

Overseas Filipino Worker Remittances: Magic Bullet?

Valdimir dela Cruz

Abstract

The paper explores the possible channels where overseas Filipino workers flow through in the local economy. Specifically, the paper examines its interactions in the micro level using household data and its possible effects on financial development. Using household survey data, it is found that remittances are used as supplementary income at best and income-substitutes at the worst case and thus heavily favors consumption use. Using quarterly data over 12 years, we find that remittances accelerate the utilization of the financial sector but also cause it to shrink. The paper concludes that remittances, at least in the Philippine scenario, only serve as a stop gap measure in terms of poverty alleviation but is currently still not an engine of growth.

Introduction

Any external force applied to a system is sure to have an impact, unless certain characteristics particular to the system mitigates and dissipates said external force. It is in vein that we pursue the thought that overseas Filipino worker remittances must surely have an impact on the Philippine economy. We refine and focus this question to specifically explore its effects on Philippine financial development.

First we shall elaborate on the topic of remittances and why it deserves scrutiny and discussion as that external force that always draws attention in the local news. Secondly we shall examine the Philippine economy, its financial sector, financial participation of its citizens, and finally its financial development in turn. This is to set a clear environment where we establish the system that we wish to observe. Grand theories that seek to discover universal truths to explain the mechanism of the world are ambitious but run the risk of over generalizing by painting in broad strokes. This paper sets its sights a little lower if no less useful; by limiting the scope to one country and to one aspect of its myriad of systems, we should be able to arrive at more definite and applicable conclusions.

The Nature of Remittances

Overseas Filipino workers (OFW) have been hailed as modern day heroes whose sacrifice for to provide for their family has also benefitted the country via accumulation of foreign currency and contribution to the national economy. OFW remittances have been a significant part of the economy since the 1970s. In terms of contribution as a percent of Gross Domestic Product (GDP), it reached a peak of 10.44 percent in 2006. Recently, remittances have climbed up to USD 21.4 billion in 2012, posting a 6.3 percent increase from the previous year's USD 20.1 billion; equivalent to 8 percent of Philippine GDP. This phenomenon did not happen overnight either as year-on-year growth has been constantly positive, even during the global financial crisis; defying fears that a recession of western economies would stem the tide. (Figure 1 and Figure 2)

In comparison, foreign direct investment (FDI) stood at USD 2.0 billion while net official development assistance (ODA) rested at just USD 5.1 million. This means that remittances are actually a significant addition to the domestic economy. The flow of funds or cash at this magnitude should not go unnoticed by the system as a whole; at the very least, shockwaves from its passage should be detectable.

Figure 1. Annual Remittance and GDP (Current and Constant 2000) Levels 1989 to 2012

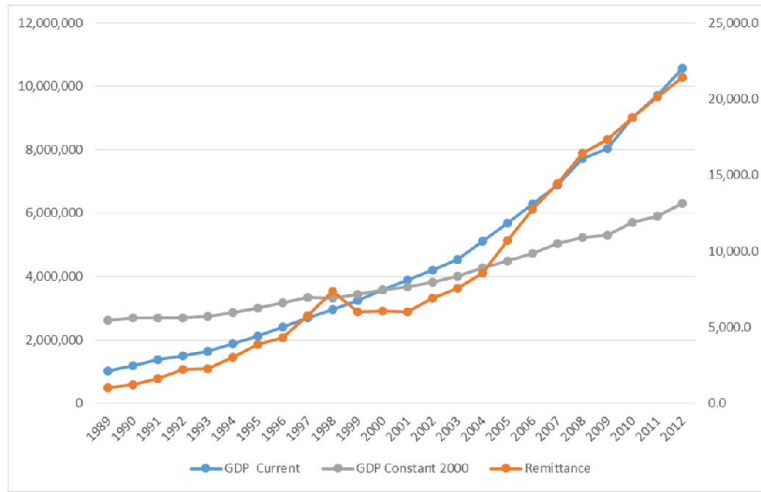
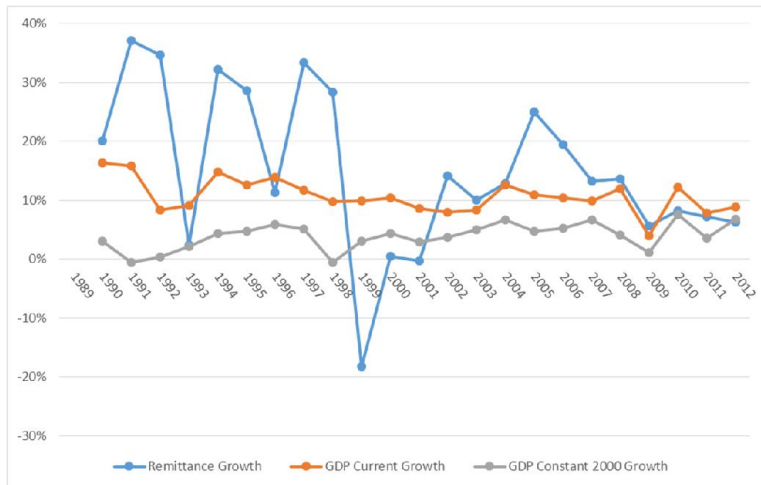


Figure 2. Annual Remittance and GDP (Current and Constant 2000) Growth Rates 1990 to 2012



Source: Bangko Sentral ng Pilipinas

Aside from this obvious material impact, remittances also play an abstract but no less significant role in the Filipino psyche. Popular opinion holds that the country's dollar denominated debt burden has been the lodestone that has been weighing the nation down and preventing its economy from taking-off. Thus this inflow of dollars are seen as an important source of funds to service these obligations. Furthermore, on a micro level, the poor aspire of working abroad and lifting their kin out of poverty by providing them with the necessary funds to afford education and other consumer goods. This mindset is especially credible and enticing as wages abroad are often significantly higher than what is offered domestically.

