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Do Prudential Regulations Affect Bank Lending Rates? Insights from Philippine Banks Using an Accounting-Based Approach

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Abstract

The lessons brought by the global financial crisis necessitated a comprehensive package of banking reforms designed, among others, to improve the ability of bank capital to absorb losses, maintain liquidity buffer to weather liquidity stress events and promote financial stability. Using di Baise (2012) main approach, this study analyzes the impact of such reforms on the Philippine bank lending rates by calibrating general accounting equations framing the banks' balance sheet and income statement structures. Under the simplifying assumptions, the impact on lending rates of adjustments in banks' capital and liquidity standards are found to be marginal. This finding indicates that banks are rebalancing the structure of their portfolio following the adoption of prudential regulations.

JEL classification: E43, G28

Keywords: bank lending rates, prudential regulations, accounting-based approach

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Zernan C. Talabong¹

1. Introduction

Given the magnitude and wide-ranging impact of the global financial crisis over the international financial system and global economy, financial regulators were obliged to deliver a package of regulatory reforms that would substantially lessen the probability of a similar event in the future and mitigate its impact on the real economy should it occur (Restoy 2017). These reforms were mostly embodied under the Basel III standards which aim to strengthen the regulation, supervision and risk management of banks.

The Bangko Sentral ng Pilipinas (BSP), as the primary supervisor of the Philippine Banking System (PBS), adopted the BASEL III reforms to foster the continued enhancement of corporate governance and risk management standards among banks, taking into consideration domestic conditions, and with due regard to proportionality. The resilience, safety and soundness of the Philippine Banking System (PBS), built through prudential reforms implemented after the onslaught of the Asian Financial Crisis, provided a solid foundation for the implementation of the reforms.

Among the reforms implemented by the BSP are the Basel standards on capital and liquidity, which enhanced the banks' and the banking system's abilities to absorb shocks arising from financial and economic stress. These are codified among the BSP regulations, as follows:

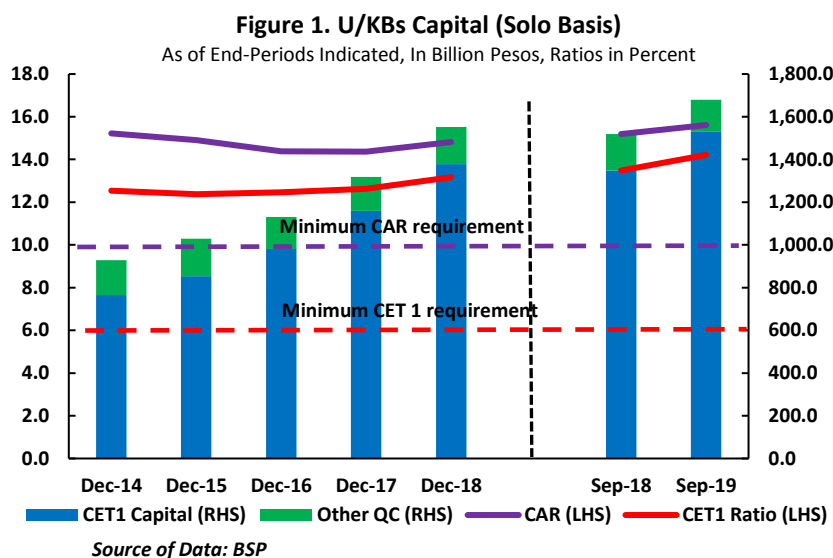
Section 125 of the New Manual of Regulations for Banks (MORB) – Basel III Risk-Based Capital. The Section requires banks to maintain risk-based capital, expressed as a percentage of qualifying capital (QC) to risk-weighted assets, at no less than 10.0 percent for both solo and consolidated bases. It is designed to improve the ability of bank capital to absorb losses, extend the coverage of financial risks and have stronger firewalls against periods of stress. The regulation took effect on 1 January 2014; and

