BANGKO SENTRAL NG PILIPINAS
BSP Working Paper Series

The Impact of Foreign Exchange Liberalization Reforms on the Philippine Economy: An Initial Assessment

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Abstract

This paper examines the impact of easing the foreign exchange (FX) regulatory rules in the Philippines. Our preliminary findings imply that, in general, the easing of FX regulations has helped mobilize foreign exchange resources to finance requirements of the domestic economy. The significant contribution of greater foreign exchange transactions led to further opening of the country's current and capital accounts. In turn, monetary and financial markets expansion ensued. Meanwhile, the impact on monetary policy appears to be marginal as the easing of FX rules has coincided with a declining exchange rate pass-through and a relatively stable inflation path. These developments suggest that the liberalization of FX rules may have underscored the importance of greater openness as essential component of macroeconomic policy. However, given the macroeconomic risks arising from foreign exchange markets and the case for regulation and supervision of other financial markets, the BSP's vigilance to complement the easing of FX rules with prudential regulations and market surveillance to promote international investor confidence and market discipline continues to be crucially important. Despite the foreign exchange market risks largely due to global economic uncertainties, the economic benefits of easing FX rules by way of expansion of income become clear.

JEL classification: F4, F62, F65
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The Impact of Foreign Exchange Liberalization Reforms on the Philippine Economy: An Initial Assessment

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1. Introduction

The financial crises in Latin America in 1994-1995, East Asia and Russia in 1997-1998, Brazil in 1999, Turkey in 2001, Argentina in 2001-2002 and the Global Financial Crisis in 2008 to 2009 have confirmed, once again, that globalization brings increasing exposure to the volatility of international financial markets and to other external shocks. Globalization exposes emerging market economies to the volatility of international markets. In the literature on financial globalization there is considerable discussion on the implications of large surges and volatility of capital flows, especially when these are routed through the financial system.[2] An important task for macroeconomic policy, and particularly for monetary policy, is to stabilize the economy and to steer development in the face of such uncertainties.

Against this backdrop, three (3) areas in the conduct of monetary policy under uncertainty have received significant attention among academics and monetary authorities during the last decade or so. These areas include the institutional design of monetary policy, strategies for operating in the markets and the monetary transmission mechanism.

Discussions on the operational strategies in the markets have been crucial in recent times with the adoption of inflation targeting (IT), not only among industrialized countries but also developing and emerging economies to preserve price stability. A component of these operational policies in the markets includes the reforms in the foreign exchange regulatory framework.

In 2007, the Bangko Sentral ng Pilipinas (BSP) announced the start of the package of reforms in the foreign exchange (FX) regulatory framework. Eight waves of FX liberalization reforms have been introduced since 2007. These waves of FX reforms are basically meant to address the needs of a more dynamic economy that has become increasingly integrated with global markets. These phases of reforms include changes pertaining to current account and capital account transactions as well as to prudential regulations. These changes can also

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[2] See Prasad et al. (2003).

be categorized into quantitative (e.g., lifting/reducing restrictions on FX sales) and qualitative (e.g., enhancing FX flows and improving/streamlining procedures and requirements) measures. While liberalization of FX rules is expected to promote more disciplined macroeconomic policies, there are also a number of important benefits, including greater financial depth, technological transfer, and institutional development through better transparency and governance practices.

It is believed that there is scope to assess the macroeconomic impact of easing FX regulations in the Philippines, for several reasons. First, there is no formal research yet on the macroeconomic impact of liberalization of FX rules in the Philippines. This paper is a first in the Philippines. Second, there is a reason to assess if the regulatory environment in the Philippines has been more responsive to the needs of a growing economy. Third, there is a need to examine the impact of these FX reforms particularly on monetary policy. No study on this aspect has been conducted since the onset of inflation targeting as framework for monetary policy.

This paper examines the impact of easing the FX regulatory rules in the Philippines in phases using results from tests of equality of means and variances, and regression analysis. Our preliminary findings imply that, in general, the easing of FX regulations has helped mobilize foreign exchange resources to finance requirements of the domestic economy. The significant contribution of greater FX transactions led to further opening of the country's current and capital accounts. In turn, monetary and financial markets have expanded since 2007. These developments suggest that the liberalization of FX rules may have underscored the importance of greater openness as essential component of macroeconomic policy.

This paper surveys the empirical findings on the effects of FX liberalization on the economy (Section 2), traces the waves of liberalization of the FX regulatory framework (Section 3), examines the impact of easing FX rules on the Philippine external and financial sectors (Section 4), and discusses the implications of liberalization of FX rules for monetary policy (Section 5). Section 6 concludes.

2. The effects of foreign exchange liberalization on the economy: A survey of empirical evidence

During the past decades, several countries have implemented reforms in their respective capital markets taking into account prevailing global economic conditions. One of these reforms is the continued easing of foreign exchange (FX) rules. This section presents insights from various studies on the impact of the liberalization of FX regulations on the economy, particularly regulations related to a country's capital account. The findings presented in this survey encompass various methodologies in estimating the impact of FX liberalization on the economy.

Trade and foreign exchange liberalization affects foreign direct investments (FDI) and exchange rates. The paper by Sekkat and Varoudakis (2004) assessed the relative importance of trade and foreign exchange liberalization, infrastructure availability and economic and political stability in raising Middle East and North African (MENA) countries' attractiveness with respect to FDI. The results showed that trade and FX liberalization,

infrastructure availability and sound economic and political conditions helped increase FDI inflows. In particular, the relative effects of trade and foreign exchange liberalization are much higher for FDI in the manufacturing sector compared to the total FDI.

Foreign exchange liberalization encourages financial integration. A study by Saadi-Sedik and Sun (2012) looked into the effects of capital flow liberalization on several macroeconomic and financial indicators, and consequent risks on financial stability of emerging market economies. Using de jure restrictiveness indices covering 37 countries that had liberalized capital flows from 1995 to 2010, the study found that there is a strong positive relationship between liberalization and gross capital flows, suggesting that liberalization of capital flows encourages financial integration. The study also noted that capital flow liberalization in one of the sample countries (i.e., China) may result in: (a) higher real GDP per capita growth; (b) lower inflation rates; (c) higher equity returns; (d) lower bank capital adequacy ratios; and (e) higher gross capital flows (inflows and outflows).

Despite the beneficial effects, the study also warned of the challenges arising from capital flow liberalization. It argued that liberalization can be associated with an increase in macroeconomic volatility and vulnerability to crises, and can also lead to asset price bubbles.

Varied results in the impact of capital account liberalization on growth. Quinn's (1997) empirical estimates suggested that capital account liberalization had a significant effect on the growth in real GDP per capita. Klein and Olivei (2000) also found a positive effect of capital account liberalization on growth among industrial countries, but there was no significant result that capital account liberalization had promoted growth in developing and emerging market economies. Edwards (2001) argued that growth effects of capital account liberalization depend on the level of development of an economy.

Using different ways of measuring capital account restrictions, Edison et al. (2002) examined the effects of capital account openness and stock market liberalization on economic growth across industrialized [Organization for Economic Cooperation and Development (OECD)] and developing economies. The study showed significant effects of liberalization on growth in East Asian countries. However, the authors found weak evidence in the effects of liberalization on OECD and Latin American countries.

Using de jure[3] and de facto[4] measures, a study in Malaysia by Siong and Saini (2008) suggested that capital movements de facto promoted growth in Malaysia, and not capital liberalization de jure. The results also indicated robust effects on economic growth from interaction terms between capital account liberalization, rule of law and financial development variables. These findings imply that capital account liberalization in Malaysia has larger effects on economic growth when liberalization programs are embedded within a sound institutional framework, as well as a well-developed financial system.

[3] Capital account liberalization index constructed by Chinn and Ito (2006) and Kaminsky and Schumukler (2003)

[4] Reflects international financial integration using the financial openness indicator by Lane and Milesi-Ferretti (2006) based on volume of capital flows

In a study of the effects of capital account liberalization on domestic macroeconomic indicators in Korea, Kim et al. (2004) revealed the following findings:

a. Capital account liberalization substantially changes the nature and composition of capital flows as capital flows become more autonomous in the sense that they are not related to current account imbalances.
b. The autonomous capital flow shocks that resulted from gradual capital account liberalization in the 1990s were related to consumption and investment booms that led to an increase in output. In addition, capital inflows appreciated the nominal and real exchange rates and worsened the current account.
c. There is a strong evidence of sterilized FX market intervention. Following the surges in capital inflows, aggregate money supply did not change much, while FX reserves and monetary stabilization bonds significantly increased. The Korean government tried to mitigate the influence of capital inflows on exchange rate appreciation and macroeconomic variables by using sterilized intervention.

Meanwhile, Bayoumi and Ohnsorge (2013) assessed the implications of Chinese capital account liberalization for capital flows. The study noted that capital account liberalization in advanced and large emerging market economies has generated large gross capital inflows and outflows, but the direction of net flows has depended on many factors. Using an econometric portfolio allocation model, the study revealed that capital controls significantly dampened cross-border portfolio asset holdings. The model also suggested that capital account liberalization in China may trigger net portfolio outflows as large domestic savings seek to diversify abroad.

Carriere-Swallow and Garcia-Silva (2013) recounted Chile's experience with capital account policies since the 1990s. In the study, different macroeconomic and capital account frameworks are used to show the impact of two external shocks on growth during the 1997-1998 Asian currency crisis. The study found that a closed capital account and relatively rigid exchange rate severely constrained the monetary policy response to the shock, aggravating the fall in domestic demand. Meanwhile, during the 2008-2009 crisis, a full-fledged inflation targeting framework allowed the authorities to implement a significant countercyclical response. The study noted that domestic stability considerations led the switch toward capital account liberalization from 1999 onwards.

Several studies, however, posed contradicting views on the effects of capital account liberalization on growth. Some studies noted that there is no correlation between openness and growth. Rodrik (1998) found no significant effect of capital account liberalization on the percentage change in real income per capita over the period 1975 to 1989. Likewise, he found no relationship between capital account liberalization and investment-to-income, nor between capital account liberalization and inflation. An equally interesting finding was observed by Kraay (1998), who found no significant relationship, using a variety of measures of capital account openness. However, he argued that undertaking capital account liberalization is more easily achieved than many other policies initiated by developing countries.

David et al. (2014) found that, in general, there is no direct robust link between trade and capital account openness and financial development in Sub-Saharan African (SSA) countries. However, they found some indication that trade openness is more important for financial development in countries with better institutional quality.[5] This finding could be due to a number of factors including distortions in domestic financial markets, relatively weak institutions and/or poor financial sector supervision. Thus, policy makers should be cautious about expectations regarding immediate gains for financial development from greater international integration, or, gains are more likely to occur through indirect channels.