During the global financial crisis in 2008, it was widely feared that demand for labor would drop thus causing a similar fall in remittances. However, this prediction did not come to pass as the services provided by the Filipino worker has proved to be resilient. That is not to

say that everyone came out unscathed; there was some frictional unemployment during the crisis and sometime after. Now that most economies are seen to be recovering, remittances likewise have a stable outlook; in fact, it is forecasted that there will be an uptick in the number of deployed workers and an increase in average remittance per worker.

Brief Assessment of the Philippine Economy

The Philippines is currently classified as a developing country, and has experienced various upswings and downswings in the past. From being classified as a promising economy in the 1950s and 1960s to inheriting the moniker “sick man of Asia” and recently back to “Tiger cub” economy. Despite its abundance of natural resources and early advantage of excellent command of the English language, the country has always languished in poverty. Even during periods of growth where GDP grew rapidly, this growth ultimately proved to be unsustainable as the economy has always been sensitive to external shocks.

Historically, the country has had trouble in terms of investment and infrastructure development. Even discounting the perennial problem of rent-seeking and political noise, the Philippines have faced obstacles in setting the economy on the right track. The numerous balance of payments crisis as well as increasing debt burden provided an impetus for stop gap measures that side tracked the economy in the long run. This was exacerbated by inconsistent and misguided policy that was theoretically sound but was poorly executed forming an environment which nurtured select industries and specific business strategies not in line with the long-term development agenda.

This phenomena can be best observed with the Philippine power industry. The nation’s lack of sufficient energy supply illustrates general problems in the country and government that cause the lack of infrastructure and investment in crucial sectors. The 1973 oil crisis and later the 1979 energy crisis, hurt the Philippine economy; in response, then President Marcos started the Bataan Nuclear Power Plant to lessen dependence on oil imports. However, due to a myriad of reasons such as safety and cost, construction and operation of the plant was delayed until 1986 when then President Aquino decided not to operate the plant.

As a result, the country faced severe power outages and power interruptions as energy supply was already unable to meet energy demand in the late 1980s well into the early 1990s; this further discouraged investment which in-turn had a negative impact on economic activities and the economy as a whole. President Aquino, in her fourth State of the Nation Address (1990), acknowledged the country still has a significant infrastructure requirement such as roads, irrigation, water supply, and power supply. To address this, the President Ramos used emergency powers to allow private sector projects to generate electricity; however these measures are stop-gap and still do not address the underlying weaknesses in the system.

The government's poor fiscal situation prevents it from supporting the economy by shoring up infrastructure such as roads and power supply; which in turn discourages investment from both private and foreign investors. Another problem is the inability of government to effectively implement projects, even as it receives funding via development assistance, hindering the jump-start of the economy. As a result the country's infrastructure and thus the economy was perennially underdeveloped. And in the end majority of the country, especially those residing outside the national capital, lived in poverty.

The Philippine Financial Sector

The country's financial sector fared no better; or to be more accurate, it could not be more developed as it also suffered from the troubles that plagued the economy as a whole. According to the central bank of the Philippines or the Bangko Sentral ng Pilipinas (BSP)¹, as much as 30% of the regions are still unbanked and a larger portion still was under banked. On the demand side, only roughly two out of 10 households in the country have at least one bank deposit account. Only 3.9 percent of households have credit cards. Excluding employer provided insurance, only 1.6 percent are covered by private insurance. Less than 1 percent own some type of investment instrument aside from an insurance policy. Only 5.5 percent of household expenses are on education while food, rent, transportation and communication costs together make up 67.7 percent of expenses; which is a worrisome indication of lack of investment in human capital.

Cursory examination of the country tells us that most banks and financial institutions are concentrated in the national capital and to a certain extent regional metropolises Cebu and Davao. With the rest of the country relying on rural banks to provide banking and other financial services; some of the more remote provinces do not even have access to these services however limited they already are.

Rural banks, by design, are agriculturally oriented. They are envisioned to serve the farmers and others in the agriculture sector by providing basic credit and deposit taking services and not as a comprehensive source of financial products or services. Their reach and size are orders of magnitude smaller than regular commercial banks, even domestic ones, and also lack the management sophistication of their bigger cousins.

