# A Study of the Efficiency of Para-banking as an Alternative Source of Income for the New Generation Private Banks in India

Mrs. Ibha Rani
SSR College of Science & Management Studies, Bangalore

Under the Guidance of
Dr. Mukund Sharma N
Professor, MBA Department,
BNM Institute of Technology, Bangalore

**Abstract**

In the wake of rising NPAs, the losses associated with it and the resultant restrictions, credit is gradually loosing it's appeal as a lucrative source of interest-income. As a result, the Indian banking sector has begun pinning its hopes in the non-traditional, non-interest generating, parabanking activities, such as trading, merchant banking, non-fund based transactions, fee-based services, including alternate delivery channels, such as debit cards and PoS terminals. With this backdrop, the present study was conducted to explore whether non-interest based activities are efficient enough to emerge as an alternative source of income for the new generation banks in India. The study was based on secondary data, which was collected from various data bases, such as DBIE and RBI and relevant literature was reviewed in detail.

The non-interest of the income has increased during the study period but there was no definite pattern of increase of decrease. The share of non-interest income in the total bank income had not increased on par with that of the interest income and non-interest activities contributed less than 20 percent to the total bank income. The ratio of non-interest income to the total bank assets, was much lesser compared to that of net-interest to the total assets, implying that non-interest income does not influence the bank profitability significantly. The study indicated that banks would need many concentrated efforts to boost para-banking activities as an alternative to interest based income.

**Keywords**- Para-banking, Efficiency, Interest Income, Non-interest Income

## 1. Introduction

Traditionally, Indian banks have regarded credit and the resultant interest as the most important source of their income. Credit growth has been one of the major factors that bankers and financial policy makers have constantly pondered over while framing economic policies (Bannerjee and Mitra, 2018). However, this overdependence on interest income eventually made way for excessive and unverified lending by the banks, thereby by briging down the quality of credit across the banks. As a result of this, Non-Performing Assets

(NPAs) emerged into what can be called as the most serious roadblock encountered by the Indian banking sector so far (Chavan and Gambacorta, 2016). While older banks choked under the weight of piling bad loans or NPAs, the relatively younger ones had to bear the brunt of stringent NPA regulatory measures put in place by the apex bank, which slowed down their credit growth. Besides, fresh NPA slippages and inadequate means of recovery also added to the woes of the banking sector, as a result of which a significant volume of bank funds remained blocked either as unyielding advances or in the form of provisions to offset future NPAs (Mahajan, 2018). Likewise, a longterm lull in the economic activity, also resulted in considerable slump in the growth of bank credit. As a consequence, interest interest income turned out to be a risky and tedious affair (Singh and Thakur, 2018).

Going by an old English adage, "Do not put all your eggs in the same basket", the Indian banking sector warmed up to the prospective benefits of income diversification in the early years of the 2000s (Ahamed, 2017). As a result, there was a slow, yet steady rise in the non-traditional activities of Indian banks, such as parabanking, merchant banking, exchange operations, etc., which brought in stream of stable revenue (Trivedi, 2015). Further, with implementation of the Khan committee recommendations in the Monetary Policy of RBI in 2005-06, financial inclusion, i.e., making available basic banking facilities to the everyone, became a mandatory component of banking business (Sethi, 2016). As a consequence, the Indian banking sector witnessed a remarkable rise in the non-credit or allied banking activities, such as parabanking, non-traditional activities, such as card transactions, e-banking, etc. While non-interest or commission based income has always been a part of the bank revenue, by virtue of the good old letters of credit and bank guarantee, parabanking encouraged the banks to regard the entire non-interest income avenue in an entirely new light (Ahamed, 2017). Therefore, parabanking and other avenues of non-interest income generation are now being promoted readily by all kinds of banks in order to make good for the income stuck in NPAs and provisions (Ismail et al., 2015).

By definition, parabanking can be referred to as any banking activity, other than what the banks normaly do, and it includes activities, such as merchant banking, trading, bancassurance, exchange services, etc (Ramesh, 2017). Besides, alternate delivery channels, such as ATMs, credit and debit cards, Point of Sales (PoS) have also emerged as the major sources of non-interest income as banks shifted from manual activities to a core banking system approach, where the customers of any branch of any bank can avail banking facilities, such as funds withdrawal, deposit, payment, etc. in any corner of the country (Agarwal and Mehrotra, 2017).

As the NPA menance does not show any signs of abating and as the credit growth slows down, the Indian banking sector has begun pinning its hopes in non-interest income as one of the means of accentuating their revenues (Kaur et al., 2018). Thus there is a flurry of activity in terms of promoting non-traditional activities, setting up alternate delivery channels and so on (Singh et al., 2016). In this regard, one would

wonder whether this enthusiasm is justified, as credit still continues to be the biggest source of bank income and a huge chunk of bank customer base are unaware of anything beyond the basic banking activities (Kumar, 2018 Misra et al., 2017). With the above backdrop, a strong need for a review of the non-interest banking income trends was felt, which served as the motivation for the present paper. In essence, the present study was carried out to understand the extent to which non-interest income, especially from parabanking and other non-traditional activities can complement or act as an alternative to the interest based income in the context of the Indian banking sector. Thus, the study was undertaken to achieve the following overarching objectives:

1. To study the trend of non-interest income of new generation private sector banks during over study period between FY 2005-06 to FY 2017-18.
2. To compare the growth of interest and non-interest based incomes of new generation private sector banks during the study period.
3. To evaluate the change in the profitability of the new generation private sector banks vis-à-vis the growth in the non-interest income.

## 2. Literature Review and Hypotheses

As NPA and its concomitant issues begin to choke the Indian banking sector, interest income, although still the only large source of banking revenue, is slowly loosing its appeal as it exposes the banks to considerable risks (Kumar, 2018). In order to offset the potential disadvantages of interest based income, banks are now considering diversifying their income sources to non-interest based avenues, fee and commission based products, merchant banking activities, etc (Kaur et al., 2018). Although this diversification seems to be a lucrative affair, it is certainly not devoid of pitfalls and challenges. In this regard, it is necessary to obtain an objective understanding of the extent to which non-interest income avenues can help banks optimise their revenues.