A policy lesson is that liberalization should be well-timed and institutions have to be prepared to handle changes in policy. The IMF policy paper (2012) observed that capital flows can have substantial benefits for countries, including by enhancing efficiency, promoting financial sector competitiveness, and facilitating greater productive investment and consumption smoothing. Countries are better placed to benefit from capital flow liberalization depending on the country's level or "threshold" of financial and institutional development. In turn, liberalization can spur financial and institutional development. However, capital flows also carry risks, which can be magnified by gaps in a country's financial and institutional infrastructure. To ensure that the benefits outweigh the costs, liberalization needs to be well planned, timed, and sequenced as it could have significant domestic and multilateral effects or "spillovers". The IMF paper emphasized that there is, however, no presumption that full liberalization is an appropriate goal for all countries at all times.

On balance, this section highlights that the relative impacts of easing foreign exchange regulations on economic growth across countries remain inconclusive. In the case of the Philippines, studies on the effect of liberalization of FX regulations remain relatively scant. This study examines the impact of the easing of FX regulations on the Philippine external and financial sectors by comparing the pre- and post-FX easing of foreign exchange regulations using results from the test for equality of means and variances of selected economic indicators as well as correlation and regression analysis.

3. Tracing the waves of liberalization of the FX regulatory framework

As early as the 1990s, the BSP initiated the liberalization of the FX regulatory framework and this was pursued more vigorously starting 2007. The policy strategy was envisaged to make the country's regulatory environment more responsive to the needs of an expanding and more dynamic economy that is increasingly being integrated with global markets. The liberalization of FX rules is expected to result in a number of important collateral benefits, including greater financial depth, promotion of long-term investments,

[5] In the paper (page 5), David et al. (2014) revealed that a number of authors have pointed to a possible link between greater trade and capital account openness and stronger institutions and/or better policies, which would promote financial development. For instance, Mishkin (2009) argued that the entry of foreign capital fosters a type of "technology transfer", prompting domestic banks to upgrade their lending standards and follow international best practices. Kose and others (2009) argued that capital account liberalization might impose discipline on macroeconomic policies by increasing the benefits of appropriate policies, while also increasing the costs of inadequate ones. These authors pointed to some empirical evidence that suggested that countries with higher financial openness are more likely to have better monetary policy outcomes, although there is no evidence of a "disciplining effect" of openness on fiscal policy.

transfer of technology, and institutional development through better transparency and governance practices. The promotion of more disciplined macroeconomic policies and prudent and responsible economic stewardship is likewise expected to address the challenges of increased exposure and vulnerability to global shocks.

As of end-December 2015, there have been eight (8) waves of FX reforms implemented with the following primary goals: (1) align existing policies with those of neighboring countries, where appropriate, considering prevailing conditions in the domestic and global economy; (2) support greater integration with international markets; (3) facilitate access to FX resources of the banking system for legitimate transactions to support business activities conducive to economic growth; (4) encourage the shift of FX transactions from the informal to formal channels; and (5) further enhance capture of data on FX transactions.

The first wave (March 2007) covers reforms to current and capital account transactions, as well as prudential regulations. The wave was intended to promote diversification of portfolio investment, manage attendant risks, and discourage excessive exposure to FX risks.

The second wave (December 2007) was directed to facilitate trade and non-trade transactions, and streamline documentation and reporting requirements for the sale of FX by banks.

The third wave (February 2009) liberalized and streamlined rules on foreign borrowings of private banks and registration of inward foreign portfolio investments (FPIs), and introduced improvements to the system for monitoring of FX flows. The major consolidation of FX rules was also effected with the issuance of the Manual of Regulations on Foreign Exchange Transactions (FX Manual) under BSP Circular No. 645 dated 13 February 2009.

The fourth wave (November 2010) further liberalized rules including allowing residents greater leeway in further diversifying their investment portfolio and managing attendant risks.

The fifth wave (November 2011) aimed to further facilitate FX transactions of the general public within the banking system and thus, encourage shift of transactions away from the informal channels, and improve the overall investment climate in the country.

The sixth wave (April 2013) further simplified FX transactions by increasing the amount of FX that may be freely purchased by residents for expenses offshore such as for education and medical needs, and travel without the need for documentation. More investment options were made available to residents that can be funded with FX sourced from banks. Non-residents, were likewise allowed to open peso accounts funded from various sources, to cover their peso requirements. Rules for reconversion to FX of non-residents' onshore peso funds were likewise eased.

The seventh wave (July 2013) was intended to facilitate cross-border investment transactions and further deepen the domestic market by allowing registration of non-

resident investments in equity securities of non-residents listed in the Philippine Stock Exchange (PSE). Outward remittance in FX of peso proceeds from such issuances by non-residents were likewise fully allowed.

Prepayment of BSP-registered short-term (ST) loans were also liberalized, subject to standard documentary requirements for FX purchases. Reporting requirements for banks were also further simplified.

The eighth wave (April 2015) allowed, among others, settlement of payables by residents under intercompany netting arrangements for both trade and non-trade transactions.

The various measures undertaken by the BSP to liberalize the county's FX regulatory framework may be further classified into quantitative and qualitative measures. For purposes of this study, however, the coverage of such classification was limited up to the 5th wave of FX reforms, as follows:

3.1 Quantitative[6] measures

a. Increase in the amount of FX that may be sold over-the-counter (OTC) by authorized agent banks (AABs) and AAB-foreign exchange corporations (forex corps) to residents without documentation for non-trade current account transactions –

1st Phase	2nd Phase	3rd Phase	4th Phase	5th Phase
From US$5,000 to US$10,000	From US$10,000 to US$30,000	-	From US$30,000 to US$60,000	-

b. Increase in the amount of FX that may be sold by AABs and AAB-forex corps using unspent pesos of departing non-resident tourists/balikbayan without need to show proof/s of previous sale of FX for pesos –

1st Phase	2nd Phase	3rd Phase	4th Phase	5th Phase
-	-	-	From US$200 to US$5,000	-

c. Increase in the amount of FX that may be sold by AABs and AAB-forex corps to residents without prior BSP approval for full or partial advance payment of imports, with documentation –

1st Phase	2nd Phase	3rd Phase	4th Phase	5th Phase
-	Up to US$100,000[7]	-	Up to US$1 million	Lifted the quantitative restriction; thus, allowing the sale of FX regardless of amount involved

[6] Quantitative limits also cover equivalent amount in third currencies.

[7] Included advance payment as one of the modes of payment of imports.

d. Increase in the amount of FX that may be freely sold by AABs and AAB-forex corps to residents for outward and other investments –

1st Phase	2nd Phase	3rd Phase	4th Phase	5th Phase
From US$6 million to US$12 million per investor per year	From US$12 million to US$30 million	-	From US$30 million to US$60 million	-

e. Opening of a temporary window (December 2011 to February 2012) during which AABs and AAB-forex corps may sell FX for unregistered private sector loans, subject only to notification to BSP and standard documentation requirements. This measure was intended to: (a) induce a shift of FX transactions from the unsupervised market to the formal banking system; (b) help improve data capture on private sector external debt obtained without BSP approval/registration; and (c) facilitate FX outflows to temper the appreciation of the peso.

f. A symmetrical increase on both the overbought (OB) and oversold (OS) FX positions of banks from 2.5 percent to 20 percent of unimpaired capital with an absolute limit of US$50 million (1st phase). This is a prudential measure to discourage excessive bank exposure to FX risks.

3.2 Qualitative measures

a. On the current account

To enable the easing of FX purchase restrictions for import- and export-related transactions, qualitative measures were lifted on the following: the "no-splitting" rule and notarization requirements for FX purchases, prior BSP approval for extensions of Letters of Credits (L/Cs) exceeding the prescribed one (1)-year validity; and the mandatory period within which FX purchased for import payments and deposited in foreign currency deposit unit (FCDU) accounts should be remitted to offshore recipients. In addition, the list of non-trade current account transactions for which FX may be freely purchased was expanded to facilitate settlement of legitimate obligations to non-residents.

b. On capital account transactions involving foreign borrowings

The BSP expanded the use of FX swaps involving the Philippine peso to cover both hedging and peso liquidity requirement, thereby allowing better risk management, as well as the list of projects eligible for foreign financing to

help channel borrowed funds to specific priority areas.[8] To support greater economic activity, the BSP exempted from the prior BSP approval requirement those foreign loans intended to finance Public-Private Partnership (PPP) projects and included microfinance in projects qualified for foreign financing. Prior BSP approval for certain transactions was also lifted: certain private sector loans[9], and purchase of FX from the banking system for prepayments of BSP-registered foreign loans of the private sector. The minimum 30-day tenor for FX swaps and prior BSP approval for local bank borrowings (with tenors exceeding one (1) year) for relending were likewise lifted.

c. On capital account transactions involving foreign investments

To further facilitate the inflow of investments, banks were allowed to sell FX for peso funds of investors that were not used for investments made in the country under certain conditions and subject to documentary requirements. The requirements to inward remit earnings/divestment proceeds from outward investments of residents funded with FX sourced from AABs and AAB-forex corps, and to reinvest the same within a specific period was discontinued. To give investee firms greater flexibility in the use of investment funds received, the requirement for conversion into peso of FX inward remittances for foreign direct equity investments was lifted.

[8] The list includes: (1) the development of industrial estates and economic zones, (2) socialized/low-cost housing projects, (3) acquisitions of NPAs/NPLs of banks and other GFIs, (4) acquisition of government assets approved for privatization, and (5) refinancing of existing loans used for eligible projects.

[9] Pertain to: (1) short-term loans of private exporters/importers from other offshore sources/creditors, (2) private sector loans not guaranteed by foreign governments/official export credit agencies covering imports of freely importable commodities under deferred L/Cs or documents of acceptance (D/A) and open account (O/A) arrangements with a term of more than one (1) year, and (3) private sector intercompany loans granted by foreign companies to their local branches/subsidiaries, irrespective of amount and maturity.

4. Does easing of foreign exchange rules in phases matter for the Philippine external and financial sectors?

4.1 The approach

4.1.1 Equality of means and variances

Table 1a: Philippines: Phases of Liberalization of FX Regulatory Framework

Phases of Liberalization of FX Regulatory Framework	Circular No./Date	Period Covered in the Analysis
Pre-Liberalization		1st quarter 2002-4th quarter 2006
Post-Liberalization		1st quarter 2007-1st quarter 2013
1st Wave	Cir. No. 561 dated 8 March 2007	1st quarter 2007-4th quarter 2007
2nd Wave	Cir. No. 590 dated 27 Dec 2007	1st quarter 2008-4th quarter 2008
3rd Wave	Cir. No. 645 dated 13 Feb 2009	1st quarter 2009-3rd quarter 2010
4th Wave	Cir. No. 698 dated 5 Nov 2010	4th quarter 2010-3rd quarter 2011
5th Wave	Cir. No. 742 dated 21 Nov 2011	4th quarter 2011-1st quarter 2013
6th Wave	Cir. No. 794 dated 18 Apr 2013	2nd quarter 2013-3rd quarter 2013
7th Wave	Cir. No. 815 dated 18 Oct 2013	4th quarter 2013-1st quarter 2015
	Cir. No. 818 dated 6 Nov 2013	
8th Wave	Cir. No. 874 dated 8 April 2015	2nd quarter 2015 – present

Source of data: Various BSP Circulars, 2006-2015.

