

ANALYZING THE IMPACT OF COMMERCIAL BANKS IN REGULATING THE CASH FLOWS IN THE BUSINESS SECTOR

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DOI: 10.47750/pnr.2022.13.S01.127

Abstract

In this paper, we analyse the impact of commercial banks in regulating the cash flows in the business sector between 2010 and 2022. The study takes into concern the cash flow regulation in public bank sectors in Tamil Nadu. The study considers the cash flow as the dependent variable and the cash flow is the independent variable. Several control variables relating to cash flow metrics are considered for the study. The validation is conducted to test the efficacy of the model against Lagrange multiplier test and Hausman test. The results show that the net flow and cash flow has a marginally positive influence on financial stability of banks.

Keywords: Commercial Banks, Public Sector Bank, Cash Flows, Business Sector.

1. INTRODUCTION

The world leading banks and international organisations have been forced to brace themselves for extremely slow growth because to the COVID-19-induced boom. The extent to which the crisis will affect economic growth and financial stability is difficult to predict, but it is clear that these issues must be addressed without delay [1]. More than a year of a coronavirus epidemic may halt global production and development. There would be a threat to the soundness of Tamil Nadu banking system. The safety of the financial system is jeopardised when individual banks are unable to meet their routine and emergency cash flow requirements.

Current forecasts imply that banking sector profitability will be damaged by a fall in fee income due to capital market instability and an increase in credit losses and delinquencies due to lockdowns, despite the fact that the post-pandemic environment is still a mystery. A decrease in profits might be expected as a result of both of these reasons. The study concludes that this trend will continue, and that future operating cash flows will decrease along with declining profitability. The financial stability of commercial banks will deteriorate as a result of this [2].

Managers exercise caution when issuing dividends and taking on debt, as doing so reduces cash flow, as predicted by the free cash flow theory. Manager desires to maintain a significant cash reserve may produce friction amongst departments. Management often makes investments with a negative net present value when it has access to an abundance of cash. For example, the recent purchase of a cash-rich business [3]. These problems have weakened bank ability to maintain financial stability, which in turn has increased the bank failure likelihood. Reduced payouts may send the wrong message to investors, who may worry about the company future prospects. For this reason, it is crucial to investigate whether or not bank operating cash flows pose a threat to their financial security [4] [12].

This research aims to solve the problem of cash flow affecting the financial stability of banks. Such information is a flag for potential investors or creditors to investigate a company financial health, and this study aims to determine whether or not such

an effect actually holds. To choose the best model, this study compared common, fixed, and random effects panel regression methods and tests including the LaGrange multiplier test.

2. Related works

There will be a negative effect on a bank liquidity if interest payments are missed. However, this is not the only reason a bank liquidity drops when its nonperforming loan portfolio expands. Borrowers whose loans are not being repaid have their original due dates and repayment amounts transformed into probabilities. Future payout amounts and termination dates are associated with varying probability. To what extent a bank internal workout programme succeeds is related to the difficulty of the situation it faces.

Recovery rates for nonperforming loans (NPLs) are greatly enhanced when the loans are detected early as opposed to later, as found by Guo et al. [5]. The authors assumed that the recovery rate procedure would start and that the rate would be determined by the value of the company assets in the event of a default. The authors also made the assumption that this rate would be determined by the market worth of the firm assets. This debt will be paid in full or in part only if it is permitted to mature prior to the company filing for bankruptcy protection. When a company is able to stay out of bankruptcy, it obtains a larger partial recovery than it would have otherwise paid. When the firm asset worth falls below an insolvency threshold, the default intensity is the same as the bankruptcy intensity.

The model established by Carey and Gordy [6], along with supporting evidence, shows that private debtholders have a substantial impact on the amount of endogenous asset value below which enterprises declare bankruptcy. The purpose of this exercise was to demonstrate the role played by private debtholders in establishing the threshold of endogenous asset value below which enterprises file for bankruptcy. The speed with which a corporation can repay its obligations after filing for bankruptcy is correlated with the percentage of its debts that were held by private creditors.

