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Procyclicality of the Financial Systems in Emerging Economies

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ABSTRACT: This research aimed at examining the procyclicality of financial systems in emerging economies, with a particular focus on the role of loan loss provisions. In total, 318 articles were initially retrieved, which after applying the inclusion and exclusion criteria, led to final selection of 15 relevant and latest articles. From the literature reviews, it was found that financial systems in emerging economies exhibit procyclicality behaviour, corresponding to economic cycles. Loan loss provisions, as a key component of bank financial statements, play a significant role in the procyclicality of lending activity. Studies from various countries, including African economies, Jordan, South Africa, Kenya, and the Gulf Cooperation Council (GCC) countries, reveal both pro- and counter-cyclical patterns of loan loss provisions. The degree of procyclicality is influenced by factors such as bank capitalization, bank size, competition, business cycles, macroprudential policies, and the regulatory and supervisory framework. Notably, the findings suggest that policy makers and banking authorities need to address the procyclicality of loan loss provisions and implement effective macroprudential policies to mitigate the impact of economic cycles on lending activities. The study recommends that financial institutions should develop robust risk management practices to better manage economic fluctuations and reduce the impact of procyclicality.

KEYWORDS: Procyclicality, Financial Systems, Emerging Economies, Loan Loss Provisions, Banking Activity

1. INTRODUCTION

The primary purpose of this research study was to examine the empirical literature findings about the procyclicality of financial systems, which has attracted academic interest for an extended period. Procyclicality refers to the inclination of the banking and financial sector to magnify economic cycles (BCBS, 2021), and stems from inappropriate responses by financial system participants to changes in risk over time. The inherent nature of the financial sector is characterized by procyclicality, whereby it magnifies the fluctuations in the business cycle. Primarily, procyclicality arises from the bidirectional interactions between the financial sector and the real sector, which are predominantly influenced by variations in asset values and leverage. In the event of a positive shock, the value of a bank's assets rises, leading to an adjustment in its asset holdings to maintain a desired leverage ratio (Bergman & Hutchison, 2020).

Procyclicality is evident in various dimensions of banking activity, including lending, loan-loss provisions, and accounting standards (Fatouh & Giansante, 2023). A common explanation for the procyclicality of the financial system lies in the presence of information asymmetries between borrowers and lenders (Saadaoui & Hamza, 2020). During economic downturns when collateral values are low, these information asymmetries can make it challenging for even creditworthy borrowers to secure financing. As economic conditions improve and collateral values rise, these borrowers are more likely to access external funding, contributing to an overall economic stimulus. This phenomenon, referred to as the financial accelerator, underscores the notion that inappropriate responses by participants in the financial system to changing risks over time are a key driver of procyclicality (Saadaoui & Hamza, 2020).

The interplay between bank lending strategies and collateral valuation practices can undermine banks' financial stability and magnify the fluctuations in the financial cycles. When banks heavily rely on collateral values for lending decisions and misjudge the associated risks, it expands the potential for significant credit cycles to occur. During economic upswings, banks tend to be overly optimistic, leading to increased lending against weaker collateral and reduced risk coverage. They experience higher profitability during booms. However, when the business cycle turns down, banks face hidden vulnerabilities, resulting in large

provisioning burdens, lower profitability, and a tendency to cut back on lending, exacerbating the economic situation and potentially leading to a credit crunch or banking crisis, contributing to procyclicality in the financial system (Pramono, Rossieta, & Soedarmono, 2019).

Particularly, this research examined the role of Loan-Loss Provisions (LLPs) in the procyclicality of bank lending activity. Loan-loss provisions refer to the funds set aside by banks to cover potential losses from loans that may default. LLPs are relatively large accruals on bank income statements of banks, therefore, have a significant impact on banks' earnings and regulatory capital (Olszak & Kowalska, 2022). Their levels depend on the expected loan losses and the substantial scope of discretion that bank managers have in choosing the size of LLPs estimates (Olszak & Kowalska, 2022). The loan loss provision account, a key component of bank financial statements, directly impacts the net loans reported on the balance sheet, making it a crucial element tied to the primary operating activity of lending and borrowing (Abu-Serdaneh, 2018). The sensitivity of these provisions to the business cycle plays a significant role in amplifying economic fluctuations.

