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# FINANCIAL STABILITY REPORT

2018 H1 – 2019 H1



FINANCIAL STABILITY COORDINATION COUNCIL



# FINANCIAL STABILITY REPORT

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2018 H1–2019 H1

## 2018 H1-2019 H1 FINANCIAL STABILITY REPORT

Prepared by:

**FINANCIAL STABILITY COORDINATION COUNCIL**

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The material in the 2018 H1–2019 H1 Financial Stability Report was finalized in September 2019. The report covers the full year of 2018 up to the first half of 2019. Meanwhile, the world map in the front cover is created by Freepik and was modified accordingly.

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## LIST OF ACRONYMS, ABBREVIATIONS and SYMBOLS

AIIF	-	ASEAN Insurance Integration Framework
AFIN	-	ASEAN Financial Innovation Network
APIX	-	Application programming interface exchange
ASEAN	-	Association of Southeast Asian Nations
ASEAN-5	-	Indonesia, Malaysia, Philippines, Singapore, and Thailand
BBB	-	“Build, Build, Build”
BIS	-	Bank for International Settlements
BSP	-	Bangko Sentral ng Pilipinas
BTr	-	Bureau of the Treasury
CL	-	Consumer loans
CGDP	-	Credit-to-GDP
CPIS	-	Coordinated Portfolio Investment Survey
$\Delta$ CoVaR	-	Delta conditional value-at-risk
DLT	-	Distributed ledger technology
EBIT	-	Earnings before interest and taxes
EME	-	Emerging market economies
FI	-	Financial institutions
Fintech	-	Financial technology
FSA	-	Financial supervisory authorities
FSCC	-	Financial Stability Coordination Council
FSB	-	Financial Stability Board
FSR	-	Financial Stability Report
GDP	-	Gross domestic product
GS	-	Government securities
GSED	-	Government securities eligible dealers
GVC	-	Global value chain
HQLA	-	High-quality liquid assets
HTM	-	Held-to-maturity
IC	-	Insurance Commission
IE	-	Interest expense
IMF	-	International Monetary Fund
IRR	-	Implementing rules and regulations
ITRMF	-	Information technology risk management framework
LCR	-	Liquidity coverage ratio
LDR	-	Loan-to-deposit ratio
MES	-	Marginal expected shortfall
MTM	-	Mark-to-market
NBFS	-	Non-bank financial sector
NFC	-	Non-financial corporations
NPL	-	Non-performing loans
NPSA	-	National Payment Systems Act (R.A. 11127)
NSFR	-	Net stable funding ratio
NRoSS	-	New Registry of Scripless Securities
NRPS	-	National Retail Payment System
OD	-	Overdraft

PhilPaSS	-	Philippine Payment and Settlement Systems
PHP	-	Philippine peso
PMI	-	Purchasing Managers' Index
PSA	-	Philippine Statistics Authority
PSE	-	Philippine Stock Exchange
RA	-	Republic Act
RE	-	Real estate
Repo	-	Repurchase agreement
RTGS	-	Real time gross settlement
SEC	-	Securities and Exchange Commission
SFA	-	Singapore Fintech Association
SSB	-	Standard-setting body
tps	-	Transaction per second
UK	-	United Kingdom
US	-	United States
USD	-	US dollar
US Fed	-	US Federal Reserve
VC	-	Virtual currency
VUCA	-	Volatile, uncertain, complex, and ambiguous
WB	-	World Bank
WEO	-	World Economic Outlook
WTO	-	World Trade Outlook

## MESSAGE FROM THE FSCC CHAIRMAN and BSP GOVERNOR

Financial authorities have long appreciated that market dynamics would ebb and flow, and for this reason, there has always been that desire for stability. The global crisis a decade ago, however, surprised us with its breadth and depth of instability. This forced us to rethink our understanding of financial risks and how financial markets can be better managed in the context of the new lens through which we now see risks.

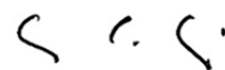
Today, “financial stability” is a universal policy objective. To attribute what happened a decade ago to a problem only of the advanced economies will be a significant—and unwarranted—oversimplification. One can argue that market complexity may have amplified the financial market shocks, but in reality, the transmission of the shocks was triggered by how financial markets are naturally structured as a tightly-linked network of interdependent transactions that include short-sales and committed forward deliveries. Thus, the channels through which risks are transmitted throughout the system are innate to financial markets. This requires a system-wide view of risks that is distinct in nature from the risks seen and assessed at the level of financial institutions (FI).

This system-wide view of risks is the commitment the Financial Stability Coordination Council (FSCC) makes in our renewed pursuit of financial stability. It reiterates our appreciation of financial markets as a network of time-sensitive (nonlinear) transactions among agents. The health of such a network depends then (not on market size or complexity but) on how we are able to manage agent-level disturbances that can spread and eventually become systemic disruptions. This is tantamount to our resolve to maximize the benefits of finance and minimize the costs of instability for the public.

Current market conditions are again testing this resolve. Forecasts in 2017 of a green shoot recovery have been replaced in 2018 by lower growth estimates moving forward. 2019 updates of these forecasts continue to expect subdued growth. Optimistic assumptions allow for estimated growth to stabilize from 2020 onwards, but the likelihood of realizing these assumptions appears to be declining. As the global economy operates at a moderating pace, jurisdictions need to adjust. But they must do so now under different market challenges, not the least of which will be the high levels of debt that built up when interest rates were low.

What these new challenges will be for the Philippines and how we may respond are the issues the FSCC covers in this Financial Stability Report (FSR). The fluidity of evolving issues in H1 2019 made it imprudent to limit ourselves to 2018 issues only, and thus, we cover the first semester of 2019 as well. This better represents how market volatility has changed, not just between more versus less but also between volatility heading upwards versus volatility heading the other way.

I take pride that this will be the second public release of the FSR as drafted by the FSCC. Our objective is to make the public more aware of the brewing issues so that better-informed decisions are made. We would be most happy to hear from everyone as well so that we can improve the report and strengthen the links moving forward.



**BENJAMIN E. DIOKNO**

FSCC Chairman and BSP Governor



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Financial stability is the state when prospective systemic risks are mitigated so as to allow financial consumers, both individuals and corporate entities, to pursue viable economic goals while avoiding disruptions to the smooth functioning of the financial system that can negatively affect the rest of the economy.

– FSCC



## EXECUTIVE SUMMARY AND FINANCIAL STABILITY ASSESSMENT

Economic expansion has been slowing and this is the principal risk to financial stability at this point. Unlike the period of the global crisis a decade ago, the slowdown is pervasive across jurisdictions. Furthermore, the US dollar (USD) still remains relatively strong, perhaps re-affirming its status as the dominant safe-haven currency in the world, despite the more dovish tone from the US Federal Reserve Bank (US Fed).<sup>1</sup>

This slower-growth, strong USD but dovish interest rate outlook is the new normal today. This can easily be an adverse situation for small open economies, such as the Philippines. As a price-taker in the international markets, a weaker Philippine peso (PHP) would raise our import bill (due in part to a sizeable chunk of imports which do not have local substitutes). Weaker growth, on the other hand, could lead to weaker exports (both because cross-border demand may not be as strong and because our exports depend on import content) and moderating tax revenue growth (from low income growth). These will exacerbate the trade and budget deficits and, in turn, the savings-investment gap.

There are also signs that credit, tenor and liquidity risks may have become concerns. If economic growth slows further, these risks will be magnified. Capital market financing is thus increasingly no longer just a developmental issue but more so a systemic risk mitigant. It can alleviate brewing pressures in the banking books but the potential gain from this alternative finance is predicated on available funding liquidity, continuous price discovery and a well-diversified investor base. These areas can benefit from further improvements.

This FSR also takes the opportunity to revisit the policy issues related to financial technology (fintech). While we all can benefit from the proper and responsible use of technology, there are invariably risks that can derail the benefits of fintech. As such, it is all the more important for regulators to provide the enabling environment while keeping the standards for transparency, governance, market conduct, and prudence in check.

Specific interventions are proposed. The intention is to boost growth and to increase/direct private saving for term funding while ensuring liquidity. This is the general direction of the FSCC's intended macroprudential intervention given current conditions and reading of brewing financial market risks. As changes in the global environment remain fluid, the FSCC can already act on what can be done but remain flexible to better respond to evolving developments.

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<sup>1</sup> Studies by the Bank for International Settlements (BIS) show that the USD is still the "dominant currency" as far as financing world trade (Shin, 2019; BIS, 2014).





# GLOBAL AND DOMESTIC DEVELOPMENTS

Growth has moderated in both the advanced and the emerging market economies (EME) and the pivotal role of the USD in both trade and finance was highlighted in recent periods. The Philippine economy continues to expand but its growth has moderated in recent periods as well. While this is consistent with what was observed elsewhere in the world, it emphasizes why re-energizing growth should be the country's top concern.

## 1.1 Global and regional developments

The International Monetary Fund (IMF) has again reduced its growth forecasts for 2019 although it expects growth to eventually stabilize at 3.5 percent starting 2020 (Table 1.1). Based on the reports of the IMF (2019) and World Bank (WB) (2019), the moderation in both actual and forecast growth began in 2018<sup>2</sup> and may be attributed to the slowdown in trade, financial market conditions and the elevated geopolitical risks coming from major economies, particularly the United States (US), China and Euro area. The trade tensions between the US and China and the possibility of a “no deal” Brexit agreement<sup>3</sup> continue to be prominently covered by the media while the slower growth in key European countries, such as Germany, Italy and France, are adding to the mix of macrofinancial concerns.

**Table 1.1: IMF economic growth projections**

In percent

	2018 Growth		2019-2020 Growth					
	April 2018 WEO	April 2019 WEO	October 2018 WEO		July 2019 WEO		Difference from October 2018	
	Forecasts*	Estimates**	2019	2020	2019	2020	2019	2020
World	3.9	▼ 3.6	3.7	3.7	3.2	3.5	▼0.5	▼0.2
<b>Top five economies</b>								
US	2.9	▬ 2.9	2.5	1.8	2.6	1.9	▲0.1	▲0.1
China	6.6	▬ 6.6	6.2	6.2	6.2	6.0	▬0.0	▼-0.2
Japan	1.2	▼0.8	0.9	0.3	0.9	0.4	▬0.0	▲0.1
Germany	2.5	▼1.5	1.9	1.6	0.7	1.7	▼-1.2	▲0.1
UK	1.6	▼1.4	1.5	1.5	1.3	1.4	▼-0.2	▼-0.1
Euro Area	2.4	▼1.8	1.9	1.7	1.3	1.6	▼-0.6	▼-0.1
ASEAN-5***	5.3	▼5.2	5.2	5.4	5.0	5.1	▼-0.2	▼-0.3

\*based on April 2018 World Economic Outlook (WEO) Report

\*\*consistent with April 2019 WEO Update

\*\*\*IMF definition: Indonesia, Malaysia, Philippines, Thailand, Vietnam

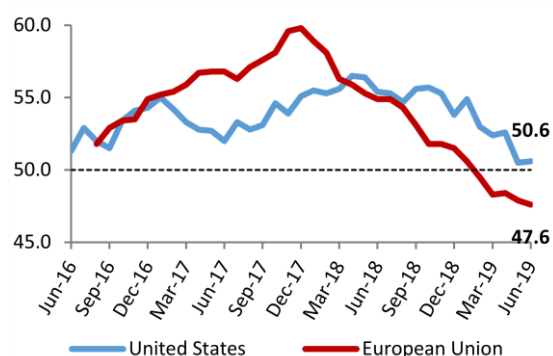
Source: IMF WEO

<sup>2</sup> In 2017, global growth was projected to strengthen, with improvements in investment, trade, industrial production, and strong business and consumer confidence that were supportive of the global recovery (IMF, 2018). This, however, changed in the succeeding reports of the different multilateral agencies in 2018 and early 2019.

<sup>3</sup> The failure to secure a politically acceptable withdrawal agreement would mean a “no deal” scenario wherein there would be no transition period and European Union laws would stop applying to the United Kingdom (UK) immediately after it leaves on 31 October 2019.

**Figure 1.1: Manufacturing Purchasing Managers' Index**

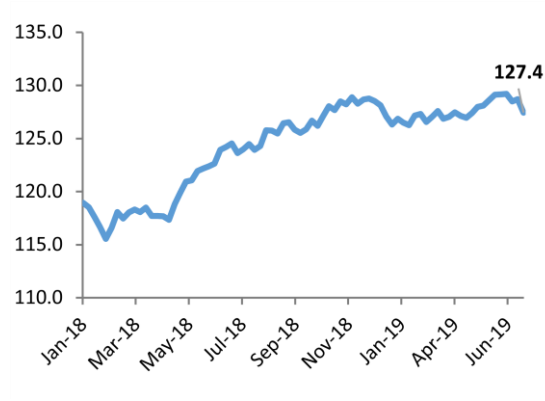
Seasonally adjusted, 50+=expansion



Source: CEIC

**Figure 1.2: Trade weighted US dollar index**

Broad, Goods, January 1997=100



Source: Federal Reserve Bank of St. Louis

- *Manufacturing and trade.* Weaker trade activity has been attributed to decelerating industrial production and moderating global demand (IMF, 2019). These can be seen through the manufacturing Purchasing Managers Indices (PMI) in Europe and the US, both of which show a continuing trend of a less positive outlook (**Figure 1.1**). Meanwhile, the World Trade Outlook (WTO) indicator dropped below the threshold of 100 and, at 96.3 for the first quarter of 2019, is at the weakest level since 2010. This signals a deceleration in trade growth (WTO, 2019).

- *Financial market conditions.* On top of trade movements, financial market pressures contributed to the growth slowdown which affected investor sentiment and investment decisions. The combination of rising policy uncertainty, renewed attention on country-specific vulnerabilities,<sup>4</sup> higher risk aversion, rising US interest rates,<sup>5</sup> and strong USD<sup>6</sup> intensified capital outflows and currency pressure in EMEs in 2018 (WB, 2019).

Although the markets finished 2018 with notable pressures, the shift of the US Fed to a dovish tone in 2019 marked another—albeit different—phase of market volatility. The subdued performance of productive activities in the US, outstanding global uncertainties and the prospects of deteriorating

trade conditions were the factors considered in the change in outlook by the US central bank (US Fed, January 2019). Although the USD generally depreciated in January 2019 vis-à-vis its end-2018 level, it thereafter resumed its strengthening trend, hitting its peak in end-May 2019 and recalibrating downwards in June 2019 (**Figure 1.2**).

- *USD appreciation and global trade.* The pivotal role of the USD in both the trade and financial channels was apparent in 2018. The WB (2019) observed that historically there is an increase in frequency of disorderly currency depreciation in EMEs during periods of USD strength. A study by Shin (2019) further associates the strength of the USD to subdued global value chain (GVC) activity. **Figure 1.3** shows that declines in global trade well-coincided with periods when the USD is relatively strong in trade-weighted terms.

<sup>4</sup> Examples of country-specific vulnerabilities are large fiscal deficits, current account deficits financed by volatile capital flows and substantial short-term and foreign-currency denominated external debt (WB, 2019).

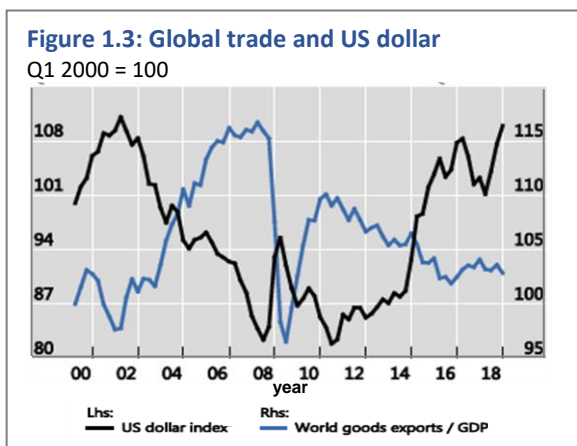
<sup>5</sup> The US Fed had a total of four rate hikes in 2018 which raised the target range for its benchmark funds rate to 2.25–2.50 percent. Although higher policy rates were expected since the US Fed began tightening in 2015, the pace in 2018 was faster than expected. The US Fed last increased its benchmark rate on 20 December 2018 and has since left it unchanged due to lower inflation numbers (Federal Reserve, 2019).

<sup>6</sup> The USD Currency Index has risen to 4.6 percent from 92.1 in end-2017 to 96.4 in end-2018. In early 2019, it has remained within the range of 94.0 to 98.3 (Thomson Reuters Eikon, 2019).