In one of the pioneering research works on non-interest income, Stiroh (2002) explored whether it would be advisable to the Banks in the United States to diversify their activities to non-tradtional activities, thereby relying more on non-interest Income. While explaining the steady shift of the US banking industry to non-traditional income avenues, such as fees and commissions, trading revenue, etc., the author non-interest income is relatively volatile. Further, the author makes it clear that the declining volatility in the net operating income of the US banks is more because of the stability in the net interest revenue. The findings revealed that non-interest income, specially the income from service charges and fees are strongly correlated with the net interest income. Further, a concerning finding revealed that higher levels of non-interest revenue, especially the income from trading activities reduced the profit per unit of risk, i.e., the more the

banks rely on such sources, more will be their risk and lesser will be the profit. Finally the author concluded that diversifiying bank activities to non-interest income activities might not be a promising prospective.

In an incisive article on the means through which the US based banks earn income, DeYoung and Rice (2004) examine the nuances of the significance of non-interest income sources. In the article, the authors tackle an important fallacy regarding non-interest income, i.e., that such incomes are more stable and states clearly, using empirical evidence, that fee-based activities increases the instability of bank revenue streams. The authors conclude that although banks are increasingly moving towards non-income revenue sources, such fee-based income activities might not be an ideal replacement for the traditional interest based banking activities.

The basic objective of income diversification is to offset the risks that arise out of focusing on a single income source. However diversifying to non-interest income activities have not exactly reduced banks' risks, according to a study by Brunnermeier et al (2012) who undertook a study to explore the relationship of the non-interest income of banks and the systemic risks they get exposed to. The findings of the study revealed that banks which have a larger non-interest income portfolio is exposed to a correspondingly higher systemic risk compared to those with exposure to traditional, interest based activities. The authors broke down the total non-interest income into trading income and income from investment banking and found that both the categories expose the banks to an almost equal volume of risk. Finally, the authors opine that while it is advisable for the banks to diversify their income sources, relying entirely on non-interest income sources alone can expose the banks to instability and risk.

While the above studies consider the case of non-interest income from a developed economy perspective, studies from the developing economies have a different observation to make. This can be seen in the case of Meslier-Crouzille (2013) who undertook a study to explore whether income diversification, i.e., shifting from interest-based income to non-interest based income sources beneficial for the Banks in the context of Philippines, an emerging economy. Contrary to the findings from developed economies, this study found that income diversification improves the profitability of the banks, especially when these non-interest income generating activities are relared to trading amd merchant banking. Further, the findings also indicated that among the non-interest based activities, banks should prefer trading activities instead of fee-based income avenues in order to benefit from income diversification in the truest sense. Along the same lines, in a study on the interplay of income diversification and bank risk among Chinese banks, Zhou (2014) broke down the overall bank risk to understand to extent to which non-interest income contributes to the same. In the course of the study, it was found that income diversification does not essentially result in reduced risks and on the contrary increase in such income increases the volatility of the returns, thereby increasing the bank risk.

Along with a clear distinction with regard to the implications of non interest income among the developed and developing economies, banks in the emerging economies shift to non-interest activities owing to the drawbacks in interest income. This has been clearly brought out by Aslam et al (2015) who investigated whether non-interest income activities could be an ideal income diversification avenue for Pakistani banks. The authors observed that declining quality of credit, which is the most prominent source of interst income has resulted in banks considering diversification to non-interest income yielding activities. The results revealed a positive correlation between non-interest income and the growth in banking business. Interestingly, the study also revealed that bank size and volume of bank assets have a positive impact on the non-interest income, i.e., bigger banks with higher volume of assets are expected to invest more in non-traditional activities, thereby earning higher non-interest income. The authors concluded that as a result of cross selling of traditional and non-traditional bank products, there is a positive association between interest income and non-interest income.

Going by the observations made so far, it can be said the non-interest income results in a mix of positive and negative outcomes. This can be clearly observed in the findings of Senyo et al (2015) in a study of the significance of income diversification in the financial stability of Banks in Ghana, wherein they empirically examined the conventional understanding that fee-based income is less volatile compared to interest income. While observing that interest income makes the highest contribution to bank profits, the authors non-interest income augements the bank income when interest income falls short. The authors acknowledged that the relevance of fee-based income is increasing gradually as it has been bringing about stability in the bank profits. However, it was also seen that an increased reliance on non-interest income results in ia corresponding increase in the volatility in the bank revenue.

In India, Singh and Dubey (2015) compared the non-interest income related performance of the private and foreign banks operating in India in the back drop of banks diversifying their activities from traditional lending based avenues to non-fund based and fee based activities. The results revealed that in comparison with the private banks, foreign banks focus more on non-interest based income, so much that non-fund based income is almost half their interest based revenue; however, the authors noted that the sources of these non-interest income remain the same for the private and foreign banks.

The above finding runs counter to the popular notion that fee-based income can be perceived as an alternative to interest income. similar observations have been made Le (2016) in a study on the impact of income diversification on bank risk among the Vietnamese banks. In the course of the study it was found that bank risk decreases when there is a reduction in the risk in the interest income and not when banks shift to non-interest income sources. The study also found, that the increased focus on non-interest or fee based income increases the bank risks irrespective of the size of the bank. The author went on to reiterate that

banks should work towards reducing the risk in traditional sources of income, such as advancing loans instead of attempting to diversify their income sources.

While a majority of the studies reviewed so far found non-interest income to be negatively correlated with bank efficience, some studies in developing economies found contrry evidences. For instance, Prabha et al (2016) undertook a study to analyse the significance of non-interest income in the context of the Indian banking industry. The authors analysed the significance of all the components of the non-interest income, namely, fiduciary income, service charges, trading revenue and fee based income. The authors strongly advocate that banks have to takeup necessary initiatives in order to boost their non-interest income and suggest various measures to achieve the same. Further, the authors opine that non-interest income should be given equal impetus by the banks as it as a cushion for the banks in times of income deficit, and thus helps them sustain. The paper concludes that striking a balance between interest and non-interest income is necessary so as to offset bank risk, which also improves the efficiency of the banks.