Compounding the issue, or perhaps the cause of it, is the culture of less financial participation among the poor and most especially in the rural areas. There are several causes for the lack of financial participation by a majority of the masses with poverty being the main reason, one cannot save what one does not have. The other, less tangible reason is the

¹ Bangko Sentral ng Pilipinas Consumer Finance Survey 2012

mistrust of the system coupled with the habit of holding on to cash for “a rainy day”; people still hide money under mattresses or shoeboxes rather than keep them in the bank. The statistics show that only one in ten households and two in ten households having an account in the bottom 40% of income and rural areas, respectively. This is despite having 30 percent and 40 percent in the respective categories claiming to have saved some money in the past year. Further, despite having a high percentage of respondents claiming to have taken a loan in the past year, majority answered that they borrowed from family or friends with financial institutions receiving the lowest share. (Table 1)

Table 1. Selected Indicators of Financial Participation

| | Total | Bottom 40% | Top 60% | Rural | Urban |
|--|-------|------------|---------|-------|-------|
| Account at a formal financial institution (% age 15+) | 26.6 | 10.4 | 39.6 | 19.5 | 37.1 |
| Account used to receive remittances (% age 15+) | 12.2 | 4.2 | 18.6 | 10.7 | 14.5 |
| Account used to receive wages (% age 15+) | 8.5 | 2.4 | 13.3 | 5.8 | 12.5 |
| Loan from a financial institution in the past year (% age 15+) | 10.5 | 5.1 | 14.9 | 9.8 | 11.6 |
| Loan from a private lender in the past year (% age 15+) | 12.7 | 10.6 | 14.3 | 11.5 | 14.5 |
| Loan from an employer in the past year (% age 15+) | 11.7 | 11.6 | 11.9 | 12.3 | 10.9 |
| Loan from family or friends in the past year (% age 15+) | 39.0 | 43.7 | 35.1 | 44.9 | 30.1 |
| Loan in the past year (% age 15+) | 58.1 | 58.2 | 58.1 | 62.5 | 51.5 |
| Loan through store credit in the past year (% age 15+) | 26.6 | 33.1 | 21.4 | 33.6 | 16.1 |
| Mobile phone used to receive money (% age 15+) | 12.5 | 11.8 | 13.1 | 16.0 | 7.3 |
| Mobile phone used to send money (% age 15+) | 7.3 | 6.3 | 8.1 | 8.2 | 6.0 |
| Outstanding loan for funerals or weddings (% age 15+) | 5.4 | 6.5 | 4.5 | 7.3 | 2.6 |
| Outstanding loan for health or emergencies (% age 15+) | 28.7 | 31.3 | 26.6 | 32.3 | 23.3 |
| Outstanding loan for home construction (% age 15+) | 5.8 | 5.5 | 6.0 | 7.2 | 3.6 |
| Outstanding loan to pay school fees (% age 15+) | 20.7 | 22.9 | 19.0 | 25.2 | 14.0 |
| Outstanding loan to purchase a home (% age 15+) | 3.6 | 4.5 | 2.9 | 4.4 | 2.4 |
| Saved any money in the past year (% age 15+) | 45.5 | 32.7 | 55.8 | 41.9 | 50.9 |
| Saved at a financial institution in the past year (% age 15+) | 14.7 | 3.0 | 24.1 | 9.7 | 22.3 |
| Saved for emergencies in the past year (% age 15+) | 36.9 | 26.4 | 45.4 | 33.5 | 42.0 |
| Saved for future expenses in the past year (% age 15+) | 31.8 | 22.4 | 39.3 | 30.0 | 34.5 |
| Saved using a savings club in the past year (% age 15+) | 6.5 | 4.3 | 8.3 | 4.2 | 10.0 |

Source: World Bank Global Financial Inclusion Database (2011)

We can see that if indeed these two factors are the major determinants of financial participation, improvement in income together with better financial literacy through financial education should increase financial participation.

This leads us to our final point on financial development. There exists a large number of studies backed by empirical data presenting analysis in both quantitative and qualitative flavors extolling the virtues of financial development and its role in economic development from even way back in 1969.²

In short, it is widely accepted that financial development and economic growth are highly correlated. With the current zeitgeist being increased financial development leads to a more developed economy. The literature essentially believes that a developed financial sector

² Goldsmith, Raymond W. Financial structure and development. New Haven, CT: Yale U. Press, 1969.

should allow for easier capital accumulation, more efficient allocation of resources, improving inter-sector transactions, etc. It is also assumed that as the size of the financial sector grows, it also becomes more developed as well; as one condition is necessary and is the cause of the other condition.

Review of Related Literature

Now that we have set the stage of our paper, and have described the primary variables of interest, we shall look at the body of work that others have done.

The paper by Ang (2007) considered impact of remittances on growth via foreign exchange sources. And speculated that remittances functioned as income-insurance policy at the macro level. So its relationship to GDP growth as well as investment growth and all other foreign exchange-source growth (i.e. FDI, portfolio, ODA) was examined. The paper concluded that the link between remittances and entrepreneurship was weak and acknowledged the existence of a franchising fad (i.e. food cart businesses, retail) in the Philippines. However he found positive correlation (using OLS) between remittances and GDP, which was different from cross country generalizations. On a per region basis though, the link between remittances and economic growth were less clear.

A different paper by Ang, Sugiyarto, and Jha (2009) approached the issue on a micro level and used Family Income and Expenditure Survey (FIES) data and compared remittance receiving households and those that do not. They found that recipient households had larger family sizes while also having fewer number of employed members, and had more extended family members. This may have implications on usage of remittance income in that even if the nominal amount is higher, since there are more “users”, the share “per head” might be similar to non-recipient households.

Further, they found that recipient households relied more on investment income and had higher savings, while non-recipient households relied more on entrepreneurial income. Both groups still relied heavily on non-agriculture sector wage. Also, remittance receivers spend more on education and health. This shows that investment and remittances in the Philippines may be related; with remittance receiving households opting to use the funds in investment activities.