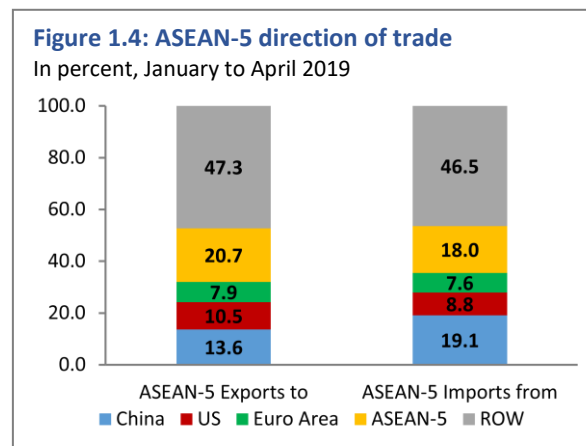


The softening of global trade should directly affect the Association of Southeast Asian Nations (ASEAN). The ASEAN region, particularly ASEAN-5,<sup>7</sup> is a large trading partner of major economies, with China consistently being its top trade partner (Figure 1.4). Among ASEAN-5 member states, Singapore has the highest trade-to-gross domestic product (GDP) ratio, highlighting the importance of external trade to the country’s growth (Figure 1.5). In the first quarter of 2019, the average ASEAN manufacturing PMI was said to be at its lowest since fourth quarter of 2016, indicative of the linkage and effect of a less-buoyant GVC.<sup>8</sup>

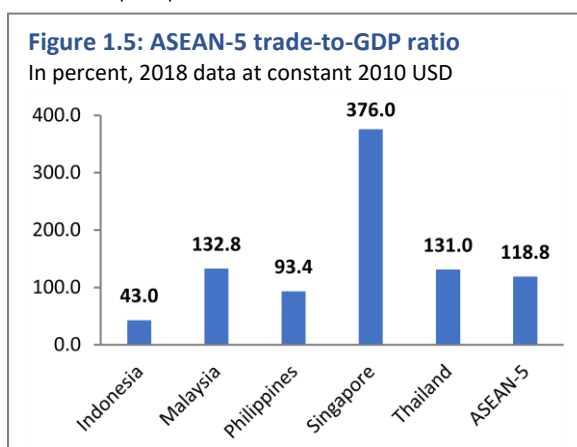
On the other hand, investors have been actively rebalancing their portfolios. Capital flows have been into and out of Asia, including ASEAN. The decline in value of equities in Asia was estimated to have reached USD5.6 trillion for 2018 (Yap, 2019). In particular, ASEAN equity markets felt the impact of investor’s flight to safety as investors pulled out and transferred funds to less risky markets, mostly to the US given rising US interest rates and dollar appreciation (Milhench, 2018). By mid-2019, however, the regional stock market improved after the shift to a dovish tone of the US Fed and a series of confidence-building developments in these economies (Figure 1.6).<sup>9</sup>



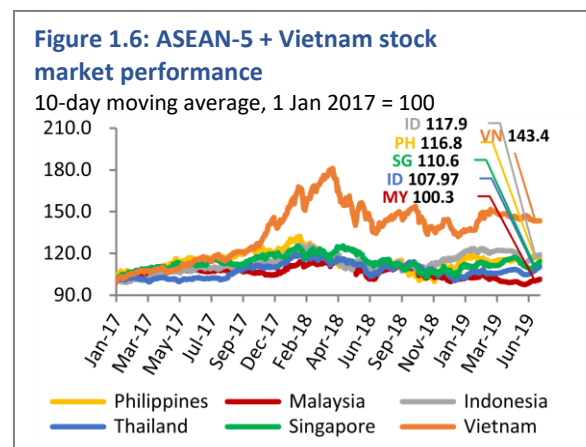
Source: Shin (2019)



Source: IMF Direction of Trade Statistics, staff calculations



Source: WB, staff calculations



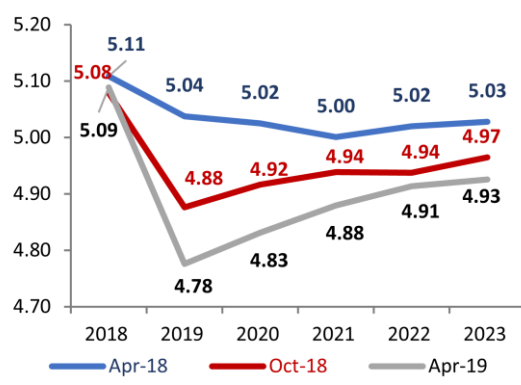
Source: Reuters

<sup>7</sup> The ASEAN-5 is comprised of Indonesia, Malaysia, Philippines, Singapore, and Thailand.

<sup>8</sup> See Nikkei (2019)

<sup>9</sup> The improved investor sentiment pushed equity markets higher. Signs of receding inflationary pressures, particularly the Philippines and Indonesia, also added to this greater confidence in the region (ADB, 2019).

**Figure 1.7: ASEAN-5 + Vietnam growth forecast**  
In percent



Source: IMF WEO

As a result of these developments, growth forecasts for ASEAN were also revised downwards but were nevertheless expected to recover in the medium term. The revision followed weaker-than-expected performance during the first half of 2018 and the deteriorating external environment (IMF, October 2018b). However, growth is expected to somewhat recover by 2020 on expectation of strong domestic demand and investment growth that could offset the drag in other growth drivers (Figure 1.7). This recovering domestic demand is seen to be underpinned by the increase in private consumption due to strong and absorptive labor markets, wage gains, overseas transfers, and the growth in fixed investment that supported planned infrastructure projects (Focus Economics, 2019).

**Table 1.2: Portfolio investment providers**

In percent, share to total, June 2018 data

Investments from	Investments to			
	US	China	PH	Rest of the World
US		16.29	41.06	27.72
China	1.12		0.26	0.86
PH	0.04	0.04		0.02
Rest of the World	98.85	83.67	58.67	71.40
Total	100	100	100	100

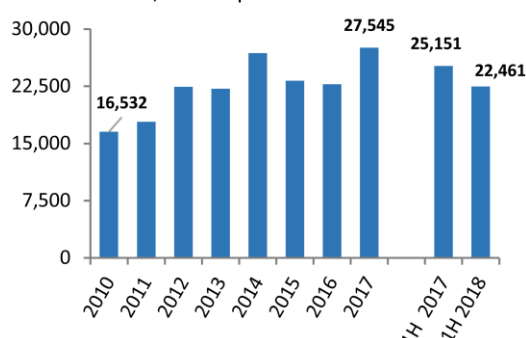
Source: IMF Coordinated Portfolio Investment Survey (CPIS), staff calculations

## 1.2 Domestic developments

The weaker external environment is expected to affect the Philippine economy. Both the WB (2019) and IMF (2019) suggest that the materialization of risks and slowdown in “systemic economies,”<sup>10</sup> particularly the US and China, will spillover to other jurisdictions, including the Philippines. The FSCC’s own estimates suggest that the local economy positively responds to US real GDP growth while the country’s imports from China affects domestic growth.<sup>11</sup> These relationships can be explained by the linkages of the country with China as a major trading partner and with the US both as the main source of portfolio investments and a trade partner.

**Figure 1.8: US portfolio investments to the Philippines**

In USD millions, end-of-period



Source: IMF CPIS

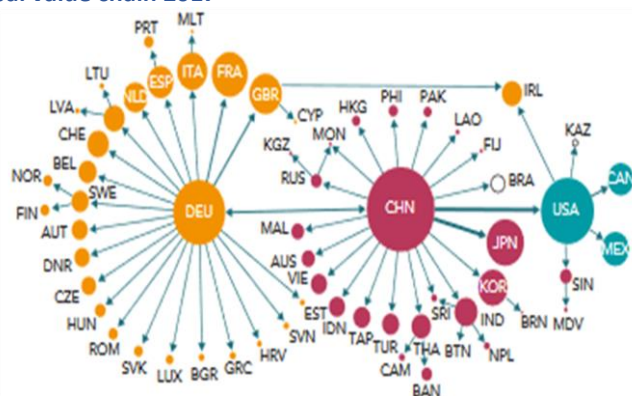
- Portfolio investments.** The US has consistently been the largest source of foreign portfolio investments to the Philippines, accounting for 41.1 percent of total investments as of June 2018 (Table 1.2). While financial portfolio investments from the US to the Philippines continue to grow positively, the latest data from the IMF show that inflows have declined year-on-year by 10.7 percent or USD2.69 billion in H1 2018 amid US policy normalization and dollar appreciation (Figure 1.8).

<sup>10</sup> Based on IMF WEO (2019)

<sup>11</sup> Results from the vector autoregressive model show that local growth significantly responds to the economic growth of the US, and the impulse response function indicates that a positive shock in US growth can favorably influence the growth of the Philippines. Meanwhile, an autoregressive distributed lag model shows that lagged imports of the Philippines from China significantly influence the Philippines’ GDP growth, highlighting the importance of China as the Philippines’ major trading partner.

- **External trade.** Among the country's trading partners, the US is a major destination of Philippine exports while China is a large source of imports. Collectively, US and China account for more than a quarter of the Philippines' total trade activity as of 2018. In addition, the country's linkages with the GVC show that the Philippines is directly linked to firms in China, which then indirectly links the country to the US and other jurisdictions (**Figure 1.9**).

**Figure 1.9: Global value chain 2017**



Note: The figure shows how value chains remain largely regional. The circles depict the countries in the GVC network, and the size of the circle suggests extent as a GVC. In 2017, intraregional GVC trade increased towards "Factory Asia", particularly with China playing an increasing role both as a regional demand and a supply hub. China now plays a critical role as a central GVC hub with Germany playing an important role for the rest of other European countries. China also plays a critical role as a GVC hub within Asia and towards the USA.

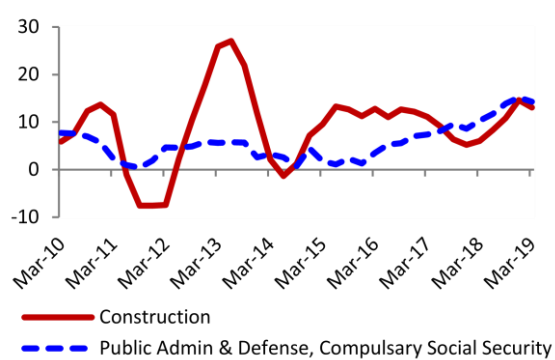
Source: Li, Meng, and Wang (2019)

### Despite external pressures, the Philippines continues to grow at a pace above the world's average.

The Philippines has achieved remarkable growth since 2010 although with some moderation since the second quarter of 2018.<sup>12</sup> For the full year of 2018, the above-6 percent growth has been mainly supported by government-related expenditures, particularly public administration and construction (**Figure 1.10**). It bears monitoring, nonetheless, that the usual growth drivers [specifically manufacturing, wholesale and retail trade, as well as real estate (RE) activities] are expanding at a slower pace and are contributing less to overall GDP growth (**Figure 1.11**).

**Figure 1.10: Growth supply-side drivers in 2018**

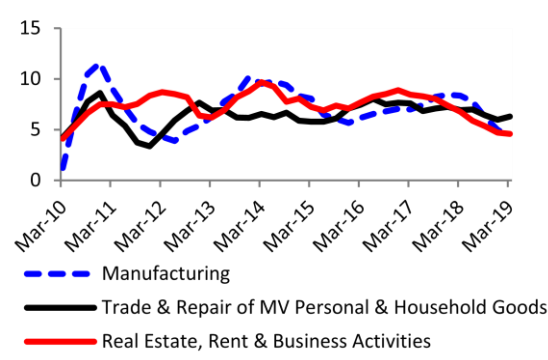
In percent, 4-quarter moving average, year-on-year



Source: Philippine Statistics Authority (PSA), staff calculations

**Figure 1.11: Traditional growth drivers**

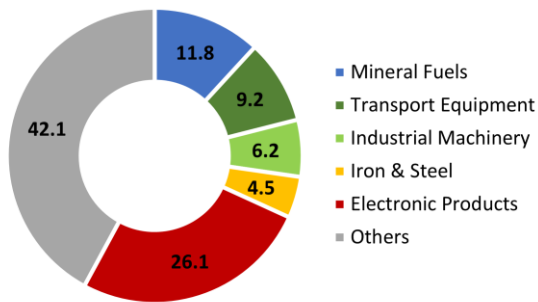
In percent, 4-quarter moving average, year-on-year



Source: PSA, staff calculations

<sup>12</sup> The 2018 real GDP growth eased to 6.2 percent compared to the 6.7 percent increase in 2017 and the government's target of 6.5 percent to 6.9 percent (De Guzman, 2019).

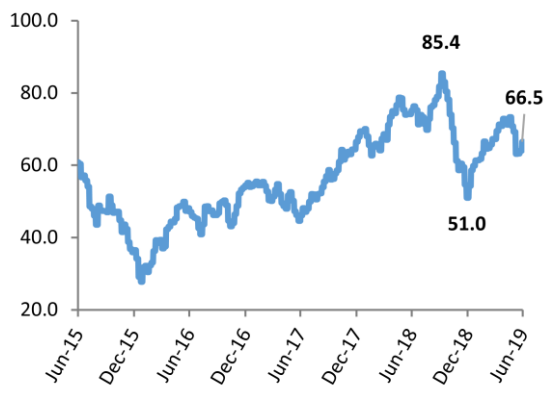
**Figure 1.12: Top imports**  
In percent, January to May 2019



Source: PSA, staff calculations

**The strong on-shore growth keeps imports demand strong.** More than 34.0 percent of total imports are inputs to domestic production while a sizeable chunk is for re-export. Moreover, most of the Philippines’ imports—such as mineral fuels, capital goods (transport equipment and industrial machinery) and iron and steel—have no local substitutes (**Figure 1.12**). Since these are important components in domestic economic production, a high import bill is likely to persist even when international prices rise.

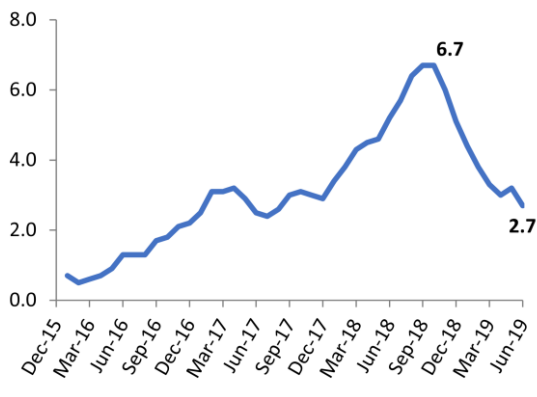
**Figure 1.13: Brent crude oil spot price**  
In USD per barrel



Source: Reuters

**Among commodity imports, the volatile price of global oil is a continuing cost-push concern.** Forecasts of lower prices for oil futures are welcomed but certainly the economy is vulnerable to any reversal in spot rates. In fact, international crude oil prices rose again in the first half of 2019, following a decline in the latter part of 2018 (**Figure 1.13**). These fluctuations were mainly driven by supply-side issues, such as production cuts of oil-exporting countries, the threat of US sanctions on Iran and the crisis in Venezuela (WB, 2019).

**Figure 1.14: Philippines inflation rates**  
In percent



Source: BSP

**Prospects of cost-push inflation only underscore the importance of managing inflation vis-à-vis growth.** Inflation rose quickly in 2018, pushed up in part by cost considerations on rice and oil (**Figure 1.14**).<sup>13</sup> Although inflation has since eased, the Bangko Sentral ng Pilipinas (BSP) remains vigilant of possible supply-side issues. Among international commodity prices, oil is always a focal concern, while weather-related issues add to price volatility. The deregulation of rice imports was a key intervention to address the supply-side pressures.

**On the whole, despite a challenging external environment, the Philippines continues to grow, with the balance of risk tilted to the downside.** As a small open economy, the Philippines is a price-taker in the global marketplace. The forecasts of a pervasive slowdown throughout the global economy cannot help as this will impact commodity prices.

<sup>13</sup> Higher domestic food and oil prices in 2018 resulted in second-round effects, as transport groups petitioned for increases in minimum fares while labor groups lobbied for upward adjustments in the minimum wage.

On the other hand, cross-border investment and portfolio flows into EMEs can be expected to be more limited, as the USD remains relatively strong in trade-weighted terms, together with the natural tendency to remain with safe-haven currencies in times of volatility.

These developments put into stronger context the government's push for its "Build, Build, Build" (BBB) program. At the most basic, it is a driver of immediate growth as a platform for increased activity. This addresses the need to re-energize the growth path which has been moderating over the past two years, aggravated further by the delay in the signing of the 2019 budget. However, its ultimate value proposition is its intention to increase the country's productive capacity over the long-run. This adds "another gear" to the economic engine of the economy.

The BBB program will certainly require financing. This is why the issue cannot be summarily defined by economic growth rates. Instead, due consideration must be given to financial risks for an economy that is heavily bank-based and for which cross-border shocks can affect the PHP. These issues we tackle in the subsequent chapters.

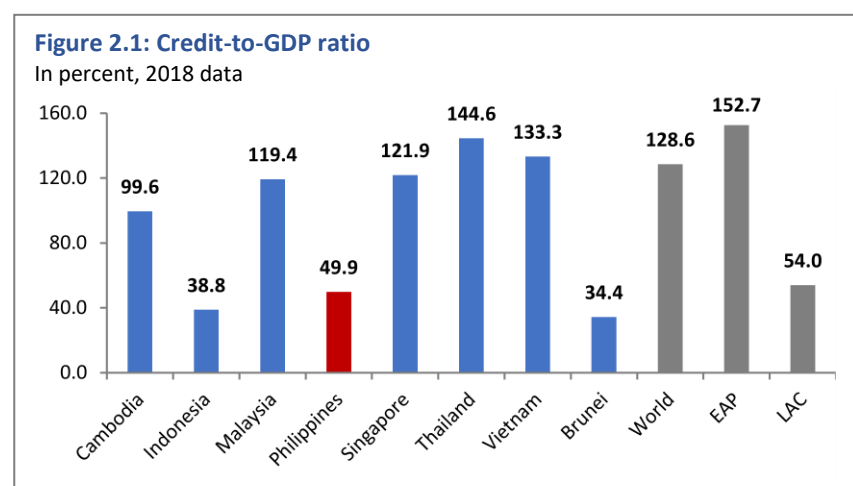


## PHILIPPINE BANKING SYSTEM

Banks dominate the financial market, both in terms of total assets and business activities. Various reports from third-party analysts as well as that of the central bank suggest that the industry remains in good health. The banking industry is capitalized well above the minimum regulatory requirements, maintains liquidity in excess of supervisory standards and has a long history of sustained profitability. In the “low-for-long” period,<sup>14</sup> however, leverage has built up as it has in many other jurisdictions. This Chapter revisits this in the context of potential systemic risks and extends the analysis vis-à-vis concentration, liquidity and contagion. These are material considerations particularly in the context of the previous Chapter’s finding that global growth has been and will likely continue to moderate.