The pace at which the economy is beginning to recover is proportional to the level of activity across all business themes. Recessions have two major effects: they lower the average recovery rate and they increase the number of businesses that fail to pay their debts [7]. Trück et al. [8] found that during times of economic boom, recoveries were much larger than during times of economic downturn. Recessions significantly alter the distribution of recovery rates, especially for high-risk loans, as found by Carey [9].

Deshpande and Iyer [10] presented a method for evaluating credit concentration risk and determining the portfolio loss distribution based on their study of loss correlations. There is a plethora of data on what causes people to stop making payments on loans and other debts. Much less is known, however, about the factors that impact bank recovery following default. Still, restoration is important for bank effectiveness and efficiency and for accurately estimating the capital needed to absorb risk.

Khieu et al. [11] set out to determine what factors make bank loan recovery successful. The authors show that recovery rates are largely affected by the quality of the loan itself, rather by any pre-default borrower characteristics. Multiple clauses in the loan agreement have a bearing on whether or not the creditors will be repaid. Increased recoveries are achievable for secured loans if accounts receivable and inventories are used as collateral. This is especially true when the loan is collateralized by the receivables. Repayment on loans made to repeat defaulters is higher than that on loans made to first-time defaulters or borrowers who have filed a bankruptcy petition. The interest rate on a loan varies significantly and in a nonlinear fashion as a function of time. In the long run, it makes no difference if borrowers defaulted on their loans when they were made or not. The state of the economy as a whole has a significant impact on recoveries.

In the first place, the article adds to the current literature by providing an empirical examination of the influence of operating cash flows on bank financial stability between 2010 and 2022. Second, the cash flow compares the expected free cash on a corporation generates with its market value per share, providing a measure of the organization financial stability. As a result, it serves as a stand-in for bank health in this analysis. Thirdly, a new variable, the share breakup value, has been added to the list. Considered a key performance indicator, it is the bank net worth divided by the total number of outstanding shares. The results show if the company has a shot at making it in today's business climate. Fourth, the findings of this study will be used to launch like initiatives elsewhere in the world, particularly in developing economies. Moreover, the technological improvements in the field of computer [13] and networking [14] make further developments and improvements possible in the business field.

3. Proposed Method

In this study, we analyse the impact of commercial banks in regulating the cash flows in the business sector. The research method is given below:

Population and Sampling

Every single bank in Tamil Nadu was included in the survey. By calculating its net cash flows over a predetermined time period, a bank can ensure that it is in compliance with the regulations governing liquidity risk management and regulatory control.

A financial institution initial step in reviewing a nonperforming loan is to calculate the total number of payments made between the start and finish of the default period. When a bank receives payment from a defaulting counterparty, the bank exposure to the counterparty decreases. After then, it imperative that each payment date be strictly adhered to, and the elapsed time between each payment due date and the default start date determined.

Data Collection

Independent and controlling variables were gleaned from the annual reports of many financial companies (Table 1). We relied on data collected from other sources to fill in the gaps in this analysis. These websites were chosen because not only is financial institution data very accessible, but also the site managers are eager to share what they know.

Table 1: Variables Used

Dependent Variable	Calculation
Financial stability	Cash flow = 100*(levered flow/market capitalization)
Independent Variable	Calculation
Cash flow ratio	Cash generated/Profit
Control variable	Calculation
Capital	100*(total equity/total assets)
Profitability	100*(net profit after tax/total assets)
Cost to income ratio	100*(non-interest expenses/total income)
Lending	100*(advances net of provision/total assets)
Bank size	Log _n (total assets)
Breakup value per share	Total share holder equity/number of ordinary shares
Financial leverage	Total deposits/total equity
Asset quality	100*(non-performing loans/loss advances)
Net interest margin	100*(total interest income-expense)/total asset)
Income diversification	100*(non-interest income/total assets)

4. Results and Discussions

Descriptive analysis is used to summarise the datasets collected during the investigation so that the most salient findings may be presented (Table 2). When modelling panel data, the ordinary least square method is a popular choice. The test will make use of a slope and intercept that will remain constant throughout. For missing variables that vary between cross-sections but not over time, a fixed effects regression with fixed effects can be used to compensate for these differences.