Table 1a shows the different phases of liberalization of FX regulatory framework. This study examines the impact of the easing of FX regulations on the Philippine external and financial sectors by comparing the pre- and post-easing of FX regulations using results from the test for equality of means and variances of selected economic indicators. In the absence of longer time series, the use of the test for equality of means and variances is a reasonable option which will help examine the initial relationship between the measures of FX liberalization and the behavior of selected economic indicators. Using the five (5) percent level of significance, this analysis uses quarterly data for major Balance of Payments (BOP) accounts and selected macroeconomic indicators from the first quarter of 2002 to the first quarter of 2013. There are cases where other indicators, such as FPIs and FDIs (in gross and in net terms) were considered.

Table 1b shows the four (4) scenarios used in the comparison of means and variances. The latest available data limit the study to analysis of the impact of FX liberalization from the first quarter of 2002 to the first quarter of 2013, or up to the fifth wave of FX liberalization measures. For purposes of this study, while liberalization measures were initiated in the early 1990s, the period covering the first quarter of 2002 to the fourth quarter of 2006 was considered pre-FX liberalization (to give focus on the recent waves of reforms from 2007 to 2013) while the post-liberalization period covers the first quarter 2007 to the first quarter 2013. The results are presented in Scenario 1 (Tables 2, 3 and 4). It should be noted that in this scenario, the means and variances of the two (2) groups are compared.

Table 1b: Comparison of Scenarios

Scenario	Periods compared	Period covered
Scenario 1	Pre-FX liberalization period.	2002:Q1 – 2006:Q4
	Post-liberalization period	2007:Q1 – 2013:Q1
Scenario 2	Pre-FX liberalization period	2002:Q1 – 2006:Q4
	Waves of liberalization	2007:Q1 – 2007:Q4 2008:Q1 – 2008:Q4 2009:Q1 – 2010:Q3 2010:Q4 – 2011:Q3 2011:Q4 – 2013:Q1
Scenario 3	Pre-FX liberalization period	2002:Q1 – 2006:Q4
	Post liberalization period	2007:Q1 – 2008:Q3 2009:Q4 – 2013:Q1
Scenario 4	Pre-FX liberalization period	2002:Q1 – 2006:Q4
	Three (3) waves of liberalization	2007:Q1 – 2007:Q4 2010:Q4 – 2011:Q3 2011:Q4 – 2013:Q1

To check the robustness of results, the post-FX liberalization period is further divided to represent the five (5) waves of FX rules liberalization. In this exercise, the means and variances of the five (5) waves and the pre-FX rules liberalization group are compared. The results are shown in Scenario 2 (Tables 2, 3 and 4).

An important development in the course of our analysis pertains to the impact of the Global Financial Crisis in 2008 to 2009 on the external sector. It may be recalled that by September 2009, the United States was already deep into the financial crisis—having had to bail out private institutions to save the financial system. The slowdown in the real estate sector had permeated the rest of the economy and the US unemployment rate was on its way up.[10] Meanwhile, some initial signs of the euro zone troubles were showing up in Greece. For emerging market economies, including the Philippines, the economic slowdown of the advanced economies resulted in lower levels of exports and overseas remittances.

To disentangle the impact of the easing of FX rules and the Global Financial Crisis, the fourth quarter of 2008 to the third quarter of 2009 were excluded from the test of equality of means and variances in Scenario 1 (Tables 2, 3 and 4). The results are shown in Scenario 3 (Table 5). Moreover, the two (2) waves (Waves 2 and 3 in Table 1a) in Scenario 2 (Tables 2, 3 and 4), which correspond to the impact of the global crisis were also excluded.[11] In this exercise, the means and variances of the remaining three (3) waves and the pre-FX rules liberalization group are compared. The results are shown in Scenario 4 (Table 5). Specifically, this exercise is expected to share some preliminary insights on how the Philippine external and financial sectors would have fared had the global financial crisis not occurred.

[10] See Dakila, Francisco Jr., V. Bayangos and L. Ignacio (2013), "Identifying Sectoral Vulnerabilities and Strengths for the Philippines: A Financial Social Accounting Matrix Approach", BSP Working Paper Series No. 2013-01, July 2013.

[11] The two waves do not exactly correspond to the global financial crisis period. However, since the remaining data points will be too short, we have decided to remove the two waves.

The figures in the four (4) scenarios (Scenarios 1 to 4) are *p-values* of the test statistics. It is expected that after the introduction of reforms on FX regulatory framework in 2007, the means and variances of economic indicators would change significantly after 2007. If the means and variances are equal for the different phases of FX liberalization, it can be concluded that the easing of FX regulations did not affect the performance of the Philippine external and financial sectors. In contrast, if the computed means and variances are unequal, It can be inferred that the waves of FX liberalization affected the performance of the Philippine external and financial sectors. In the test of equality of means, the Anova F-test was used while the Bartlett test was applied for the test of equality of variances.

4.1.2 Regression analysis

Regression analysis can also be used to determine the impact of the easing of FX controls on the Philippine economy. Using Philippine data from first quarter 2002 to first quarter 2015, this paper also conducts Ordinary Least Squares (OLS) method in order to determine the impact of the easing of FX rules on the Philippine economy. This study adopted similar growth model used in the past studies by Tswamuno et al. (2007), Bekaert et al. (2004) and Li (2004).[12] The OLS regression model is expressed in equation 1 as,

$$\begin{aligned} y_t = {} & \beta_0 + \beta_1 DLOGPSEI_t + \beta_2 FPI\_GDP_t + \beta_3 DLOGCLAIMSPS\_GDP_t \\ & + \beta_4 DLOGOPEN_t + \alpha_0 LIB_t + \alpha_1 LIB_t * DLOGPSEI_t) + \alpha_2 (LIB_t * FPI\_GDP_t) \\ & + \alpha_3 (LIB_t * DLOGCLAIMSPS\_GDP_t) + \alpha_4 (LIB_t * DLOGOPEN_t) + \varepsilon_t \end{aligned} \quad (1)$$

where y_t (real per capita GDP) is the dependent variable and the independent variables considered are widely accepted financial indicators that act as proxies for capital account liberalization. These are $DLOGPSEI_t$ (first difference of the logarithm of Philippine Stock Exchange Index), FPI_GDP_t *(*foreign portfolio inflows as a share of GDP), $DLOGCLAIMSPS\_GDP_t$ (first difference of the logarithm of claims on private sector as a share of annualized GDP), and $DLOGOPEN_t$ (first difference of the logarithm of total imports and exports as a share of GDP). In order to capture the differential effect of these variables on growth, a time-based dummy variable with values of "0" for pre-liberalization period (2002Q1 – 2006Q4) and "1" for post-liberalization period (2007Q1 – 2015Q1) was used. Most variables are transformed by taking the first differences of their logarithm form in order to address the problem of unit root.

[12] Tswamuno et. al. (2007) developed a regression model in order to capture the effects of liberalization on South Africa's economy. The model was expressed as $y_t = \beta_0 + \beta_1 lnturnover_t + \beta_2 lnfpi_t + \beta_3 lnclaims_t + \beta_4 lnhealth_t + \beta_5 lntrade_t + \alpha_0 Lib_t + \alpha_1 (Lib_t * turnover_t) + \alpha_2 (Lib_t * lnfpi_t) + \alpha_3 (Lib_t * lnclaims_t) + \alpha_4 (Lib_t * lnhealth_t) + \alpha_5 (Lib_t * lntrade_t) + \varepsilon_t$, where y_t (real per capita GDP) is the dependent variable. The independent variables are the logarithm of Stock Market Turnover ($lnturnover_t$), the logarithm of Foreign Portfolio Investment ($lnfpi_t$), the logarithm of total bank claims to the private sector ($lnclaims_t$), logarithm of the ratio of household health expenditure to total household expenditures ($lnhealth_t$), and logarithm of openness to trade ($lntrade_t$), which is expressed as the ratio of imports and exports to GDP. In a bid to capture the differential effect of these variables on growth, a time-based dummy variable (Lib_t) is used. (Lib_t) takes a value of '0' pre-liberalization and a value of '1' post-liberalization (Q1, 1995).

4.2 Analysis of results

4.2.1 Using test for equality of means and variances

The results of tests for equality of means and variances yielded the following insights:

Different waves of easing of FX rules have significant effects on export and import of services as well as non-trade transactions, albeit in level terms. In this exercise, services include transportation, travel, government services and business process outsourcing (BPO). Non-trade transactions, on the other hand, include payment for international credit card charges, health and medical treatment, living expenses of dependents abroad of Philippine citizens, seminar/training abroad of residents, students, and government officials. Largely driven by the BPO sector, trade in services has outpaced trade in goods in recent years. The share of services to total exports of goods and services rose from 9.1 percent in 2002 to 16.5 percent in 2007 and to 25.9 percent in 2012.[13] On the other hand, the share of services to total imports of goods and services climbed from 12.0 percent in 2002 to 17.8 percent in 2012. Exports are diversifying away from goods toward services, which have low import content.

Restrictions on import payments and non-trade current account transactions continue to be eased. For instance, the BSP eliminated prior approval of payments for charters and leases of foreign-owned equipment, refunds of unused foreign grants or loans, payments for underwriting and broker fees, and settlements of deposit insurance claims. In addition, the BSP increased the amount of FX that may be purchased using unspent pesos of departing non-resident tourists (or *balikbayan*) without the need to show proof/s of previous sale of FX for pesos.

Trade transactions, particularly exports of goods, coursed through banks have been volatile from 2007 to first quarter of 2013 following the liberalization of FX regulations. This finding could be seen in the relatively volatile year-on-year growth of mode of payments of export transactions. Annual year-on-year growth in export transactions rose from 4.1 percent in 2007 to 29.4 percent in 2010 but dropped to 8.4 percent in 2012.[14]

Nevertheless, there was perceived change in the average level of exports during the same period. Exports are generally much less controlled than imports. However, exports of goods relative to nominal GDP fell from 42.5 percent in 2004 to 33.1 percent in 2007 and further to 18.5 percent in 2012. Within goods exports, diversification from manufactures to agricultural and mineral products (which also have high domestic content) has occurred. Further, the composition of manufactured goods has shifted from highly import intensive electronics to products that are likely to have larger domestic value added.

[13] For consistency of comparison, annual BOP data using BPM5 was used. Source is the BSP website.

[14] Data used in this section are provided by DES and are payment-based (i.e., based on actual purchases of foreign currency for payment of foreign obligations as reported by banks under FX Form 1). By contrast, BOP captures non-trade and trade data on a transaction basis where even without payment yet, data shall be recorded already in the BOP.