The procyclicality of Loan Loss Provisions (LLPs) has received more recognition following the global financial crisis of 2007-2008. During economic downturns, banks tend to increase their LLPs as they identify problem loans, while LLPs are relatively lower during economic booms. However, this procyclical provisioning exacerbates economic shocks, hampers the efficient allocation of lending resources, and undermines financial stability (BCBS, 2021). The excessive procyclicality of LLPs contributes to financial instability by affecting the availability of loans. During economic upturns, LLPs decrease, leading banks to expand their loan portfolios and improve the quality of credit portfolios. However, during economic downturns, LLPs increase, and loan extension is reduced, resulting in a deterioration of loan portfolio quality. The higher levels of LLPs during economic downswings negatively impact bank profitability, leading to decreased retained earnings and depletion of capital buffers (Muriu, 2022).

According to Muriu (2022), regulatory and supervisory standards require banks to maintain adequate capital ratios, which, in turn, encourage banks to reduce the volume of newly extended loans, particularly during economic downturns. Loan Loss Provisions play a significant role in credit procyclicality, with the extent varying based on factors such as the quality of regulations, supervision, institutional framework, financial structure, development, and implementation of macroprudential policies within different banking systems.

There is a large empirical literature showing that banking sectors are inherently pro-cyclical. This procyclicality is associated with rapid increases in credit accessibility in economic booms, which often stop when a financial crisis occurs and results in macroeconomic and financial instability. Many areas of the banking activity are seen as procyclical, including assets growth, lending and leverage, profits and loan-loss provisions.

2. LITERATURE REVIEW

2.1 Procyclical Effect of Loan Loss Provisions

The procyclical hypothesis suggests that bank provisioning is closely tied to economic fluctuations, with provisions increasing or decreasing following the economic cycle. To support this hypothesis, studies analyse the relationship between bank provisions and changes in the economic cycle. For instance, Ozili (2017) empirically examined the way African banks used loan loss provisions to smoothen earnings. The research tested the income smoothing hypothesis while controlling for non-discretionary determinants of provisions and fluctuations in the business cycle. The study obtained panel data for 19 African economies. Algeria, Angola, Botswana, Cameroun, Egypt, Ethiopia, Ghana, Kenya, Mauritius, Morocco, Namibia, Nigeria, Senegal, South Africa, Tanzania, Togo, Tunisia, Uganda and Zambia. The sample period covers the years 2004-2013, a full economic cycle (that is 10 years). The study utilized panel least square regression with White's robust standard error correction to estimate the model. Period fixed effects were also considered in the analysis. The findings of the study supported the income smoothing hypothesis and revealed that African banks use LLP to smooth earnings.

Abu-Serdaneh (2018) investigated whether Jordanian banks used loan loss provision accounts as a technique for income smoothing, capital ratio management, signalling future earnings, and testing other determinants affecting provision accounts. The dependent variable in this study was the loan loss provision, which represents a specific account in the financial statements. The explanatory variables, on the other hand, focused on business cycles. The study employed Gross Domestic Product (GDP) as a measure of the business cycle and proposed a negative correlation with LLPs. It was hypothesized that when the business cycle enters a downturn, the credit portfolio's riskiness would rise, necessitating an increase in LLPs. Therefore, the hypothesis of pro-cyclicality was formulated, suggesting a negative association between GDP and LLPs. In the view of Abu-Serdaneh (2018), data was collected from The Central Bank of Jordan, Amman Stock Exchange reports, and the financial reports of 16 Jordanian commercial banks. The sample consisted of ten years of panel data from 2005 to 2014, totalling 160 observations. The study's findings did not provide conclusive evidence to support the idea that Jordanian banks utilized provisions in a pro-cyclical manner.