Section 145A of the New MORB – Implementation of Basel III Framework on Liquidity Standards – Liquidity Coverage Ratio (LCR) and Disclosure Standards. The Section requires the country's universal and commercial banks (U/KBs) and their subsidiary banks and quasi-banks (QBs) to maintain, over a 30-calendar day horizon, an adequate level of unencumbered high quality liquid assets (HQLAs) that consist of cash or assets that can be converted into cash at little or no loss

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of value in private markets, to offset the net cash outflows it could encounter under a liquidity stress scenario. A phased implementation of the regulation started on 1 January 2018.²

Amid domestic and global volatilities, Philippine banks maintained risk-based capital (CAR, Figure 1) and liquidity (LCR, Figure 2) well beyond the domestic (BSP requires CAR at 10 percent) and global standards (Basel requires CAR at 8 percent). The U/KBs, which traditionally dominate the PBS, provides the barometer for the latter’s capital adequacy and liquidity.



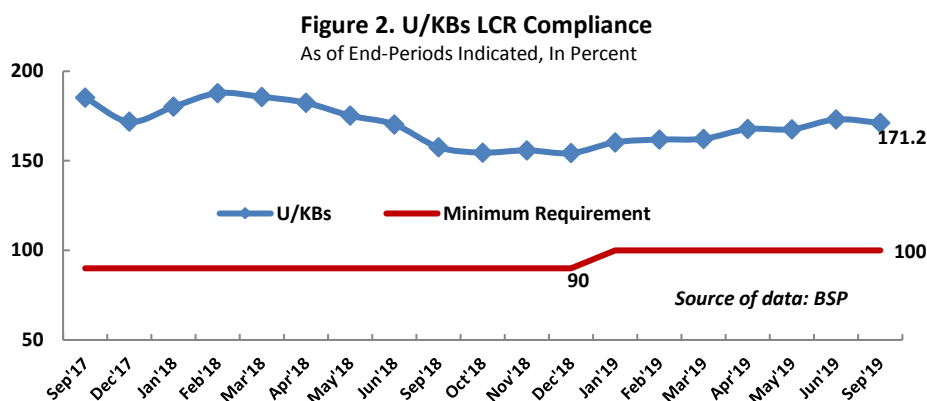
Data depicted in Figure 1 show the U/KBs maintaining capital at around 15 percent from end-December 2014 to end-September 2019. High-quality common equity tier 1 (CET 1) capital make up most of the banks’ capital. Results of the BSP’s Banking Sector Outlook Survey (BSOS)³ show the banks’ intent to maintain CAR at a level well beyond requirement as buffer from unexpected losses.

Similarly, Figure 2 shows the U/KBs maintaining LCR between 155 percent to 185 percent from September 2017 to September 2019. Meanwhile, the banks’ healthy projections of LCR and net stable funding ratio (NSFR)⁴ significantly exceeding the BSP requirements for the medium term as reported in the BSOS are expected to provide ample short-term and medium-term funding to weather market volatilities while taking advantage of the opportunities presented by the growing economy.

² BSP Circular No. 905 dated 10 March 2016, as amended, required covered banks to maintain a minimum LCR of 90 percent starting 01 January 2018 and 100 percent starting 01 January 2019.

³ The BSOS gathers the sentiments of the Presidents/Chief Executive Officers/Country Managers of Philippine banks related to their growth outlook and risk assessments, business performance strategies, and insights on regulation and supervision within a two-year horizon. It is also part of the BSP’s surveillance toolkit to promote the sustained resilience of the banking system. The full report is released in electronic format as a downloadable PDF file on the BSP website (http://www.bsp.gov.ph/publications/regular_pbsos.asp).

⁴ The BSP adopted the NSFR framework under Circular No. 1007 dated 06 June 2018, as amended, covering all U/KBs and their subsidiary banks and QBs, on both solo and consolidated bases. The minimum NSFR of 100.0 percent was implemented for U/KBS starting 01 January 2019, and for subsidiary banks/QBs starting 01 January 2020.