Meanwhile, the level of imports of goods has shown some changes since 2007. Further easing of import payments regulations is the most noteworthy development in this area. For example, the Philippines now allows banks to sell FX to residents for full or partial advance payments of imports without the BSP approval. Annual import transactions grew by 16.2 percent in 2007 to 25.7 percent in 2010 but dropped to 9.4 percent in 2012.

This finding implies that any change in the behavior of imports is not that substantial as the result of the test is only robust in one scenario (Table 2). This could be attributed to the development that over the past decade, the import intensity of Philippine GDP has dropped substantially. As a share of nominal GDP, imports of goods declined from 48.7 percent in 2004 to 38.8 percent in 2007 to 24.6 percent in 2012. In 2013, the first quarter data showed that imports of goods relative to GDP dropped further to 22.0 percent. The decline in the import share was accompanied by a falling export share. The drop of shares in nominal terms included the effect of peso appreciation and changes in world prices. [15] The falling import share to a large extent reflected changes in the structure of exports. Nevertheless, if the effects of the global financial crisis in 2008 and 2009 and euro debt crisis in 2010 and 2011 are weeded out as in Scenarios 3 and 4, the behavior of imports becomes robust across scenarios. This implies that the external factors have affected the behavior of imports of goods since 2007 as in the case of exports.

The level of net FPIs substantially grew with the liberalization of FX rules on foreign investments. This finding suggests that the Philippines has increased its global integration. In gross and in net terms, portfolio investments steadily increased since 2007, with larger flows recorded in the first and second quarters of 2008, third and fourth quarters in 2009 and 2010. Since the third quarter of 2012, relatively mainly net portfolio investment outflows were observed, largely in equities. These developments are in line with the general behavior of capital flows to Asia which have recovered since the Global Financial Crisis, wherein gross outflows were recorded from the third quarter of 2008 to the first quarter of 2009.

[15] Based on" Philippines: 2013 Article IV Consultations," IMF Country Report No. 13/102. April 2013.

Table 2: Test of Equality of Means and Variances Across Periods *(p-values)*

Economic Indicators	Scenario 1 [a/]		Scenario 2 [b/]	
	Equality of Means Anova F-test	Equality of Variances Bartlett Test	Equality of Means Anova F-test	Equality of Variances Bartlett Test
Current Account				
Levels	0.82	0.07	0.00 */	0.66
Growth rates *(q-o-q)*	0.95	0.04 */	0.28	0.00 */
Export goods				
Levels	0.46	0.02 */	0.00 */	0.36
Growth rates *(q-o-q)*	0.94	0.03 */	0.52	0.00 */
Import goods				
Levels	0.69	0.20	0.00 */	0.15
Growth rates *(q-o-q)*	0.54	0.16	0.45	0.21
Services				
Levels	0.48	0.10	0.00 */	0.01 */
Growth rates (q-o-q)	0.47	0.13	0.01 */	0.19
Export Services				
Levels	0.03 */	0.07	0.00 */	0.00 */
Growth rates (q-o-q)	0.76	0.96	0.86	0.10
Import Services				
Levels	0.00 */	0.03 */	0.00 */	0.00 */
Growth rates (q-o-q)	0.93	0.80	0.50	0.77
Non-trade transactions (2005Q1 - 2013Q1)				
Levels	0.00 */	0.00 */	0.00 */	0.00 */
Growth rates (q-o-q)	0.61	0.26	0.43	0.58
Foreign direct investment				
Gross				
Levels	0.28	0.54	0.51	0.69
Growth rates	0.37	0.20	0.95	0.48
Net				
Levels	0.18	0.81	0.89	0.26
Growth rates	0.77	0.06	0.17	0.05 */
Porfolio flows				
Gross				
Levels	0.53	0.07	0.00 */	0.00 */
Growth rates	0.35	0.61	0.43	0.02 */
Net				
Levels	0.01 */	0.26	0.66	0.02 */
Growth rates	0.57	0.00 */	0.65	0.00 */
of which:				
Equity (2005Q1-2013Q1)				
Levels	0.16	0.36	0.00 */	0.26
Growth rates *(q-o-q)*	0.85	0.05 */	0.69	0.00 */
Debt (2005Q1-2013Q1)				
Levels	0.90	0.92	0.03 */	0.26
Growth rates *(q-o-q)*	0.75	0.00 */	0.86	0.00 */
Money market instruments (2005Q1-2013Q1)				
Levels	0.23	0.00 */	0.01 */	0.00 */
Growth rates *(q-o-q)*	0.57	0.00 */	0.58	0.00 */
Gross International Reserves				
Levels	0.01 */	0.00 */	0.00 */	0.00 */
Growth rates *(q-o-q)*	0.57	0.50	0.01 */	0.59
Exchange Rate (Average, peso/USD)				
Levels	0.00 */	0.45	0.00 */	0.45
Growth rates *(q-o-q)*	0.44	0.22	0.44	0.27

**/ The results show that there is strong evidence that MEANS or VARIANCES differ across groups. No asterisk indicates that the results failed to reject the null hypothesis of equal MEANS or VARIANCES across groups.*

a/ Groups include Pre-FX liberalization (2002Q1 - 2006Q4) and Post FX liberalization (2007Q1-2013Q1)

b/ Groups include Pre-FX liberalization (2002Q1 - 2006Q4) and Waves of Post FX liberalization:
Wave 1: 2007Q1 - 2007Q4; Wave 2: 2008Q1 - 2008Q4; Wave 3: 2009Q1 - 2010Q3; Wave 4: 2010Q4 - 2011Q3; and Wave 5: 2011Q4 - 2013Q1

It may be recalled that the easing of FX regulations in foreign investments included the increase in the amount of FX that may be bought by the residents from the banking system to fund outward investments as well as those in FX-denominated bonds/notes issued by residents without BSP approval and registration. Since 2009, the BSP has delegated the registration of inward FPIs (i.e., in peso-denominated government securities and time deposits) to custodian banks.

However, in the case of FDIs, it appears that the impact of the easing of FX regulations on foreign investments may not be enough to sustain higher level of FDIs, based on the test for equality of means and variances. Table 2 shows that the means and variances across 'waves' are not significant at 5 percent level of significance, except in Scenario 2, suggesting that FDIs have not risen significantly since 2007. This finding suggests that other structural factors are crucial determinants of net FDIs. Various factors were discussed in the empirical literature. These structural factors include, among others, quality of infrastructure, political stability, and institutions in terms of commitment to and enforcement of rules.

Meanwhile, the impact of the liberalization of FX regulations on foreign investments has been examined by looking at the behavior of net FDIs by economic industry. Table 3 shows that the construction and trade/commerce industries are able to attract FDIs following the easing of FX regulations on foreign investments in 2007. This finding is seen as the p-values of the construction and trade/commerce industries are robust across scenarios. Meanwhile, other sectors, such as, mining and quarrying, electricity, gas and water industry, manufacturing and financial services (including insurance activities) also showed growth and volatility in foreign investments since 2007.

Large and stable sources of FX led to the steady rise in gross international reserves (GIR). Table 2 shows that the country's GIR has grown significantly since 2007. This finding is robust across scenarios, in level and in growth terms, at five (5) percent level of significance. From US$23.0 billion in end-December 2006, the country's GIR climbed to US$83.8 billion in end-December 2012. By end-June 2013, GIR settled at US$81.3 billion. Relative to its equivalence in months of imports of goods and payments of services and income, the country's GIR rose from 4.2 months in end-December 2006 to 11.9 months in end-December 2012, before it stood at 11.8 months in end-June 2013.

Meanwhile, the behavior of the peso-dollar rates has been more stable since the easing of FX regulations in 2007. Table 2 shows that the level of the nominal peso-dollar rate has changed since 2007. This finding is robust across the scenarios, as the change in the levels was observed across waves of FX easing of regulations. In 2012, the peso averaged PHP42.23/US$1, appreciating by 8.5 percent from the PHP46.15/US$1 average in 2007 and from the PHP51.61/US$1 average in 2002. The strength of the peso was primarily due to strong inflows of overseas Filipino (OF) remittances, export receipts, net FPIs, and FDIs. In terms of end-of-period levels, the peso appreciated by 0.5 percent to PHP41.19/US$1 at end-December 2012, from PHP41.40/US$1 at end-December 2007 and by 22.4 percent from PHP53.10/US$ at end-December 2002.

Table 3: Test of Equality of Means and Variances Across Periods *(p-values)*

	Scenario 1 [a/]		Scenario 2 [b/]	
	Equality of Means Anova F-test	Equality of Variances Bartlett Test	Equality of Means Anova F-test	Equality of Variances Bartlett Test
Net Foreign Direct Investments (BPM5 CONCEPT) (For the period: 2004Q1 - 2012Q4				
Mining and Quarrying				
Levels	0.60	0.00 */	0.92	0.00 */
Growth rates (q-o-q)	1.00	0.00 */	1.00	0.00 */
Electricity, Gas and Water				
Levels	0.47	0.00 */	0.39	0.00 */
Growth rates (q-o-q)	0.57	0.00 */	0.01 */	0.00 */
Manufacturing				
Levels	0.85	0.00 */	0.57	0.03 */
Growth rates (q-o-q)	0.88	0.14	0.54	0.00 */
Construction				
Levels	0.08	0.00 */	0.04 */	0.00 */
Growth rates (q-o-q)	0.98	0.25 */	1.00	0.00 */
Trade/Commerce				
Levels	0.12	0.01 */	0.00 */	0.00 */
Growth rates (q-o-q)	0.74	0.17	0.75	0.00 */
Financial Intermediation (including Insurance)				
Levels	0.57	0.00 */	0.73	0.00 */
Growth rates (q-o-q)	0.58	0.00 */	0.32	0.00 */
Real Estate				
Levels	0.03	0.21	0.40	0.09
Growth rates (q-o-q)	0.59	0.19	0.42	0.21

*/ The results show that there is strong evidence that MEANS or VARIANCES differ across groups. No asterisks indicates that the results failed to reject the null hypothesis of equal MEANS or VARIANCES across groups

a/ Groups include Pre-FX liberalization (2002Q1 - 2006Q4) and Post FX liberalization (2007Q1-2013Q1)

b/ Groups include Pre-FX liberalization (2002Q1 - 2006Q4) and Waves of Post FX liberalization:
Wave 1: 2007Q1 - 2007Q4; Wave 2: 2008Q1 - 2008Q4; Wave 3: 2009Q1 - 2010Q3; Wave 4: 2010Q4 - 2011Q3; and Wave 5: 2011Q4 - 2013Q1

Source of data: BSP website, Direct Investments, By Industry/Sector (BPM5 Concept). Earliest data is 2004

In 2013, the peso remained robust despite the formidable headwinds stemming from the protracted global economic downturn and lingering crisis in Europe. The peso averaged stronger during the first half of 2013 at PHP41.24/US$1 compared to the average in 2012 of PHP42.23/US$1. The sustained inflow of FX from OF remittances, export receipts, portfolio investments, and FDIs remained as the fundamental drivers of the peso's strength. The stability of peso was likewise anchored by the country's sustained economic growth and sound macroeconomic fundamentals. However, in terms of end-of-period levels, the peso depreciated by 5.1 percent to PHP43.31/US$1 at end-June 2013, from PHP41.19/US$1 at end-December 2012 as the continued uncertainty in the global financial markets brought about by the developments after the 22 May 2013 speech of Federal Reserve Chairman Bernanke to Congress, which was widely interpreted as hinting that interest rates would rise, resulted in some volatility in FX markets, including the Philippines.

