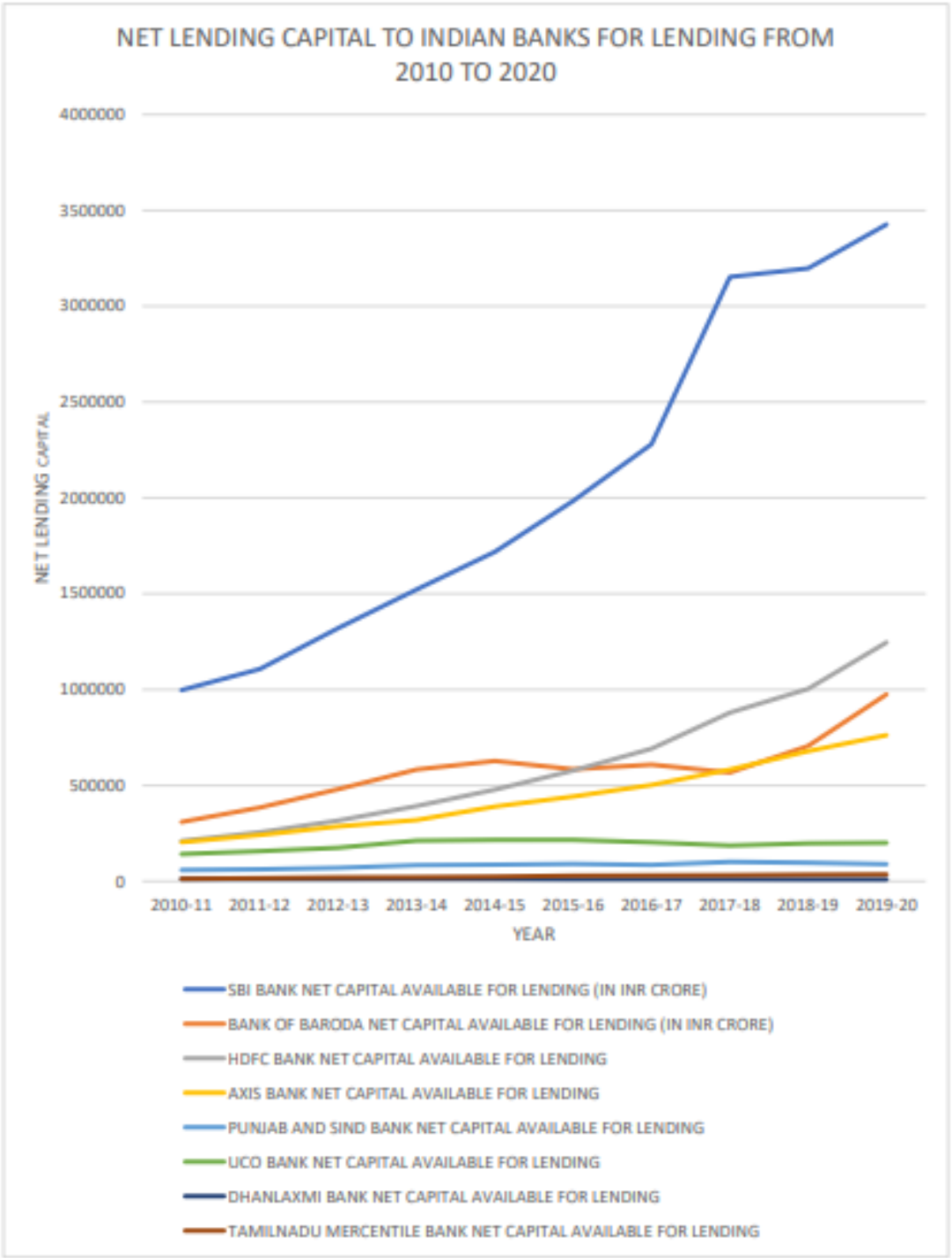
Figure 4: Net lending capital in 8 Indian Banks from 2010-2020



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From the above chart, we can see that SBI, which has an average deposit sum of 1898634.6 INR crore has a much higher net lending capital *trendline* from 2010 to 2020, compared to say, Dhanalaxmi Bank whose average deposit sum amounts to 11512.1 INR crore over the same time period. Thus, implying that the latter has been more adversely affected than the former from the imposition of CRR rates.

This has been further substantiated with the help of the below table by taking a single reference period of inflation to show the actual, numerical deviation in net lending capital.