They also showed that the lowest quintile had increased share of recipients in recent years, coinciding with deployment data that show recent workers came from the service industry and not professionals. In addition, it was also found that the poorer households benefitted more from domestic remittances as a result of internal migration from rural to urban centers.

The paper looked at the household level and found that remittance receiving households had higher marginal propensity to spend on food. But no clear evidence that remittance receiving households had increased spending on investment spending, particularly on education, healthcare, and durable goods. Thus they concluded that domestic demand driven growth rebalancing doesn't seem to be likely.

Fayissa and Nsiah (2010) found that remittances do positively impact economic growth of Latin American countries relative to external sources of capital such as foreign aid and foreign direct investment (FDI). This is encouraging in the sense that these countries are able to channel remittances into more productive activities than simple consumption.

Chami, Fullenkamp, and Jahjah (2005) used panel data for over 100 countries covering a 28 year period and found that remittances are higher in lower growth countries; and that higher amounts of remittances were associated with lower growth. They also found that remittances increase when income in the home country is relatively depressed. Leading to the conclusion that since remittances are negatively correlated with growth, it supports the theory of compensatory nature of remittances. Since capital flows are profit driven and should have a positive correlation with GDP.

Giuliano and Ruiz-Arranz (2009) have suggested that remittances may be used as supplementary income or as alternative source of capital. They found a negative interaction between remittances and financial depth. Suggesting that the impact of remittances is maximal in countries with less developed financial systems. They theorize that this is because it acted as a substitute for financial services.

In addition, they investigated remittance effects on growth through the investment channel. And found that remittances boost investment in countries with a less developed financial sector

Focusing on the financial sector even more, Aggarawal, Demirguc-Kunt, Peria (2006) used cross sectional panel data from 1975-2003, and utilized bank deposits to GDP as measure of financial development. They also used remittances to GDP ratio and controlled for country size and development, inflation, etc. to conclude that remittances have a statistically significant effect on credit and deposits to GDP.

While Bettin and Zazzaro (2009) used a model similar to Giuliano and Ruiz-Arranz (2009), by looking at cross sectional panel data from 1991-2005; they however used a quality-based indicator of financial development. They used cost-income ratio to measure bank efficiency, with the premise that efficient banks should be better at allocating remittances to

worthy investment projects. They show that remittances enhance economic growth where banks are sufficiently efficient.

Brown, Carmignani, and Fayad (2013) looked at both macroeconomic analysis of a cross country panel data and microeconomic analysis of Azerbaijan and Kyrgyzstan's household use of financial sector services. They found that while there is a negative relationship on the macro level; this was not the case on the micro level. Here, they found a strong inverse relationship between remittances and financial development in the more financially developed economy of Azerbaijan. Using a probit model, with having a bank account or not as the y variable. They went on to test whether remittances increase likelihood of having a bank account.

Gupta, Pattilo, and Wagh (2007) assesses the impact of remittance flows to sub-Saharan Africa, although they admitted that remittances to this region are considerably smaller compared to other countries. The model used was similar to Aggarawal, Demirguc-Kunt, Peria (2006) but the authors narrowed the scope by limiting the data points to sub-Saharan African countries. They found that remittances had a promotional effect on financial development.

Motivation

As we can see from the summaries above, although much has been said about the effects of remittances on economic growth, the link between remittance inflows and financial development has been tenuous. Some of the studies examined the world as a whole and so fails to account for the differences that arise per country. We feel that drawing the focus explicitly on the relationship between remittances and financial development contributes to the understanding of the effects of remittances and its role in a country's development. The studies point towards remittances having a greater impact on development with better developed financial systems. While those without strong financial systems seem to use remittance as income for consumption.

On the Philippines, initial findings suggest that there is positive relationship between remittance and investment, although it is not statistically significant. Studies also suggest that remittances are used as substitute to income and the formal financial sector.

Research Design

We want to know where remittances are being spent since the numerous studies show that it doesn't seem likely that they are being used in investment or entrepreneurial activities. We will use a two pronged approach: Part one examines the readily available data from public surveys and draw conclusions based on analysis; in part two we regress measures of financial development on remittances and other factors to investigate possible relationship.

Part One:

OFW Profile

The Philippine Overseas Employment Administration (POEA) estimated the total stock of OFWs to be 8.5 million in 2009³. Following that we can see that most of these workers are land based and working in a diverse array of categories especially in the service industries (Table 2 and Table 3).

Table 2.

Number of Deployed Overseas Filipino Workers by Type from 2008 to 2012

| TYPE | 2008 | 2009 | 2010 | 2011 | 2012 |
|-----------|-----------|-----------|-----------|-----------|-----------|
| Total | 1,236,013 | 1,422,586 | 1,470,826 | 1,687,831 | 1,802,031 |
| Landbased | 974,399 | 1,092,162 | 1,123,676 | 1,318,727 | 1,435,166 |
| New Hires | 376,973 | 349,715 | 341,966 | 437,720 | 458,575 |
| Rehires | 597,426 | 742,447 | 781,710 | 881,007 | 976,591 |
| Seabased | 261,614 | 330,424 | 347,150 | 369,104 | 366,865 |

Source: POEA

Table 3.