## 2.1 Leverage and concentration

**Philippine credit vis-à-vis nominal income (i.e., GDP) remains moderate by ASEAN-5 standards.** Levels of private sector credit has built up over the low-interest period but the credit-to-GDP (CGDP) ratio for the Philippines continues to look modest when compared to the rest of ASEAN. Data from the WB show that the respective CGDP ratios of Thailand, Singapore, Malaysia, Cambodia, and Vietnam are substantially higher than that of the Philippines (**Figure 2.1**). While the ratios, respectively, for the world and for East Asia & Pacific are well above 100 percent, the Philippines’ ratio remains below 50 percent (for 2018). At this level, we are similar to the modest levels of Latin America & Caribbean.



Note: EAP – East Asia & Pacific; LAC – Latin America & Caribbean

Source: World Bank

<sup>14</sup> The Working Group established by the Committee on the Global Financial System characterized a low-for-long interest rate scenario as follows: “Relative to baseline, the low-for-long scenario (L4L, for short) projects a lower path for interest rates, GDP growth and inflation for the entire 2017–27 period, broadly consistent with secular stagnation.” The study used the IMF October 2017 WEO projections as the basis for their baseline scenario (BIS, July 2018).

**Table 2.1: Credit-to-GDP ratio growth**

In percent

	2008	2013	2018	AAGR <sup>a</sup>	Growth <sup>b</sup>
Cambodia	23.5	52.0	99.6	15.6	324.5
Indonesia	26.6	36.1	38.8	3.9	46.2
Malaysia	96.7	119.9	119.4	2.1	23.4
Philippines	29.1	35.9	49.9	5.5	71.5
Singapore	97.9	124.1	121.9	2.2	24.6
Thailand	105.8	142.4	144.6	3.2	36.7
Vietnam	82.9	96.8	133.3	4.9	60.9
Brunei Darussalam	35.2	31.2	34.4	-0.2	-2.1
Myanmar	3.1	12.8	24.2 <sup>c</sup>	22.8	677.0
Lao PDR	9.6				
<b>Region</b>					
World	122.1	122.5	128.6	0.5	5.3
EAP	124.8	134.8	152.7	2.0	22.4
LAC	35.3	48.0	54.0	4.3	53.0

<sup>a</sup>annual average growth rate for the period 2008 to 2018<sup>b</sup>point-to-point growth from 2008 to 2018<sup>c</sup>2017 data

Source: WB

**The build up of credit, however, is among the fastest in ASEAN.** Since 2008, the CGDP ratio has been rising and reflects a point-to-point growth of 71.5 percent (**Table 2.1**). Outside of the triple digit growth in Myanmar (677 percent) and Cambodia (325 percent), the rise of the Philippines' CGDP ratio is actually the fastest in the region. This is impressive if one considers the Philippine economy as among the fastest growing in the world, suggesting a very aggressive rise in credit. Looked at from a different perspective, the world's CGDP ratio has only grown by half a percentage point annually from 2008 to 2018 but the Philippines is actually running at 11 times that pace at 5.5 percent growth annually.

**The gap between the current CGDP ratio and its long-term level has decreased.** Applying the most common filtering technique,<sup>15</sup> the long-term path for private credit is still rising (**Figure 2.2**). Coupled with a long-term trend for nominal GDP that is moderating, the net effect is that the long-term CGDP ratio is likewise still rising.

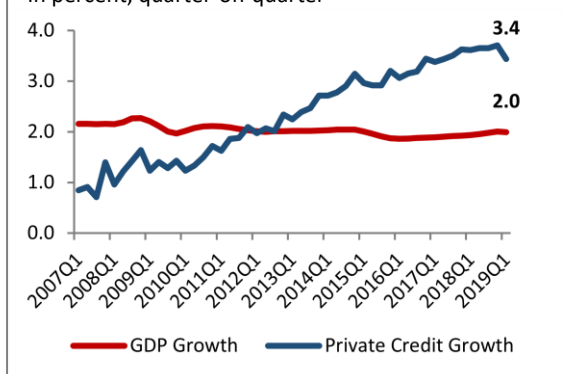
This is an important consideration because of concerns that the credit build up may have been overdone. Analysts note, for example, that the current CGDP ratio is above its long-term level and as interest rates have moved higher since 2018, then the debt service burden is likewise higher and the possibility of the debt levels being a concern could not be dismissed.

Nonetheless, we find the gap between the current ratio and its estimated long-term trend to be declining. This is the result of the ratio declining over

recent periods while its long-term value continues to rise. Between the two diverging developments, one should arguably give more weight to the former.<sup>16</sup> Specifically, the CGDP ratio has fallen between end-2018 and first quarter of 2019 on account of the negative quarter-on-quarter growth of private sector credit, in particular to the non-financial sector.<sup>17</sup>

**Figure 2.2: Long-term trend of private credit and GDP growth**

In percent, quarter-on-quarter



Source: PSA and BSP, staff calculations

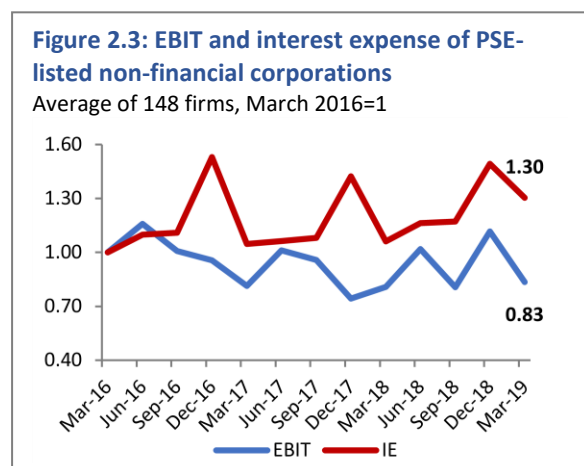
<sup>15</sup> The FSCC used a one-sided Hodrick-Prescott filter.<sup>16</sup> Conventional estimates of long-term values reflect changes in recent data with considerable lags.<sup>17</sup> Using proxies for the components of private sector credit, results of empirical tests show that the decline in the credit variable is driven by the private non-financial sector, which registered a negative growth rate of 1.77 percent from 2018Q4 to 2019Q1. Household credit growth, on the other hand, has decreased but remains positive.



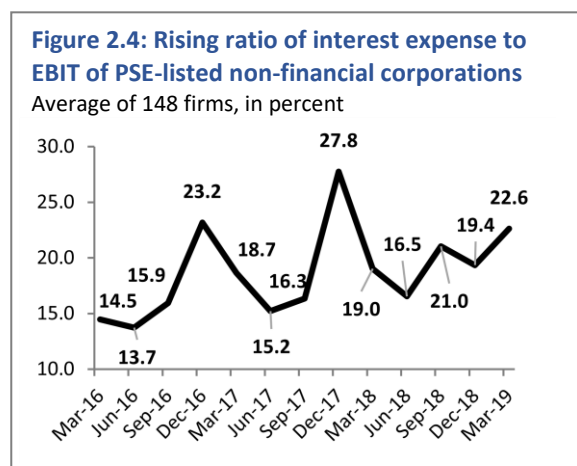
**The recent decline in the CGDP ratio could be a welcome rebalancing.**

Higher interest rates from 2018 to mid-2019 suggest that debt servicing should be examined further. Based on the audited financial statements of the 148 Philippine Stock Exchange (PSE)-listed non-financial corporations (NFCs), the growth of interest expense (IE) has outpaced the rise of earnings before interest and taxes (EBIT) (Figure 2.3). In addition to the rate of growth, the ratio of IE to EBIT shows a rise from 14.5 percent at the start of the first quarter of 2016 to 22.6 percent as of March 2019, with a high of 27.8 percent in December 2017 (Figure 2.4). The same companies have also reported lower profitability with respect to return on assets (Figure 2.5).

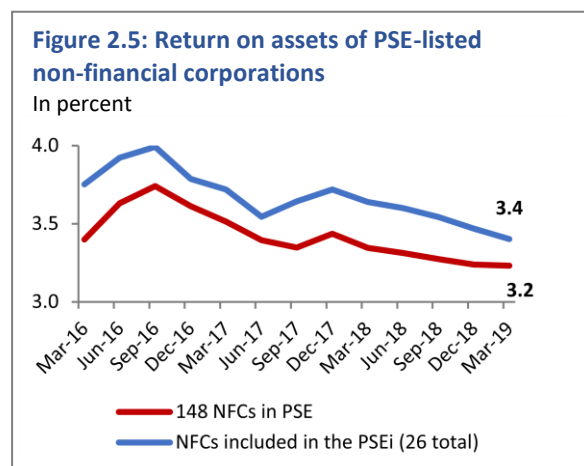
As noted above, the build up of private sector credit is one of the most aggressive in ASEAN and yet the reported non-performing loans (NPL) ratio of corporate credit remains very modest. At less than one percent as of end-2018, the latest figure is PHP66 billion as of March 2019.<sup>18</sup> This rise may look minimal but a conservative approach requires that we monitor the NPL level which actually shows a V-shaped pattern (Figure 2.6). Since the inflection point in late 2015, the amount of NPLs has been increasing, reversing the previous positive trend of a decrease despite the rise in outstanding loans.



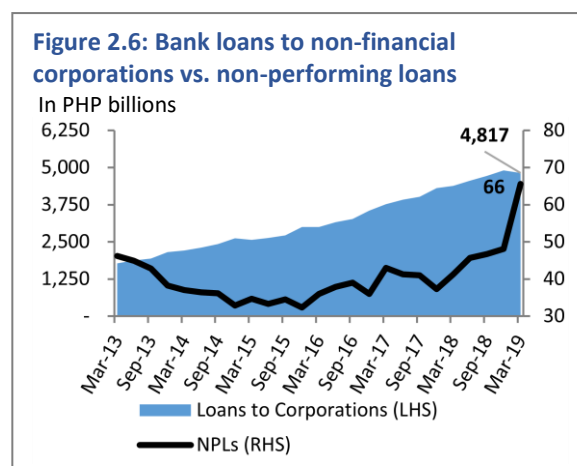
Source: Reuters, staff calculations



Source: Reuters, staff calculations

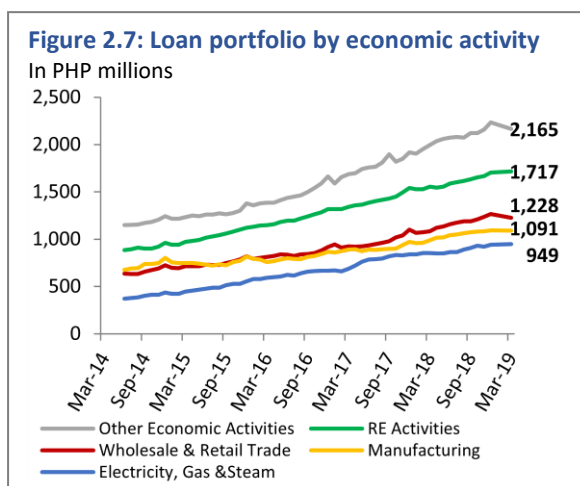


Source: Reuters, staff calculations



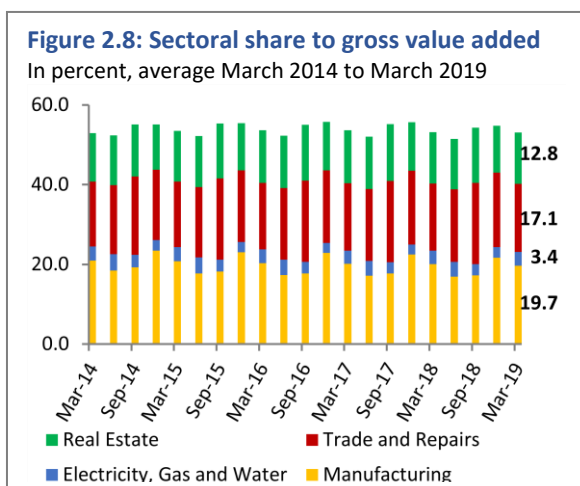
Source: BSP

<sup>18</sup> The latest reported figures already reflect the effect of Circular No. 772 which amends the definition of NPL.



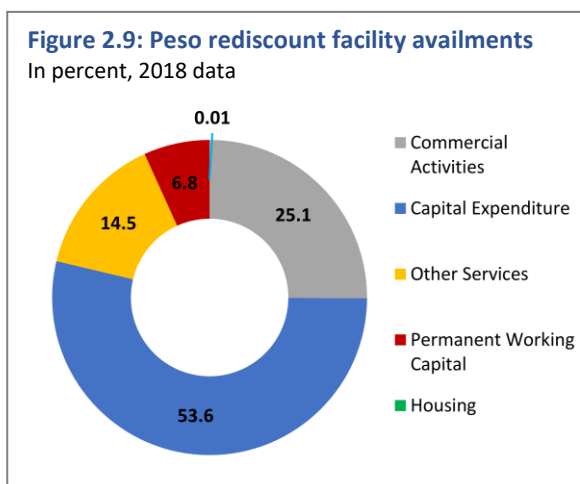
Note: Other Economic Activities excludes financial sector activities  
Source: BSP

Aside from the level of credit, its distribution is likewise an important consideration. The three economic sectors of wholesale and retail trade, manufacturing, and RE activities account for more than 50 percent of the outstanding resident loans to productive activities (Figure 2.7).<sup>19</sup> When we include electricity, gas and steam, these four sectors collectively constitute roughly half of Philippine GDP (Figure 2.8). In this context, any impairment will affect both the financial industry as well as the broader macroeconomy, the very definition of systemic risk.



Source: PSA

To pursue this point, the FSCC tested against credit stress in wholesale and retail trade, manufacturing and RE activities. The results showed that eight universal and commercial banks will have their stressed capital adequacy ratio falling below or nearly at the regulatory minimum. Apart from comparing against an absolute threshold, it bears highlighting that the surplus of the stressed capital levels of banks over the regulatory minimum has been diminishing over time. This is not indicative of an industry in crisis but it does reflect that banks have accumulated credit-based risk-weighted assets at a faster pace than qualifying bank capital.



Source: BSP

Concentration was also observed in the banks' availments of BSP rediscounting. In 2018, more than a third of the availments from the Peso rediscount facility were against transactions related to the three economic activities. 39.6 percent of the total availments covered loans extended against credit instruments resulting from commercial activities, such as manufacturing and trading, and other services which include RE activities (Figure 2.9). Meanwhile, the remaining 60.4 percent were related to loans for capital expenditure (53.6 percent) which includes construction and expansion of long-term asset and permanent working capital (6.8 percent).

<sup>19</sup> The remaining less than 40 percent of outstanding loans was shared by the 17 other economic activities. Total resident loans for production activities excludes: (a) loans of domestic banks' foreign offices; (b) interbank loans (inclusive of loans to BSP); and (c) loans and receivables arising from repurchase agreements, certificate of assignment/participation with recourse, and securities lending and borrowing transactions.

On the retail side of bank credit, the rise in consumer loans (CL) has also been accompanied by an increasing level of non-performing loans (**Figure 2.10**). Since residential RE loans which comprise 40.5 percent of the CL portfolio of the banking system as of end-March 2019 have a direct impact on consumers, developments in the RE sector need to be monitored.

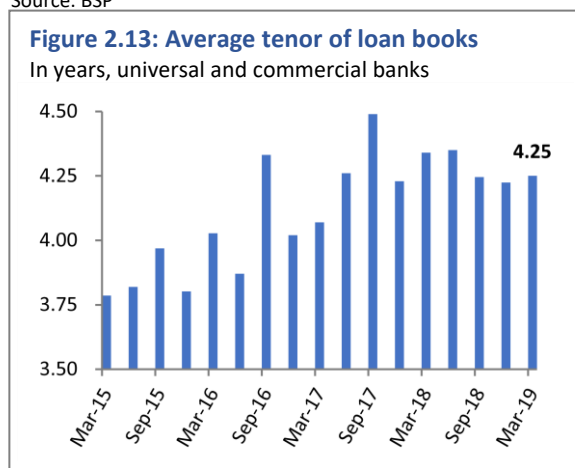
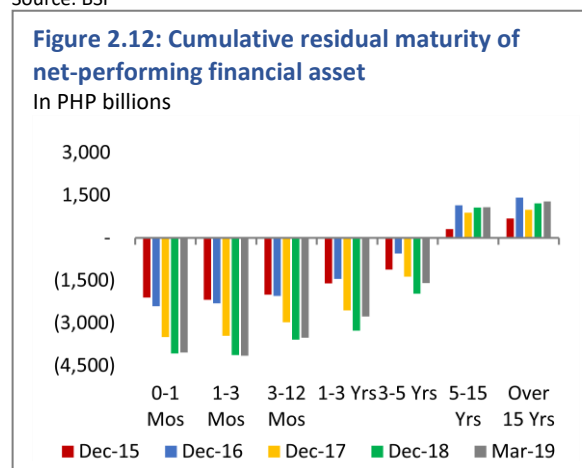
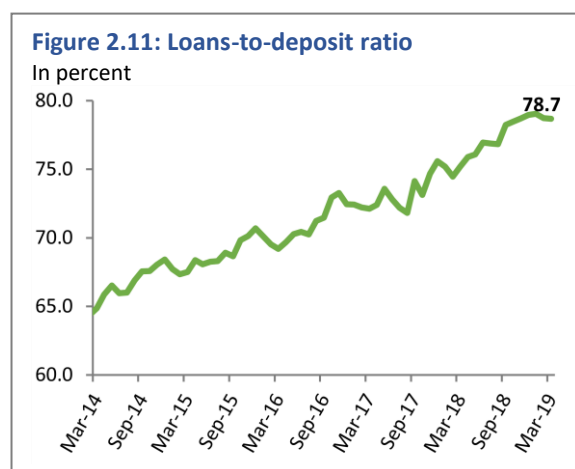
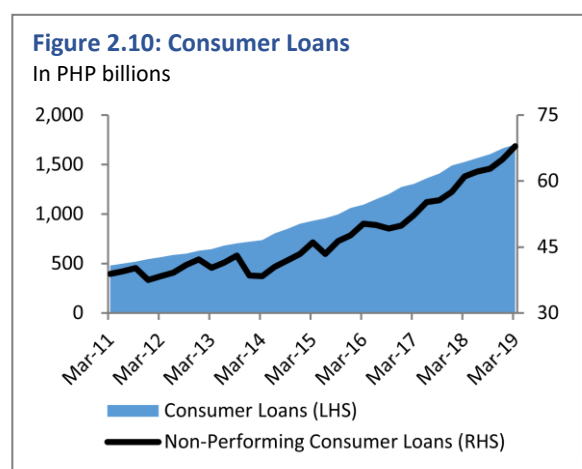
## 2.2 Liquidity

### The build up of leverage creates mismatch risks in the banking books.

While financial authorities look at the CGDP ratio and the CGDP gap to get a holistic view of the standing of credit vis-à-vis the economy, banks get a similar—though own-view—perspective from its loan-to-deposit ratio (LDR). As expected, this has trended upwards (**Figures 2.11**) near to levels that would theoretically represent the upper bound as a result of the reserve requirement.