Table 2: Net lending capital of 8 Indian Banks from 2010-2020

YEAR	HDFC BANK NET CAPITAL AVAILABLE FOR LENDING	BANK OF BARODA NET CAPITAL AVAILABLE FOR LENDING (IN INR CRORE)	SBI BANK NET CAPITAL AVAILABLE FOR LENDING (IN INR CRORE)	AXIS BANK NET CAPITAL AVAILABLE FOR LENDING
2010-11	210465.2854	309419.66	997466.02	204149.78
2011-12	255750.563	385351.74	1108034.18	240968.76
2012-13	3,16,663.0734	4,80,321.9725	13,20,806.55	2,85,827.9475
2013-14	392082.9708	582950.24	1521763.64	319996.24
2014-15	477977.374	628120.64	1718871.28	389301.36
2015-16	577585.6924	584546.52	1984838.12	442874.32
2016-17	691922.9336	608219	2280654.96	502833.88
2017-18	880324.7844	567661.44	3152232.24	583493.12
2018-19	1003300.413	706210.44	3197947.56	679308.16
2019-20	1246230.728	975345.64	3426612.16	762454.8

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YEAR	PUNJAB AND SIND BANK NET CAPITAL AVAILABLE FOR LENDING	UCO BANK NET CAPITAL AVAILABLE FOR LENDING	DHANLAXMI BANK NET CAPITAL AVAILABLE FOR LENDING	TAMILNADU MERCENTILE BANK NET CAPITAL AVAILABLE FOR LENDING
2010-11	59024.62	142035.32	12403.26	13013.42
2011-12	62717.62	157664.76	12816.76	16543.4
2012-13	70,178.7575	17,5552.1825	12,317.915	19,613.5225
2013-14	83645.8	212270.64	12982.68	21998.2
2014-15	86293.44	216015.52	12826.76	24663.04
2015-16	90438.04	216073.28	11149.88	29486.28
2016-17	85076.4	202767.6	10986.28	30902.4
2017-18	101338.96	187024.04	10874.24	31643.88
2018-19	97328.72	198313.72	10378.88	33730.56
2019-20	89293.32	201170.84	10644.84	35676

If we take 2012-13 as a point of reference, then we can see that difference in net capital lending between banks despite the imposition of CRR rates. The Indian Economy recorded a 10.02% inflation, represented in Figure 2) during this period (source: Macrotrends.com), and the CRR rates imposed amounted to 4% (source: RBI database). However, we see that during this time, the net lending capital heavily differed from one bank to another. Popular private banks such as HDFC and AXIS bank recorded a high net lending capital of 3,16,663.0734 and 2,85,827.9475 INR crore as compared to the less popular ones such as Dhanalaxmi Bank and Tamilnadu Mercentile Bank who recorded a net lending capital of 12,317.915 INR

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Svādhyāya - International Journal of Transdisciplinary Research and Development (SIJTRD) ISSN Online : 2583-1739

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crore and 19,613.5225 INR crore respectively. Thus, we can see that there is a large discrepancy that exists in net lending capital between banks in the private sector.

This discrepancy holds true even in the case of public banks. It can be once again inferred from the above table that Bank of Baroda recorded a net lending capital of 4,80,321.9725 INR crore in 2012-13. However, other public banks such as Punjab and Sind Bank and UCO bank report different net lending capital during the same time period (70,178.7575 and 17,5552.1825 INR crore respectively).

This discrepancy is represented graphically separately for public and private banks in the below figures.

Figure 5: Net capital available to Indian private Banks for lending from 2010-2020