The LCR is viewed as a complement to the enhanced risk-based capital adequacy standards. While the latter safeguards the banking system over solvency risks, the LCR imposes a minimum standard to protect banks against liquidity risks which may happen even if a bank is still adequately capitalized. Moreover, the LCR promotes discipline in mitigating liquidity risks. These are consistent with the broad efforts to boost financial stability, which is a key mandate of the BSP under Republic Act (R.A.) No. 7653 (The New Central Bank Act), as amended by R.A. No. 11211.

The precise impact of Basel regulations on bank lending rates remains inconclusive across different methodologies. Using di Baise (2012) general approach, this paper estimates the magnitude of the cost, or the impact on interest rates charged by banks for loans granted to their borrowers, of the BSP prudential regulations using an accounting-based approach. The following section reviews similar publications related to the topic, Section 3 discusses the adopted methodology and scope of the study, Sections 4 and 5 analyze the impact of increases in the prudential regulations on banks' lending rates. Section 6 concludes.

2. Summary of Related Empirical Studies

Empirical studies on the impact of Basel regulations on bank lending rates in the Philippines remain scant. A study by Cortez and Ramirez (2019) noted that Philippine banks' aggregate compliance costs represented only 1.4 percent of their non-interest expense, largely driven by manpower and information technology (IT) costs. The study covered costs incurred by banks from 2014 to 2018 arising from the issuance of landmark BSP regulations including capital, credit risk management, liquidity risk management, operational risk management, IT risk management, Philippine Financial Reporting Standards 9, and Anti-Money Laundering regulations. This study contributes to the discussions by using an accounting-based approach in determining the cost, in terms of lending rates, of increases in the banks' CAR and LCR under the New MORB.

Meanwhile, a number of studies that focused on the impact of prudential regulations on banks' lending rates have also been conducted. For instance, the Basel Committee on Banking Supervision (BCBS) assessed the economic benefits and costs of stronger capital and liquidity regulations relative to their impact on output (BCBS 2010). The BCBS' empirical

analysis suggests that a lower probability of banking crises and their associated output losses are the main benefits of a stronger financial system. Moreover, the BCBS (2010) findings argue that the costs are largely related to the possibility that higher lending rates may induce a downward adjustment in the level of output, while leaving the trend rate of growth unaffected.

A more targeted study by the Macroeconomic Assessment Group (MAG) of the joint Financial Stability Board (FSB) – BCBS (2010b) estimated the impact on median lending rates, among others, following an increase in minimum capital and liquidity requirements over different transition periods. These scenarios served as inputs into a broad range of models (semi-structural large-scale models, reduced-form VAR-type models, DSGE models) developed for policy analysis in central banks and international organizations.

The main quantitative results of the MAG study disclosed that funding bank assets with capital is costlier than with deposits or wholesale debt. This implies that, while banks facing stronger capital requirements will work towards increasing capital levels by retaining earnings and issuing equity securities as well as reducing assets other than loans, they may initially raise their lending rates to the borrowers and reduce the quantity of new lending. However, as banks become less risky over the longer term, both the cost and quantity of credit are expected to recover and to reverse the impact on consumption and investment.

This was supported by Corbae and D’Erasmus (2019) who developed a banking industry model to study the impact of raising capital requirements on banks’ risk taking behavior, commercial bank failure, interest rates on loans, and market structure. By differentiating small and big banks, Corbae and D’Erasmus (2019) found that a rise in capital requirements leads to a decrease in the number of smaller banks in the economy. This leads to higher lending among big banks and lower lending among small banks. Such adjustments eventually lead to an increase in interest rates on loans in the short run and only a modest increase on lending rates over the long run.

Using a model-based calibration approach, Kashyap, Stein and Hanson (2010) estimated a 2.5 basis points (bps) increase in bank loan rates for each one-percentage point increase in capital requirements.

Moreover, a study conducted by Elliott, Salloy and Oliveira Santos (2012) assessed the overall impact of the financial regulatory reforms in Europe, Japan and the United States on credit. The study combined academic theory with empirical analyses from industry and official sources as well as from financial disclosures by major financial firms, to estimate costs. The study showed that regulatory changes on banks and their lending operations influenced lending rates to rise by 18 bps, 8 bps and 28 bps in Europe, Japan and the United States, from the base scenario, respectively.