### The rising LDR suggests that the maturity mismatch is likewise increasing.

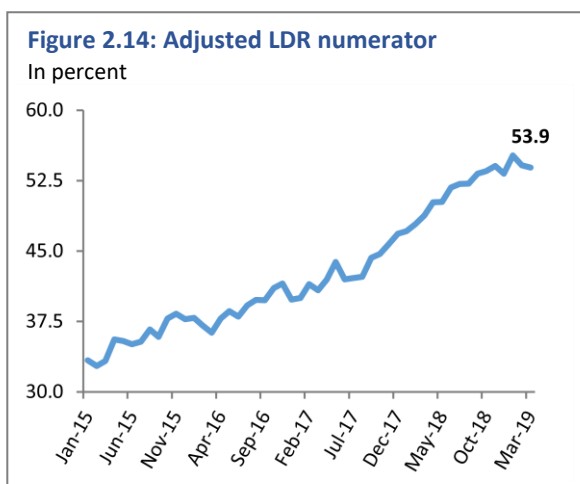
Funds sourced by banks are largely savings deposits which are then used to fund longer-term credits. As **Figure 2.12** shows, this creates a gap between the amount of assets and the corresponding amount of deposits categorized by maturity. With the average maturity of loans calculated at 4.25 years (**Figure 2.13**), the maturity gap then translates



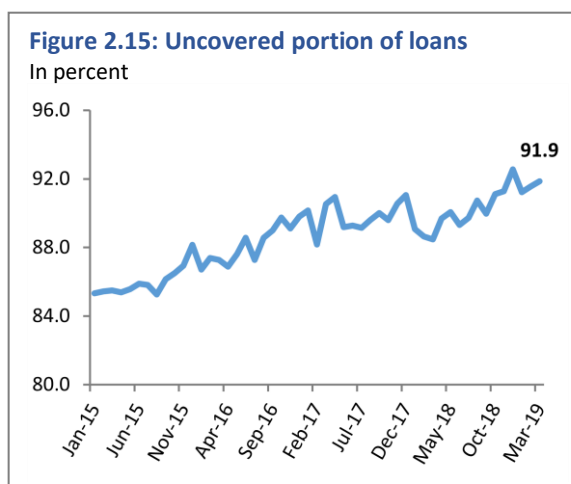
into a liquidity gap as well. Banks would, therefore, not only provide for the difference between the tenor of what they lent versus the short-term deposits that they borrowed but they will also have to provide liquidity for the periodic withdrawals of those deposits.

In this sense, it might help to take a look at some variations of the LDR. At one level, we know that banks cannot totally rely on loans maturing to cover deposit withdrawals. They maintain a cash position as well as have some amounts that are due from other banks. One can then think of hypothetically deducting this from the numerator (some of the loans are liquidity supported by funds other than deposits) or from the denominator (some of the deposits are covered by the cash and due from banks accounts). These result in **Figure 2.14** and **Figure 2.15**, respectively, both of which still show a sharply rising trajectory.

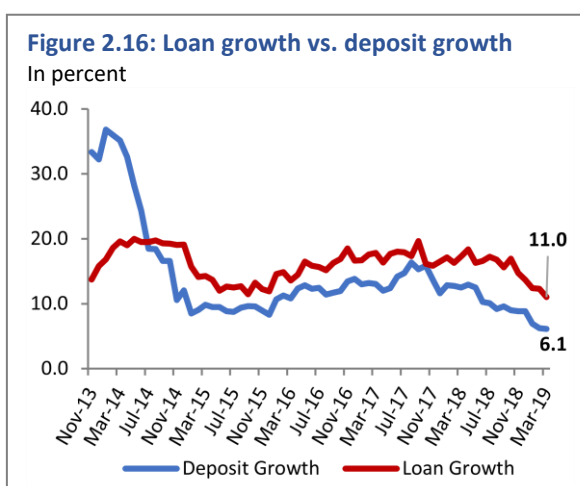
The rising LDR must also suggest that loans outstanding has been rising faster than deposit growth. This is evident from **Figure 2.16** which depicts growth rates and from **Figure 2.17** which literally shows that the amount of incremental loans exceeds that of incremental deposits. This can only mean that banks are tapping into funds from non-traditional sources.



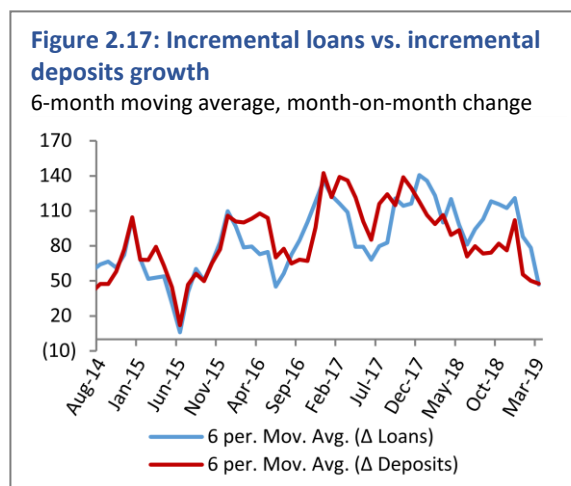
Note: Loans and receivables less Cash and Due from Banks  
Source: BSP, staff calculations



Note: Deposit liabilities less Cash and Due from Banks  
Source: BSP, staff calculations



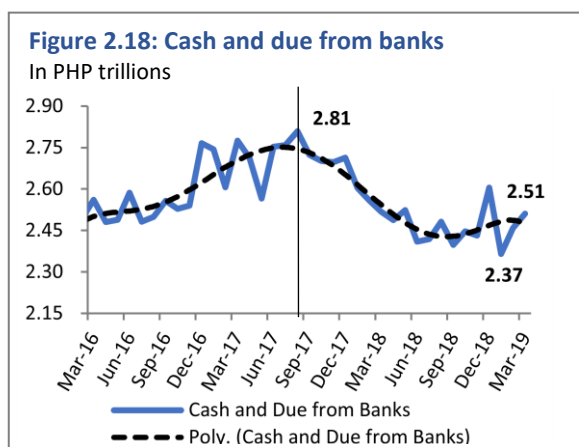
Source: BSP, staff calculations



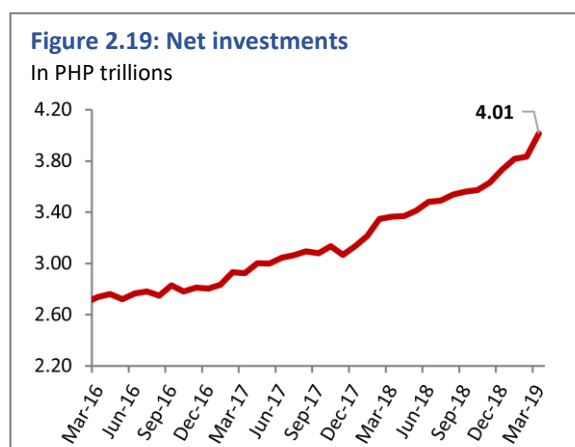
Source: BSP, staff calculations

There is some evidence that incremental funding has been sourced from the banks' liquid assets. We can see from **Figure 2.18** that cash and due from banks had been rising until August 2017 after which it has followed a downward trajectory. In contrast, investments (**Figure 2.19**) have been growing at an exponential pace, which has been driven by the growth of securities classified as held-to-maturity (HTM) (**Figure 2.20**). These developments have implications on maintaining the balance between profitability and liquidity.

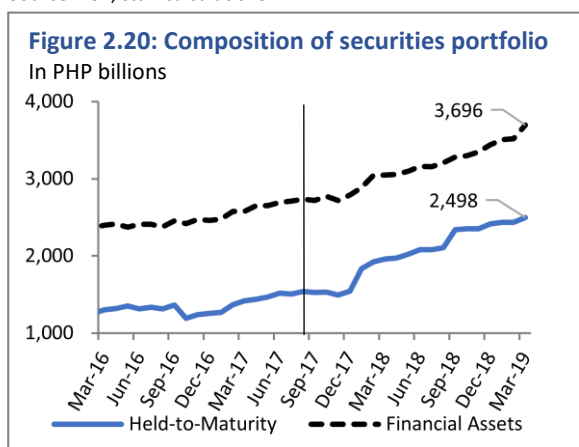
**Liquidity coverage ratio (LCR) figures assure, nonetheless, that there is enough liquidity to address a 30-day stress period.** All of the above provide an asset-liability management perspective of liquidity. From a risk regulatory standpoint though, the LCR numbers from the industry provides comfort that market liquidity can handle expected outflows (**Figure 2.21**).<sup>20</sup> The caveat though is that expected outflows is rising and it would be useful to monitor this alongside the LCR itself. To the extent that high-quality liquid assets (HQLA) is comprised largely by reserves with the central bank,<sup>21</sup> an unexpected and persistent withdrawal would have the effect of reducing the LCR, both by reducing HQLA and increasing the outflows.



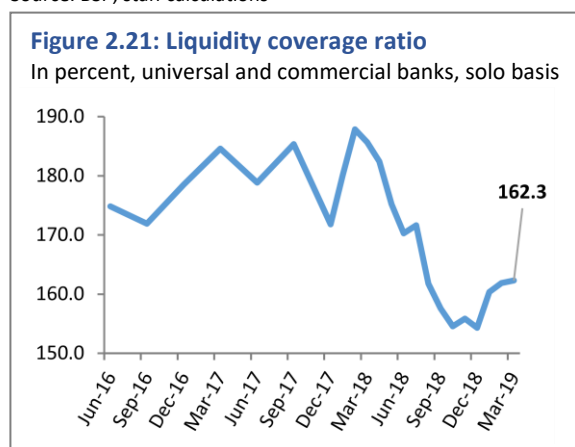
Source: BSP, staff calculations



Source: BSP, staff calculations



Source: BSP, staff calculations



Source: BSP, staff calculations

<sup>20</sup> Apart from the LCR, the net stable funding ratio (NSFR) of banks suggests adequate stable funding to cover long-term assets. As of end-June 2019, universal and commercial banks posted a NSFR of 129.5 percent on a solo basis.

<sup>21</sup> As of end-March 2019, bank reserves in the BSP, including excess reserves, and placements with BSP other than reserves collectively account for 46.3 percent of the total stock of HQLA of universal and commercial banks (solo position).

## 2.3 Contagion

**Measures of contagion paint contrasting signals.** Risks from leverage, concentration and liquidity would not escalate to being systemic in nature unless contagion is fully accounted for. Using delta conditional value-at-risk ( $\Delta\text{CoVaR}$ ) and marginal expected shortfall (MES)<sup>22</sup> as metrics, contrasting—but not necessarily contradictory—signals were found.

In **Figure 2.22**, the average value for the  $\Delta\text{CoVaR}$  of banks has been declining since October 2018, all the way to June 2019. This can be interpreted as a decrease in the sensitivity of the system as a whole to the banks' distressed state taken on average.<sup>23</sup> On the other hand, the MES likewise has a turning point in October 2018 but bottoms out by the start of March 2019, thereafter reversing and heading upwards (**Figure 2.23**). This means that the sensitivity of the banks to a distressed state of the system as a whole has increased since March 2019.<sup>24</sup>

**Banks continue to be highly interconnected with other sectors.** Taken together, any vulnerabilities emanating from the system appear to be the bigger concern than those from banks to the rest of the system. This is a source of comfort yet it is hard to overlook how banks are central to the functioning of the economic network, that is, the macroeconomy.

**Figure 2.22: Average delta conditional value-at-risk of PSE-listed banks**

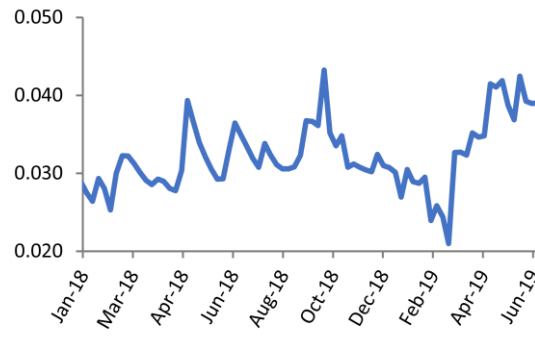
January 2018 to June 2019



Source: Reuters, staff calculations

**Figure 2.23: Average expected shortfall of PSE-listed banks**

January 2018 to June 2019



Source: Reuters, staff calculations

<sup>22</sup>  $\Delta\text{CoVaR}$  and MES gauge the co-movement of firms' asset returns and their potential adverse effect to the entire system. The difference between the measures is that  $\Delta\text{CoVaR}$  estimates the impact on the profitability of the system when one bank encounters difficulty while MES measures the loss in capital of an institution when the system as a whole is already at the critical point of systemic dislocation.

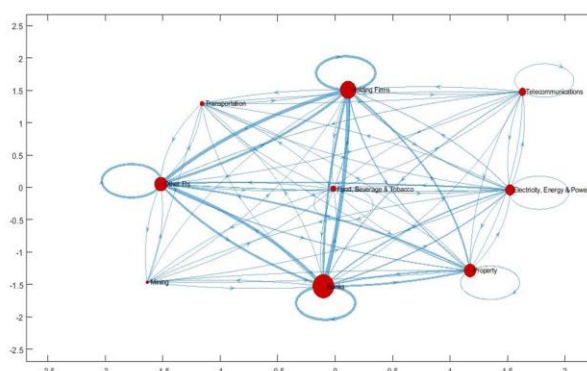
<sup>23</sup> Distressed state is measured as 95th percentile of a firm's loss. Because the proxy for the market is the PSEi, which is an average return of selected firms, including banks, weighted by market capitalization,  $\Delta\text{CoVaR}$  can be interpreted as a measure by which the rest of the firms in the market incur losses when a particular firm gets in distress. Computation of the  $\Delta\text{CoVaR}$  are based on the study of Adrian and Brunnermeier (2011).

<sup>24</sup> Following Acharya *et al.* (2016), the MES measures the tail dependence of individual firms with the market by taking the average of each firm's weekly returns during the 5 percent worst weeks of the market (i.e., the lowest 5 percent of the PSEi returns) for the sample period.

The upgraded results of the Granger causality-based network analysis (for the period October 2007 to June 2019) show that, compared with other sectors, banks continue to be the most interconnected with the rest of the system (**Figure 2.24**).<sup>25</sup> This means that the health of the banking system is an important channel of risk amplification. This is not inconsistent with the result of the  $\Delta\text{CoVaR}$  metric since the health of the banking system is an important facet of systemic risk, even though the vulnerability of the system from individual banks is on average declining.

**Figure 2.24: Granger causality-based network analysis**

October 2007 to June 2019



Source: Reuters, staff calculations

On the whole, there are no indications of immediate vulnerabilities in the banking system. While credit levels have increased aggressively, the CGDP ratio has also decreased in recent periods. Contagion risk, from banks to the system, has decreased although the banking system remains—as it should be—an important element of a well-functioning macroeconomy.

If there are risk issues to raise, it will have to be the prospects of managing liquidity. Aside from simply having more loans versus deposits, using liquid assets as a source for funding more earning assets needs our attention. However, the bigger issue will be that continuing on the path of being a bank-based financial market means that the provision of credit will require taking on mismatches in tenor and in liquidity. As more credit is dispensed, such mismatches will only increase. Certainly, the banking industry has been able to sustain itself despite these mismatches but moving forward, there is value to providing other avenues to alleviate the pressures on the banking books. This is considered in the following Chapter.

<sup>25</sup> The network analysis model captures the interconnectedness of the financial system and illustrates an intricate web of pairwise statistical relations between firms based on the Granger-causal relationship of the firms' equity returns. The current analysis covers the period 26 October 2007 to 21 June 2019 and involves 40 publicly-listed firms in the Philippines, 23 of which are from the Philippine Stock Exchange Index and 13 are firms belonging to the financial sector.





## NON-BANK FINANCIAL MARKETS AND INTERMEDIARIES

The dominance of the banking industry as a funding source is reflective as much of the condition of the non-bank financial sector (NBFS). While the growth of the NBFS in general has long been discussed as a developmental initiative, this Chapter argues that intervention is now more necessary as a potential mitigant of systemic risks. A well-functioning capital market lowers the cost of financing which eventually translates to a gain for the rest of the economy. The primary objective then is to position the NBFS on equal footing with the banking industry.

### 3.1 Capital market

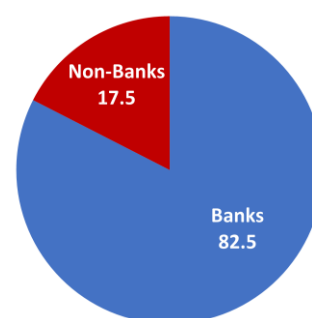
**The banking system has provided both working and capital funding.** The financial market is heavily dominated by the banking industry, with 82.5 percent of total resources lodged in the books of banks (**Figure 3.1**). In managing their short-term liabilities (deposits) against longer-term assets (loans), banks typically provide term funding which are periodically repriced and, where possible, the principal amount is rolled-over for a new term. The tenor and liquidity mismatches are then effectively “priced in,” offering a pricing premium to what should only be instead a term risk.