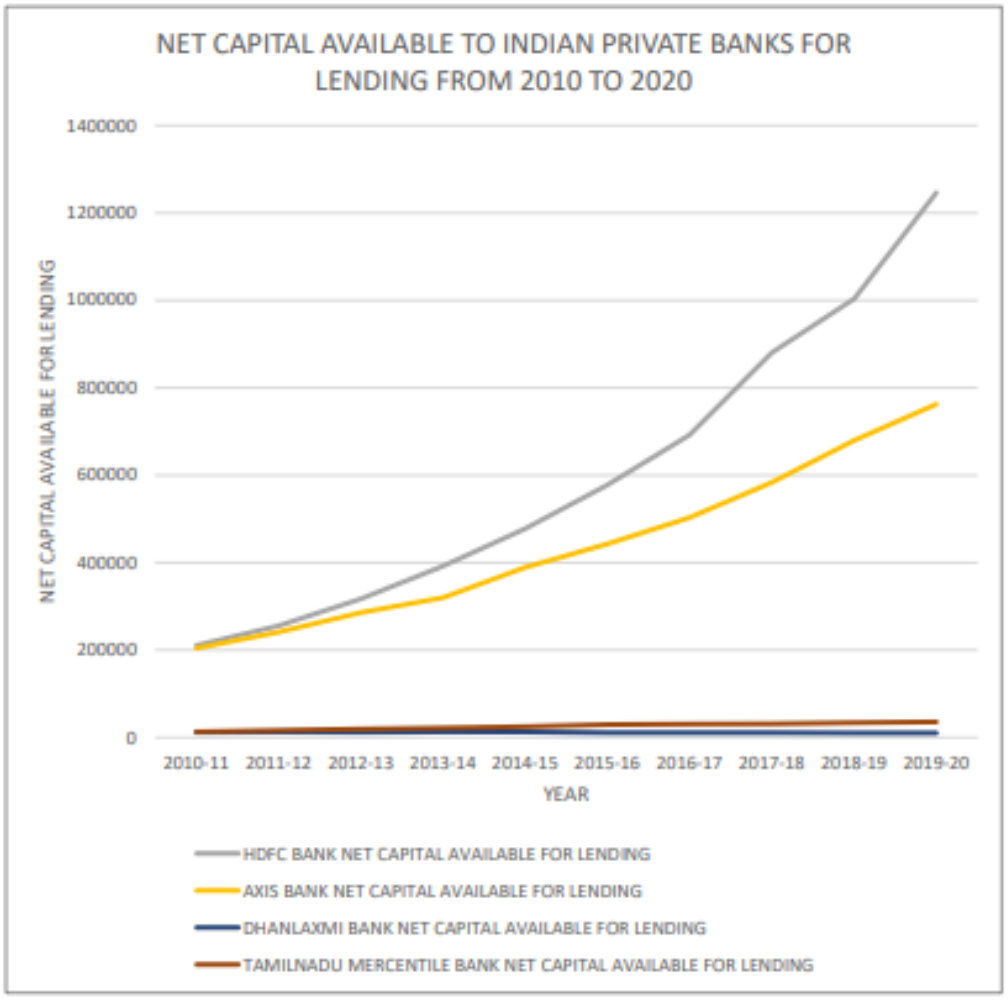

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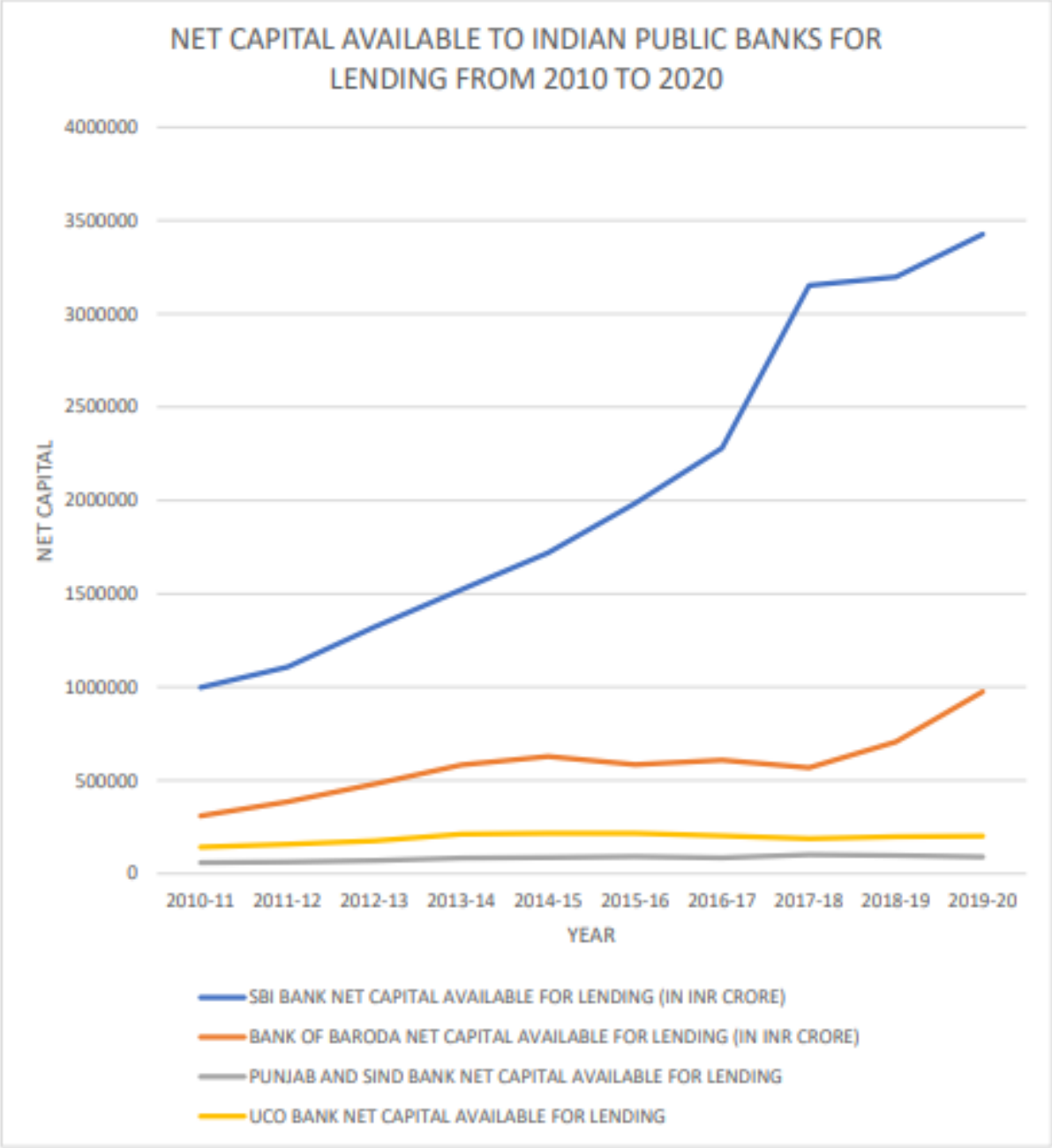
Figure 6: Net capital available to indian public banks for lending from 2010 to 2020