In the Indian context, the banking sector is a mix of very old and very new banks, as a result of which one can expect a distinct pattern with regard to the composition of income sources of old and new banks. Singh et al (2016) undertook a study on the impact of non-interest income on the risk and profitability of banks in India to explore the prospective benefits of non-interest income. While elaborating on the composition of the non-interest income, the authors note that that compared to the public and private sector banks, foreign banks do comparatively well with regard to non-traditional activities. Further, interestingly, the study also found that the return on equity, loan quality, profit per employee and personal services offered to the bank customers also exert significant influence on the non-interest income of the bank. The paper opined that the accrual of interest and non-interest income are mutually exclusive as it was found that the employees who generate higher interest revenue were unable to generate equally significant volume of non-interest income.

Although traditional credit centric banking has been rife with complex problems, Indian banks still regard it as an efficient source of income, but the trend has changed over the last decade. In order to analyse the impact of income diversification on the efficiency and profitability of Indian banks, Misra et al (2017) under took an empirical study of the non-interest income activities of Indian private sector banks for the period between 2005-06 to 2015-16. The findings of the study revealed that banks, which have traditionally shown affinity towards traditional sources of income, such as loans and advances are now considering non-interest or fee based avenues, such as fees and commission from debit card and Point of Sales (PoS) terminals, income from merchant banking activities, etc. While observing that in spite of the constant threat of NPAs and bad loans, credit remains the most preferred income revenue and fee-based/ non interest income is used only to compensate for any shortcomings in interest income. The paper concluded with an interesting observation, that although diversification from interest to non-interest income has improved the profitability

of Indian private banks, it has indeed reduced the efficiency of the banks as non-fee based activities incur higher operating costs.

Banking decisions do not pertain to the particular bank alone and can impact the entire economy in the longrun and the same holds good for the decision to focus more on non-interest income sources. Wei et al (2017) undertook a study to explore how non-interest activities impact the risk exposure of banks of the countries in the Asia-Pacific region, namely, Hong-Kong, Korea, Australia, Malaysia, Thailand and Singapore. At the outset, the findings of the study revealed that the exposure to non-interest activities indeed impacted the risk of the banks. Further, the study also found that the impact of non-interest activities on bank risk was more pronounced among developing countries of the Asia-Pacific compared to their developed counterparts. The authors went on to state that the non-interest incomes not only result in bank risk but impacts the entire economy on the whole. The study concluded by stating that the regulatory bodies of the respective countries need to revieiw the non-interest based portfolio of their banks in order to minimise risk and to stabilise the returns.

While one would be compelled to think that income diversification can be a solution to issue of bank revenue instability, the empirical research has indicated that this might not be the case. In order to have a clearer perspective on the above, Andrzejuk (2018) conducted a study of non-interest income and profitability among the private banks of Liechtenstein during the period from 2014 to 2016. The findings revealed a negative association between the non-interest to interest income ratio and the return on assets of the bank, indicating that income diversification need not necessarily imply better profitability, which was justified by the results of the said study, wherein banks with higher non-interest income were found to be less profitable. Although this paper confirms the exisiting literature which indicate the negative impact of fee based income on profitability, it also points at the fact that the exact relationship among the two are unclear and recommends empirical analysis of the same.

Every banking decision comes with a set of inherent risks and non-interest sources are no different and these risks eventually impact the performance of the banks. In order to study the same, Brahmana et al (2018) examined the interplay of income diversification and the performance of Malaysian banks over the period between 2005 to 2015, with special focus on the impact of non-interest income on the risk-adjusted bank performance. In a departure from the findings of similar studies worldwide, this results of this study indicated that income diversification, especially into non-interest income activities, increases the performance of Malaysian banks. The authors reason that as the Malaysian financial market is less integrated, the are able to benefit from income diversification. While acknowledging the other studies which found a negative relationship between non-interest income and bank performance, the authors conclude that the findings from developed countries might not hold good in the emerging economies of the world.

In the recent years, the Indian banking sector has witnessed an unprecendented upsurge in the non-traditional banking activities, that are carried out with a common aim of diversifying the source of bank income. Income diversification is expected to help banks tide through in the times of financial crisis. In order to explore whether income diversification helps in achieving this objective, Kumar (2018) analysed the impact of income diversification on the profitability of the Indian banking industry in the light of the on-going financial crisis. The author examined the categories on non-traditional income and explore the share on non-interest income in the total bank income. At the outset, the author found that the diversification of business avenues is positively associated with bank profitability and that foreign banks perform much better than the public and private sector banks of the country with regard to earning non-interest revenues. The findings also revealed that increased adoption on non-interest income generating activities has a positive impact on the overall profitability and the risk-adjusted performance of the banks and that indulging in such activities renders the banking system comparatively stable. Striking a discordant note with the other similar studies, the authors observed that in a Indian context, fee, commission and brokerage income is less volatile compared to the other forms of non-interest income.

On the whole, studies on non-interest sources of bank income have held that although such income helps banks earn revenue, they do expose the banks to higher risks. However, a study by Kaur et al (2018) reveals something different. The authors undertook a study to explore the correctness of the modern portfolio theory, which states that income diversification to non-interest avenues, reduces the risk of the banks. The authors break down the total banking income as interest and non-interest income and evaluate how the variability of interest and non-interest income and covariance between the same impact the bank risk factors. The findings indicated that unlike the developed economies, non-interest activities indeed stabilised the risk and volatility of Indian banks, which could be as a result of the fact the Indian banks do not indulge in diversification to a larger extent. Adverting to the existing studies that indicate a negative impact of non-interest activities on profitability, the authors opine that Indian banks, with their lower to moderate levels of income diversification can improve their profitability, unlike the other banks of the world with excessive reliance on non-interest activities.

Thus, one cannot make a linear assumption that non-interest income is wholly beneficial to banks, it is not possible to rule out the potential benefits on such income as well. The observations made by Nisar (2018), in a study on the impact of income diversification on bank efficiency could help in arriving at a sensible conclusion regarding this confusion. Based on the observations made during the study, the author opined that income diversification will prove beneficial if and only if the diversified activities expose the banks to lesser risks and fetch them higher returns. Further, it was observed that each category on non-interest income impacts bank profitability and sustainability differently. Interestingly, the authors found that fee and commission based incomes impact bank performance negatively. According to the authors, this negative

relationship stems from the fact the interest and non-interest incomes are interrelated owing to cross-selling different products to the same client (say, a loan and an insurance policy) as a result of which the benefits from diversification will be nullified. However, on a positive note, the authors also found that other kinds of non-interest incomes, such as charges for safe-deposit lockers, gains from capital market transactions, trading income, income from foreign exchange markets, sales of certain internal assets and so on.