Number of Deployed Landbased Overseas Filipino Workers by Top Ten Occupational Categories, New Hires (2008-2012)

| OCCUPATIONAL CATEGORY | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---------|---------|---------|---------|---------|
| All Occupational Categories - Total | 376,973 | 349,715 | 341,966 | 437,720 | 458,575 |
| Household Service Workers | 50,082 | 71,557 | 96,583 | 142,689 | 155,831 |
| Nurses Professional | 11,495 | 13,014 | 12,082 | 17,236 | 15,655 |
| Waiters, Bartenders and Related Workers | 13,911 | 11,977 | 8,789 | 12,238 | 14,892 |
| Caregivers and Caretakers | 10,109 | 9,228 | 9,293 | 10,101 | 10,575 |
| Wiremen and Electrical Workers | 8,893 | 9,752 | 8,606 | 9,826 | 10,493 |
| Plumbers and Pipe Fitters | 9,664 | 7,722 | 8,407 | 9,177 | 9,987 |
| Welders and Flame-Cutters | 6,777 | 5,910 | 5,059 | 8,026 | 9,657 |
| Laborers/Helpers General | 9,711 | 8,099 | 7,833 | 7,010 | 9,128 |
| Charworkers, Cleaners and Related Workers | 11,620 | 10,056 | 12,133 | 6,847 | 8,213 |
| Cooks and Related Workers | 5,791 | 5,028 | 4,399 | 5,287 | 6,344 |
| Other Occupational Categories | 238,920 | 197,372 | 168,782 | 209,283 | 207,800 |

Source: POEA

Recalling that total remittances in 2009 amounted to 17.3 billion USD, then this would come up to about 2,000 USD per OFW in total remittances for the year. This figure is unbelievably low considering how remittance receiving households seemed to rely heavily on these flows.

Another area worth pointing out is how households allocate a portion of their income to savings; more than half of them allocate less than 10 percent of their income for savings

³ POEA website: <http://www.poea.gov.ph/stats/Stock%20Estimate%202009.pdf>

(Chart 1). Further, we see that fewer households have savings compared to higher income households with 60.8 percent (Table 4). We also see the consumption patterns of both the higher income groups versus the lower income groups; with those in the lower income bracket spending a disproportionate share of their income on food. The first income decile have higher expenditure than income, and the succeeding income deciles have relatively close income and expenditure. This indicates that a majority of the populace is unable or unwilling to save; hinting at the ability of income to cover even basic expenses (Table 5 and Table 6)

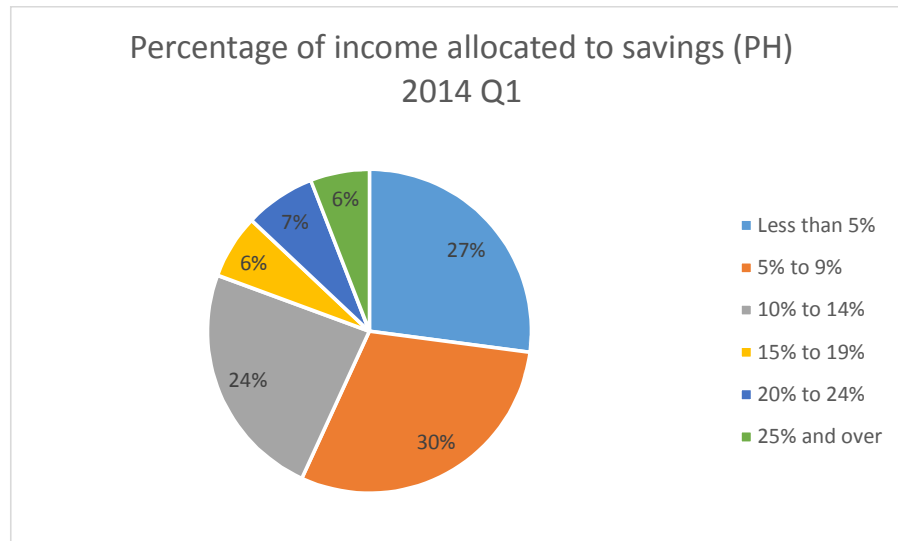
Table 4.

Percentage of Households with Savings (PH)

| | 2013 | | | | 2014 |
|-------------------|------|------|------|------|------|
| | Q1 | Q2 | Q3 | Q4 | Q1 |
| Overall | 24.5 | 22.4 | 24.5 | 26.2 | 28.9 |
| Less than P10,000 | 14.8 | 12.9 | 14 | 15 | 17.8 |
| P10,000-P29,999 | 33.2 | 28.9 | 31.6 | 36.9 | 38.2 |
| P30,000 and over | 57.1 | 62.1 | 68.5 | 67.3 | 60.8 |

Source: BSP CES Survey Q1 2014

Chart 1.



Source: BSP CES Survey Q1 2014

Table 5.

TABLE 5 Expenditure Pattern for the Bottom 30 Percent and Upper 70 Percent Per Capita Income Group, at Current Prices, Philippines: 2012

| Expenditure Items | All Income Groups | Bottom 30% | Upper 70% |
|---|-------------------|------------|-----------|
| Total Expenditure (In billion pesos) | 4,125 | 571 | 3,555 |
| Percent | 100.0 | 100.0 | 100.0 |
| Food | 42.8 | 62.3 | 39.7 |
| Alcoholic beverages | 0.6 | 0.9 | 0.6 |
| Tobacco | 0.9 | 1.5 | 0.7 |
| Clothing and footwear | 2.4 | 2.1 | 2.5 |
| Furnishing, household equipment and routine household maintenance | 2.8 | 1.9 | 2.9 |
| Health | 3.7 | 1.8 | 4.0 |
| Housing, water, electricity, gas and other fuels | 20.7 | 15.3 | 21.5 |
| Transport | 7.5 | 4.8 | 7.9 |
| Communication | 2.7 | 1.2 | 3.0 |
| Recreation and culture | 1.4 | 0.7 | 1.5 |
| Education | 4.1 | 2.0 | 4.4 |
| Accommodation services | 0.2 | 0.1 | 0.2 |
| Miscellaneous goods and services | 6.6 | 4.7 | 6.9 |
| Other expenditure | 3.7 | 0.7 | 4.2 |

Note: Details may not add up to total due to rounding.