As **Figure 3.2** shows, two-thirds of the outstanding amount of loans and receivables has a remaining term of five years or less. This explains why the average remaining maturity of loans is just over four years. At the same time, this is a remarkably large proportion of outstanding credit since one naturally assumes that economic investments (which extends the economy’s productive capacity) require a longer gestation period before their full benefits are realized.

**The status quo creates a natural link between the banking industry and the capital market.** At the surface, this link will be defined by the ability of traditional merchant banking to take the active role in investment funding. Aside from shorter-term loans being structured to meet long-term requirements, **Figure 3.2** shows that a third of bank loans have remaining terms of more than five years and that the term bucket that has the largest outstanding amount is for 5-15 years.

**Figure 3.1: Total resources of the Philippine financial system**

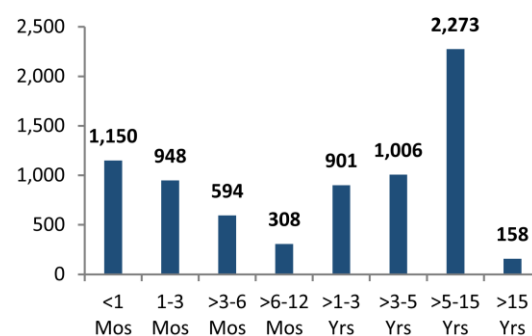
In percent, as of end-May 2019



Source: BSP

**Figure 3.2: Loans and receivables by residual maturity**

In PHP billions, as of end-March 2019



Note: The data cover only universal and commercial bank (on solo basis) and exclude interbank loans receivables.

Source: BSP

The link though extends to pricing. Banks would need a way to properly set a fair price for the cost of longer-term funds. Deposit rates merely represent the banks cost of (short-term) funds but the price of time and liquidity needs to be set elsewhere. This is a role best left to the capital market through the price discovery function (see the discussion below).

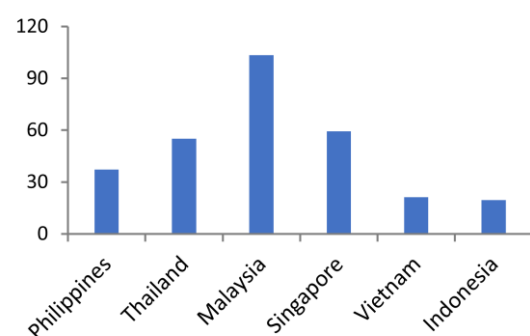
Ideally then, raising term funds must be neutral between a bank loan and a capital market issuance. One can choose to pay periodic interest or a fixed coupon rate. This is not simply an issue of one's outlook on interest rates. A point often raised by market players is the cost of structuring a security. Current anecdotes place this cost at around 30 basis points for an average issue size of PHP5 billion. This is a deterrent inasmuch as it is an outright expense to the issuer (before any proceeds are generated from the issuance) which would not otherwise be incurred for bank-based borrowing.

However, it is not clear which costs can be further streamlined by more competitive pricing of market services (i.e., agency, rating, and legal fees, among others) as opposed to those costs which arise because of regulation.

**Market reforms have been initiated to deepen the capital market (Box Article 1).** Financial authorities are keenly aware of the value of having a thriving capital market and in this context, a specific reform agenda has been put in place. This agenda focuses on establishing market liquidity by specifying the role of designated agents (i.e., market makers), re-packaging a key instrument [i.e., Repurchase agreement (Repo)] and improving the market infrastructure that underpins market activity [i.e., trading platform and the New Registry of Scripless Securities (NROSS)].

**Figure 3.3: Local currency bond market as percent of GDP**

In percent, as of end-March 2019



Source: AsiaBondsOnline

**But all of these must start from having “enough” outstanding securities.** Liquidity simply reflects “what is out there” in the market. Thus, when noting that the parity between the banking industry and the capital market is formed through market prices, we are also making the point that the generated pricing depends on outstanding volumes (funding liquidity) and market activity (turnover).

As of June 2019, outstanding government securities (GS) amounts to PHP5.29 trillion, with another PHP1.42 trillion reported to have been issued by corporations.<sup>26</sup> These numbers, as a percentage of nominal GDP (**Figure 3.3**), are relatively modest when compared with Thailand (55.0 percent), Malaysia (103.4 percent) and Singapore (59.4 percent).<sup>27</sup>

<sup>26</sup> Data from AsiaBondsOnline

<sup>27</sup> The relevant Philippine figure is 37 percent. To make the numbers more comparable, we have taken out central bank issued securities from the data of the other jurisdictions cited.

## BOX ARTICLE 1

### Capital market reforms and planned borrowing activities of the government

In 2018, the Philippines achieved milestone developments in the domestic capital markets through the collaborative efforts of the Bureau of the Treasury (BTr), BSP, Securities and Exchange Commission (SEC), and market players. Reforms are geared towards enhancing the primary and secondary market liquidity and enhancing price discovery of GS. These are as follows:

1. The enhanced Government Securities Eligible Dealers (GSED) program was successfully implemented as the government recognized the 10 GSED-market makers. These institutions have an important role in stimulating market activity in GS markets through providing liquidity, supplying immediacy to trading participants, actively providing bid and offer quotes, and enhancing breadth, depth, tightness, and resiliency of the local debt market;
2. The GS Repo Program has provided funding and trading liquidity to trading participants;
3. The GS trading platform successfully transitioned from the X-Stream platform into the Bloomberg FIQ, upgrading the trade capture system as it offers robust and flexible set of tools to support the full trade workflow;
4. The adoption of the Bloomberg Valuation benchmark curve and the revision of rules on mark-to-market (MTM) of GS intend to reduce significant daily MTM losses among investor; and,
5. The NRoSS system was also launched, which integrated the auction and registry platforms of GS, minimizing operational risk and aligning with international standards. The NRoSS system is also capable in achieving real-time, final and irrevocable delivery-versus-payment since the system is interfaced with the Philippine Payment and Settlements Systems (PhilPaSS) of the BSP via the Real Time Gross Settlement (RTGS).

#### What to expect in 2019

The government will be increasing borrowings by 22 percent to PHP1.19 trillion to finance a higher fiscal deficit to fund the BBB infrastructure program of the Duterte Administration. A higher funding requirement of the government with heavier reliance on domestic sources would test the capacity of the domestic capital market to provide the financing needs demanded.

The government is also currently developing features for Sukuk, inflation-linked bonds, floating rate notes, and other structures, and refining its local debt market reforms that will foster a robust domestic environment. Additionally, the government is on track to launch programs to expand its financial inclusion thrust. This includes the introduction of an online ordering facility for retail treasury bonds and provincial financial literacy workshops with local government units and cooperatives.

External sources available in commercial borrowings and loans from multilateral institutions and other development partners can also be utilized to minimize the crowding out of the domestic private sector and to meet the government's funding requirements. Moreover, through the implementation of the Package 4 (capital income and financial taxes) of the Comprehensive Tax Reform program, tax on GS and other instruments will be standardized, which are seen to encourage investment in the country both of domestic and offshore investors, thereby enhancing the liquidity of not only of the domestic bond market but also that of the stock market.

**Table 3.1: Repo Trade Program: Transactions from November 2017 to January 2019**

Series	Tenor	Coupon	Maturity	Amount Outstanding	Face Amount	% to Amount Outstanding
<b>FXTN 7-56</b>	2yr	3.875	11/22/2019	197,200,000,000	2,250,000,000	1.14%
<b>RTB 3-8</b>	2yr	4.250	04/11/2020	181,930,000,000	8,111,000,000	4.46%
<b>FXTN 7-58</b>	5yr	3.500	04/21/2023	86,770,000,000	25,150,000,000	29.98%
<b>FXTN 10-60</b>	8yr	3.625	09/9/2025	143,660,000,000	19,155,000,000	13.33%
<b>FXTN 20-17</b>	14yr	8.000	07/19/2031	255,840,000,000	91,800,000,000	35.88%

Source: SEC

To improve on market turnover, the Repo Trade Program was launched in November 2017.<sup>28</sup> Data from the SEC shows, however, that program activity has been largely sporadic since its launch (**Table 3.1**). As of January 2019, the securities under repo agreement accounted for only 2.9 percent of the total outstanding GS and 10.2 percent of benchmark securities. This level of activity would certainly not be able to achieve the objectives set out by the program itself.

At this point, the FSCC does not believe that the principal limitation is that this program is scoped exclusively for certain banks. It is not clear why expanding it to other participants would necessarily raise market activity. Instead, a more fundamental review of the objectives of securities borrowing and lending may be warranted. This is more so the case because the securities that have been transacted under the program are those with relative depth already to begin with.

A case can likewise be made that we should aspire to have more securities, both government and corporate issuances, since the PHP6.59 trillion<sup>29</sup> outstanding is still less than the PHP7.34 trillion in outstanding bank loans and receivables.<sup>30</sup> A stricter measure may focus only at those outstanding issues with tenors from five years and beyond, and on this measure, outstanding GS of PHP2.59 trillion<sup>31</sup> falls near the PHP2.43 trillion loans outstanding.<sup>32</sup>

**The distribution of securities matters as much as the total outstanding to create benchmarks.** The preceding point provides a hint that the distribution of outstanding issues matters as much as the outstanding amount itself. Quite simply, we need this distribution to create depth across different tenor buckets which will subsequently define pricing.

<sup>28</sup> The repo program enhances market liquidity in the economy as it provides additional option for short-term financing for the market and allows market players to source GS among themselves.

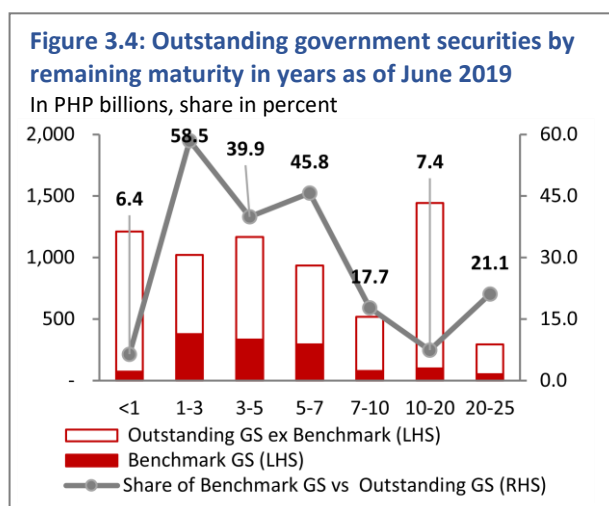
<sup>29</sup> Data as of March 2019 from AsiaBondsOnline

<sup>30</sup> Data as of March 2019 from BSP

<sup>31</sup> Data as of March 2019 from BTr

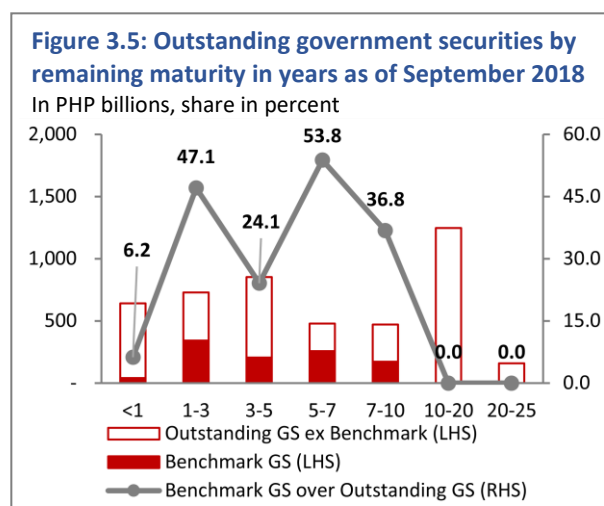
<sup>32</sup> Data as of March 2019 from BSP

On this point, consecutive issuances of the BTr in longer-term tenors created benchmarks beyond 10 years (as of June 2019) when only nine months before, these did not exist at all (**Figure 3.4** and **3.5**). With 70.0 percent of the outstanding issues with tenors of up to 10 years, the distribution marginally improved from the 69.2 percent as of September 2018. The more meaningful gain—still modest but an important improvement—is that 24.7 percent of the value of outstanding securities are now serving as benchmarks, up from the 22.3 percent three quarters ago.



Note: Based on remaining maturity as of 30 June 2019

Source: BTr



Note: Based on remaining maturity as of 30 September 2018

Source: BTr

**Having such benchmarks is absolutely critical for the price discovery function.** From the FSCC's standpoint, the key development is that PHP151.5 billion in benchmark securities are now lodged in the tenor buckets beyond 10 years (**Table 3.2**). This moves the market in the right direction because it provides a basis for pricing long-term funds while extending the maturity profile of the securities market.

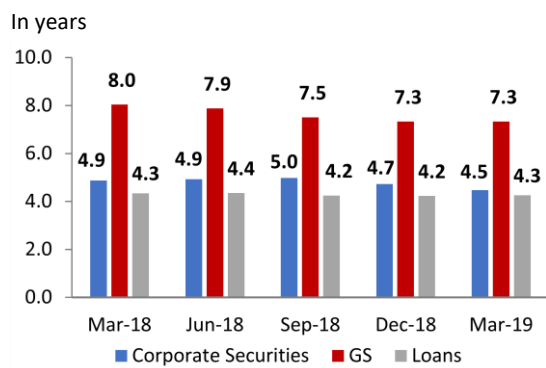
**Table 3.2: Government benchmark securities**

In PHP billions, as of September 2018 and June 2019

Tenor	September 2018	June 2019	Growth (in percent)
<1	39.9	73.3	83.5
1-3	343.2	377.0	9.9
3-5	205.5	333.2	62.2
5-7	257.9	293.5	13.8
7-10	173.1	78.0	-54.9
10-20		100.0	n.a.
20-25		51.5	n.a.
<b>Total</b>	<b>1,019.6</b>	<b>1,306.5</b>	<b>28.1</b>

Source: BTr, staff calculations

**Figure 3.6: Weighted average tenor of government securities, corporate securities and loans**

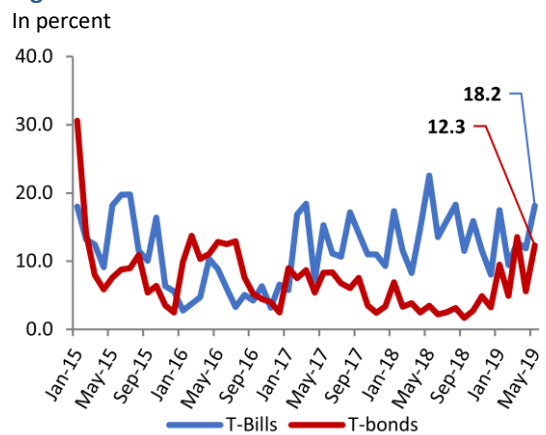


Note: Based on remaining maturity for the period indicated  
Source: BTr, Staff calculations

On the latter point, the modest moves should still be acknowledged even if the average tenors do not yet show significant changes (Figure 3.6). Such changes will come with increased issuances in longer tenors vis-à-vis the more dominant terms of up to 10 years. For now, with average maturities between loans and corporate bonds roughly comparable, there is less reason to opt for the latter over the former.

The relatively short-dated GS on average is likewise a factor because, when combined with limits on available *de jure* benchmark securities and low market activity (Figure 3.7), all of these conspire to make pricing and valuation a real challenge.

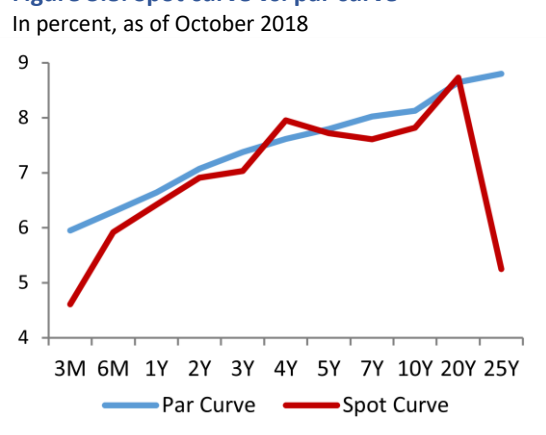
**Figure 3.7: Turnover ratios**



Source: PDS and BTr

Under these conditions, the yield curve would tend to be jagged and prone to sudden shifts in rates from period to period. This reflects how a particular tenor may “jump” from done deal rates to bid rates to an interpolated rate, a hierarchy prescribed by accounting standards on fair valuation for active markets. Rather than address the underlying liquidity and turnover issues, the initiative, unfortunately, has been to “smoother” the yield curve using the proprietary algorithm of an outside party.

**Figure 3.8: Spot curve vs. par curve**



Source: PDS

Such smoothed yield curve has the benefit of minimizing the MTM effects of an otherwise “jumpy” curve (Figure 3.8). Nonetheless, it is good to have a yield curve that reflects spot rates (rather than par rates) and have any simulated rate (for example, those which are interpolated) easily verifiable from available market rates. Insisting on spot rates allows us to properly value “units of time,” providing a reward for waiting (for those giving up liquidity) as well as a price for borrowing (for those taking in liquidity). By construction, par rates would not provide such valuation and when the announced rates cannot be reconstructed from known market rates, then it adds another layer that can distort the proper valuation of time.