An indepth review of research literature pertaining to non-interest income sources and income generation among the Indian banks, points at a tricky, yet interesting state of affairs. A majority of studies based in the advanced economies of the world find an obscure and mostly negative association between non-interest income generating activities and bank profitability and imply that diversifying to fee-based income avenues exposes banks to systemic risks. At the same time, some studies conducted in the context of emerging economies, such as India and other South Asian countiries, indicated that fee-based income sources can indeed help banks bolster their efficiency when carried out in moderation. However, almost all such studies regard non-fee based income as a single entity and do not attempt to see whether income from parabanking alone yields different results.

In the light of the observations made in the course of the literature review, this study attempted to test the following hypothesis.

*H1a: The share of non-interest income in the total income of the new generation private sector banks has increased significantly in comparison with their interest based income.*

*H2a: The influence of non-interest income on the bank profitability has increased significantly compared to that of the interest income.*

## 3. Methodology

The major premise of the present paper is to examine the extent to which the non-interest based income from parabanking activities, has impacted the performance indicators of new generation banks operating in India over a period of 13 years, from 2005-06 to 2017-18. In essence the study aims to see how far parabanking income act as an alternative to interest income. The paper is primarily based on secondary data regarding the non-interest income sources and other banking indicators. This secondary data is sourced from the Database of Indian Economy, the Reserve Bank of India website and the annual reports of the seven new generation private sector banks in India. The statistics so collected was analysed using various statistical techniques and tools in Ms Excel and Statistical Package for Social Sciences (SPSS) stoftware version 24.0.

### 3.1. Inculsion Criteria

There are 22 scheduled private commercial banks banks in India, of which 13 banks are categorised as old generation banks, as they have been functioning even before nationalisation and were not nationalised for a variety of reasons. Further, the remaining nine banks either came into existence after bank nationalisation drive in 1969 and 1980 or began operating as scheduled banks after nationalisation and are referred to as new generation private sector banks. In spite of being non-nationalised and privately owned, these banks are very well included in the second schedule of the Reserve Bank of India Act , 1934.

In spite of the fact that the old generation private banks are not natioanlised, they have been regarded as good as their nationalised or government owned counterparts by virtue of their being in existence from quite a long time. As a result, new generation banks were exposed to a competitive environment ever since they came into being. However, inspite of this competition, the new generation banks, have shown remarkable performance in the current decade (Vinisha, 2016). Further, as these banks came into existence and grew in the globalised times, they are assumed to be more inclined towards non-traditional activities, such as parabanking and alternate delivery channels, it was decided to look examine the status of non-interest income in the new generation banks. Table 1. presents details regarding the new generation banks in India.

**Table 1: New Generation Private Sector Banks and Year of Establishment**

| Name of the Bank | Year of Establishment |
|---|---|
| Development Credit Bank (DCB) | 1995 |
| ICICI Bank | 1990 |
| Axis Bank | 1993 |
| HDFC Bank | 1994 |
| IndusInd Bank | 1994 |
| Kotak Mahindra Bank | 2001 |
| Yes Bank | 2004 |
| IDFC Bank | 2015 |
| Bandhan Bank | 2015 |

*Source: Reserve Bank of India (RBI). https://rbi.org.in/commonman/English/Scripts/BanksInIndia.aspx*

Although there are nine new generation banks, IDFC Bank and Bandhan Bank came into being only in the year 2015-16 and were excluded from the present study owing to non availability of data for the study period. Further, it was also decided to analyse the research problem after the financial year 2005-06 owing to the fact that it was the year when the RBI started using the term ‘financial inclusion’ often and even banks started offering simple account opening procedure. In this context, one can safely assume that the

parabanking activities of the banks have also increased after 2005-06 and it is ideal to study the growth in parabanking income after this point in time.

## 4. Results and Discussion

The secondary data collected from various sources were statistically analysed using Microsoft Excel and SPSS software. The findings of the analysis have been presented in the ensuing sections.

### 4.1. Growth Trend of Non-Interest Income of New Generation Private Sector Banks

On the whole, the new generation private sector banks have experienced an undulating trend with regard to the non-interest income over the thirteen year study period. As indicated by Table 2, none of the new generation private sector banks' net income has shown a distinct upward or downward trend. At the outset, Yes Bank, recorded highest percentage growth in the non-interest income over the previous year in 2005-06 (6.14) followed by Kotak Mahindra Bank (2.10) and DCB bank had the lowest growth in the non-interest income (0.88) in the same year. Further, towards the end of the financial year 2017-18, Yes bank recorded the highest growth in non-interest income (1.41) over the pervious year followed by Kotak Mahindra Bank (1.26) and ICICI bank recorded the lowest percentage growth (0.95). Further, it can be seen that most of the banks' interest income dipped in the year 2009-10, which could be owing to the aftermath of the global economic recession of 2008-09. However, as already mentioned there was no distinct upward or downward trajectory and the banks recorded a series of highs and lows over the study period. The growth trend of non-interest income of all the new generation private sector banks has been graphically represented in Figure 1. On the whole Yes bank and Kotak Mahindra Bank has had the highest growth rate of non-interest income.

**Table 2 : Bank Wise and Year Wise Growth Trend (%) of Non-interest Income**

| Year | DCB | ICICI | Axis | HDFC | IndusInd | Kotak Mahindra | Yes Bank |
|---|---|---|---|---|---|---|---|
| 2006 | 0.88 | 1.49 | 1.40 | 1.64 | 1.09 | 2.10 | 6.13 |
| 2007 | 1.39 | 1.34 | 1.58 | 1.35 | 1.35 | 1.23 | 1.99 |
| 2008 | 1.58 | 1.21 | 1.67 | 1.29 | 0.95 | 1.48 | 1.59 |
| 2009 | 0.78 | 0.91 | 1.65 | 1.42 | 1.31 | 0.80 | 0.96 |
| 2010 | 0.79 | 1.05 | 1.23 | 1.25 | 1.30 | 1.61 | 1.66 |
| 2011 | 0.95 | 1.04 | 1.33 | 1.21 | 1.42 | 1.19 | 1.40 |
| 2012 | 1.07 | 1.11 | 1.25 | 1.36 | 1.41 | 1.30 | 1.22 |
| 2013 | 1.15 | 1.04 | 1.12 | 1.12 | 1.35 | 1.12 | 1.34 |
| 2014 | 1.11 | 1.21 | 1.19 | 1.17 | 1.37 | 1.21 | 1.41 |
| 2015 | 1.18 | 1.11 | 1.04 | 1.08 | 1.38 | 1.40 | 1.22 |
| 2016 | 1.29 | 1.08 | 1.13 | 1.19 | 1.29 | 1.41 | 1.29 |
| 2017 | 1.14 | 0.95 | 1.02 | 1.11 | 1.24 | 1.26 | 1.41 |