Share of foreign loans availed of by the private sector has risen with the easing of FX regulations. Table 4 shows that across waves of liberalization of FX rules, availment of foreign loans by banks has changed in level and in growth terms. Meanwhile, outstanding bank liabilities from foreign sources also changed from the 2007 liberalization of FX regulations. A closer look at the availment of foreign loans by banks showed that they borrowed more from the private sector since 2007. Prior to 2007, the share of public sector foreign loans to total availment was recorded at 50.3 percent. This share rose to 54.2 percent from 2007 to the first quarter of 2013.

As discussed in Section 3, the easing of regulations on foreign loans includes the opening of a temporary window where banks and FX corporations may sell FX for unregistered private sector loans, subject to notification to BSP and documentation requirements. The BSP also included in the list of eligible projects/costs, development of industrial estates and economic zones, socialized/low-cost housing projects, acquisition of Net Performing Assets/Net Performing Loans (NPAs/NPLs) of banks and other Government Financial Institutions (GFIs) and acquisition of government assets approved for privatization, and refinancing of existing loans used for eligible projects/costs.

The surge of portfolio and, to some extent, FDI flows into equities lifted the Philippine stock market. Table 4 shows that the index has changed since 2007 to the first quarter of 2013. This finding is robust across scenarios at five (5) percent level of significance. As of end-December 2012, the PSEi settled at 5,812.7 index points, 60.5 percent higher than the end-December 2007 index, led mainly by growth in the mining and oil, holding firms and industrial sectors. In 2013, the PSEi continued to rise by 11.2 percent from the end-December 2012 index. The buoyant PSEi reflected in part the sustained investor optimism over the country's sound macroeconomic fundamentals and several upgrades on the Philippines' sovereign credit ratings, notwithstanding the challenging global environment. In particular, the local bourse posted 38 historic highs in 2012 pushing past the 5,800 benchmark, following the strong performance in the financial sector, property sector and the holding firms. This development continued in 2013, with the PSEi closing at 6,465.3 index points in end-June 2013, or 11.2 percent higher than the end-December 2012 index points. Meanwhile, the stock market capitalization grew by 37.3 percent from the end-December 2007 to reach PHP10.9 trillion at end-December 2012.

Domestic liquidity has expanded following surge of overseas remittances and capital flows. Domestic liquidity conditions since 2007 remained strong following the steady expansion in the claims on the private sector due to robust lending activity by commercial banks and in the net foreign asset position of the BSP due to firm FX inflows from overseas remittances, BPO receipts, and portfolio investments. M3 grew by 143.8 percent from end-December 2004 and by 55.81 percent from end-December 2007 to end-December 2012. As of end-May 2013, outstanding M3 grew by 3.4 percent from its end-December 2012. In turn, M3 relative to nominal GDP rose from 41.4 percent in 2004 to 46.1 percent in 2007 and further to 49.0 percent in 2012. When foreign currency deposit of residents are taken into account, broader M3 (or M4) as share of nominal GDP climbed from 56.8 percent in 2004 to 57.0 percent in 2007 and further to 58.3 percent in 2012.

Table 4: Test of Equality of Means and Variances Across Periods *(p-values)*

Economic Indicators	Scenario 1 [a/]		Scenario 2 [b/]	
	Equality of Means Anova F-test	Equality of Variances Bartlett Test	Equality of Means Anova F-test	Equality of Variances Bartlett Test
Foreign Loans				
Availments of bank foreign borrowings				
Levels	0.23	0.39	0.39	0.01 */
Growth rates *(q-o-q)*	0.91	0.05 */	0.76	0.00 */
Outstanding bank liabilities from foreign sources				
Levels	0.99	0.09	0.00 */	0.02 */
Growth rates *(q-o-q)*	0.27	0.28	0.02 */	0.76
Philippine Stock Exchange Index (PSEI)				
Levels	0.00 */	0.00 */	0.00 */	0.00 */
Growth rates *(q-o-q)*	0.85	0.22	0.85	0.17
BSP Overnight borrowing rate				
Levels	0.00 */	0.00 */	0.00 */	0.00 */
Growth rates (q-o-q)	0.08	0.00 */	0.08	0.00 */
Average bank lending rate				
Levels	0.00 */	0.01 */	0.00 */	0.00 */
Growth rates (q-o-q)	0.00 */	0.30	0.00 */	0.01 */
Domestic Liquidity (M3)/Rolling Nominal GDP				
Levels	0.00 */	0.87	0.00 */	0.82
Growth rates	0.80	0.20	0.98	0.34
Total Resources of the Philippine Financial System/Rolling Nominal GDP (2002Q1 -2012Q4)				
Levels	0.00 */	0.00 */	0.00 */	0.00 */
Growth rates	0.46	0.11	0.80	0.05 */

**/ The results show that there is strong evidence that MEANS or VARIANCES differ across groups. No asterisk indicates that the results failed to reject the null hypothesis of equal MEANS or VARIANCES across groups.*

a/ Groups include Pre-FX liberalization (2002Q1 - 2006Q4) and Post FX liberalization (2007Q1-2013Q1)

b/ Groups include Pre-FX liberalization (2002Q1 - 2006Q4) and Waves of Post FX liberalization:

Wave 1: 2007Q1 - 2007Q4; Wave 2: 2008Q1 - 2008Q4; Wave 3: 2009Q1 - 2010Q3; Wave 4: 2010Q4 - 2011Q3; and Wave 5: 2011Q4 - 2013Q1

Meanwhile, total resources of the financial system[16] (including the BSP) have risen since 2007. Table 4 shows that this finding is significant across scenarios at five percent (5) level of significance. The total resources of the financial system grew by 124.6 percent from end-December 2004 and by 59.00 percent from end-December 2007 level to end-December 2012 level. The increase could be traced to the growth in loans, securities and other equities of banks, indicative of the public's continued trust in the banking sector.

Indicative of ample liquidity and strong macro fundamentals, secondary market rates have eased since 2007. Domestic interest rates in the secondary markets remained relatively low since 2007, reflecting strong fiscal performance of the National Government as well as ample liquidity in the financial system, given continued strong demand for the

[16] For this purpose, total resources of the financial system refer to resources of universal banks, commercial banks, thrift banks, rural banks and non-bank entities supervised by the BSP.

country's government papers amid sound macroeconomic fundamentals. The average 91-day Treasury bill rate dropped from 7.3 percent in 2004 to 3.41 percent in 2007 to 1.6 percent in 2012 and further to 0.3 percent in January to June 2013. Similarly, average bank lending rates decreased on all maturities. From 10.1 percent in 2004, average bank lending rates dropped to 8.7 percent in 2007 to 5.6 percent in 2012 and further to 5.8 percent in January to May 2013.

The impact of the easing of FX rules on external and financial sectors appears relatively robust even if the effects of the global financial crisis are weeded out. Table 5 shows the results of Scenarios 3 and 4 when the impact of the global financial crisis is excluded from the series of selected economic indicators. In terms of the number of indicators which showed significant changes in behavior since 2007 at five (5) percent level of significance, the number of indicators has increased from 29 in Scenario 1 to 33 indicators in Scenario 3. In contrast, the number of indicators which showed significant changes since 2007 has declined from 49 indicators in Scenario 2 to 43 indicators in Scenario 4 (Table 5). Nevertheless, the results are generally consistent with the findings when the impact of the global financial crisis is included, except, with the results on the changes in the level of import goods. In particular, Table 5 showed that the Global Financial Crisis has been a factor in the changes in the level and volatility of imports of goods.

4.2.2 Using regression analysis

The results of the regression analysis yielded the following findings:

During the FX liberalization reforms, FPIs and bank claims on private sector contributed positively to per capita GDP growth*.* Table 6 shows a subset of the results of the fully interacted OLS regression model. The results confirm the findings in the preliminary tests in previous section. The results show that pre-liberalization effect of foreign portfolio inflows is negative. However, during the post liberalization period, the estimates show a one (1) percent increase in share of foreign portfolio inflows to GDP leads to a 0.2 percent increase in per capita GDP growth.

Moreover, the overall post-liberalization effect of bank claims on private sector is positive. The model predicts that a one (1) percent increase in the growth of bank claims on the private sector corresponds to a 1.4 percent increase in per capita GDP growth, assuming all other factors are held constant. Meanwhile, the regression model does not give significant conclusion about differential effects of the stock market.

On the other hand, the coefficient for trade is negative during pre-liberalization period. It is however encouraging to note the significant improvement during the post-liberalization, which suggests improvements in the trade transactions of the economy.

Table 5: Test of Equality of Means and Variances Across Periods *(p-values)*

Indicators	Scenario 3 [a/]				Scenario 4 [b/]			
	Equality of Means Anova F-test		Equality of Variances Bartlett Test		Equality of Means Anova F-test		Equality of Variances Bartlett Test	
Current Account								
Levels	0.001	*/	0.736		0.028	*/	0.151	
Growth rates *(q-o-q)*	0.383		0.000	*/	0.383		0.000	*/
Export goods								
Levels	0.000	*/	0.292		0.002	*/	0.010	
Growth rates *(q-o-q)*	0.385		0.307		0.647		0.206	
Import goods								
Levels	0.000	*/	0.868		0.000	*/	0.006	*/
Growth rates (*q-o-q)*	0.551		0.474		0.703		0.081	
Services								
Levels	0.000	*/	0.699		0.000	*/	0.135	
Growth rates *(q-o-q)*	0.036	*/	0.242		0.735		0.168	
Export Services								
Levels	0.000	*/	0.164	*/	0.000	*/	0.015	*/
Growth rates *(q-o-q)*	0.875		0.152		0.958		0.591	
Import Services								
Levels	0.000	*/	0.001	*/	0.000	*/	0.006	*/
Growth rates *(q-oq)*	0.589		0.328		0.963		0.638	
Non-trade transactions (2005Q1 - 2013Q1)								
Levels	0.003	*/	0.100		0.000	*/	0.031	*/
Growth rates *(q-o-q)*	0.164		0.636		0.764		0.134	
Foreign direct investment								
Gross								
Levels	0.957		0.976		0.607		0.872	
Growth rates *(q-o-q)*	0.755		0.462		0.705		0.321	
Net								
Levels	0.531		0.476		0.329		0.530	
Growth rates *(q-o-q)*	0.083		0.145		0.266		0.046	*/
Porfolio flows								
Gross								
Levels	0.000	*/	0.000	*/	0.000	*/	0.001	*/
Growth rates *(q-o-q)*	0.412		0.117		0.624		0.609	
Net								
Levels	0.156		0.497		0.003	*/	0.211	*/
Growth rates *(q-o-q)*	0.347		0.000	*/	0.496		0.000	*/
of which:								
Equity (2005Q1-2013Q1)								
Levels	0.416		0.430		0.025	*/	0.221	
Growth rates *(q-o-q)*	0.818		0.004	*/	0.431		0.000	*/
Debt (2005Q1-2013Q1)								
Levels	0.569		0.718		0.069		0.292	
Growth rates *(q-o-q)*	0.513		0.000	*/	0.781		0.000	*/
Money market instruments (2005Q1-2013Q1)								
Levels	0.110		0.000	*/	0.001	*/	0.000	*/
Growth rates *(q-o-q)*	0.584		0.000	*/	0.270		0.000	*/
Gross international reserves								
Levels	0.000	*/	0.000	*/	0.000	*/	0.032	*/
Growth rates *(q-o-q)*	0.006	*/	0.350		0.001	*/	0.824	
Exchange Rate (Nominal, peso/USD)								
Levels	0.000	*/	0.934		0.000	*/	0.064	
Growth rates *(q-o-q)*	0.203		0.412		0.028	*/	0.754	