The study employs this method to regulate unaccounted-for factors. If there are explanatory variables that vary across time but are constant across cross-sections, we can use a technique called period fixed effects regression to take them into account. The term random effect model is often used to refer to regression analyses that use a random constant factor. By employing models with random effects, we can examine the impacts of elements that are not time-dependent. But if the models do not account for any confounding factors, the estimations could be off.

However, REM has the benefit of never allowing heteroscedasticity to occur. Depending on the outcomes of the F-test, one can choose between using the fixed effects model or the conventional least squares method. The relative merits of REM and FEM are weighed using the Hausman specification test. Lagrange To make a fair comparison between REM and CEM, a multiplier test is performed. Independent variables can be tested for multicollinearity with the help of a correlation analysis.

Table 2: Descriptive Analysis

Variable	Mean	SD	Skew	Kurtosis
Financial stability	-46.36	202.14	-1.27	8.99
Cash flow ratio	9.48	31.55	6.35	62.36
Capital	2.89	0.99	0.17	4.31
Profitability	1.13	0.46	0.19	2.89
Cost to income ratio	10.48	7.06	1.75	8.20
Lending	14.33	29.01	10.00	120.50
Bank size	29.65	8.11	0.78	3.85

Breakup value per share	38.70	8.09	0.17	2.53
Financial leverage	7.66	6.04	4.04	26.66
Asset quality	0.86	0.79	-0.59	4.98
Net interest margin	32.58	32.22	1.27	3.40
Income diversification	19.41	0.98	-0.26	2.47

Discussion

In Table 2 we see that the median cash flow is -47%, which is very low. It possible this portends an impending economic disaster. Data in Table 3 shows that the correlations between the cash flow ratio as an independent variable and the dependent variables do not exhibit any signs of multicollinearity. As an added bonus, the cash flow ratio is positively correlated with the cash flow. The correlation between cash flow and net interest margin is positively significant.

Cash flow is positively correlated with return on investment (ROI). When comparing the cash flow to the breakup value per share, a positive relationship is seen. The size of the bank, the amount of capital it has on hand, the degree to which it uses financial leverage, the quality of its assets, and the diversity of its revenue streams have no bearing on its cash flow.

Table 3: Correlation Analysis

Variables	Financial stability	Cash flow ratio	Capital	Profitability	Cost to income ratio	Lending	Bank size	Breakup value per share	Financial leverage	Asset quality	Net interest margin	Income diversification
Financial stability	0.999	0	0	0	0	0	0	0	0	0	0	0
Cash flow ratio	0.205	0.999	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0
Capital	0.207	0.	0.999	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0
Profitability	0.083	0.	0.196	0.999	0	0	0	0	0	0	0	0
	0	1	0	0	0	0	0	0	0	0	0	0
Cost to income ratio	0.	0.176	0.	0.162	0.999	0	0	0	0	0	0	0
	1	0	0.	0	0	0	0	0	0	0	0	0
Lending	0.	0.000	0.	0.004	0.207	0.999	0	0	0	0	0	0
	0	1	0	1	0	0	0	0	0	0	0	0
Bank size	0.	0.083	-0.060	0.	0.	0.	0.999	0	0	0	0	0
	0	0	0	0	1	0	0	0	0	0	0	0
Breakup value per share	0.	-0.090	0.	0.	0.125	0.075	0.326	0.999	0	0	0	0
	0.	0	0	0	0	0	0.	0	0	0	0	0
Financial leverage	0.038	0.	0.318	0.125	0.	-0.220	0.320	0.018	0.999	0	0	0
	1	0	0.	0	0	0	0.	1	0	0	0	0
Asset quality	0.212	-	0.751	0.289	0.	0.	0.	0.	0.074	0.999	0	0

		0.040										
	0	1	0.	0.	0.	0	0.	0.	0	0	0	0
Net interest margin	0.155	0.	0.390	0.110	0.	-0.110	0.	0.	-0.030	0.489	0.999	0
	0	0	0.	0	0.	0	0	0.	1	0.	0	0
Income diversification	0.136	0.	0.199	0.130	0.	0.	0.	0.	0.	0.410	0.751	0.999
	0	0	0	0	0	1	0.	0.	0.	0.	0.	0

Table 5 displays that the p-value for the Hausman test indicates that the fixed effects regression model may be used, and the p-value that the pooled OLS model can be used. The p-value from the Hausman test is not statistically significant, hence either of these models can be employed. According to the results of these two analyses, the random effects regression model is inappropriate.