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In South Africa, Ozili and Outa (2018) observed that bank LLPs are procyclical with economic cycle fluctuations. The study used real gross domestic product growth rate to control for changing economic conditions and hypothesized that LLPs were negatively associated with GDP growth rate. The study utilized data from the Bank scope database to obtain data on LLPs. Macroeconomic data, specifically the real gross domestic product (GDP) growth rate, was obtained from the World Bank Database The sample period spans 13 years from 2002 to 2014, providing coverage of a complete economic cycle. The population under investigation includes all banks in South Africa. The study employed fixed effect regression methodology to estimate the hypothesized relationship. The findings of the study indicated that banks used loan loss provisions (LLPs) for capital management purposes, and bank provisioning was procyclical with economic fluctuations.

Pramono et al. (2019) sought to determine whether loan loss provisioning in Islamic banks followed a procyclical pattern by examining how both nondiscretionary and discretionary provisions affect loan growth. The study used bank-level data, considering a sample of 146 Islamic banks around the world covered by Bankscope Fitch IBCA, in which financial ratios are generated from 1997 to 2012. The study followed a multi-stage methodology. Firstly, it examined various factors that explained the usage of loan loss provisions in Islamic banks, aiming to determine if these provisions were employed for discretionary purposes such as capital management, income smoothing, and signalling, in addition to non-discretionary purposes. Secondly, the study investigated the influence of bank-specific factors, specifically bank capitalization and lending capacity, on the utilization of loan loss provisions for discretionary purposes, particularly income smoothing. The third stage focused on assessing the potential negative relationship between non-discretionary provisions and loan growth in Islamic banks. Lastly, in the fourth stage, the study assessed whether the bank-specific factors considered in the second stage also play a role in explaining the connection between non-discretionary provisions and loan growth in Islamic banks. Based on the empirical findings, it was evident that Islamic banks primarily utilized loan loss provisions for non-discretionary purposes rather than discretionary purposes, such as income smoothing. However, it is observed that banks with higher capitalization and lending activities were more inclined to employ loan loss provisions for income smoothing.

In the Kenyan financial market, Muriu (2022) investigated whether provisioning was pro or counter-cyclical through business and credit cycles and whether provisioning behaviour was heterogeneous for different bank groups. LLP is measured as the ratio of loan loss provisions to lagged total assets. Annual growth of GDP at constant prices captures the pro- or counter-cyclicality of LLPs. The analysis was based on annual audited data of 38 banks that spanned the period 2002-2018. The data was obtained from the published financial statements while macroeconomic data was obtained from the CBK. The choice of the study period was informed by data availability at the bank level. The study used the Generalized Methods of Moments in estimating the relationship. Estimation results revealed that provisions were used for capital and earnings management, but the findings were sensitive to bank size and ownership status. Further, the evidence suggested that provisioning reflected changes in asset quality and was counter-cyclical to the business cycle.

Olszak and Kowalska (2022) explored the role of competition in the procyclicality of loan-loss provisions in the banking sector to understand the influence of bank competition on the procyclicality of LLPs. Using a comprehensive dataset of over 70,000 bank-level observations from 103 countries between 2004 and 2015, the researchers employed an LLPs model and examined the interaction between competition and the business cycle. Their analysis aimed to determine the impact of competition on the procyclicality of LLPs. The findings of the study indicated that increased competition was associated with a higher degree of procyclicality in LLPs. The effect was more pronounced in high-income countries, while low-income countries exhibited the opposite pattern.