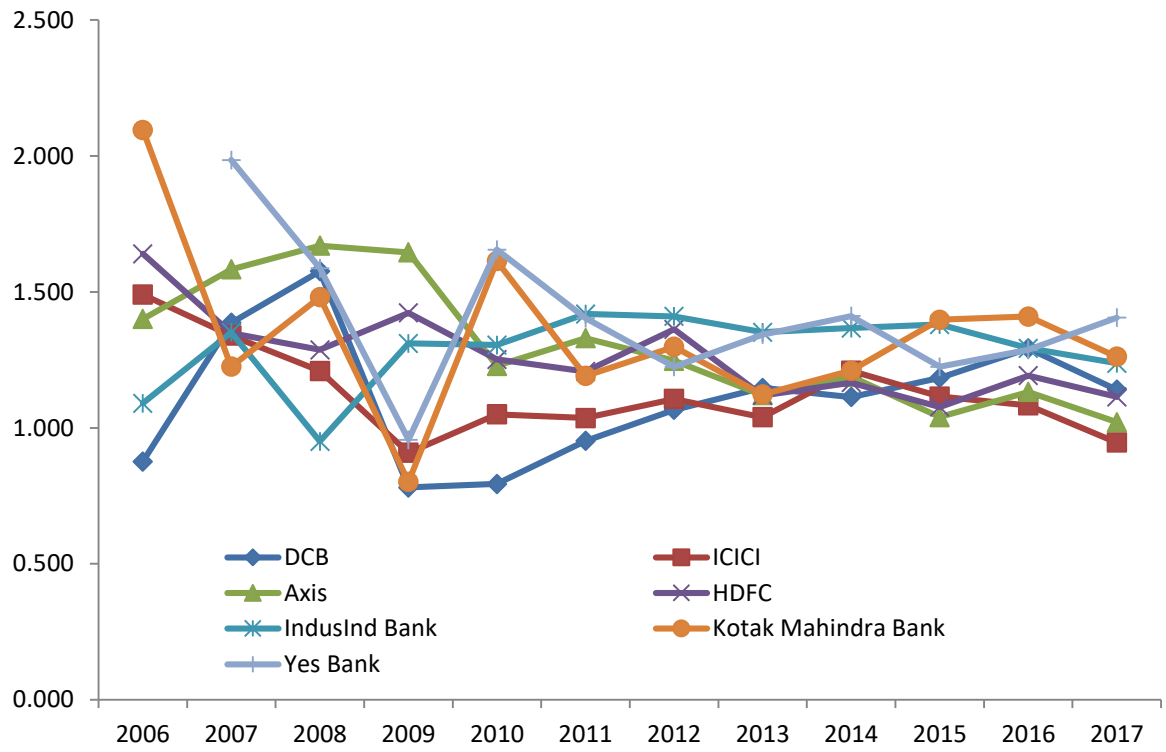


**Figure 1: Trend of in Non-Interest Income from 2005-06 to 2017-18**

### 4.1.1. Yearwise Variation in the Non-Interest Income of New Generation Private Sector Banks

One-way ANOVA was performed to assess if significant differences existed in the non-interest income of the new generation private sector banks over the study period form 2005-06 to 2017-18. As presented in Table 3, significant differences were observed in the non-interest income of the banks over the study period ($F=2.201$, $p<0.05$). From Table 2 and Figure 2 it can be observed that the yearwise non-interest income of the banks has only increased each year, with mean values ranging from Rs. 6,324 million to Rs. 58,746 million suggesting that the non-interest income earned by the new generation private sector banks has changed significantly over the study period.

**Table 3: Non-Interest Income Over the Study Period**

| Total Non Interest Income for Year | N | Mean (millions) | Std. Deviation |
|---|---|---|---|
| 2005 | 7 | 6324.14 | 10171.35 |
| 2006 | 7 | 9547.29 | 15166.52 |
| 2007 | 7 | 13069.00 | 20227.89 |
| 2008 | 7 | 16767.57 | 24313.73 |
| 2009 | 7 | 18494.57 | 22869.90 |
| 2010 | 7 | 21545.43 | 24340.55 |
| 2011 | 7 | 25189.86 | 26271.54 |
| 2012 | 7 | 30920.43 | 30825.85 |
| 2013 | 7 | 34338.14 | 32603.61 |

| Total Non Interest | N | Mean (millions) | Std. Deviation |
|---|---|---|---|
| 2014 | 7 | 41535.86 | 38346.69 |
| 2015 | 7 | 46533.29 | 40552.84 |
| 2016 | 7 | 54338.57 | 44213.97 |
| 2017 | 7 | 58746.71 | 42835.18 |

**Table 4: Variation in the Non-Interest Income over the Study Period**

| Total Non-Interest Income for Year | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| **Between Groups** | 24500923259 | 12 | 2041743605 | 2.20 | 0.019 |
| **Within Groups** | 72344698120 | 78 | 927496130 | | |