Source: NSO Family Income and Expenditure Survey 2012

Table 6.

TABLE 6 Total Annual Family Income and Expenditure and Percent Distribution by Per Capita Income Decile and by Region: 2012
(Estimates are in millions)

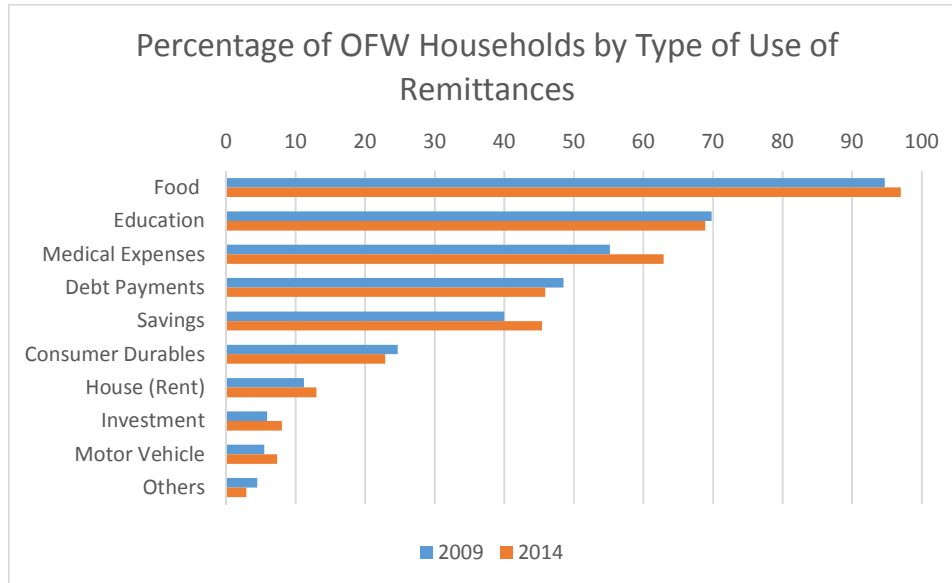
| Region Per Capita Income Decile | Income | | Expenditure | |
|------------------------------------|-----------|---------|-------------|---------|
| | Total | Percent | Total | Percent |
| Philippines | 5,026,798 | 100.0 | 4,125,312 | 100.0 |
| First Decile | 146,984 | 2.9 | 156,081 | 3.8 |
| Second Decile | 197,980 | 3.9 | 195,477 | 4.7 |
| Third Decile | 231,134 | 4.6 | 219,078 | 5.3 |
| Fourth Decile | 277,621 | 5.5 | 258,953 | 6.3 |
| Fifth Decile | 328,517 | 6.5 | 296,986 | 7.2 |
| Sixth Decile | 390,886 | 7.8 | 344,582 | 8.4 |
| Seventh Decile | 490,002 | 9.7 | 420,732 | 10.2 |
| Eighth Decile | 613,665 | 12.2 | 508,442 | 12.3 |
| Ninth Decile | 817,204 | 16.3 | 647,624 | 15.7 |
| Tenth Decile | 1,532,805 | 30.5 | 1,077,357 | 26.1 |

Source: NSO Family Income and Expenditure Survey 2012

Looking at OFW households and where they use their remittances, we see that almost all devote some part to food. It is encouraging to see that the households report some part of their inflow are set aside for savings and that there are more households that do so in 2014 compared to 2009. However, we see that most of where remittances are used are expenses; with investment not even reaching 10 percent. The graph is telling in that debt payments rank

fourth, with almost half of the respondents claiming it. This further paints a picture of the average Filipino family in dire financial straits. (Chart 2)

Chart 2.



Source: BSP CES Survey Q1 2014

Heaving seen the evidence above, the signs are pointing towards remittance income being used for consumption. Additionally, the average Filipino household both remittance receiving and non-remittance receiving, seem to be non-participants in the financial sector; this is especially true for families in the lower income brackets.