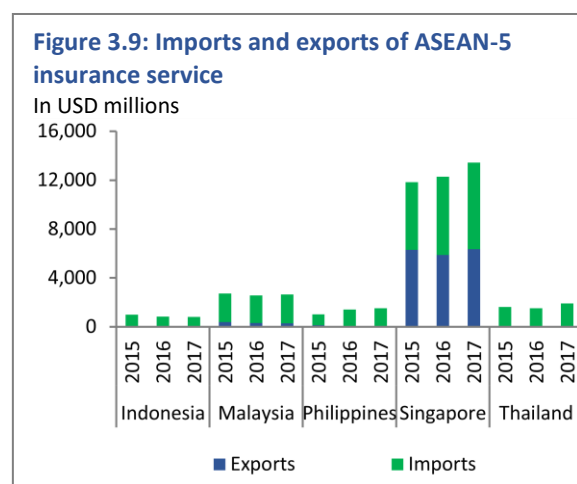
This emphasis on proper valuation is necessary because it brings us back to the link between the capital market and banking. The rates needed to reprice term loans are spot rates. These are the same rates that outside users can work on to determine if it is to their advantage to prefer a re-priceable loan versus a fixed coupon rate. Unless the proper valuation is instilled, this link between the banking industry and the capital market cannot be established, fragmenting the financial system in the process. Such fragmentation is precisely the disruption that leads to systemic risks.

### 3.2 Contingent market

**The contingent market is an important but often overlooked component of a well-functioning financial system.** Hedging is critical to effectively managing risks, whether these are from financial transactions or contingent events. In this context, there is also a price discovery function in contingent markets, this time for the price of various hedges. On the other hand, this market needs to be an active investor in the capital market in order to manage the investment risks arising from short-term assets (i.e., premiums) and longer-term liabilities (when the insurance plans are called or mature).

**However, the contingent market tends to remain comparably modest in size.** The domestic insurance sector is relatively small when compared to the Philippine banking system. As of March 2019, the resources in the books of banks amounted to PHP17.02 trillion, considerably larger than the PHP1.68 trillion asset size of the insurance markets as of the same period.

The modest size of the insurance sector is also reflective of its low penetration rate of 1.65 percent (market premiums as a percentage of GDP) for 2017<sup>33</sup> when the comparable rate in other ASEAN-5 jurisdictions is said to be at least 3 percent. Our penetration rate has marginally improved to 1.68 percent as of March 2019 but the ASEAN average has likewise increased to 3.6 percent (Mohamad Zahid, 2018). Further, for ASEAN-5 countries, most insurance services are supplied by foreign service suppliers (**Figure 3.9**).<sup>34</sup>



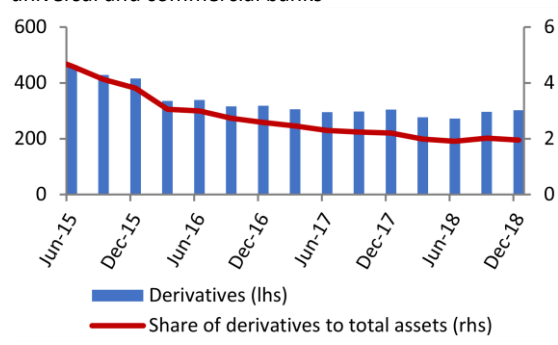
Source: ASEANstats

<sup>33</sup> Based on the 2017 Annual Report of the Insurance Commission (IC)

<sup>34</sup> The amount of insurance services (in USD millions) imported and exported by ASEAN countries.

**Figure 3.10: Notional amounts of derivatives vs. share to total assets**

Derivatives in PHP billions, share in percent, universal and commercial banks



Source: BSP

Financial derivatives, on the other hand, as reported by universal and commercial banks remains relatively insignificant, amounting to only 2 percent of total assets in end-2018 (**Figure 3.10**). Since these are principally interest rate and foreign exchange contracts,<sup>35</sup> it is possible, however, that the actual amounts transacted will be more than the notional amounts reported as of cut-off date. Nonetheless, relative to the amount of risk assets carried by the banks, the extent of derivatives transactions does appear limited, which in turn prevents an active capture of the price of hedge.

**Despite its modest size, the contingent market plays a key role in the cash and capital markets.**

While banks remain the dominant player in many EMEs, including the Philippines (ADB, 2009), insurance companies and pension funds also play a key role as long-term institutional investors in the domestic capital markets and can be active in the cash market. This follows from the structure of their portfolio: short-term assets can be deployed to both cash and capital markets, in anticipation of both their short-term funding needs and their longer-term liabilities.

In 2018, insurance companies placed PHP1.33 trillion as investments in various instruments, of which more than 40 percent are in bonds and around 30 percent are in stocks. These are not small amounts as they represent 11.1 percent of GS outstanding and 30.3 percent of equities market capitalization as of 2018.

Insurance companies, in particular, will look to the capital market for investment opportunities. The regulation that increases their minimum capital from PHP550 million to PHP900 million by end-2019 represents a considerable amount of liquidity that needs to be productively placed, either to build up operations or as additional risk buffers which will need to be invested. By 2022, this minimum capital would be increased further to PHP1.3 billion which again is a significant uptick. On the whole then, we should expect the contingent market to be active institutional investors in the near to medium-term.

**ASEAN integration will play a role.** Domestic developments will not be all that the contingent market must face moving forward. The ASEAN Insurance Integration Framework (AIIF), for example was signed by the ASEAN Leaders in 2015, paving the way for an organized collaboration on cross-border insurance services. The initial phase of the AIIF focuses on marine, aviation and goods-in-transit insurance and one can very well expect that catastrophe insurance as well as boosting reinsurance will not be far behind.

<sup>35</sup> See appendix 3 of the Report on the Philippine Financial System (BSP, 2019)



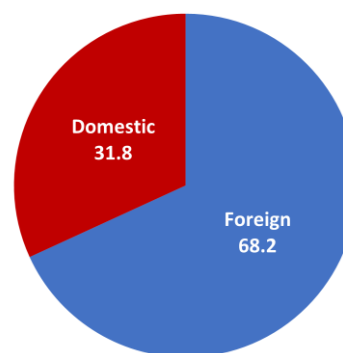
This is, arguably, where the more modest size of the local insurance industry matters. Under the WTO four modes of the supply of services, our insurance industry needs to compete with the service providers in larger markets to provide what may seem to be a homogenous product. The local industry needs to prepare for Mode 1 (cross-border supply<sup>36</sup>) and Mode 2 (consumption abroad<sup>37</sup>) immediately, lest it loses out on market opportunities. The increase in capitalization is a step in the right direction but a parallel development in the cash and capital markets is needed to properly deploy the funds, hopefully alongside an increase in market premiums vis-à-vis GDP.

Mode 3 (commercial presence<sup>38</sup>) and, to a much more limited sense, Mode 4 (presence of a natural person<sup>39</sup>) appear to be inevitable. However, one can also point out that Mode 3 is already happening in today's market since foreign insurance companies still dominate the life insurance industry in terms of asset size and premium income (Figures 3.11 and 3.12). As more of the foreign service suppliers take presence in the domestic market, the industry needs to directly compete so as not to be fully dominated by foreign institutions. How the industry plans to do this will not only define the competitive landscape but also outline the risks, both cross-border and contagion, faced by this market.

### 3.3 Clearing and settlement systems

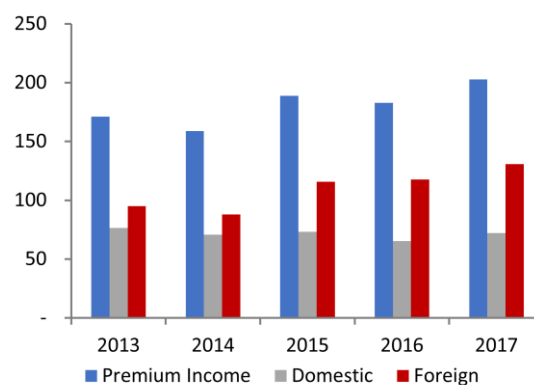
**Developments in the clearing and settlement space are unfolding at two distinct levels.** At the most basic, the amounts processed for payments are significant, of the order of 15 times that of the resources of the banking system or of the economy (Figure 3.13). This highlights the substantial amount of (gross) liquidity needed to support financial market activity. This point is not trivial because it means that the magnitude of settlement/pre-settlement risk may be a much bigger concern than credit risk.

**Figure 3.11: Life insurance assets 2017**  
In percent



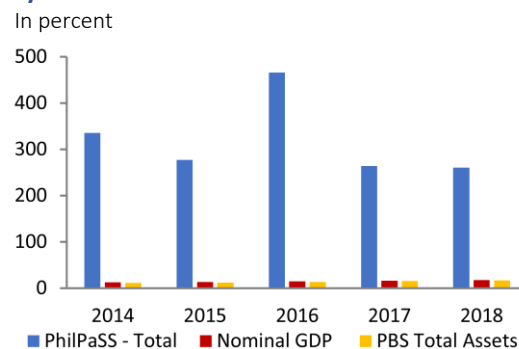
Source: IC Key Statistical Data, 2013-2017

**Figure 3.12: Premium income**  
In PHP billions



Source: IC Key Statistical Data, 2013-2017

**Figure 3.13: PhilPaSS transaction values vs. nominal GDP vs. Philippine banking system assets**  
In percent



Source: PDS group

<sup>36</sup> Services delivered to the territory of a member state from the territory of another member.

<sup>37</sup> Consumers from the territory of a member consume the service in the territory of another member.

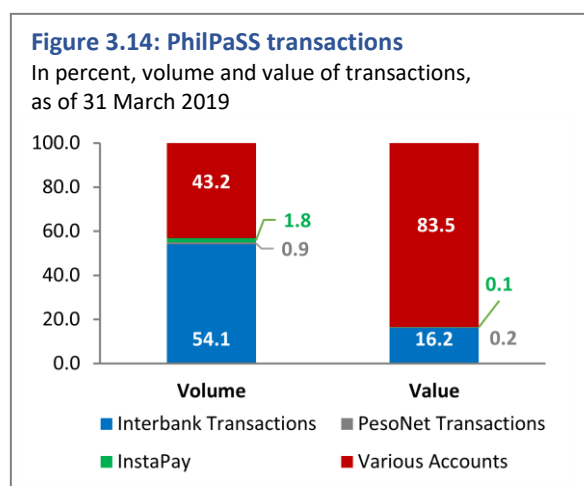
<sup>38</sup> Service providers from a territory of a member take commercial presence in the territory of another member.

<sup>39</sup> The supplier from another territory acts as a natural person in the territory of another member.

It also suggests why unwinding failed transactions can have broad system-level implications. Despite institutionalizing the delivery-versus-payment protocol, the system remains vulnerable because a single bilateral failed trade may require a network of unwinding. Unfortunately, such data is not easily accessible and the extent to which these “settlement fails” represent a possible systemic risk—not just in size but more so in terms of interlinkages that can spillover to the rest of the economy—is not readily determinable, at least at this time. In general, payments system data remain largely untapped and not having even a cursory view of the dynamics of the payments network leaves financial authorities blind to their possible consequences. This is a major concern.

**On the other hand, there is so much movement in the retail payment system.** Coming from a base where the Better-than-Cash Alliance<sup>40</sup> estimated in 2013 that only one percent of transactions are facilitated by electronic transactions, the authorities have undertaken an aggressive and ambitious program to digitize retail finance. InstaPay<sup>41</sup> and PESONet<sup>42</sup> were recently formally launched to provide the means to shift away from cash and into digital platform.

Although the BSP has set a 20 percent-by-2020 target, understandably, the shift will take time. As of the first quarter of 2019, the volume and the value of transactions of InstaPay and PESONet is at 2.7 percent and 0.3 percent, respectively, of the total PhilPaSS transactions (**Figure 3.14**).



Source: BSP

These numbers are arguably marginal at this point but they also underestimate the mindset shift that is transpiring. Many FIs, for example, have invested into electronic channels of customer interaction. Paper-based billing and bank account statements have been replaced by electronic records although the paper format may still be available at a fee. Even the venerable cheque has seen a transformation with its clearing now done using images instead of processing the cheque itself.

<sup>40</sup> The Better-than-cash Alliance is a partnership of governments, companies and international organizations that accelerates the transition from cash to digital payments in order to drive inclusive growth and reduce poverty. In its report, it acknowledges the Department of Budget and Management and BSP as co-champions.

<sup>41</sup> InstaPay was launched on 23 April 2018 by the BSP as another automated clearing house dubbed allowing 24/7 low value electronic fund transfers below PHP50,000.

<sup>42</sup> PESONet is the first automated clearing house under the BSP National Retail Payment System (NRPS) program. It was launched by the BSP and several FIs in November 2017.

**Republic Act (RA) No. 11127<sup>43</sup> (Box Article 2) is a welcome opportunity to define mechanisms that are necessary to monitor and manage systemic risk.** There will be “kinks” that will unfold as we continue to roll out digital finance 2.0. Having the National Payment Systems Act (NPSA) in place helps to set accountabilities and the policy direction. Specifically, the NPSA provides for the legal oversight by the BSP of payment systems in the Philippines as well as exercise supervisory and regulatory powers for the purpose of ensuring efficient regulation of these systems. The BSP, as the payments regulator, will be called upon for macroprudential policy interventions to ensure the health of the payment system and, indirectly, that of the broad financial market.

**ASEAN integration will again be a consideration.** While the clearing and settlement systems must inherently reflect the needs of the local economy, one cannot also side step the fact that commitments have been made in line with the integration of the ASEAN financial markets. This puts the clearing and settlement at the core of this initiative because it must provide the gateway for interconnectivity between ASEAN member states.

This is the opportunity and the risk faced by clearing and settlements systems in ASEAN. It is not just that there is diversity in market infrastructures across ASEAN, the bigger issue may be that there has not been active discussion with stakeholders on how the linkages between the regional markets should be made. The desire to integrate banking, insurance and capital markets, for example may require clearing in central bank money which will set requirements on both the systems and on the reserves that central banks must maintain. It is not clear that this point has been made to all.

As ASEAN continues to lower its intra-regional barriers, there must be a clearly communicated plan on how fungible financial resources will find their way from one jurisdiction to the other. To date, this plan appears to be restricted to the technical experts in this field and that alone represents a major systemic risk. Much more needs to be done.

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<sup>43</sup> RA No. 11127 or the NPSA provides a comprehensive legal and regulatory framework which supports the twin objectives of maintaining a payment system that is necessary to control systemic risk and providing an environment conducive to the sustainable growth of the economy.

## BOX ARTICLE 2

## National Payment Systems Act and what it means for financial stability

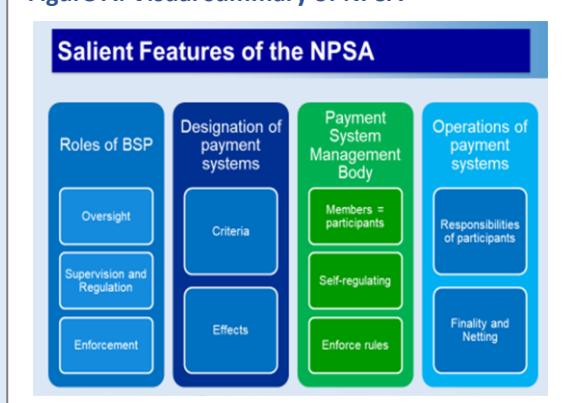
## RA 11127: NPSA

The RA 11127 or the NPSA provides mandate to the BSP as the oversight body in the Philippine payment system with supervisory and regulatory functions to ensure the stability and effectiveness of the monetary and financial system. In the enforcement of its authority, the BSP may impose administrative sanctions on participants of the system.

The main provisions of the NPSA, as illustrated in **Figure A**, are aligned with international standards (BIS, 2005). The following are the salient points of the NPSA:

1. **The BSP shall have the power to designate a payment system if it has, through the Monetary Board, determined that such payment system poses or has the potential to pose a systemic risk or if designation is necessary to protect public interest.** Any such designation shall be conclusive and is revocable only after a finding by the BSP that the designated payment system no longer poses any systemic risk or that it is no longer in the public interest that the system be designated.

Figure A: Visual summary of NPSA



Source: BSP

2. The NPSA provides that **operators** of the designated payment system are required to pass the **minimum requirements**<sup>44</sup> that may be prescribed by the Monetary Board of the BSP.
3. A **payment system management body** may be required or accredited for the purpose of self-regulation. It may enforce rules and regulations on participants as well as impose sanctions amongst participants.
4. The maintenance and **operation of a safe, efficient and reliable payment system** aligned with the rules and regulations shall be the primary responsibility of **the operator of the designated payment system**. Also, operators are **required to incorporate as stock corporations** for the purpose of operating a payment system.
5. The **participant** shall be subject to the directives and orders of the BSP through the Monetary Board which includes submission of reports on operations for monitoring purposes of its operations. In cases of insolvency, the participants shall inform the operator in writing upon the issuance of stay order or the declaration of insolvency, rehabilitation, receivership, or liquidation.

<sup>44</sup> The designated operators of the payment system shall pass the requirements set by the BSP taking into consideration its capability in terms of financial resources, technical expertise and reputation.

6. Another important aspect of this law is the **finality of settlement** of transactions done through the system which is **final and irrevocable** without chances of reversal. In instances that the fund paid is not legally due, the settlement shall remain and the amount shall constitute a new monetary obligation owed by the payee to the person who caused the payment (payor).

### Financial stability relevance

Payment systems<sup>45</sup> are inherently systemically important. The potential or risk that one participant may not meet one's payment obligations will have a reverberating effect to all other market players in the system which triggers a weak confidence in the country's financial infrastructure (NPSA, 2018). This may create a "domino effect" wherein one or more participants in the system incur credit or liquidity problems.