**/ The results show that there is strong evidence that MEANS or VARIANCES differ across groups. No asterisk indicates that the results failed to reject the null hypothesis of equal MEANS or VARIANCES across groups.*

a/ Groups include Pre-FX liberalization (2002Q1 - 2006Q4) and Post FX liberalization (2007Q1-2013Q1, excluding 2008Q4-2009Q3)

b/ Groups include Pre-FX liberalization (2002Q1 - 2006Q4) and Waves of Post FX liberalization:
Wave 1: 2007Q1 - 2007Q4; Wave 4: 2010Q4 - 2011Q3; and Wave 5: 2011Q4 - 2013Q1, excluding Wave 2: 2008Q1 - 2008Q4; and Wave 3: 2009Q1 - 2010Q3.

Table 5: Test of Equality of Means and Variances Across Periods *(p-values)*

	Scenario 3 a/				Scenario 4 b/			
Indicators	Equality of Means Anova F-test		Equality of Variances Bartlett Test		Equality of Means Anova F-test		Equality of Variances Bartlett Test	
Total availments of bank foreign borrowings								
Levels	0.547		0.182		0.431		0.003	*/
Growth rates	0.995		0.022	*/	0.498		0.000	*/
Outstanding bank liabilities from foreign sources								
Levels	0.124		0.355		0.000	*/	0.056	*/
Growth rates	0.962		0.916		0.250		0.473	
PSEI								
Levels	0.000	*/	0.002	*/	0.000	*/	0.030	*/
Growth rates	0.911		0.671		0.553		0.625	
Overnight borrowing rate								
Levels	0.000	*/	0.000	*/	0.000	*/	0.005	*/
Growth rates	0.263		0.000	*/	0.004	*/	0.001	*/
Average bank lending rate								
Levels	0.000	*/	0.019	*/	0.000	*/	0.198	
Growth rates	0.489		0.296		0.957		0.972	
Domestic Liquidity (M3)/ Rolling Nominal GDP								
Levels	0.000	*/	0.620		0.000	*/	0.597	
Growth rates	0.950		0.226		0.942		0.094	
Total Resources of the Philippine Financial System/Rolling Nominal GDP (2002Q1 - 2012Q4)								
Levels	0.000	*/	0.004	*/	0.007	*/	0.019	*/
Growth rates	0.608		0.182		0.836		0.074	

**/ The results show that there is strong evidence that MEANS or VARIANCES differ across groups. No asterisk indicates that the results failed to reject the null hypothesis of equal MEANS or VARIANCES across groups.*

a/ Groups include Pre-FX liberalization (2002Q1 - 2006Q4) and Post FX liberalization (2007Q1-2013Q1, excluding 2008Q4-2009Q3)

b/ Groups include Pre-FX liberalization (2002Q1 - 2006Q4) and Waves of Post FX liberalization:

Wave 1: 2007Q1 - 2007Q4; Wave 4: 2010Q4 - 2011Q3; and Wave 5: 2011Q4 - 2013Q1, excluding Wave 2: 2008Q1 - 2008Q4; and Wave 3: 2009Q1 - 2010Q3.

Table 6. The Effects of Foreign Exchange Liberalization Reforms on GDP Per Capita Growth (Quarter-on-Quarter Growth)

Variables	Coefficient	Probability
Philippine Stock Exchange Index (q-o-q growth rate)	-0.13	0.24
Portfolio Investment Inflows as a share of GDP	-0.72	0.00
Claims on private sector as a share of annualized GDP	0.27	0.55
Total imports plus exports as a share of GDP	-0.69	0.00
Dummy variable with values of "0" for pre-liberalization period (2002Q1 – 2006Q4) and "1" for post-liberalization period (2007Q1 – 2014Q1)	-4.85	0.00
Interaction term for PSEI	0.15	0.27
Interaction term for foreign portfolio inflows	0.96	0.02
Interaction term for claims on private sector	1.18	0.02
Interaction term for trade openness	0.29	0.05
Diagnostic Tests		
Adjusted R^2	0.85	
Breusch-Godfrey Serial Correlation LM Test	Stable residual	
Cointegration Test (ADF, Phillips-Perron, Kwiatkowski-Phillips-Schmidt-Shin)	Cointegrated	
Estimation Period	1st Quarter 2002 to 1st Quarter 2015	
Frequency	Quarterly	
Method	Ordinary Least Squares	

Source: Authors' estimates.

All in all, the preliminary findings of this study imply that phases in the easing of FX regulations have helped mobilize foreign resources to finance the requirements of the domestic economy. The significant contribution of greater FX transactions led to further opening of the country's current and capital accounts. In turn, monetary and financial markets expansion ensued since 2007. These developments suggest that the liberalization of FX rules may have underscored the importance of greater openness as an essential component of macroeconomic policy. These findings also indicate that the Philippines continues to seek external sources of growth. However, given the macroeconomic risks arising from FX markets and the case for regulation and supervision of other financial markets, the BSP's vigilance to complement the easing of FX rules with prudential regulations and market surveillance to promote international investor confidence and market discipline continues to be crucially important. Despite the FX market risks mostly due to macroeconomic reasons, the economic benefits of easing FX rules by way of expansion of income become clear.

5. What implications do the liberalization of FX rules pose for monetary policy in the Philippines?

The findings in Section 4 imply that the easing of foreign exchange rules has important effects on monetary policy transmission. This section shares some perspectives on the implications of these effects on monetary policy.

FX liberalization has coincided with a decline in exchange rate pass-through. Exchange rate pass-through typically captures effects of exchange rate changes into import prices, then to producers prices (often referred to in literature as first stage) and finally to consumer prices (or, the second stage pass-through). An estimation of the exchange rate pass-through (ERPT) for the Philippines by the Center for Monetary and Financial Policy (CMFP) shows that the pass through of exchange rate movements has declined during the inflation targeting (IT) period (2002-2013) relative to the pre-IT period (1990-2001).[17] The results show that the exchange rate pass-through coefficients, both in the short run and in the long run, have declined significantly under the inflation targeting regime of the BSP.

Mihaljek and Klau (2008) also noted the substantial decline in the short-run exchange rate pass-through for the Philippines after 2001. One reason for this is the decline in the "signal" value of the exchange rate as confidence grew on the ability of the BSP to keep inflation within manageable levels (Guinigundo, Forthcoming in 2016 [18]). While the short-run ERPT coefficient is almost insignificant, the long-run ERPT coefficient remains significantly larger. This is a natural consequence as the impact of exchange rate fluctuations are more fully reflected in the inflation rate over time. The decline in both short-run and long-run ERPT coefficients provides greater flexibility for monetary authorities in maintaining price stability since domestic prices are marginally affected by exchange rate

[17] Following the methodology commonly employed in the literature, the ERPT to inflation is estimated by regressing inflation against the current and lags of changes in the exchange rate, controlling for the impact of inflation persistence (via the inclusion of lags of inflation as regressors) as well as the impact of foreign price changes and demand price pressures.

[18] See Guinigundo, D. (Forthcoming in 2016), "Towards a Flexible Inflation Targeting in the Philippines," chapter in a forthcoming 2016 BSP book on central banking.

fluctuations. This finding is consistent with results in Coulibaly and Kempf (2010), Devereux and Yetman (2010), Mihaljek and Klau (2008), Choudhri et al. (2005) and Gagnon and Ihrig (2004) who found empirical evidences of a slowdown in the ERPT in emerging economies.

The literature offers a number of possible explanations for declining exchange rate pass-through that are likely to apply in the Asian context, including the Philippines (Devereux and Yetman 2014). Some explanations include the relatively stable inflation as well as changes in the composition of import bundles which generally lead to declining pass-through.

In the case of the Philippines, the improved inflation performance is seen as an important factor in declining pass-through. Table 7 below shows that the average year-on-year growth and volatility of annual inflation outturns have declined considerably during the IT period. As argued by Taylor (2000), firms expect inflation to be less persistent in a low inflation environment and would therefore, be willing to absorb a larger fraction of any price shock. Under a lower and more stable inflation environment, firms would tend to pass on less of an exchange-rate induced change in the prices of its inputs to their selling prices to protect their market share.