Further, di Biase (2012) conducted an empirical investigation of the impact of the new capital requirements imposed under Basel III on Italian banks’ lending rates. He developed a general accounting equilibrium model to map the change in the average interest rate on bank loans which is required to preserve the economic performance and the market value of financial institutions under the new regulatory capital framework. Based on his estimates, the

long-term impact of higher capital requirements on bank lending rates is likely to be modest. In particular, the baseline scenario found that each percentage point increase in the required capital ratio can be recovered by increasing interest rates with which borrowers are charged by only 5.75 bps.

3. Empirical Methodology and Scope

The analysis in this study is based on general accounting equations, which can be easily used to calibrate the effects arising from changes in a bank's balance sheet structure and/or in income statement configuration as employed by di Biase (2012). Compliance to changes in prudential requirements are expected to be implemented by adjusting banks' portfolio size, structure and risk exposures, as observed by Layaoen and Domantay-Mailig (2019).

In particular, Layaoen and Domantay-Mailig (2019) examined the moral hazard and capital buffer theories as motivations of Philippine banks in managing their capital and risks following the adoption of Pillar 1 of the Basel III framework on minimum capital requirement. The results indicated that most banks adjust their regulatory capital ratio by optimizing their portfolio risk through changes in the level of capital. Banks do not have the tendency to immediately adjust their risk-weighted exposures but are more inclined to maintain a reasonable balance between changes in the size of their assets and capital. Moreover, banks that have lower capital ratios relative to their peers have higher tendency to adjust their capital ratio. The capital buffer theory likewise holds true, that is, banks with low capital buffers rebuild an appropriate level of buffer by decreasing their risk exposures while banks with high capital buffer are inclined to simply maintain their capital ratio when these banks increase their risk exposures. Another interesting finding of the study is that the adoption of minimum capital requirement did not result in moral hazard problem. Rather, banks have become more risk-sensitive. In particular, the study argued that banks try to rebuild an appropriate buffer by raising their level of capital while simultaneously lowering risk.

This study estimates the magnitude of the cost of BSP prudential regulations on Basel III CAR and LCR. The analysis does not cover the impact of the BSP monetary policy actions during the period and other BASEL reforms such as the leverage ratio in 2018 and Domestic Systematically Important Banks (DSIBs) in 2017. The cost identified in the analysis is the possible increase in lending rates for U/KBs' Peso-denominated Loans and Receivables – Others (Peso Loans). Peso Loans are Philippine Peso-denominated loans granted to borrowers other than to interbank (IBL) and repurchase (repo) counterparties,⁵ which, to a significant extent, are subject to the banks' ability to impose higher lending rates.

This covers the Philippines' U/KB sector, which accounted for 91.2 percent of the PBS' resources and 89.7 percent of the PBS' net loan portfolio as of end-December 2018. Capital-related analysis covered the period from 2014 (effectivity of BSP adoption of Basel III reform on risk-based capital) to 2018, while liquidity-related analysis covered the period 2016 (start of observation period for the LCR implementation) to 2018. Meanwhile, Peso Loans

⁵ Banks' repo transactions are those generally conducted under the BSP Open Market Operations Facilities.

accounted for 88.3 percent of the U/KBs' total Loans as of end-December 2017 and end-December 2018.

A set of condensed financial statements of the U/KB industry is presented in Annex A.

4. Impact of Increase in Risk-Based CAR on Lending Rates for Peso Loans

To assess the impact of a percentage point increase in the banks' CAR to lending rates for Peso-loan clients, this study assumes that adjustments in related prudential regulations will be factored in the banks' budget planning exercises. However, profit objectives will be maintained, together with their revenue targets. In particular, Peso Loans will be downsized but interest income targets are expected to be pursued by banks by raising their lending rates in the remaining Peso Loans. The interest income target is assumed independent of the BSP monetary policy actions, particularly the policy rate hikes in 2018.