The time-sensitive credit and liquidity interdependencies among FIs are expected to create a network of transactional flows that, in combination with a system's design, can lead to significant demands for intraday credit either on a regular or extraordinary basis (Federal Reserve, 2017). The two parties to the transaction, the payor and the payee, are also interrelated to other transactions either within or external to the payment system. The delay or non-payment at one end, specifically large value transactions, will affect the other end. In this context, intraday liquidity facilities and overdraft credit lines are important to facilitate RTGS.<sup>46</sup>

Due to the important aspect of the payment system to the financial markets and the economy as a whole, central banks play an intrinsic role in their safe and efficient functioning. The enactment into law of the NPSA strengthens the payment system oversight function of the BSP which includes the monitoring of the operations of the payment system and requiring all participants and operators to submit reports on their operations for statistical, policy development, supervisory, and regulatory purposes.

The oversight on the fund transfer system of the Philippines interlinks the BSP with other government agencies and foreign counterparts. The natural link between the (cash) payment system and the securities settlement system makes coordination in policy-making and implementation all the more important to minimize gaps, duplications and inconsistencies in regulation. Further, the law also states the coordination between the BSP and the SEC in the orderly discharge of payment obligations arising from securities transactions. The law also supports the coordination between the BSP and overseers of payment systems of other countries for safe and efficient cross-border payment transactions.

To fulfill Section 21 of NPSA, the BSP has solicited the comments/inputs of the relevant stakeholders on the draft Circular containing the NPSA Implementing Rules and Regulations (IRR) ending 26 April 2019 as posted in the BSP website.<sup>47</sup>

<sup>45</sup> Payment system is defined by the BIS Committee on Payments and Settlement (2003) as: "a set of instruments, procedures and rules for the transfer of funds between or among participants which covers the participants and the entity operating the arrangement." It supports fluidity of funds specially for large value and retail payment systems as well as securities settlement systems.

<sup>46</sup> In the Philippines, the intraday liquidity facility refers to a fully collateralized facility established to maintain the smooth and efficient operation of the payment system in order to avoid interbank payments gridlock in the settlement process within PhilPaSS business hours. Meanwhile, the overdraft credit line refers to a collateralized facility which aims to assist bank experiencing unexpected or higher than usual volume of inward check transactions.

<sup>47</sup> The Payment and System Oversight Department initiated the drafting of the NPSA IRR as well as the solicitation of inputs.



## FINANCIAL TECHNOLOGY

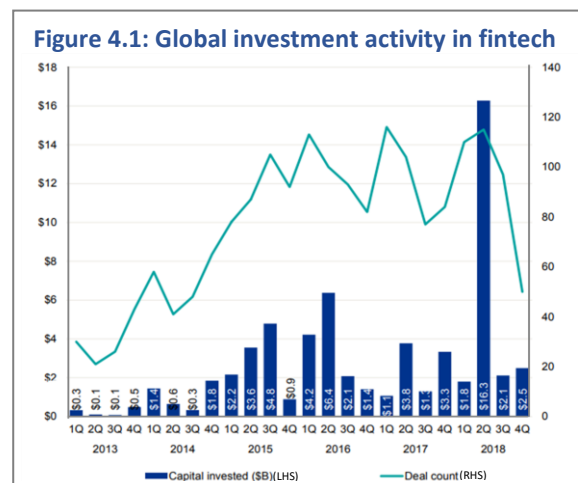
It is not yet clear whether the disruption from fintech is a net benefit to financial stability. The early stage development of technological innovations in the finance industry provides limited risk information and warrants pre-emptive policy attention of regulators and standard-setting bodies (SSB). It is not just a matter of scale and geographic reach of fintech. Interconnectedness, transparency and speed of risk transfer are critical variables that can amplify transaction-level risk to systemic risk.

The reasonable view on fintech for the rest of 2019 is its growing prevalence in retail financial transactions. This is made possible with new entrants and more bespoke financial products as well as further collaboration between technology firms and existing players in the finance industry.

All of these developments suggest additional inter-institution and inter-product linkages in relatively opaque distribution channels that can amplify volatility and propagate risk faster across more financial consumers. As such, it is all the more important for regulators to provide and keep track the standards for transparency, market conduct and prudence.

**Fintech has increasingly become prevalent worldwide.**<sup>48</sup> More than an innovation, fintech has grown into its own industry. Building on business differentiators that are both “purposeful and value creating (Ong, 2018),” the industry received strong investment interest and global investment activity, with fintech companies reaching a new high in end-June 2018 (KPMG, 2018) (Figure 4.1).

**Impact analyses on the entry of fintech players were often related to additional competition.** Once exclusive to banks, payment solutions are now the most common services of fintech firms.<sup>49</sup>



Source: Pulse of Fintech 2018, KPMG

<sup>48</sup> The Financial Stability Board (FSB) has defined fintech as “technologically enabled innovation in financial services that could result in new business models, applications, processes or products with an associated material effect on financial markets and institutions and the provision of financial services (FSB, 2019).”

<sup>49</sup> Ernst and Young ASEAN Fintech Consensus 2018 garnered responses from 251 fintech company officers holding senior positions, including CEOs, 32 percent of which are non-ASEAN companies. As of the date of the report, there are 1,268 fintech companies within the ASEAN 5 and Vietnam.

While this is true for the Philippines, the local industry also offers a wide array of services, including insurtech,<sup>50</sup> credit scoring,<sup>51</sup> alternative financing,<sup>52</sup> and cryptocurrencies.

According to the FSB (February 2019), the prevalence of fintech firms can have one or any of the following implications in the finance industry:

- “i. They may partner (or be taken over) by financial institutions, allowing the financial institutions to improve their service level or efficiency.*
- ii. They may provide a service which is complementary to those provided by existing financial institutions. This could improve the attractiveness of the existing service....*
- iii. They may compete directly with existing financial institutions, reducing margins in the affected segments and reducing the financial institution’s capacity to cross-subsidize products.”*

These suggest that the role of fintech may both be construed as either complements or substitutes. As complements, fintech increases market access, promotes diversification and provides more financial products. In doing so, it encourages incumbent FIs to provide better and more tailored services, be more efficient in their business processes and lower their transaction costs. As a substitute, fintech is seen as competitor as it is entering markets and supplying financial products previously serviced by banks and other financial service suppliers. This includes consumer banking, investments, lending, and remittances.

**The policy discussion has shifted from concerns on disintermediation to possible collaboration between FIs and fintech companies.** In the latest survey of Ernst and Young (2018), the digital adoption of FIs in Asia has been remarkable. **Figure 4.2** shows how traditional financial service suppliers have responded to ongoing digital adoption in financial regulation, policy and technology. As a potential rival industry, fintech has forced FIs to rethink their business models. Greater focus on improving customer service and responding to customer demands were frequently mentioned as the keys to success. As a means to do so, the survey showed that FIs in the region are willing to establish digital partnerships.

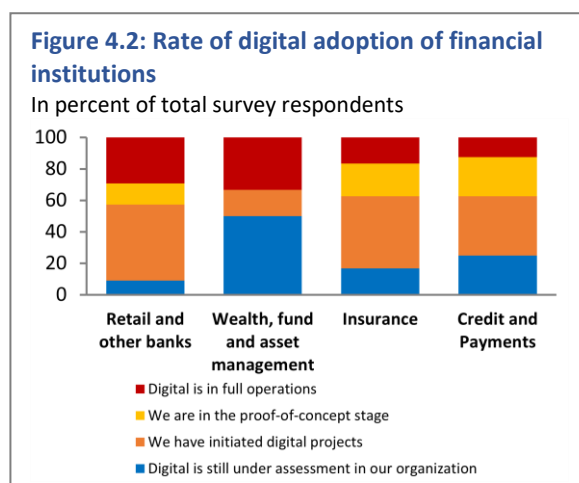
<sup>50</sup> Insurtech is the insurance-specific branch of fintech that refers to the variety of emerging technologies and innovative business models that have the potential to transform the insurance business (IAIS, 2017).

<sup>51</sup> Credit scoring is a statistical method of evaluating the probability of a prospective borrower to fulfill its financial obligations associated with a loan (WB, 2011).

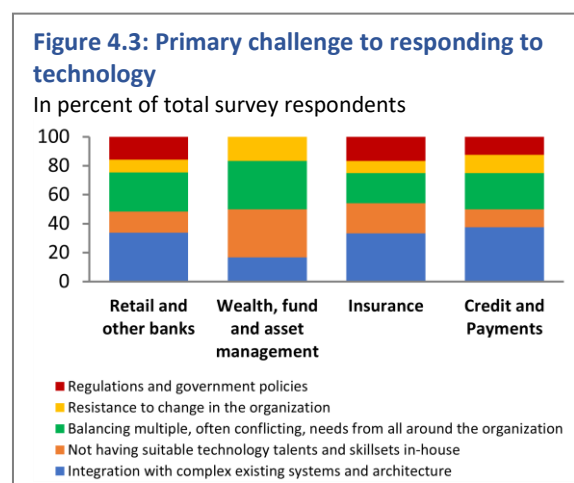
<sup>52</sup> Alternative finance includes financial channels and instruments that emerge outside of the traditional financial system (i.e. regulated banks and capital markets). Examples of alternative channels are online 'marketplaces', such as equity- and reward-based crowdfunding, peer-to-peer consumer/business lending, and third-party payment platforms (Cambridge, 2019).



However, integrating new technology systems with existing infrastructure remains a challenge. Figure 4.3 shows how the traditional financial services suppliers are viewing the challenge of responding to technology adoption in their businesses. This is critical from a regional integration perspective as it implies that harmonization among ASEAN jurisdictions goes beyond policy to actual infrastructure. It brings to the fore the importance of payment system platforms as the financial network pipeline in furthering integration initiatives. As such, the possibility of non-convergence and non-harmonization of infrastructure among jurisdictions in the region exists.



Source: Ernst and Young (2018)



Source: Ernst and Young (2018)

In response to the developments in the fintech industry, the ASEAN has taken steps to integrate fintech with FIs within the region through the ASEAN Financial Innovation Network (AFIN). The AFIN launched the Application programming interface exchange (APIX) in November 2018 in an effort to promote financial inclusion by providing a cross-border platform for collaboration between fintech firms and FIs. The APIX also adopted the *regulatory sandbox* approach<sup>53</sup> (also referred to as test-and-learn approach) which allows fintech firms and FI participants to integrate and test applications with each other through a cloud-based architecture. The AFIN signed a memorandum of understanding with the Singapore Fintech Association (SFA). This allows the APIX to further leverage on the domestic and international network that SFA has established through the years and promote the APIX initiative worldwide (Finextra, 2019).

<sup>53</sup> A regulatory sandbox is a regulatory approach, typically summarized in writing and published that allows live, time-bound testing of innovations under a regulator's oversight (United Nations Secretary-General's Special Advocate for Inclusive Finance for Development, 2019).

In April 2018, the BSP launched InstaPay,<sup>54</sup> the latest automated clearing house. Similar with the PESONet,<sup>55</sup> the InstaPay was designed under the NRPS framework. Stronger regulations, as well as efficient payment and settlement systems are expected, along with the target of raising the amount of digital transactions by 20 percent by 2020 (Espenilla, 2018). The NRPS is not only envisioned to be a platform for fintech innovations but also an instrument to promote financial inclusion.

**While no one challenges the benefits of the use of fintech for financial inclusion, the concern lies on whether the current prudential regulations that address onshore risks naturally extend to cross-border fintech arrangements.** As such, it is all the more important for regulators to provide the enabling environment while keeping the standards for transparency, market conduct and prudence in place.

The primary challenge for central banks and financial supervisory authorities (FSA) is striking the right balance between maximizing the benefits and minimizing the potential systemic risks from financial innovation. To this end, fintech has gained much interest from SSBs.

On 11 October 2018, the IMF and the WB Group launched the Bali Fintech Agenda which defined 12 elements as guide to finding the policy balance on fintech (**Table 4.1**). While the elements are by no means intended to provide specific policy advice, the Agenda frames the roles of central banks and FSAs as (1) enablers of financial innovation, (2) regulators of the attendant risks as well as (3) protectors of public confidence in the financial system.

**Table 4.1: The Bali Fintech Agenda**

Elements	
1	Embrace the promise of fintech
2	Enable new technologies to enhance financial service provision
3	Reinforce competition and commitment to open, free and contestable markets
4	Foster fintech to promote financial inclusion and develop financial markets
5	Monitor developments closely to deepen understanding of evolving financial markets
6	Adapt regulatory framework and supervisory practices for orderly development and stability of the financial system
7	Safeguard the integrity of financial systems
8	Modernize legal frameworks to provide an enabling legal landscape
9	Ensure the stability of domestic monetary and financial systems
10	Develop robust financial and data infrastructure to sustain fintech benefits
11	Encourage international cooperation and information-sharing
12	Enhance collective surveillance of the international monetary and financial system

Source: IMF (October 2018a)

<sup>54</sup> InstaPay is a real-time low-value electronic funds transfer credit push payment scheme for transaction amounts up to PHP50,000 useful for the purchase of retail goods, paying toll fees and tickets as well as for e-commerce which shall enable, among others, micro, small and medium enterprises.

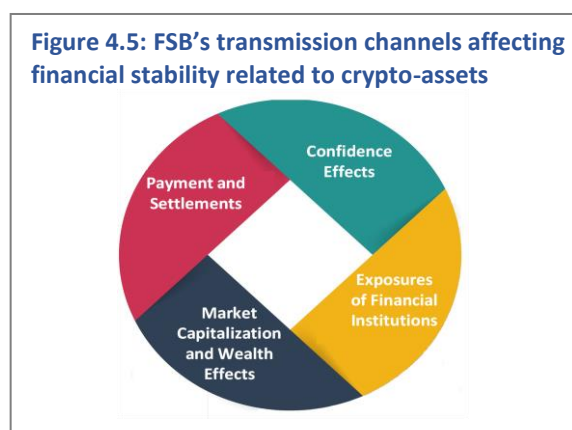
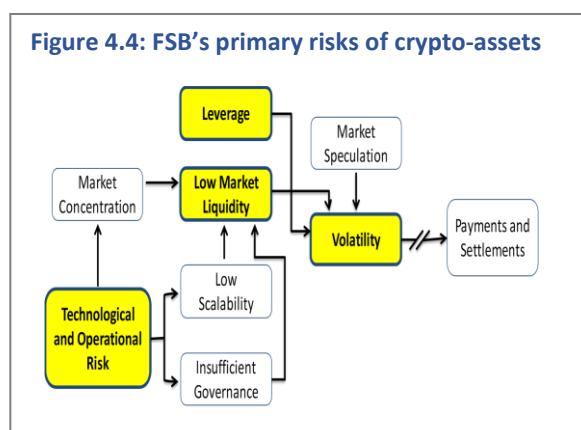
<sup>55</sup> PESONet is an electronic funds transfer service that enables customers of participating banks, e-money issuers or mobile money operators to transfer funds in PHP to another customer of other participating banks, e-money issuers or mobile money operators in the Philippines.

Another area of policy interest is whether cryptocurrency should be classified as currency, commodity or security. Although there are transactions where cryptocurrencies are accepted as a medium of exchange, its volatility and lack of underlying asset cast doubt if it can function as a unit of account and store of value. This innovation is seen by many economists to be nothing more than an asset bubble.<sup>56</sup> A close examination of cryptocurrencies reveals that it forms a network of varying sources of potential fragility through overlapping exposures and relevant feedback effects. For instance, it is recently observed that ether<sup>57</sup> prices are affected by changes in bitcoin prices and not the other way around.

In addition, the bitcoin's heavy reliance on technology opens it to vulnerability and questions its reliability as a store of value. Some crypto-assets also rely on price trackers that use cloud-based storage. If a catastrophic event, such as a massive power interruption, disrupts internet access to cloud-storage facilities, this could affect any cryptocurrency that has reached broad adoption among consumers, and is more intertwined with the mainstream financial system, thus increasing the likelihood of price shocks.

Several jurisdictions have defined cryptocurrency as a security.<sup>58</sup> This is more in line with the FSB's definition of crypto-asset as "a type of private asset that depends primarily on cryptography and distributed ledger or similar technology as part of their perceived inherent value (FSB, 2018)."

**Governance and oversight remain critical.** Recent work by the FSB identified four primary risks (Figure 4.4) and four amplification channels (Figure 4.5) related to the rise of crypto-asset markets.



<sup>56</sup> Noted Nobel laureate and University of Yale Economist Robert Shiller described cryptocurrencies as "a monetary innovation that arose in part as a result of technological revolution and public fascination over its apparent complexity and aura of exclusivity (CNBC, 2018)."

<sup>57</sup> Ethereum aims to function both as a kind of decentralized internet and a decentralized app store, supporting a new type of application (a "dapp") in the process (Coindesk, 2019).

<sup>58</sup> The US Securities and Exchange Commission (April 2019) has provided guidelines in considering digital assets as a security. The UK has also established their scope in regulating crypto-assets either as security or e-money. France and the Netherlands have also issued guidelines in classifying crypto-assets as securities. Some countries have also provided regulations in the use of crypto-assets as means of payment.

The risks identified are not unique to crypto-assets although some are more pronounced based on recent data. In particular, the concentration of bitcoin ownership to limited investors (**Table 4.2**) and operational issues on trading platforms pose limitations on market liquidity for crypto-assets. In addition, the distributed ledger technology (DLT) can still be considered at its early development. It could reportedly process only up to seven transactions per second (tps) in comparison to Paypal which can handle 193 tps and VISA which can handle 56,000 tps (O’Keeffe, 2018). The limited transactions that the DLT can accommodate impact the depth of the market.