2.2 Lending Procyclicality

According to Sakti and Zulkhibri (2018), the cyclicality of bank lending can lead to financial instability by intensifying economic cycles. Ibrahim (2016) investigated the lending behaviour of banks in Malaysia's dual banking system, comprising both conventional and Islamic banks, throughout the business cycle. The study sought to examine whether Islamic banks played a role in stabilizing credit. The study utilized unbalanced panel data covering the period from 2001 to 2013, encompassing 21 conventional banks and 16 Islamic banks. Employing dynamic GMM estimators, the researchers analyzed the pro-cyclicality of aggregate loans by banks and made a comparative analysis of lending behaviours between conventional and Islamic banks. The study was grounded on the hypothesis that Islamic banks exhibited distinct lending behaviours compared to conventional banks during different phases of the business cycle. The main variable of interest was bank lending behaviour, which was scrutinized concerning the business cycle. The study employed dynamic GMM estimators and utilized unbalanced panel data. The findings of the study revealed that the lending behaviour of banks in Malaysia exhibited pro-cyclicality, aligning with previous research findings. However, when analyzing the lending behaviour of conventional and Islamic banks separately, the pro-cyclicality appeared to hold solely for conventional banks. In contrast, Islamic banks did not appear to be significantly influenced by the business cycle in their financing decisions.

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Sakti and Zulkhibri (2018) examined the role of Islamic banks in the credit smoothing process within the Indonesian dual banking system. They analyzed unbalanced panel data from 2001 to 2015. Using two-step dynamic GMM estimators, the study found that bank lending behaviour was pro-cyclical. However, when considering conventional and Islamic banks separately, the cyclicality of bank lending was found to only affect conventional banks. Islamic banks, on the other hand, were not influenced by the business cycle when making financing decisions. Moreover, the study revealed that larger Islamic banks demonstrated more counter-cyclical financing behaviour compared to small and medium-sized Islamic banks.

Zins and Weill (2018) examined the impact of bank ownership on the cyclical patterns of lending in the African context. Further, the study evaluated how alterations in bank ownership influence the overall economy. The study employed dynamic Generalized Method of Moments (GMM) estimations to measure the responsiveness of bank loan growth to the growth of GDP per capita in the host country. The empirical analysis utilized panel data encompassing 190 commercial banks operating in 20 African countries over the period from 2002 to 2015. Findings revealed that lending activities of African banks displayed procyclical tendencies across all categories of banks. However, the study established that Pan-African banks exhibited the lowest degree of procyclicality, whereas no statistically significant differences in procyclicality are observed among state-owned banks, domestic private banks, and other foreign banks.

Akinsola and Ikhide (2018) studied the relationship between commercial bank lending and the business cycle in South Africa. The study aimed to determine whether commercial bank lending in the country exhibited a pro-cyclical pattern. The study utilized vector error correction modelling to accurately capture the relationship between bank lending and the business cycle, considering the potential impact of idiosyncratic factors on bank lending. The study used data from the South African Reserve Bank between 1990 and 2015. The findings indicated significant linkages among the variables, particularly between the credit-to-GDP ratio and the business cycle. The results confirmed that South African banks adjusted their lending behaviour during economic upturns and downturns, supporting the notion that credit follows the business cycle and can exacerbate credit crunch situations (Akinsola & Ikhide, 2018).

Hamid (2020) investigated the lending behaviour of 213 commercial banks in the Association of Southeast Asian Nations (ASEAN) region between 2001 and 2015. The results revealed that lending by private banks was positively correlated with the business cycle (procyclical) while lending by state banks displayed an inverse relationship (countercyclical). Furthermore, long-term liabilities of state banks also exhibited countercyclical movements, whereas funding sources such as deposits and long-term liabilities for non-state banks tended to be pro-cyclical. Notably, the countries of Cambodia, Myanmar, Laos, and Vietnam (CMLV) experienced higher levels of lending cyclicality in both private and state banks compared to the ASEAN-5 countries, which consist of Indonesia, Malaysia, the Philippines, Thailand, and Singapore. Additionally, it was found that lending by non-ASEAN-based foreign banks in the ASEAN-5 countries demonstrated greater procyclicality compared to domestic banks. Saadaoui and Hamza (2020) investigated whether there was a procyclical lending behaviour in the dual banking systems of the Gulf Cooperation Council (GCC) countries. The study also analyzed the role of Islamic banks in amplifying or mitigating the procyclicality within these systems. The research employed a dynamic panel model estimation using annual data from 81 banks in the GCC countries, covering the period between 2005 and 2018.