The study further assumes that there is enough supply of risk-free investments and IBL/repo transactions to absorb excess funds that will be re-allocated from the loan portfolio. Moreover, the shift from loans to other earning assets does not alter the equilibrium between supply and prices of the assets involved. Further, trading gains/losses from the banks' holdings of financial assets held for trading are not considered in view of the volatility of this income source.

In the event of a higher required CAR, the U/KBs are expected to reduce their risk weighted assets (RWAs) to achieve their target CAR rather than increase their capital. Reduction in RWAs is expected to be implemented by reducing the loan portfolio (specifically the Peso Loans), which is assumed to have a 100 percent credit risk weight (RW), in general. The nominal amount of the loan reduction is expected to be placed in alternative earning assets, specifically in Peso-denominated investments in financial assets⁶ other than loans, and in Peso-denominated IBL and repo.⁷

Based on historical data, the average yield on the U/KBs' Peso Loans is calculated by dividing the industry's aggregate interest income from the loans by a simple average⁸ of the account (Table 1).

⁶ Investments primarily consist of Financial Assets Held for Trading (HFT), Designated at Fair Value through Profit or Loss (DFVPL), Available-for-Sale (AFS) and Held-to-Maturity (HTM). These are assumed to have zero RW because bank investments are mostly in government securities (GS) which are assigned zero credit risk weights under BSP regulations. Meanwhile, market risk weight for the portfolio is also negligible.

⁷ These are similarly assumed to have zero RW because the portfolio is dominated by repos mostly collateralized by investment grade securities. Meanwhile, the smaller portfolio of IBLs are generally short-term liquidity management transactions that banks can easily manage to optimize capital allocation requirements.

⁸ That is, the average of the balances at the start and at the end of the year.

**Table 1. Average Yield on Peso Loans
As of End-Periods Indicated**

In Billion Pesos	2014	2015	2016	2017	2018
Interest Income on Peso Loans	201.3	232.3	269.8	320.7	415.9
Divided by Average Peso Loans					
Peso Loans, net, as of 01 January	3,163.5	3,840.3	4,451.8	5,303.2	6,333.8
Peso Loans, net, as of 31 December	3,840.3	4,451.8	5,303.2	6,333.8	7,330.2
Average Peso Loans	3,501.9	4,146.0	4,877.5	5,818.5	6,832.0
Yield on Peso Loans	5.75%	5.60%	5.53%	5.51%	6.09%

Source of Basic Data: BSP Department of Supervisory Analytics (DSA)

A comparison of the calculated yield against the average lending rates as reported by banks (Table 2)⁹ shows reasonableness of the assumption in view of the proximity of the average yield to the average lending rates as reported.

**Table 2. Lending Rates
As of End-Periods Indicated**

	Lending Rates (In Percent)		
	Average ¹⁰	High ¹¹	Low ¹¹
2018	6.139	7.109	4.573
2017	5.630	6.492	4.137
2016	5.642	6.671	4.300
2015	5.580	6.877	4.470
2014	5.525	6.801	4.384

Next, the average yields on alternative earning assets (Peso Investments and Peso IBL/Repo, Tables 3 and 4, respectively) where the reduction in loans will be invested are also calculated to determine the foregone interest income from the alternative investment that has to be passed on to the remaining Peso Loans. Historical yields are calculated by dividing the industry's aggregate interest income by the average balance of the respective alternative earning assets. Moreover, historical data show an average 80:20 ratio of Peso Investments and Peso IBL/Repo for the last five years. Thus, the average yield for the alternative placements is computed using this ratio and compared with the average yield for the Peso Loans to determine the excess yield (Table 5).

⁹ Source: Table of Selected Domestic Interest Rates. Retrieved from: http://www.bsp.gov.ph/statistics/spei_pub/Table%2019.pdf

¹⁰ Reflect the annual percentage equivalent of all U/KBs' actual monthly interest income on their peso-loans to the total outstanding levels of their peso-denominated loans, bills discounted, mortgage contract receivables and restructured loans. Banks are requested to submit the data not later than 10 banking days of the last working day of the reference month.