**Table 4.2: Distribution of bitcoin value among bitcoin addresses**

Data as of 26 July 2019

Average Balance	Addresses	Percent Total Addresses	Coins (Bitcoin)	USD Equivalent	Percent of Total Coins
0 - 0.001	13,017,985	48.83%	2,613	25,576,562	0.01%
0.001 - 0.01	6,199,919	23.25%	24,994	244,648,996	0.14%
0.01 - 0.1	4,693,364	17.60%	154,590	1,513,183,083	0.87%
0.1 – 1	2,001,645	7.51%	628,312	6,150,153,694	3.52%
1-10	594,806	2.23%	1,562,612	15,295,436,778	8.76%
10 – 100	136,926	0.51%	4,436,384	43,425,002,181	24.87%
100 - 1,000	14,130	0.05%	3,582,389	35,065,781,211	20.09%
1,000 - 10,000	1,852	0.01%	4,469,132	43,745,552,958	25.06%
10,000 - 100,000	111	0%	2,424,246	23,729,439,567	13.59%
100,000 - 1,000,000	4	0%	550,409	5,387,607,066	3.09%

Source: bitinfocharts.com (2019)

The crypto-assets are also prone to volatility from market speculation, that is, wealth effects are easily built and eroded. Leveraged positions magnify the risks since less equity is available to absorb downside risks from wealth effects and counterpart funding entities are exposed to potential defaults. All these suggest the need for a strong surveillance system in order to have a better handle on the risk transmission channels. Publicly available estimates are usually in world or regional aggregates and are generally limited to the degree of market penetration. Vulnerabilities at the firm level which can become systemic through contagion are not properly identified.

**Public attention has been heightened because of cases of relatively large-scale failures.** In February 2019, Canadian crypto exchange QuadrigaCX hits the news as around USD190 million worth of cryptocurrency became inaccessible and were reported “lost” following the death of its founder (De, 2019). In Asia, South Korea’s Bithumb exchange was reportedly compromised in June 2018 costing the public USD31.5 million (Kim & Lee, 2018). Japanese exchange Coincheck was also compromised in January 2018 with roughly USD530 million missing (Uranaka & Wilson, 2018). These incidents suggest that there are issues that need to be addressed and, in that context, there is urgency to building safeguards and enhancing desired standards.

**However, there is no silver bullet to monitoring and managing financial stability risks related to fintech.** A conservative approach is to apply the same rules to the same risks. In lieu of piecemeal regulations which target specific innovations/financial activities, it has been recommended that a standard framework which takes into account the domestic financial landscape and the FSA's policy objectives be applied on innovations on a case-by-case basis (OECD, 2009). This is the case for the Philippine banks where the risk assessment and management of new financial products and services are guided by an information technology risk management framework (ITRMF).<sup>59</sup>

The BSP has also taken initiatives in line with the developments within the region. The BSP has likewise adopted the regulatory sandbox approach with the objective to strike a balance between promoting innovation by lowering barriers to testing innovative financial products and services and ensuring that adequate safeguards are in place to mitigate risks. With respect to crypto-assets, virtual currency (VC) exchanges or businesses engaged in the exchange of VCs for equivalent fiat money in the Philippines have to register with the BSP as remittance and transfer companies.<sup>60</sup> The BSP-registered VC exchanges are required to put in place adequate safeguards to address the risks associated with VCs such as basic controls on anti-money laundering and terrorist financing, technology risk management and consumer protection.

Meanwhile, the IC has taken a gradual but purposeful stance in allowing fintech to penetrate the local insurance industry. The IC has at least five issuances to encourage the use of technology among insurance companies, the more recent of which is regarding the use of mobile applications for the distribution of insurance products. The SEC has also taken steps to enable digital assets in the Philippines through the drafting of rules on digital asset trade in July 2019. This allows the Philippine financial market to access a safe, transparent, reliable, and cost-effective digital asset exchanges while also ensuring and managing counterparty and settlement risks and market price discovery.

**The FSCC recognizes that the financial stability risks arising from fintech raise important policy questions.** At present, existing frameworks look at the microregulatory aspects (e.g., credit, liquidity and operational risks, among others) with the conclusion often made that financial stability risks are not yet present because of the limited extent to which fintech is used. This is comforting but a pre-emptive approach should remind authorities to be conscious that smaller shocks can still cause systemic dislocations through interconnectedness. The rapid nature of the developments in the fintech landscape require monitoring and vigilance in identifying attendant risks to ensure effective policy direction.

<sup>59</sup> The ITRMF, which was first adopted under BSP Circular No. 511 dated 03 February 2006 and revised under BSP Circular No. 808 dated 22 August 2013, aims to establish robust and effective technology risk management processes, governance structures and cybersecurity controls amidst growing technology usage and dependence at the back of a dynamic operating and cyber-threat environment. It also ensures the benefits derived from technological innovations can be fully optimized without compromising financial stability, operational resilience and consumer protection.

<sup>60</sup> BSP Circular No. 944 on 6 February 2017



## MOVING FORWARD: OPERATING IN A VUCA WORLD

The volatility in 2018 was quite palpable and the reasonable expectation for 2019 was more of the same. Yet, midway into 2019, there is now a “different” kind of volatility pervading macrofinancial markets. The push towards further normalization of US monetary policy has given way to a dovish tone from the US Fed, with the first policy rate cut in a decade already in place.

The changing market landscape is evident in the forecasts of world growth. Adjusted downwards repeatedly in 2018, the numbers from the July 2019 WEO point to a recovery by 2020, stabilizing at around 3.5 percent. This recovery, however, is premised on several assumptions that under current market conditions, it may no longer have a high probability of being sustained. The best-case scenario then is a growth bounce next year even though lower growth figures worldwide this year are still expected.

Notwithstanding the concerns over the growth trajectory of the US and China, the USD has remained strong in trade-weighted terms. Studies suggest that cross-border trade activity tends to decrease when the USD is relatively strong, reflecting the higher cost of financing given the prevalence of the USD-denominated transactions in world trade. In addition, at a time when the moderation in growth is quite pervasive, the USD remains the dominant safe-haven currency in the world market.<sup>61</sup>

All things considered, one cannot expect benign conditions in the global market moving forward. This reflects not just the usual dynamism of the market but more of a confluence of factors that will instill change. How a jurisdiction should respond to the evolving market will depend on several factors but it is fair to argue that the status quo cannot be a viable option.

### 5.1 Putting a premium on sustained growth

From the FSCC’s perspective, re-energizing growth is the principal task at hand for the Philippines. The delay in the signing of the national budget has contributed to softer Q1 2019 growth. The signed budget now provides a tremendous upside for “catch up” spending and indeed there is an explicit effort in this context. Fiscal spending can be expected then to provide a boost for the remainder of the year, particularly on public construction expenditures as well as initiatives under the BBB program.

<sup>61</sup> Studies in the BIS show that the USD is still dominant in world trade finance (Shin, 2019; BIS, 2014).

Nonetheless, it will be prudent to take a wider view so as not to depend too much on fiscal stimulus. At the macro level, the Philippines is a small open economy and cannot dictate world economic activity. This only reiterates that the country cannot be neutral to outside shocks, such as the slowdown in world growth, adverse movements in the price of oil and any further bottlenecks in the availability of key commodities.

In financial markets, sustaining economic growth is tantamount to sustaining income streams. Debt-to-income ratios are then sustainable only if the growth of income is commensurate to the pace at which debt was accumulated. While the FSCC may not have conclusive data on the debt servicing profile of borrowers, it is quite clear that debt levels have increased over the past few years. This argues, again, why continuing GDP growth should be a recurring policy concern.

Boosting growth, unfortunately, is a longer-term initiative and not entirely responsive to quick fixes. The policy levers of financial authorities affect underlying growth foundations but do so with some lag. Parallel to these policy triggers and in the context of the VUCA<sup>62</sup> world, it would be useful to ask the harder questions about what drives Philippine growth as a way to push growth higher and forward. Answers to these questions provide a more granular view of the linkages between finance and the macroeconomy. These then provide the foundations of the interventions that may be introduced by the FSCC.

## 5.2 Managing risks from leveraged positions

Just as the macroeconomy is adjusting to various stimuli, the financial market itself will expectedly be even more responsive to the price of risk, be that with credit, currency denomination or market conditions. As noted in **Chapter 2**, the FSCC observed subtle but consistent shifts in the asset-liability management of banks in particular which have a bearing on the quality of their credit portfolio. On balance, the traditional measures of credit quality and capital adequacy show no sign of immediate concern. However, the underlying components show a categorical turning point and this warrants attention. As a measured response, three aspects can already be acted upon:

- **Improving the granularity of data on cross-border borrowing.** Over the past decade, the outstanding cross-border debt of NFCs and banks has increased, reflecting to a large extent the improved perception of “Philippine names.” While data from the BIS and the BSP’s own cross-border bank exposures are good first steps in assessing the potential risks from foreign borrowings, a better appreciation of who is exposed, by how much and under what general terms will be highly useful as a basis for proper and timely interventions, if any. This aspect is an important area to pursue.

<sup>62</sup> Volatile, Uncertain, Complex, and Ambiguous



- **Macro stress tests and network analysis.** Having better data should allow the authorities to ask the right questions that would lead to the appropriate interventions. A common approach is the conduct of stress tests and to partner this with network analysis. Banks have been subjected to micro-level (bottom-up) stress tests for some time now and this can be extended into a top-down stress exercise. Non-banks may further be covered, including corporations, which would then complete the network analysis.
- **Concentration risks.** The FSCC has, for some time, talked about Debt-to-Earnings-of-Borrowers' Test and the Borrowers Interconnectedness Index.<sup>63</sup> Through the BSP, these have already been exposed to various stakeholders and a phased implementation can already be executed.

### 5.3 Ensuring smooth and efficient flow of liquidity

The push towards more earning assets has been accompanied by some erosion in liquidity. Various measures of liquidity—from the portfolio of banks to system-wide metrics involving M3—all show a declining trend. While one can conceivably set capital standards higher, the higher walls self-insure each bank from their own difficulties but do not fully negate the possibility that transactions between and among banks can no longer be settled due to liquidity shortfalls, both in the timing of their availability and in overall amounts. Given the magnitudes involved, even for a not-so-active market, such as the Philippines, interventions on system-wide liquidity are all the more important.

- **Diversified HQLA.** While one can take comfort that the formal LCR regime has started at high levels, one should also appreciate that taking out securities booked as HTM will reduce the LCR. As of end-2018, majority of the HQLA stock of Philippine banks are in the form of holdings of government and non-government debt securities and bank reserves. The former securities include those that are HTM and thus, not intended to generate cash flows from trade. Deducting the HTM debt securities from the HQLA will lower the LCR.

Meanwhile, bank reserves in the HQLA includes those held in compliance with the reserve requirement. Thus, a high reserve ratio tends to raise the LCR. Including the required reserves in the stock of liquid assets available to service the assumed run-off of deposits effectively linked the numerator with the denominator of the LCR. In particular, an unexpected outflow of deposits will reduce the LCR numerator and increase the denominator, both of which will push the LCR further down. A more diversified set of HQLA, including liquid GS and possibly new paper issued by the BSP under its amended Charter, will help support the high level of the LCR.

<sup>63</sup> See 2017 FSR

- **Payment system support.** The sheer value of transactions that require to be funded highlights the necessity of maintaining sufficient liquidity in the system.<sup>64</sup> One can argue that transactions which are effectively “underfunded” should not be processed. Doing so, however, runs the risk of ripple effects throughout the system if other transactions are dependent on the consummation of the original failed transaction. This follows from the fact that financial markets are necessarily a network of linked agents who transact non-sequentially with other agents.

Protecting the system from the consequences of a failed trade and its possible contagion, the FSCC can consider various interventions which are designed to support liquidity without fundamentally compromising the integrity of the transaction or unduly protecting certain counterparties. The FSCC can specifically consider the following:

1. *Overdraft (OD) policy.* The prohibition against ODs has long been institutionalized in Philippine banking. Under current arrangements, underfunded transactions fall into a queue until the end of day for appropriate funding. Absent such funding, the transaction is taken off the queue. Unfortunately, being taken out of the queue may require other transactions to be unwound as well, the possible extent of which is currently unknown and unmonitored. To mitigate the contagion risk, one can consider an OD policy where the central bank provides the needed intraday liquidity for full repayment at end of day, for a nominal fee. The central bank takes on the liquidity risk but it does so while minimizing contagion.
2. *Settlement fails mechanism and/or classic repos.* The liquidity of securities is as much a concern as funding liquidity. Interventions to ensure that securities are available as they come due would then help ease the liquidity constraints. For example, a formal arrangement on settlement fails is viable if parties are able to source the securities they need to deliver. This may not just be an issue of “price” but also the availability of the security itself in the open market. A third party, such as the National Treasury, will be suited for such a role and in the process creating liquidity for the needed securities. Alternatively, a vibrant market for repos (cash borrowing for securities collateral) has yet to take off. This focuses the funding requirement on cash and in the process allows (idle) securities to be transacted. The benefits of such a transaction are well established but for reasons of their own, this market remains in its nascent stage of development.

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<sup>64</sup> Payments are settled through debits/credits against a funding or deposit account.

## 5.4 Lengthening funding and investment alternatives

Re-energizing the Philippine growth prospects under the ambit of the government's BBB Program suggests the need for term funding. The banking industry can continue to provide for such funding but it will necessarily take on more tenor and liquidity risks. Given the market volatilities that the FSCC has already seen, it may not be as timely to put further pressures on the banking books, certainly not as it used to be under more benign conditions.

This points to the term funding market. Unlike the longstanding mantra to "further develop" this market, the FSCC raises this now as a mitigant to brewing systemic risks, given present-day conditions. The intention is for the funding requirements of growth to be increasingly sourced through the capital market in parallel to but less dependent on bank credit.

- **Neutrality between the costs of issuance and of bank credit.** The basic objective is to level the playing field so that the securities market as a funding source is relatively comparable to bank loans. From the issuer/borrower's point of view, the benefits of a fixed-rate issuance should be generally comparable to securing a loan whose interest rate is typically repriced annually.

Of the 30 basis points anecdotal cost of structuring a security, it is not clear which costs can be further streamlined by more competitive pricing of market services (i.e., agency, rating, legal fees, among others) as opposed to those costs which arise because of regulation. This fortunately should be straightforward to settle through a dialogue with market players. The objective of this dialogue is to directly identify what can be addressed by policy intervention or to those which can be improved by moral suasion.

- **Breadth and depth of the term funds market.** The commonly-cited objective is to have a market that has a variety of issues at various tenors, a diverse credit profile among issuers while maintaining deep liquidity at every benchmark. We are not yet there which all the more highlights how much tenor and liquidity risks are borne by the banking books.

Part of the concern is that outstanding issues are not evenly divided across the benchmark tenors, with some legacy issues maintaining coupon rates that are well above recent market rates. With the bulk of outstanding GS with tenors at or below seven years and the average maturity of the loan book at only 4.25 years, there is clearly not much term funding available. Such constraint is then "addressed" by a pricing solution (i.e., repricing long-term loans annually), effectively offering sequential short-term loans but at the price of a longer-term exposure. As an aside, this likewise implies that the data is understating the extent of term financing.

The FSCC has repeatedly made its point that this situation cannot be sustainable, at least not without repercussions. It will propagate a high-cost environment while keeping funds locked into the short-term, subject to “roll-over.” Possible interventions would be:

1. *Fewer but deeper benchmark tenors.* Maintaining more than ten benchmark tenors of distinctly different depths ensures market fragmentation. Better market depth is achieved by consolidating current issuances into fewer benchmark tenors. For the longer tenors where volume tends to be thinner relative to shorter-term tenors, the National Treasury should consider fresh issuances to complete the tenor curve. Various means of consolidation are possible, from the conversion of existing issuances into the preferred tenors to the consideration of Separate Trading of Registered Interest and Principal of Securities. Administratively, having fewer benchmarks should be easier to manage, with the consolidation providing automatic depth from which prices can be interpolated across various terms. For market participants, the benefits of having deep liquid markets will be immeasurable. Price movements should stabilize with the depth and active trading while those with natural long-term investment requirements (such as insurance companies and pension funds) will have the venue to immunize their balance sheets.
2. *Indexed bonds.* Active consideration can be made towards the introduction of bonds indexed to some highly visible economic variable, such as inflation-linked bonds or GDP-indexed bonds. These would not only be consistent with the initiative to issue more and likely populate the longer-end of the curve but also be attractive because they offer a new risk-return profile over the medium to longer-term. Potential investors would then receive a “fair return” on top of any market volatility while reinforcing the authorities’ commitment to a sound macroeconomic environment.
3. *Tenor-based pricing.* Having uneven liquidity across tenors and across instruments has certainly contributed to erratic secondary market prices. To complicate matters, there are legacy issues whose coupons radically deviate from current market rates, creating significant premiums that would be difficult to incorporate within the idea of a spot rate for a specific tenor.

While these issues are well known, it only highlights why there is an urgent need for a reliable pricing and valuation framework based on the preferred (fewer-but-deeper) tenors mentioned above. At the end of the day, there needs to be a good answer to the fundamental question asked by those intending to raise funding: what would be the price of funds at the various tenors being considered? There is simply no substitute for a solid spot yield curve, based on discovered prices from the active trading in a liquid market.

These interventions are being suggested because they respond to the financial stability risks outlined in the previous chapters. More so, one could readily note that they are also highly linked with one another. For example, sustaining economic growth, particularly one premised on investing into needed infrastructure, will require new alternatives geared towards term funds. While the extent of funding has traditionally been made available through bank credit, this FSR has made the case that leverage and liquidity considerations in the bank books warrant a fresh look as a source of brewing risks. It is in this context that the FSCC sees a more holistic financial market that extends beyond “developmental” and into a systemic risk mitigant.

This shift in mindset—and urgency—is in turn being driven by the rapid changes we are now experiencing globally. It is interesting that the previously frequent reference to a VUCA-world appears less so today. One can argue that it is not so much because one lives in a less VUCA-world but perhaps more likely because VUCA has become the norm. This heightens the need to focus on financial stability and its objective of mitigating risks that could affect the future welfare of stakeholders. For small, open economies like the Philippines, this will be a greater challenge as the country navigates the evolving global sea of changes. With the status quo not a viable option, there is urgency in intervening sooner rather than later.



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