The study utilized two business cycle indicators, namely the output gap and the oil price gap, as dependent variables. The findings, supported by the system generalized method of moments (GMM) estimator and robustness checks, confirmed the presence of a procyclical lending pattern in the dual banking systems of the GCC. Moreover, the results indicated that this procyclicality was more pronounced during economic slowdowns. However, it was observed that lending by Islamic banks exhibited less procyclicality, providing evidence in favour of the stability perspective of Islamic banking systems. The authors acknowledged the challenges faced by banking authorities in implementing and conducting macroprudential policies when Islamic and conventional banks operate under the same regulatory framework (Saadaoui & Hamza, 2020).

3. RESEARCH METHODOLOGY

This research provides as a comprehensive review of the procyclicality exhibited by financial systems in emerging economies. The literature in this field comprises numerous research articles that examine diverse variables contributing to the procyclicality observed in these financial systems. Employing a distinct approach, the authors sought to uncover the relationship and effects associated with this phenomenon. Upon reviewing such articles, disparities in the findings became apparent, prompting an extensive examination of a wide array of articles in this domain. To summarize the connection between procyclicality and financial systems across different countries, the study conducted an analysis encompassing various journals and articles from diverse sources. Our focus is primarily centered on identifying gaps in the background of emerging economies, based on the insights derived from these articles encompassing economies worldwide.

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In the database search, utilizing the specified keywords, a total of 853 results were obtained (Emerald - 286, EBSCO - 220, ScienceDirect - 120, and JSTOR - 177). To refine the search results, the study applied filters to select articles, journals, full-text, and scholarly (peer-reviewed) journals. As a result, 318 articles remained (Emerald - 149, EBSCO - 94, ScienceDirect - 30, and JSTOR - 45). This search was conducted in June 2023, and the details of the search protocol can be found in Table 1. To ensure the relevance of the selected articles to the study, the study established inclusion and exclusion criteria, which are outlined in Table 2. With these criteria in mind, the study carefully assessed the titles, keywords, and abstracts of 318 articles. In the initial screening (level 1), 290 articles were excluded as they appeared in the search results due to the inclusion of the terms "lending" or "of" rather than being directly pertinent to the subject matter of this review.

Considering the stringent standards of scholarly journals and databases, the quality of the published articles met our requirements. After excluding the aforementioned articles, the study identified 28 articles that were eligible for inclusion. A comprehensive examination of these articles led to the selection of 15 articles that held significant value for the final inclusion in our study based on their relevance and quality. These 15 articles aligned closely with the scope of our research, and the study has provided detailed descriptions of them.

Table 1. Database Search Protocol

Database	Scope	Number of Items	Cumulative Total
Emerald	Title, keyword and abstract	286	286
EBSCO	Title, keyword and abstract	220	516
ScienceDirect	Title, keyword and abstract	120	636
JSTOR	Title, keyword and abstract	217	853

The following inclusion and exclusion criteria was adopted in eliminating and identifying the journal articles to be included in this review.

Table 2. Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Focus on the procyclicality of the financial systems	Books, conference proceedings, case studies
Journal articles, research articles	No abstract available
Relate to the period between 2016 and 2023	Citation not available
Focus on emerging economies	Other than the English language
Directly relates to the financial systems	Does not relate to financial systems

4. SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

4.1 SUMMARY OF EMPIRICAL FINDINGS

Undoubtedly, several studies have been conducted to examine the procyclical nature of financial systems in emerging economies. Ozili (2017) focused on African banks and found that they utilized loan loss provisions (LLPs) to smooth earnings, providing support for the income smoothing hypothesis. However, Abu-Serdaneh (2018) investigated Jordanian banks and did not find conclusive evidence to suggest that provisions were used in a pro-cyclical manner. In South Africa, Ozili and Outa (2018) conducted a study and observed that bank LLPs exhibited a procyclical pattern, fluctuating with changes in the economic cycle. Akinsola and Ikhide (2018) examined commercial bank lending in South Africa and discovered a procyclical pattern, with lending behaviour adjusting during economic upturns and downturns.