Part Two:

We propose to use a simple model:

Financial Development = Remittances + Foreign Direct investment + Exchange Rate + Interest Rate

1. Financial Development variables :
 - a. deposits to GDP – utilization, scale of bank utilization with respect to the economy; (d2logdep – the second difference of the log is used in the regression)
 - b. bank assets to GDP – magnitude, size of the banking industry with respect to the economy; (dlogass – the first difference of the log is used in the regression)
2. Explanatory variables:
 - a. OFW remittances – main topic of interest; acts like direct cash injection into the economy from an external source. Positive correlation is expected in theory; given large infusion of cash, recipients must have some left over from

consumption and would normally be expected to enter the financial system via deposits. Also, as incomes increase, people are expected to be involved in the financial system through savings or investments. (dlogrem – the first difference of the log is used in the regression)

- b. FDI – foreign direct investments also lead to more funds in the system; again we assume that private enterprise would utilize the resource productively or would push up demand for a better financial system thus leading to higher financial development; (dlogfdi – the first difference of the log is used in the regression)
- c. Exchange rate (USD) – increases in the exchange rate would lead to additional savings as goods become more expensive and consumers would spend less; (dexchange – the first difference is used in the regression)
- d. Interest rate – higher interest rates should lead to an increase in deposits as people choose to take advantage. Bank assets should also increase as banks would need to channel the increased liability (deposits) productively. (sdr – the monthly savings deposit rate is used as one measure; dalr – the first difference of asset lending rate is used as the other measure)

We use Philippine remittance, banking, and BOP data from the Bangko Sentral ng Pilipinas, time series quarterly starting 2000 to 2012 (n = 56 data points) and run four ordinary least squares (OLS) regressions using the four combinations of variables and analyze the resulting output. We are primarily concerned with the signs rather than the magnitude of effect since the paper wishes to simply examine the direction of the relationship between variables.

Interpretation⁴

The results of the regression can be neatly summarized as thus:

| Change in X variable | Effect on Growth of rate of utilization |
|--------------------------------------|---|
| growth of 1% increase in remittances | Positive growth in both remittances and FDI cause bank utilization to accelerate. |
| growth of 1% increase in FDI | |
| exchange rate depreciation | As the Peso depreciates, utilization also accelerates |
| deposit rates | Deposit rate hikes also cause utilization to accelerate. |
| growth of lending rates | Lending rate hikes also cause utilization to accelerate. |

⁴ For I(1) process, If L is price then the first difference of $L = D(L)$ is interpreted as inflation. If Y is income, then first difference of income may interpreted as growth. The interpretation is that if inflation increase by one percent, on average the economic growth will increase/decrease by X percent and holding other factors is constant.

For I(2) process, $DD(L)$ may be interpreted as growth of inflation (which is the growth of the growth), if growth of inflation increase by one percent, on average economic growth will increase/decrease by X percent.

| Change in X variable | Effect on Growth of banking sector |
|--------------------------------------|---|
| growth of 1% increase in remittances | Positive growth in remittances and FDI cause bank sector size to shrink |
| growth of 1% increase in FDI | |
| exchange rate depreciation | As the Peso appreciates, the banking sector grows |
| deposit rates | Deposit rate hikes cause the banking sector to grow |
| growth of lending rates | Lending rate hikes also cause growth in the banking sector |

The regression results show that increases in remittances (and FDI) cause an increase in the growth rate of the rate of utilization. Which may be seen as encouraging in terms of OFW household participation; it does not however, ensure an impactful or even observable magnitude. The second half of the results however, show that remittance (and FDI) growth cause a deceleration of growth in banking size. This implies that accelerating growth of remittances results in a smaller banking sector, which hints to the relationship established by previous authors: remittances may act as an alternative to the formal banking sector.

It must be noted that the coefficients for exchange rate and measures of interest rate (both deposit rate and lending rate) are not statistically significant.

Conclusion

It is now quite obvious that remittances are not a magic bullet. They are a force of change to be sure, and they have localized impacts by providing much needed income to the poor who cannot find employment in their own country. However, it could be so much more. Even outside the financial sector, if properly harnessed, this resource could provide additional funding to sectors that need access to it, acting as another reservoir of funds. As mentioned by one of the authors above, entrepreneurial activity and investment in capital goods would yield dividends.

On the other hand, if the financial sector was at a more developed and high functioning state, then households could participate and boost the total resources available to the system by several orders of magnitude. It can be argued that this may also have unintended downsides, which is understandable, but it is nothing that cannot be solved by proper regulation and vigilant oversight.

The current drive of the central bank to push for greater financial inclusion via several financial literacy and financial advocacy campaigns is encouraging. It is also correct in pushing for the development of micro enterprises that should grow into small and medium enterprises if properly nurtured. On the other hand, this will prove to be futile if the national government does not match this with complimentary programs.

As covered in the economic history of the Philippines, funding has been half of the issue, the other half has been the encouragement of investment and the efficient execution of projects that would stimulate the economy. Further, the government should find ways to lift the average worker out of poverty as remittances can only do so much. Development of key sectors such as manufacturing is critical to achieve success.