¹¹ Average of all high or low values, respectively.

**Table 3. Average Yield on Peso Investments
As of End-Periods Indicated**

Amounts in Billion Pesos	2014	2015	2016	2017	2018
Interest Income on Peso Investments	49.7	49.6	47.5	55.1	66.5
Divided by average Peso Investments					
Peso Investments, net, as of 1 January	1,065.7	1,239.4	1,243.0	1,280.7	1,571.4
Peso Investments, net, as of 31 December	1,239.4	1,243.0	1,280.7	1,571.4	1,828.7
Average Peso Investments	1,152.6	1,241.2	1,261.8	1,426.1	1,700.0
Yield on Investments	4.32%	4.00%	3.77%	3.86%	3.91%

Source of Data: DSA

**Table 4. Average Yield on Peso IBL and Repo
As of End-Periods Indicated**

Amounts in Billion Pesos	2014	2015	2016	2017	2018
Interest Income on Peso IBL and Repo	9.6	11.7	10.7	8.2	11.7
Divided by average IBL and Repo					
IBL and Repo, net, as of 1 January	304.9	338.2	320.7	295.0	339.3
IBL and Repo, net, as of 31 December	338.2	320.7	295.0	339.3	321.5
Average IBL and Repo	321.6	329.5	307.9	317.2	330.4
Yield on IBL and Repo	3.01%	3.55%	3.47%	2.58%	3.54%

Source of Data: DSA

Weighted average yield of Alternative Earning Assets	4.05%	3.91%	3.71%	3.61%	3.84%
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The excess yield of Peso Loans over the weighted average yield of alternative earning assets is then deduced.

**Table 5. Excess Yield of Peso Loans over Alternative Earning Assets
As of End-Periods Indicated**

	2014	2015	2016	2017	2018
Excess yield of Loans over Alternative Earning Assets	1.70%	1.70%	1.83%	1.90%	2.25%

Table 6 shows the baseline data on the U/KBs' aggregate compliance with the risk-based capital adequacy requirements under Section 125 of the New MORB:

**Table 6. U/KB CAR on a Solo Basis
As of End-Periods Indicated**

Amounts in Billion Pesos	2014	2015	2016	2017	2018
Qualifying Capital	928.7	1,029.1	1,131.4	1,318.2	1,551.6
Total Risk-Weighted Assets (RWA)	6,099.1	6,903.9	7,868.9	9,175.4	10,467.7
Risk-Based CAR	15.2%	14.9%	14.4%	14.4%	14.8%

Source of Data: DSA

An increase from the U/KBs' reported CAR (Table 6) to a target CAR will result in a reduction in RWAs/loans that will be placed in alternative earning assets (investments and IBL/repo) that offer lower yield. The lower yield will be passed on to the remaining loans as incremental interest to be able to recoup the excess yield from the loans over the alternative earning assets. Hence, increases in aggregate CAR for U/KBs may result in the banks adjusting their portfolio mix and pass-on foregone interest to remaining loan clients as follows:

**Table 7. Increase in Lending Rates for a Percentage Point Increase in Risk-Based CAR
As of End-Periods Indicated**

Amounts in Billion Pesos	2014	2015	2016	2017	2018
Target CAR	16.2%	15.9%	15.4%	15.4%	15.8%
Reduction in loans to be placed in alternative assets					
Qualifying Capital (Table 6)	928.7	1,029.1	1,131.4	1,318.2	1,551.6
Divided by target CAR	16.2%	15.9%	15.4%	15.4%	15.8%
Target RWA	5,723.2	6,469.9	7,357.2	8,578.3	9,806.1
Less reported RWA (Table 6)	6,099.1	6,903.9	7,868.9	9,175.4	10,467.7
Reduction in RWA/loans to be placed in alternative assets	375.9	434.0	511.7	597.1	661.6
Multiplied by excess yield of loans over alternative assets (Table 5)	1.70%	1.70%	1.83%	1.90%	2.25%
Foregone interest income from lower yield	6.4	7.4	9.3	11.4	14.9
Remaining average Peso Loans	3,126.0	3,712.0	4,365.8	5,221.4	6,170.4
Percentage point increase in lending rates to recoup foregone interest income	0.20	0.20	0.21	0.22	0.24

Note: Difference in calculations due to rounding off.