Saadaoui and Hamza (2020) concentrated on the dual banking systems of GCC countries and found that lending behaviour exhibited procyclicality, particularly during economic slowdowns. Interestingly, they noted that Islamic banks displayed less procyclicality compared to conventional banks, providing evidence in favour of the stability perspective of Islamic banking systems. Pramono et al. (2019) analysed Islamic banks worldwide and revealed that loan loss provisions were primarily employed for non-discretionary purposes rather than discretionary purposes like income smoothing. They also found that banks with higher capitalization and lending activities were more inclined to utilize provisions for income smoothing. Muriu (2022) investigated provisioning in Kenya and determined that it was used for capital and earnings management. The findings were influenced by factors such as bank size and ownership status, and provisioning exhibited a counter-cyclical nature of the business cycle.

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Furthermore, Olszak and Kowalska (2022) examined the role of competition in the procyclicality of LLPs. They discovered that increased competition was associated with a higher degree of procyclicality in LLPs, particularly in high-income countries. Conversely, low-income countries exhibited the opposite pattern.

Generally, the findings from these studies present a mixed result regarding the procyclicality of financial systems in emerging economies. While some studies support the income smoothing hypothesis and suggest a procyclical behaviour of provisions, others find evidence of counter-cyclicality or inconclusive results. The degree of procyclicality and the factors influencing it vary across countries, banks, and banking systems. Policy makers and regulators should closely monitor and assess the procyclical behaviour of loan loss provisions to mitigate potential risks to financial stability. Consequently, further research is necessary to gain a deeper understanding of the factors driving these variations and to inform regulatory approaches in promoting stability in the financial sector.

4.2 CONCLUSIONS

The empirical studies reviewed in this analysis yield a range of outcomes regarding the procyclicality of loan loss provisions in emerging economies. While certain studies lend support to the income smoothing hypothesis, indicating that banks employ provisions as a mechanism to stabilize their earnings over time, others present evidence of procyclical behaviour whereby provisions exhibit a positive correlation with the fluctuations in the economic cycle. These conflicting results highlight the complexity of the relationship between bank provisioning and economic dynamics in emerging economies.

On one hand, studies supporting the income smoothing hypothesis suggest that banks strategically adjust their provisions to mitigate the impact of economic fluctuations on their reported earnings. This practice allows them to present a more stable financial performance over time, thus potentially reducing investor uncertainty and enhancing market confidence. However, other studies provide evidence of procyclical provisioning, implying that banks tend to increase their provisions during economic downturns when the credit quality of their loan portfolios deteriorates and decrease provisions during upturns when credit quality improves.

It is worth noting that the degree of procyclicality observed in loan loss provisions and the factors that influence this behaviour exhibit substantial heterogeneity across countries and individual banks. The variations could arise from variations in regulatory frameworks, accounting standards, economic conditions, and bank-specific characteristics. These findings underscore the importance of considering the specific contexts and institutional settings of emerging economies when assessing the procyclical nature of loan loss provisions and designing appropriate regulatory measures to mitigate potential risks associated with this behaviour. Further research is warranted to deepen our understanding of the underlying mechanisms driving these divergent findings and their implications for financial stability.

4.3 RECOMMENDATIONS

Based on the study findings, recommendations are proposed to address the procyclicality of financial systems in emerging economies. Firstly, enhancing regulatory and supervisory standards can mitigate procyclicality. This involves stricter capital requirements, improved risk assessment, and transparency standards. Secondly, promoting competition in the banking sector reduces loan loss provisions' procyclicality by encouraging prudent lending practices. Thirdly, developing robust risk management practices helps manage economic fluctuations, incorporating dynamic provisioning and stress-testing.

Tailoring macro-prudential policies to specific characteristics of emerging economies, considering capitalization, size, and regulatory frameworks, is crucial. Lastly, fostering research and collaboration among academics, policy makers, and industry practitioners can deepen understanding and develop effective strategies. Essentially, implementing these recommendations promotes financial stability and sustainable economic growth in emerging economies.

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