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Thus, it can be seen, that despite the RBI's measures to reduce inflation in the country through CRR, *cetris peribus*, it does not allow them to reduce lending capacity in a similar fashion across the country, as much as the CRR envisages.

POLICY SUGGESTIONS:

Thus, levying uniform CRR rates, results in an uneven result of the CRR's objective to reduce money supply. In other words, it doesn't help the central bank reach its desired objective effectively. From the above results, it can be seen that it becomes necessary to adopt a '*progressive'* CRR system. Banks must be divided into different reserve slabs and different CRR ratios must be fixed for different reserve slabs. A bank with a larger quantum of net lending capital must be slapped with a higher CRR ratio, whereas a bank with a lower quantum of net lending capital must be charged with a lower CRR ratio. This will allow the central bank to truly exercise effective control over the money supply in the country.

Let us take the same example as before to illustrate this. If a CRR of 15% is fixed for the bank A with deposit amount Rs. 1,00,000, then the bank has to deposit Rs. 15,000 with the central bank as cash reserves – thus allowing it to conduct lending operations with an amount of Rs. 85,000. However, if a CRR of 5% is fixed for the bank with the deposit amount Rs. 50,000, then the bank will have to deposit Rs. 2,500 to the central bank and allow itself to conduct lending operations with an amount of Rs. 47,500. Thus, the commercial banks with the larger excess reserve have *comparatively* lesser money, than before (which was Rs. 90,000) while commercial banks with the lower excess reserve have a *comparatively* larger money, (which was Rs. 45,000 before) to conduct their financial operations. This would allow the banks to have a balanced effect on the economy, and thus allow for the proper success of monetary policy.

Since banks with a lower quantum of credit will be charged with a lower CRR, they will be able to conduct their lending operations in such a way that it doesn't result in their bankruptcy but at the same time also allows it to move along the economic conditions dictated by the central bank for the economy. In addition, since such banks have a reasonable quantum of lending capital, more individuals and businessmen will flock to such banks for their financial transactions. It will also prove to be useful in increasing the effectiveness of credit creation functions of less popular banks as well as reducing the major inequalities present between different banks in an economy.

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CONCLUSION:

Thus, it can be concluded that the current CRR system is not effective in regulating the money supply in the economy. In order to increase the effectiveness of monetary policy, adopting a progressive CRR system would allow the central banks to exercise better control over commercial banks in an economy. It would help minimize the discriminatory effect of CRR on commercial banks which have lesser quanta of lending capital. In addition, by fixing higher rates for banks with higher lending capital, central banks can also reduce inequalities between different banks regarding lending operations. Thus, it is necessary to have a progressive CRR system in place.

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