Table 7. Inflation: Year-on-Year Growth and Volatility In percent

	Pre-IT period (1988-2001)	IT period (2002-2015Q2)
Year-on-Year Growth, Average	9.4	4.2
Volatility*	4.0	1.9

**Standard deviation*
Source of data: CMFP estimates (See Guinigundo, D., Forthcoming in 2016).

In turn, the role of expectations in anchoring monetary policy has become significant amidst surges of sources of FX (Guinigundo 2014). This finding underscores the relevance of inflation targeting as framework of monetary policy. To assess the relevance of the expectations channel in recent years, Guinigundo's (2014) analysis was extended on the behavior of private sector inflation expectations and the BSP's inflation forecast from January 2009 to April 2014. Using another measure of inflation expectations based on monthly survey of inflation forecasts from 33 financial institutions by Reuters, average variance between the Reuters poll survey and the BSP's monthly inflation forecasts dropped from 0.03 percentage point in 2011 to 0.02 percentage point in January 2013 to October 2014. These findings are consistent with another BSP study, the results of which provide some evidence on the importance of inflation expectations in the monetary policy transmission mechanism in the Philippines.[19] More importantly, these results indicate that private agents assess the credibility of the BSP and form their expectations based on what they have learned at the end of the current period and are similarly interested in the declining medium-term path of inflation target announced by the monetary authorities.[20] In

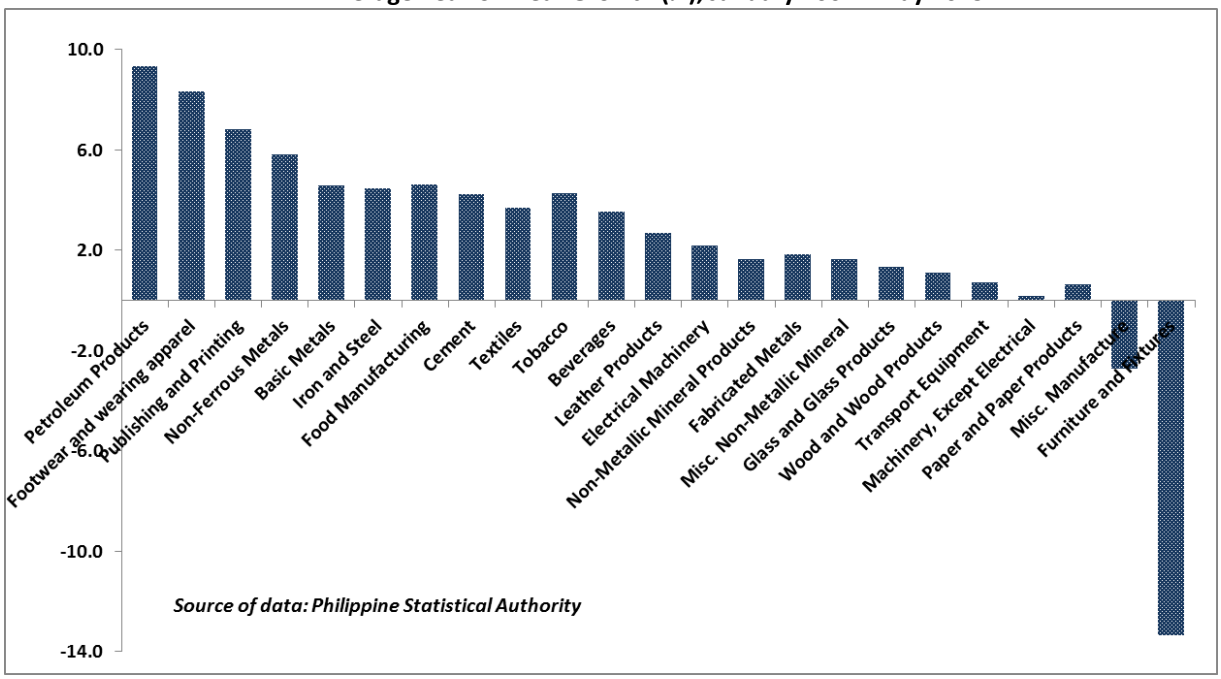
[19] Based on Bayangos, Floro, Basilio and E. Glindro (2010). Using a reduced-form equation model of survey-based expectations, the study found that inflation target, actual inflation, fiscal policy indicators and monetary policy stance are important drivers of the behavior of inflation expectations from March 2002 to June 2008 (pre-Global Financial Crisis).

[20] Average coefficient of variation between the private sector and the BSP's monthly inflation forecast dropped from 0.6 in 2009 to 0.1 percentage point in 2012 to 0.04 percentage point from January to October 2014. Such a convergence may reflect the positive response of the private sector to the BSP's communication strategy of announcing its inflation forecast as well as its policy intentions over the medium term.

fact, a recent international survey has identified the Philippines as one of the countries for which transparency has improved the most (Dincer and Eichengreen 2014).[21]

Changes in the composition of import bundles appear to have played a vital role in the decline in pass-through. Figure 1 shows that based on the year-on-year growth of the composition of the Producers Price Index (PPI) of the manufacturing sector from January 2002 to May 2015, PPI of manufactured goods, food products, and furniture and fixtures (in fact, negative growth) are generally lower than those of petroleum products, footwear and wearing apparel, and basic metals. In a similar manner, a closer look at the coefficient of correlation of the components of PPI and the nominal peso-dollar rate showed that manufactured goods and food products have lower correlation with the exchange rate than petroleum products.

Figure 1
Components of Producers Price Index (PPI)
Average Year-on-Year Growth (%), January 2002 - May 2015



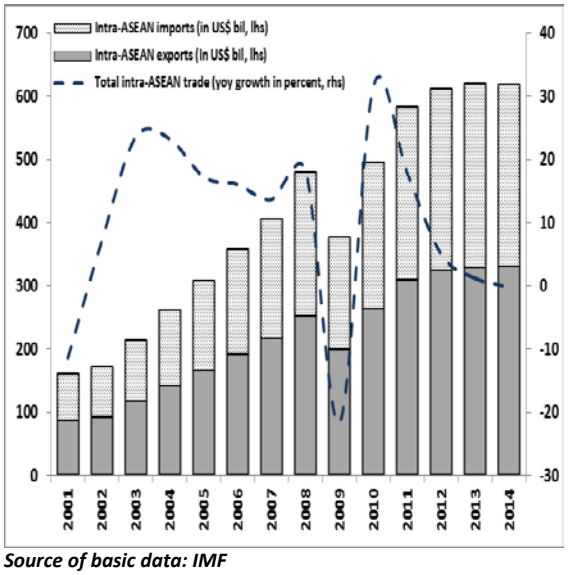
Over the long run, another key factor that may influence the role of exchange rate is the ongoing integration of not only goods but also services in financial markets. The ASEAN Economic Community (AEC) integration in 2015 is expected to play an important factor in exchange rate movements. Financial market integration envisioned by the ASEAN is to be achieved through financial services liberalization, capital accounts liberalization, and payments and settlement systems integration. All these changes are expected to lead to freer and more efficient movement of capital across national borders. Figure 2a highlights the increasing role of intra-ASEAN trade, with average year-on-year growth of total intra-ASEAN trade from 2001 to 2014 at 10.1 percent.[22]

[21] The other central banks for which the transparency index increased the most include Hungary, Thailand and Turkey.
[22] ASEAN includes Philippines, Indonesia, Malaysia, Thailand, Brunei Darussalam, Vietnam, Myanmar, Singapore, Cambodia and Lao PDR.

Meanwhile, Figure 2b shows the increasing integration of the Philippines with other Asian countries. In particular, the extent of ASEAN trade rose from 14.4 percent in 1999 to 19.4 percent in 2014. Moreover, Philippine trade (exports plus imports of goods) with China has similarly risen from 2.5 percent in 1999 to 14.4 percent in 2014. By contrast, the Philippines has shifted away from the United States (US) and the European Union (EU) as major trading partners since 1999. The share of trade with the US and the EU has declined from 25.6 percent and 14.8 percent in 1999 to 11.3 percent and 11.2 percent in 2014, respectively. These developments suggest that consumption bundles are becoming increasingly similar across Asian economies.

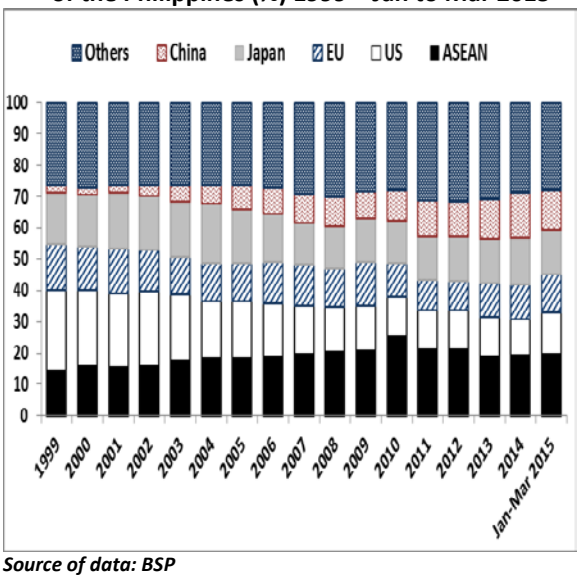
Figure 2

(a) Intra-ASEAN Trade Levels and Growth 2001 - 2014



Source of basic data: IMF

Share of Major Trading Partners to Total Trade of the Philippines (%) 1999 – Jan to Mar 2015



Source of data: BSP

In terms of the potential impact of the ASEAN financial integration, Guinigundo (2015) underscored the role of financial intermediaries in the Philippines which has evolved to improve financial depth, breadth and access.[23] Banks continue to dominate the Philippine financial system.[24] As of end-December 2013, banks represented 35.4 percent of the total BSP-supervised financial institutions. Nevertheless, banks have been responding well to market innovations for greater banking convenience (BSP 2014). Electronic banking (e-banking) platforms have widely evolved in recent years, including automated teller machine (ATM) networks, internet banking, mobile phone banking, and the use of electronic money (e-money) instruments such as cash/remittance cards and electronic wallet which are accessible via mobile phones or other access device. To keep pace with changing market dynamics, banks have capitalized on the use of e-banking technology to provide fast, efficient and reliable services to a broader customer base. Developments in banking technologies will likely play a pivotal role as local banks gear up for greater competition and prepare for the ASEAN banking integration by 2020. Moreover, competition is expected to

[23] Financial depth provides a measure of the size of the financial system relative to the size of the economy while financial breadth is a gauge of the relative importance of banks relative to capital markets. Financial breadth provides an indication if the financial system has diversified from providing banking services toward greater use of capital markets for financing.

[24] Major bank categories are universal and commercial banks, thrift banks and rural and cooperative banks.

heighten with the enactment of Republic Act No. 10641 on 15 July 2014 which liberalized the entry of foreign banks in preparation for the ASEAN financial integration.

The rising degree of financial integration, albeit modest, may also influence the apparent trade-off between exchange rate stability and price stability. A useful indicator is the net international investment position (NIIP), broken down into gross external assets and gross external liabilities, as a share of GDP in Figure 3**.** The NIIP measures the value of assets Filipinos own abroad, minus the value of assets in the Philippines owned by foreign entities. The assets and liabilities in the NIIP are classified as direct investments, portfolio investments, financial derivatives, and other investments. The NIIP can therefore be regarded as a country's balance sheet with the rest of the world at a specific point in time. A negative NIIP figure indicates that a country's foreign liabilities exceed its foreign assets, while a positive NIIP figure indicates that its foreign assets exceed its liabilities. Changes in the NIIP each year reflect several factors, including the capital flows needed to finance the current account, the change in asset prices, and movements in exchange rates.[25]

Figure 3 shows that on balance, the Philippine international investment position has been a net liability from 2006 to end-September 2014, which means that the value of overseas Philippine investments has been below the value of foreign investments in the Philippines. Sound macroeconomic fundamentals, highlighted by positive credit rating actions from Moody's and Standard & Poor's (S&P) and Rating and Investment Information, Inc. (R&I), helped attract foreign portfolio, direct and other investments liabilities.