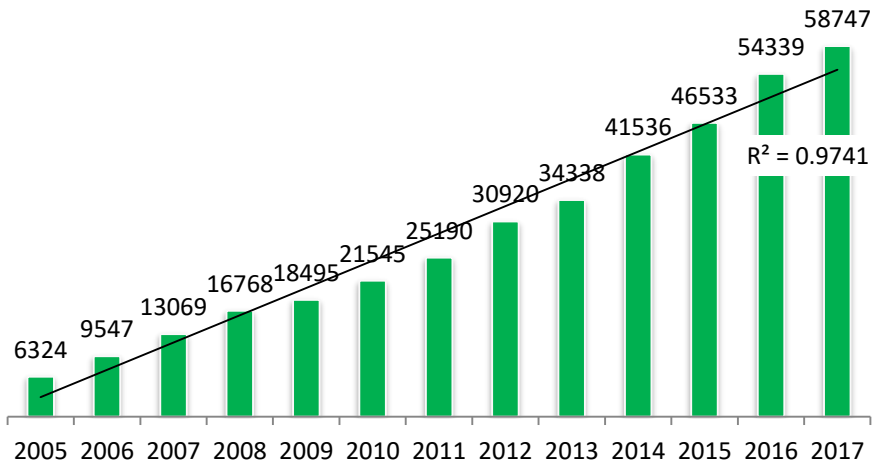


**Figure 2: Yearwise Mean of Total Non-Interest Income (millions) over the Years**

### 4.1.2. Bankwise Variation in the Non-Interest Income

Another One-way analysis of variance (ANOVA) was performed to explore whether there were significant variations in the non-interest income of each new generation private sector bank considered for the present study. As presented in Table 5, highly significant differences were observed in the non-interest income of the seven new generation private sector banks ($F=22.39$, $p<0.05$). From Table 4 and Figure 3 it can be observed that the non-interest income of each of the seven new generation private sector banks is remarkably different, with mean values ranging from Rs. 1,156 million for UCB Bank to Rs. 75,044 million for ICICI bank suggesting that the non-interest income earned by each new generation private sector banks is different.

**Table 5: Non-Interest Income Across the Different Banks**

| Total Non Interest Income for Bank | N | Mean (millions) | Std. Deviation |
|---|---|---|---|
| DCB | 13 | 1155.69 | 407.39 |
| ICICI | 13 | 75043.85 | 25705.30 |
| Axis | 13 | 43312.39 | 29789.40 |
| HDFC | 13 | 51156.92 | 34910.34 |
| IndusInd | 13 | 12291.77 | 12264.67 |
| Kotak Mahindra | 13 | 9983.00 | 8857.21 |
| Yes Bank | 13 | 10245.31 | 10435.35 |

**Table 6: Variation in the Non-Interest Income across the New Generation Private Sector Banks**

| Total Non Interest Income for Bank | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| **Between Groups** | 59587573269 | 6 | 9931262212 | 22.39 | 0.000 |
| **Within Groups** | 37258048110 | 84 | 443548192 | | |
| **Total** | 96845621379 | 90 | | | |

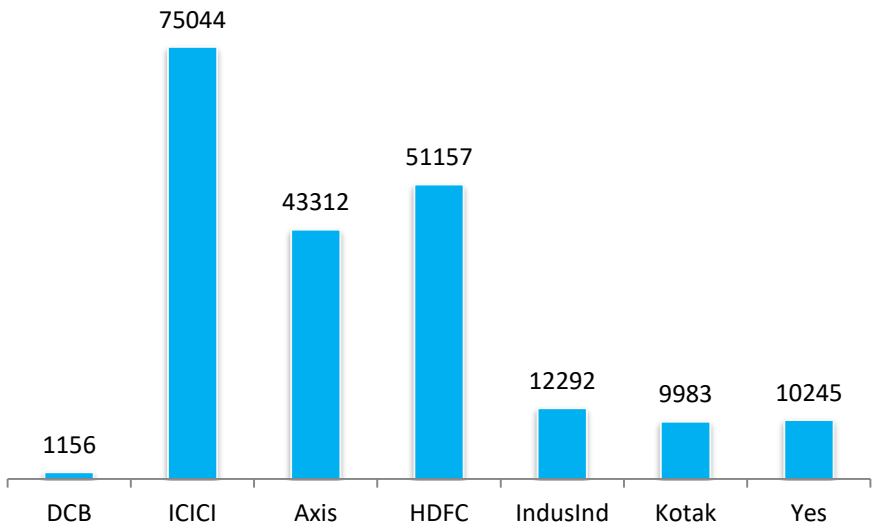


**Figure 3: Bank Vs Mean of Total Non Interest Income (millions) for Bank**

### 4.2. Trend of the Share of Interest and Non-Interest Based Incomes in the Total Incomes of New Generation Private Sector Banks

With regard to the share on non-interest income in the total income of the new generation private sector banks, one trend that can be observed is that almost all of these banks started off with the very high share of non-interest income in their total income and this share has declined over the study period. Table 7 reveals that Yes bank had the highest contribution of non-interest income (32.4%) to the total income in the year

2005-06, followed by ICICI bank (22.4%) and Kotak Mahindra Bank (21.3%). However as after thirteen years of the study period, IndusInd bank has recorded the highest share of non-interest (20.9%) income in the total income, followed by Yes Bank (16.7%). On the whole, all the share of the non-interest income of all the banks considered for the study has reduced considerably in the total income over the 13 years study period, except IndusInd Bank, which has increased from about 14% in 2005-06 to about 21% in 2017-18. Further, it is interesting to observe that at present the share of non-interest income the banks under consideration hardly exceeds 20% of the total bank income.

As most of the new generation private sector banks were just a decade old during 2005-06, it is possible that their credit portfolio was smaller and they were focusing on parabanking and alternate delivery channels, and hence the higher share of non-interest income in the total income. However, as the banks grew, their credit portfolios have accordingly expanded and so has the share of interest based income as a result of which the contribution of non-interest based income has decreased over the years. These observations are in agreement with the findings of Singh (2016), who found that interest and non-interest based incomesare mutually exclusive in nature, i.e., an increase in one kind of income is bound result in the decrease of the other.