In direct proportion to an increase in the cash flow ratio by one unit, the cash flow increases by 1.552 units. According to the findings, cash flow from operations does positively affect stability. According to this theory, banks will be better able to generate resources to satisfy their short-term obligations if their operating cash flows are larger (p 0.01). The cash flow increases by 1.552 units for every one unit increase in the cash flow ratio. Study findings support the concept that operating cash flow positively affects stability. According to this theory, a bank financial stability will improve as its operating cash flows rise, allowing it to more easily create resources to satisfy its short-term obligations.

The cash flow is correlated with the net interest margin in a positive and statistically significant way. Based on this relationship, we can infer that a 1 U rise in the net interest margin will lead to a 56% increase in the cash flow. The results of this research show that the bank net interest margins in the Indian state of Tamil Nadu contributed to the institution increased financial stability.

Since the regression coefficient is negative, an increase of one unit in the cost-to-income ratio will result in a loss of 9.656 units in the cash flow. The subsequent drop in financial security is inevitable. According to the findings of the study, improper management of costs has a detrimental impact on the stability of banks in Tamil Nadu. According to the findings, financial institutions will face more money issues if their management is poor at allocating resources where they are most required.

Empirical Analysis

The study conducts an empirical study of the expected probability distribution of inflows. The database of a representative bank will provide us with the information that we will need to use regarding NPLs. Since retail loans are not included in the bank database, the bank can only estimate the probability distribution of predicted inflows. We need the recovery rate for each NPL, as well as the total amount and date of all repayments, to produce an accurate estimate of the probability distribution. Previous nonperforming loans are the only ones for which a recovery rate can be calculated. These broad strokes include every detail regarding the magnitude and regularity of the payments. Therefore, we are limited to using only previously collected NPL information from the bank. Each of these rates is a function of the overall health of the corporate economy, which in turn impacts both the average payback and recovery periods.

Therefore, it will be possible to more precisely predict cash flows from NPLs. Liquidity risk management and credit risk can be integrated through the modelling of NPL inflows. This relates to the study of loss given default (LGD) estimate methods. Thus, CRR criteria for one LGD estimations determine the minimum allowable gap between the earliest and latest default start dates of past NPLs. Average realised LGDs are used to calculate estimated LGDs for CRR purposes, and any observable defaults within the data sources are taken into consideration when doing so on a facility-grade or pool-level basis (default weighted average). Data from the previous five years is required for use in determining the own LGD for corporate and institutional exposures, as well as exposures to central governments and central banks.

So, we think there should be at least a five-year gap between the earliest and latest default start dates of legacy NPLs. However, in cases where GDP fluctuates widely over time, it may take more than five years to construct a time-independent probability distribution of inflows from non-performing loans (NPLs). Even if such forecasts are based on the bank own internal data, according to the CRR, institutions are required to adopt LGD projections. If these forecasts are conservative, then they will be appropriate for use during a recession. The GDP extreme swings in magnitude since 2007 are indicative of this. Therefore, it is recommended that the duration of the study be much longer than five years.

Assuming there is an opportunity for liquidity positions with longer than ten years before maturity, we must additionally account

for non-performing loans with more than ten years between the most recent default and the date on which the default first occurred. A financial institution would prefer loans with this tenure. Lower bound of open interval increases as bank improves structural liquidity risk management.

5. Conclusions

The literature review above makes it clear that no prior studies have explicitly analysed the empirical influence of cash flows from operations. There has not been any attempt like this in past research. This research contributes to the previously published work in a number of significant ways. We begin with an empirical study of the effect of operating cash flows on bank viability. To our knowledge, this metric has never been employed as a surrogate for the financial stability of banks.

In order to get a rough idea of someone financial stability, previous studies mostly relied on proxies. One key measure of a bank overall health is its net worth per share. The answer to this question tells whether or not the company can attain success in the near future. A corporation with a higher net worth per share will be more financially stable than one with a lower value. The cutting-edge findings from this study will serve as a standard against which future projects in other nations can be measured, particularly those with economies still in their formative stages of development.

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