Summary Statistics of Data:

```
. sum
```

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|-------------|-----|-----------|-----------|-----------|-----------|
| obs | 0 | | | | |
| alr | 56 | 9.353571 | 1.956934 | 5.49 | 14 |
| assets | 56 | 4718251 | 1509559 | 2715663 | 8049723 |
| assgdp | 56 | 2.23e+09 | 7.60e+08 | 1.15e+09 | 4.15e+09 |
| d2logdep | 54 | -.000859 | .1507794 | -.2480495 | .2460051 |
| dalr | 55 | -.1547273 | .9984003 | -2.54 | 2.77 |
| datequart | 56 | 183.5 | 16.30951 | 156 | 211 |
| depdep | 56 | .0021332 | .0001293 | .0018412 | .0023607 |
| deposits | 56 | 3336.662 | 1199.653 | 1752.997 | 5753.629 |
| dexchange | 55 | .0381818 | 1.627181 | -4.39 | 4.16 |
| dlogass | 55 | .023315 | .0973206 | -.1931114 | .1617334 |
| dlogfdi | 47 | -.0692707 | 1.363288 | -3.721218 | 3.899604 |
| dlogrem | 55 | -.0007534 | .1145385 | -.2677326 | .3982487 |
| exchange | 56 | 48.03196 | 5.296347 | 37.9 | 56.3 |
| fdi | 56 | 406.8576 | 351.5485 | -215.0041 | 1620.004 |
| fdigdp | 56 | .0002777 | .0002689 | -.0002222 | .0012148 |
| gdp | 56 | 1579355 | 596587.2 | 743848.8 | 2969258 |
| logalr | 56 | 2.213227 | .217772 | 1.702928 | 2.639057 |
| logass | 56 | 21.46979 | .3403202 | 20.86506 | 22.14738 |
| logdep | 56 | -6.151979 | .0612853 | -6.297319 | -6.048809 |
| logexchange | 56 | 3.86583 | .1112229 | 3.634951 | 4.030694 |
| logfdi | 51 | -8.478512 | 1.057863 | -11.78123 | -6.71319 |
| logrem | 56 | -13.5415 | .1771091 | -13.96631 | -13.29696 |
| remgdp | 56 | 1.33e-06 | 2.26e-07 | 8.60e-07 | 1.68e-06 |
| remit | 56 | 3090.435 | 1394.335 | 1210.879 | 5820.351 |
| sdr | 56 | 3.788393 | 2.319684 | 1.24 | 11.15 |

Regression Results:

```
. reg d2logdep dlogrem dlogfdi dexchange sdr,r
```

Linear regression

Number of obs = 46
 F(4, 41) = 14.05
 Prob > F = 0.0000
 R-squared = 0.4743
 Root MSE = .11487

| d2logdep | Coef. | Robust Std. Err. | t | P> t | [95% Conf. Interval] | |
|-----------|-----------|------------------|-------|-------|----------------------|----------|
| dlogrem | .7623544 | .1081916 | 7.05 | 0.000 | .543857 | .9808519 |
| dlogfdi | .045815 | .0142313 | 3.22 | 0.003 | .0170744 | .0745557 |
| dexchange | .0039805 | .0100259 | 0.40 | 0.693 | -.0162672 | .0242282 |
| sdr | .0004621 | .0085892 | 0.05 | 0.957 | -.0168841 | .0178082 |
| _cons | -.0026759 | .0380043 | -0.07 | 0.944 | -.0794273 | .0740754 |

```
. reg d2logdep dlogrem dlogfdi dexchange dalr,r
```

Linear regression

Number of obs = 46
 F(4, 41) = 14.75
 Prob > F = 0.0000
 R-squared = 0.4754
 Root MSE = .11475

| d2logdep | Coef. | Robust Std. Err. | t | P> t | [95% Conf. Interval] | |
|-----------|-----------|------------------|-------|-------|----------------------|----------|
| dlogrem | .7804341 | .126439 | 6.17 | 0.000 | .5250854 | 1.035783 |
| dlogfdi | .0460668 | .0139423 | 3.30 | 0.002 | .0179098 | .0742239 |
| dexchange | .0033505 | .008956 | 0.37 | 0.710 | -.0147365 | .0214375 |
| dalr | .0059451 | .0191917 | 0.31 | 0.758 | -.0328132 | .0447035 |
| _cons | -.0004639 | .0165595 | -0.03 | 0.978 | -.0339064 | .0329786 |

```
. reg dlogass dlogrem dlogfdi dexchange sdr,r
```

Linear regression

Number of obs = 47
 F(4, 42) = 18.47
 Prob > F = 0.0000
 R-squared = 0.6222
 Root MSE = .0633

| dlogass | Coef. | Robust Std. Err. | t | P> t | [95% Conf. Interval] | |
|-----------|-----------|------------------|-------|-------|----------------------|-----------|
| dlogrem | -.6071635 | .0818493 | -7.42 | 0.000 | -.7723422 | -.4419849 |
| dlogfdi | -.0244593 | .0074216 | -3.30 | 0.002 | -.0394366 | -.0094819 |
| dexchange | -.0047454 | .0059795 | -0.79 | 0.432 | -.0168125 | .0073217 |
| sdr | .0014923 | .004592 | 0.32 | 0.747 | -.0077747 | .0107592 |
| _cons | .0166231 | .0198196 | 0.84 | 0.406 | -.0233745 | .0566207 |

```
. reg dlogass dlogrem dlogfdi dexchange dalr,r
```

Linear regression

```
Number of obs = 47
F( 4, 42) = 16.14
Prob > F = 0.0000
R-squared = 0.6274
Root MSE = .06286
```

| dlogass | Coef. | Robust Std. Err. | t | P> t | [95% Conf. Interval] | |
|-----------|-----------|------------------|-------|-------|----------------------|-----------|
| dlogrem | -.5844508 | .0857894 | -6.81 | 0.000 | -.7575808 | -.4113209 |
| dlogfdi | -.0250881 | .0065621 | -3.82 | 0.000 | -.0383309 | -.0118453 |
| dexchange | -.0053952 | .0057719 | -0.93 | 0.355 | -.0170433 | .0062529 |
| dalr | .0083704 | .0092431 | 0.91 | 0.370 | -.010283 | .0270239 |
| _cons | .0230405 | .0093399 | 2.47 | 0.018 | .0041918 | .0418893 |

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