The computed percentage point increase in lending rates are noted to be marginal as they represent less than 4 percent of the average yield on Peso Loans estimated under Table 1. Using the same calculation, higher target CAR will result in the following percentage point increases in lending rates:

**Table 8. Percentage Point Increase in Lending Rates from Increase in Risk-Based CAR
As of End-Periods Indicated**

Increases in CAR	2014	2015	2016	2017	2018
2 Percentage Points	0.43	0.42	0.45	0.45	0.50
3 Percentage Points	0.68	0.66	0.70	0.71	0.78
4 Percentage Points	0.96	0.92	0.99	1.00	1.09
5 Percentage Points	1.28	1.22	1.30	1.31	1.42

The simulation provides basis for conclusion that increases in required capital under the Basel III framework may increase banks' lending rates, albeit only a partial pass-through.

5. Impact of Increase in LCR on Lending Rates for Peso Loans

Similar to assumptions discussed in Section 4, the study on the impact of increases in the banks' LCR on lending rates assumes that adjustments in prudential requirements will be factored in the banks' budget planning exercises. Average yields computed in Section 4 are likewise used for the analysis of the impact of changes in LCR. The study also assumes that there is enough supply of high quality liquid assets (HQLA), which, at the same time, are generally risk-free assets, to absorb excess funds that may be re-allocated from the loan portfolio. Moreover, the shift from loans to HQLA does not alter the assumed equilibrium of loan supply and prices of the assets involved and trading gains/losses from financial assets held for trading are not considered in the simulation.

The following U/KB industry baseline LCR data are considered for the analysis:

**Table 9. U/KB Aggregate LCR Data
As of End-Periods Indicated**

Amounts in Billion Pesos	2016	2017	2018
Total Stock of HQLA	3,831.5	4,095.8	4,238.4
Total Net Cash Outflows (NCO)	2,146.1	2,383.8	2,746.7
LCR	178.5%	171.82%	154.31%

Source of Data: DSA

The increase in the U/KBs' target LCR will result in the reduction in less liquid assets (such as loans) that will be placed in HQLAs (such as investments and IBL/repo) that offer lower yield. The lower yield will be passed on to the remaining loans as incremental lending rate to be able to recoup the excess yield from the loans reinvested to alternative earning assets (Table 10).

**Table 10. Percentage Point Increase in Lending Rates for a 5 Percentage Point Increase in LCR
As of End-Periods Indicated**

Amounts in Billion Pesos	2016	2017	2018
Target LCR	183.5%	176.8%	159.3%
Required increase in HQLA/decrease in loans			
Total Net Cash Outflows (NCO, Table 9)	2,146.1	2,383.8	2,746.7
Divided by target LCR	183.5%	176.8%	159.3%
Target HQLA	3,938.8	4,215.0	4,375.7
Less reported stock of HQLA (Table 9)	3,831.5	4,095.8	4,238.4
Required increase in HQLA/decrease in loans	107.3	119.2	137.3
Multiplied by excess yield of Peso Loans over Investments and IBL/Repo (Table 5)	1.83%	1.90%	2.25%
Foregone interest income from lower yield	2.0	2.3	3.1
Divided by remaining average Peso Loans portfolio	4,770.2	5,699.3	6,694.7
Percentage point increase in lending rates to recoup foregone interest income	0.04	0.04	0.05

The simulation in Table 10 shows that bank lending rates have marginally increased following a 5.0 percentage point hike in LCR. Using the same calculation, higher target LCR will result in the following increases in lending rates:

**Table 11. Percentage Point Increase in Lending Rates from Increase in Target LCR
As of End-Periods Indicated**

Increases in LCR	2016	2017	2018
10 Percentage Points	0.08%	0.08%	0.09%
15 Percentage Points	0.13%	0.12%	0.14%

The estimated modest increases in interest rates from the increases in banks' target CAR and LCR are consistent with the findings by Cortez and Ramirez (2019) that aggregate compliance costs by Philippine banks represented a negligible portion of their non-interest expenses. Similarly, the magnitude of increase in lending rates are noted to be aligned with the findings by Corbae and D'Erasmus (2019), Kashyap, et. al. (2010), Elliott, et. al. (2012) and di Biase (2012).