**Table 7: Trend of the Share of Non-interest Income (%) in the Total income**

| Year | DCB | ICICI | Axis | HDFC | IndusInd | Kotak Mahindra | Yes Bank |
|---|---|---|---|---|---|---|---|
| 2005 | 19.2 | 22.4 | 18.4 | 19.1 | 14.4 | 21.3 | 32.4 |
| 2006 | 20.0 | 23.1 | 16.6 | 21.0 | 15.8 | 26.3 | 33.0 |
| 2007 | 21.0 | 19.8 | 17.4 | 19.4 | 16.8 | 18.5 | 24.3 |
| 2008 | 19.7 | 17.5 | 18.1 | 16.5 | 12.8 | 14.9 | 18.1 |
| 2009 | 14.8 | 16.3 | 19.1 | 14.8 | 13.2 | 10.7 | 11.8 |
| 2010 | 15.9 | 19.9 | 20.6 | 18.0 | 14.6 | 14.9 | 16.2 |
| 2011 | 13.2 | 21.0 | 21.6 | 18.1 | 15.7 | 13.9 | 14.4 |
| 2012 | 11.2 | 18.5 | 19.4 | 17.8 | 15.0 | 12.5 | 11.5 |
| 2013 | 10.1 | 16.3 | 17.7 | 16.0 | 15.4 | 10.9 | 11.5 |
| 2014 | 9.2 | 17.4 | 18.6 | 15.9 | 17.4 | 12.0 | 13.3 |
| 2015 | 8.7 | 17.3 | 16.8 | 14.6 | 19.9 | 14.5 | 14.0 |
| 2016 | 9.3 | 16.9 | 16.6 | 14.1 | 20.7 | 12.6 | 15.1 |
| 2017 | 8.8 | 14.8 | 15.2 | 13.7 | 20.9 | 14.3 | 16.7 |

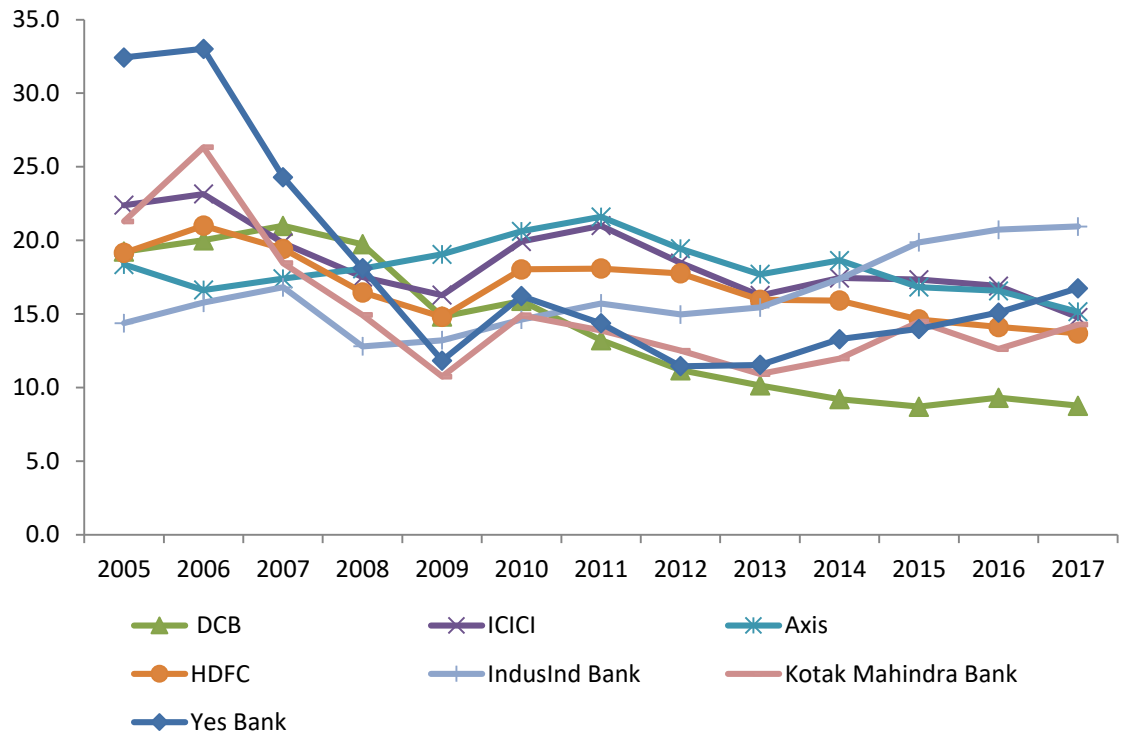


**Figure 4: Trend of the Share of Non-Interest Income (%) in the Total Income**

### 4.2.1. Variation in the Share of Interest and Non-Interest income in the Total Income

No significant difference was observed in the share of interest and non-interest income in the total income of the seven new generation private sector banks considered for the present study (t=-0.150, p>0.05). However, the share of interest income in the total income was marginally higher (M=1.35) than that of the non-interest income (M=1.32). Despite the minor difference in the mean values, the independent t-test did not find this difference to be statistically significant, i.e., the share of interest and non-interest income in the total income did not remained almost the same. The above findings are in agreement with the results of a study by Stiroh (2002), where in a strong correlation was observed between net-interest income and non-interest income by virtue of cross-selling of interest and non-interest generating bank products. Similar observations were made by Aslam et al (2015) and Nisar (2018), who found that as banks tend to cross-sell their parabanking products with loan products the interest and non-interest incomes are correlated.

Therefore, owing to the lack of difference among the proportion of interest and non-interest income in the total bank income the first alternate hypothesis, *H1a*, which states that the share of non-interest income in the total income of the new generation private sector banks has increased significantly in comparison with the share of interest-based income is rejected. However, the very fact that there is no difference in share of both interest and non-interest incomes in total income is a positive sign, as this indicates that non-interest income is contributing to the total income on par with the interest income.

**Table 8: Variation in the Share of Interest and Non-Interest Income (%) in Total Income**

| Group | Mean | Std. Deviation | Std. Error Mean | t | Sig. (2-tailed) |
|---|---|---|---|---|---|
| Interest | 1.35 | 0.45 | 0.05 | 0.399 | 0.690 |
| Non-interest | 1.32 | 0.58 | 0.06 | | |

### 4.3. Profitability Vis-À-Vis the Growth in the Non-Interest Income

The contribution of the non-interest income to the profitability of the new generation private sector banks was assessed by examining the trend observed with regard to the ratio of non-interest income in the total assets of those banks, which indicates the share of non-interest generating income in the total income earning assets of the banks. This ratio was in turn compared with the ratio of net-interest income to the total assets of the banks considered for the study.