The period 2007-2011 showed improvements in the NIIP as total external assets (or claims of Philippine residents from the rest of the world) accelerated at an average of 17.9 percent. By contrast, total external liabilities grew slower at 7.9 percent. Direct investments and reserves assets fuelled by the improvement on the asset side as these grew by an average of 36.3 percent and 27.5 percent, respectively. The improvements in the NIIP likewise indicated stronger external payments positions as the BOP posted surpluses during the said period. The BSP consistently held the majority of the country's total external financial assets where the BSP's holdings of the said assets increased as a result of its FX operations, income from investments abroad, foreign currency deposits of the National Government's (NG) program loan proceeds and revaluation of the BSP's gold stocks.

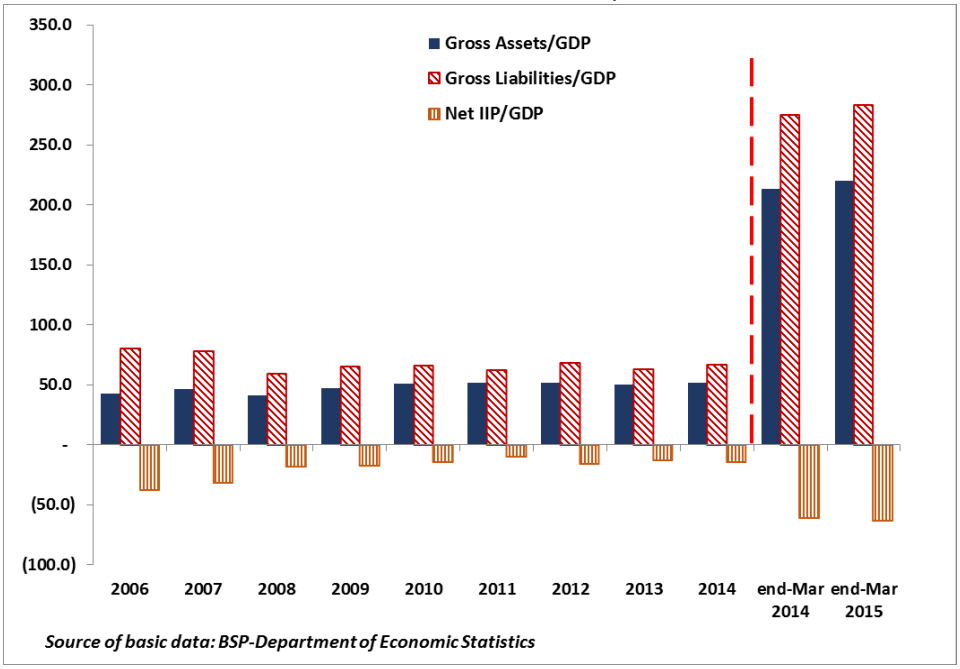
In 2012, the country's international investment position deteriorated as total financial liabilities outpaced the growth of total financial assets. The growth in the liabilities side was led by direct and portfolio investments due to investors coming into the Philippines in search of higher yielding investments prompted by the slowdown in major advanced economies. There was a recovery in 2013 after the international investment position went back to its 2010 ratio as a result of the increase in total financial assets, especially in other and direct (especially debt instruments) investments.

As of end-March 2015, the NIIP slipped from the figure posted in end-March 2014 owing to the expansion of the total external financial liabilities, especially direct and portfolio investments. The increase in total external financial liabilities illustrated the

[25] Moreover, the NIIP position is also an important barometer of a country's financial condition and creditworthiness.

heightened appetite of non-resident investors for the country's equity securities and equity capital due to strong economic fundamentals. In addition, the negative revaluation adjustment arising from changes in market prices contributed to the end-March 2015 slip of the international investment position.

Figure 3
Net International Investment Position (IIP)
Gross Assets and Gross Liabilities to Nominal GDP, Annual 2006 – Mar 2015



Source of basic data: BSP-Department of Economic Statistics

However, it should be noted that the NIIP has been improving since 2006 following the continued rise in gross external assets. This finding suggests that the Philippines has shown some evidence of becoming increasingly being internationalized. Moreover, Devereux and Yetman (2014) revealed that based on BIS data, international links among banking systems in the Asia-Pacific region,[26] including the Philippines, have resulted in a significant increase in the size of cross-border positions over time. This finding indicates that the economies in Asia have become more integrated into global financial markets.

This leads us to another factor that is likely in the minds of monetary authorities when considering the need to stabilize the exchange rate, that is, the apparent interaction between exchange rate stability and financial stability. Central to this issue is the degree of currency mismatch on private sector balance sheets, especially in the presence of heavy foreign borrowings by banks and corporations. However, in the case of the Philippines, the share of outstanding external debt to nominal GDP has declined from 66.1 percent in 2002 to 21.5 percent in 2013.[27] A contributing factor to this decline in external debt is the continued development of domestic financial markets. For instance, the size of the local

[26] Asia-Pacific region includes China, Chinese Taipei, India, Indonesia, Korea, Malaysia, Pakistan, the Philippines, and Thailand.
[27] Based on BPM6 concept. A more useful indicator is the share of foreign-currency denominated debt to total outstanding debt.

currency (LCY) bond market has risen from US$ 27.4 billion in December 2002 to US$48.4 billion in December 2007 and further to US$98.8 billion in March 2014.[28]

The findings in this section so far suggest that uncertainties surrounding exchange rate stability under a more liberalized FX rules have apparently declined following improved inflation and inflation expectations, lower exchange rate pass-through, the on-going effects of a rising internationalization and declining currency mismatch.

6. Conclusion

This paper examines the impact of easing the FX regulatory rules in the Philippines. Using tests for equality of means and regression analysis, our preliminary findings imply that, in general, the easing of FX regulations has helped mobilize foreign exchange resources to finance requirements of the domestic economy. The significant contribution of greater FX transactions led to further opening of the country's current and capital accounts. In turn, monetary and financial markets expansion has ensued since 2007. The results also imply that the impact of the easing of FX rules has been modest following improved inflation and inflation expectations, lower exchange rate pass-through, the on-going effects of a rising internationalization and declining currency mismatch.

These developments suggest that the liberalization of FX rules may have underscored the importance of greater openness as essential component of macroeconomic policy.

However, given the macroeconomic risks arising from FX markets and the case for regulation and supervision of other financial markets, the BSP's vigilance to complement the easing of FX rules with prudential regulations and market surveillance to promote international investor confidence and market discipline, continues to be crucially important. It is likewise imperative to continue prudence and vigilance in undertaking reforms so as to ensure that future liberalization measures are "well-planned and properly timed and sequenced with safety nets in place". Despite the FX market risks mostly due to macroeconomic reasons, the economic benefits of easing FX rules by way of expansion of income have become clear.

[28] Asian Development Bank, ADB Asia Bonds Online, March 2014.

References

1. Bayoumi, T. and F. Ohnsorge (2013), "Do Inflows or Outflows Dominate? Global Implications of Capital Account Liberalization in China", International Monetary Fund Working Paper No. WP/13/189, August 2013.
2. Carriere-Swallow, Y. and P. Garcia-Silva (2013), "Capital Account Policies in Chile: Macro-financial Considerations Along the Path to Liberalization."
3. Chae-Shick Chung et al.(2000), "Foreign Exchange Market Liberalization: The Case of Korea", Korea Institute for International Economic Policy Analysis 00-02, South Korea.
4. Choudhri, E. U., H. Faruquee, and D. Hakura (2005), "Explaining the Exchange Rate Pass-through in Different Prices," *Journal of International Economics*, Elsevier, 65(2), 349-374, March.
5. Coulibaly, D. and H. Kempf (2010), "Does Inflation Targeting Decrease Exchange Rate Pass-through in Emerging Countries?," Banque de France (BDF) Working Paper (Paris: Banque de France).
6. David, A.C., M. Mlachila, and A. Moheeput (2014), "Does Openness Matter for Financial Development in Africa?", IMF Working Paper WP/14/94, International Monetary Fund, June.
7. Devereux, M. and J. Yetman (2014), "Responding to Exchange Rates in a Globalized World", BIS Papers No. 77, *Globalization, Inflation and Monetary Policy in Asia and the Pacific*, Bank for International Settlements, BIS.
8. Devereux, M. and J. Yetman (2010), "Leverage Constraints and the International Transmission of Shocks," *Journal of Money, Credit and Banking*, 42(s1), 1–105, September.
9. Edison, H. et al. (2002), "Capital Account Liberalization and Economic Performance: Survey and Synthesis", National Bureau of Economic Research Working Paper No. 9100 with citations on Quinn (1997), Klein and Olivei (2000), Rodrik (1998), and Kraay (1998).
10. Edwards, S. (2001), "Capital Mobility and Economic Performance: Are Emerging Economies Different?" National Bureau of Economic Research Working Paper No. 8076, NBER.
11. Gagnon, J. and J. Ihrig (2004), "Monetary Policy and Exchange Rate Pass-through," *International Journal of Finance and Economics*, 9(4), 315-338, October.
12. Guinigundo, D. (2015), "Increasing Financial Intermediation in the Philippines: Some Implications for Monetary Policy," paper prepared for the Bank for International Settlements Emerging Markets Deputy Governors Meeting, 26-27 February.
13. Guinigundo, D. (2014), "What have Emerging Market Central Banks Learned about the International Transmission of Monetary Policy in Recent Years? The Philippine case", BIS paper in: *The Transmission of Unconventional Monetary Policy to the Emerging Markets,* Bank for International Settlements, vol. 78, August 2014.
14. Gray, H., D. Lakdawalla, and A. Malani (1994), "Determinants of Direct Foreign Investment and its Connection to Trade", UNCTAD Review.
15. International Monetary Fund (2013), Philippines: 2013 Article IV Consultations, IMF Country Report No. 13/102. April.

16. International Monetary Fund (2012), "The Liberalization and Management of Capital Flows: An Institutional View", IMF Policy Paper, November.
17. International Monetary Fund (2012), Annual Report on Exchange Arrangements and Exchange Restrictions 2012, 14 September 2012.
18. Kim, S. et al, 2004, "Macroeconomic Effects of Capital Account Liberalization: The Case of Korea" *Review of Development Economics*, 8(4), 624-639.
19. Mihaljek, D. and M. Klau (2008), "Exchange Rate Pass-through in Emerging Market Economies: What has Changed and Why?," Bank for International Settlements Paper No. 35 (Basel: BIS).
20. Saadi-Sedik, T. and T. Sun (2012), "Effects of Capital Flow Liberalization—What is the Evidence from Recent Experiences of Emerging Market Economies?", IMF Working Paper No. 12/275.
21. Sekkat, K. and M.V. Varoudakis (2004), "Trade and Foreign Exchange Liberalization, Investment Climate and FDI in the MENA Countries", (Washington, D.C.: World Bank).
22. Siong Hook Law and W.N.W. Azman Saini, 2008, "Capital Account Liberalization and Economic Performance in Malaysia", Prosiding Perkem III, JILID 1.
23. Taylor, J.B. (2000), "The Monetary Transmission Mechanism and the Evaluation of Monetary Policy Rules," Working Papers Central Bank of Chile No. 87, Central Bank of Chile.

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