6. Conclusion

This study estimated the magnitude of the cost of BSP prudential regulations on Basel III CAR and LCR. The analysis does not cover the impact of the BSP monetary policy actions during the period and other BASEL reforms such as the leverage ratio in 2018 and Domestic Systematically Important Banks (DSIBs) in 2017. The cost identified in the analysis is the possible increase in lending rates for U/KBs' Peso Loans. These are peso loans granted to borrowers other than to interbank (IBL) and repurchase (repo) counterparties, which, to a significant extent, are subject to the banks' ability to impose higher lending rates.

This study showed that bank lending rates increased modestly by 0.2 percentage point and a negligible 0.04 percentage point from a 1.0 percentage point increase in CAR and a 5.0 percentage points increase in the LCR, respectively. Under the simplifying assumptions, the impact on lending rates of CAR and LCR regulatory adjustments are found to be marginal. Moreover, the findings indicate that banks are rebalancing the structure of their portfolio in response to the prudential regulations.

As the primary supervisor of the banking system that supports a strong economy and promotes a high quality of life for all Filipinos, the BSP pursues reforms aimed at ensuring the safety and soundness of the BSFIs. This is carried out by setting standards that promote the continued enhancement of corporate governance and risk management standards, with due regard to proportionality. However, as the BCBS (2010b) noted, strengthening the banking system entails some necessary costs to ensure its safety, soundness and resilience.

Moving forward, it is interesting to study the impact of the adoption of other global prudential standards and other BSP policy measures such as policy rate hikes on supervised financial institutions' balance sheets and other performance measures. The impact of the

BSP's adoption of a framework that enhances the forward-looking assessment of the business models of the BSFIs and the quality of their governance, while implementing prompt and calibrated supervisory interventions to promote prudent risk-taking behavior among the BSFIs, may also present unforeseen costs to the BSFIs and the financial system. Identification of the positive or negative impact of prudential regulations and supervisory framework on lending rates and other banking measures may guide the BSP's financial sector reforms as it affects other BSP mandates and advocacies such as monetary stability, financial inclusion, consumer protection and commitment to a strong economy that promotes a high quality of life for all Filipinos.

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Annex A
Universal and Commercial Banks
Aggregate Financial Statements
As of End-Years Indicated
In Billion Pesos

Balance Sheets	2017	2018
Cash and Due From Banks	2,509.8	2,402.5
Net Loans	7,721.2	8,869.4
Investments	2,988.5	3,559.0
Other Assets	543.8	590.3
Total Assets	13,763.3	15,421.2
Deposit Liabilities	10,614.4	11,596.0
Borrowings	930.5	1,225.8
Other Liabilities	653.2	742.7
Total Liabilities	12,198.1	13,564.5
Paid-in Capital	708.9	858.0
Retained Earnings	741.7	861.6
Other Capital Accounts	114.6	137.1
Total Capital Accounts	1,565.2	1,856.7
Income Statements	2017	2018
Net Interest Income	369.4	431.8
Non-Interest Income	121.8	132.4
Of which Trading Income	36.1	38.6
Total Operating Income	491.2	564.2
Compensation	113.1	124.8
Other Administrative Expenses	133.2	156.3
Other Expenses	65.5	78.1
Non-Interest Expenses	311.8	359.2
Losses on Financial Assets	27.6	26.0
Net Profit Before Equity Income and Taxes	151.8	179.0
Income from Equity Investments	27.5	22.1
Net Profit Before Income Taxes	179.3	201.1
Income Tax Expense	33.0	41.2
Net Profit	146.3	159.9

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