#### 4.3.1. Variation in the Ratio of non-interest income in total assets of the new generation Private Sector Banks

One sample t-test was conducted to analyse the variation in the ratio of non-interest income in the total assets of the banks under consideration. The ratio of non-interest income in the total assets of the seven new generation private sector banks was found to have significantly changed over the thriteen year study ($t=40.43$, $p<0.05$). Further, a trend analysis was conducted to assess how varied the variation in the said ratio is, and as it can be seen from Figure 5. there was very high variation in the ratio of non-interest income in the total assets of the new generation private sector banks. Further, the $R^2$ value, which indicates the fit of the trend line to the data was as low as 0.013 indicating that the banks displayed very high level of variation in terms of the ratio of non-interest income to the total bank assets. This indicated that although there is significant variation in the said ratio, the trajectory followed by the ratio cannot be construed as upward or downward as it has shown a haphazard trend. These observations are in a way contrary to the findings of Kumar (2018), who found that non-interest income renders the banking system stable, but the considerably volatile trend of the ratio of non-interest income to total assets in the present case implies the converse.

**Table 9: Variation in the Ratio of Non-Interest Income in Total Assets**

| | Minimum | Maximum | Mean | Std. Deviation | t | Sig. (2-tailed) |
|---|---|---|---|---|---|---|
| **Ratio of non-interest income in the total assets** | 0.96 | 3.57 | 1.86 | 0.44 | 40.43 | 0.00 |

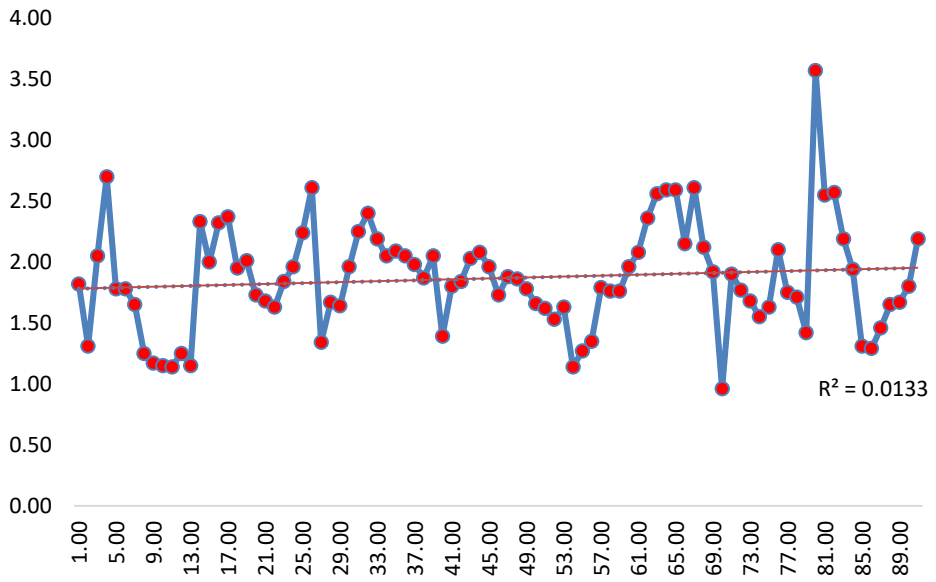


**Figure 5: Trend of Ratio of the Non-Interest Income to Total Assets during the Study Period**

### 4.3.2. Variation in the Ratio of Net Interest Income and Non-Interest Income to Total Assets

Significant difference was observed between the ratio of net interest income to total assets and non-interest income to total assets of the new generation private sector banks ($t=12.108$, $p>0.05$). This was clearly evident as the mean value for the net interest income to total assets was higher ($M=3.1902$) when compared to the ratio of non-interest income to the total assets ($M=1.863$) of the new generation private sector banks. The ratio of net-income to total assets, also referred to as the Net Interst Margin (NIM) is an important profitability indicator, which indicates the share of interest earning assets among the total assets of the bank. A higher NIM, thus indicates a higher share of interest income. Similarly, a higher ratio of non-interest income to total assets indicates the share of non-interest or fee based income among the financial assets of the banks. On the basis of the above, it can be inferred that interest based incomes still continue to have the largest share in total income yielding assets of the new generation banks and the share of non-interest income is much lesser.

The above findings are in partial agreement with the observations made by Andrzejuk (2018), who found a negative relationship between non-interest income and return on assets of the banks in Liechtenstein and observed that non-interest income might not be entirely profitable for the banks. However, this observation is in contrast with the results obtained by Brahmana et al (2018), who found that diversifying into non-interest income generating activities improved the performance of the Malaysian Banks. Further, this finding is not in agreement with that of Kumar (2018), who found a positive relationship between non-interest income and bank profitability.

Hence, although there is a significant variation in the share of net-interest income in the total assets, there is no distinct upward trend observed and although there is a significant difference between the ratio of net-interest income to total assets and the ratio of non-interest income to total assets, contrary to the second hypothesis, that the influence of non-interest income on the bank profitability has increased significantly, the interest based income continues to have the biggest share in the total assets of the new generation private sector banks As a result, the second alternate hypothesis, *H2a*, which states that the influence of non-interest income on the bank profitability has increased significantly compared to that of the interest income is rejected.

**Table 10: Difference in the Ratio of Net-Income and Non Interest Income in the Total Bank Assets**

| Group | Mean | Std. Deviation | Std. Error Mean | t | Sig. (2-tailed) |
|---|---|---|---|---|---|
| Interest | 3.1902 | 0.94349 | 0.09945 | 12.108 | 0.000 |
| Non-interest | 1.8631 | 0.43719 | 0.04608 | | |

## 5. Conclusion

The present study was conducted to investigate the importance of non-interest income generated from para-banking activities as an alternative source of income to the seven new generation private sector banks operating in India. The study, which pertained to the significance non-interest based income during a thriteen years between FY 2005-06 and FY 2017-18 was based on secondary data sourced from various authentic banking databases and a review of related literature. The study found that although the non-interest of the income of the banks has increased over the years, its growth has been haphazard and marked by several highs and lows. Further, the share of non-interest based income in the total bank income had not increased in comparison with that of the interest income and the said share does not exceed 20 percent of the total bank income. Further, the ratio of non-interest income to the total bank assets, i.e., the share of non-interest income sources in the total income earning assets of the banks was much lesser compared to the ratio of net-interest to the total assets, indicating that interest based activities are still the biggest source of income to the banks and it will require a lot of effort on the part of the Indian banks in order to bolster non-interest based activities as an alternative income source. The paper clearly indicates that there is a tremendous scope for the banks to expand their para-banking and other non-interest generating activities, but at the same time, it also calls for concrete future research on whether it would be profitable at all for the banks to invest in non-interest generating activities from an Indian perspective.

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