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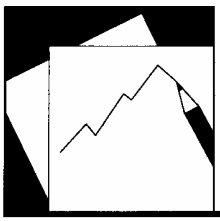

IMF Working Paper

Migration and Foreign Remittances in the Philippines

Robert Burgess and Vikram Haksar

INTERNATIONAL MONETARY FUND

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IMF Working Paper

Asia and Pacific Department

Migration and Foreign Remittances in the Philippines

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Authorized for distribution by James Gordon

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Abstract

International migration and large remittance flows have been prominent features of the Philippine economy for many decades. This paper describes the evolving pattern of migration and remittance flows and analyzes some of the channels through which remittances affect economic activity. The empirical evidence does not clearly support the purported short-term stabilizing effect on consumption of remittance flows. Furthermore, as in other countries, the longer term economic effect of such flows is ambiguous.

JEL Classification Numbers: D1, E32, F2, F22, O15

Keywords: Philippines; migration; remittances; growth; stabilization

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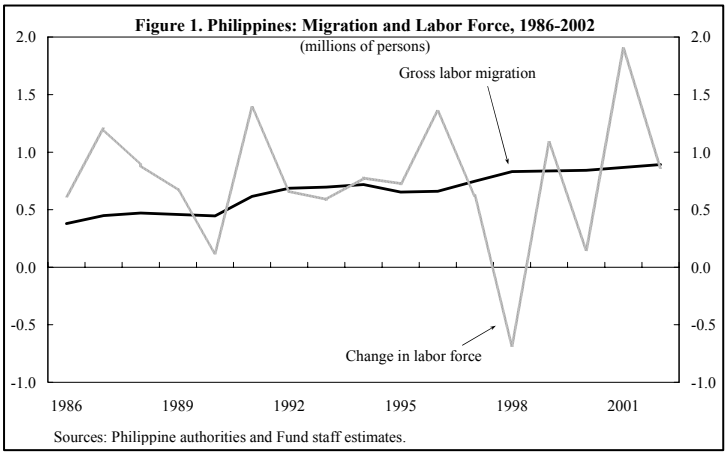
I. INTRODUCTION

1. **International migration and large remittance flows have been prominent features of the Philippine economy for many decades.** It is often argued that remittances have played a stabilizing role, notably during the Asian crisis when remittance flows are thought to have supported household expenditure and offset the sharp reduction in capital inflows.[2] As in other countries, however, the longer term economic effect of such flows is unclear. This paper describes the evolving pattern of migration and remittance flows and outlines some of the channels through which remittances affect economic activity. It assesses whether the purported stabilizing impact of remittance flows can be verified empirically and considers some evidence on the possible longer term impact of such flows.

II. RECENT TRENDS IN MIGRATION AND REMITTANCE FLOWS

2. **The Philippines is a major exporter of labor,** possessing the highest rate of out-migration relative to population of any country in East or South-East Asia (Lucas, 2001). The volume of departing Overseas Filipino Workers (OFWs) has broadly matched the increase in the domestic labor force over the past 20 years (Figure 1). Some 7¾ million Filipinos are estimated to live and work overseas, an increase of over 1 million since 1996, and equivalent to almost one quarter of the domestic labor force.[3]



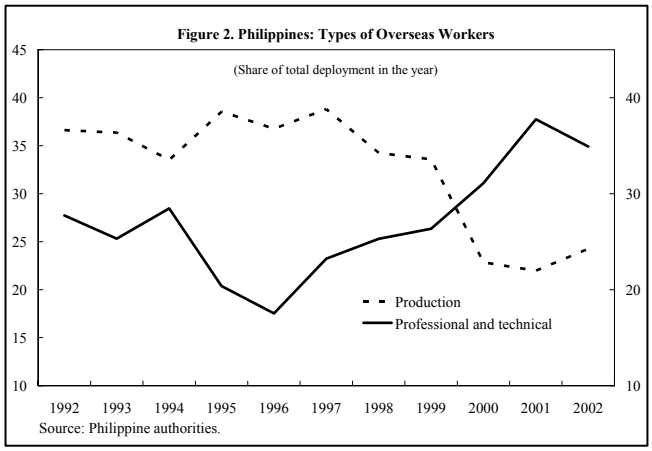
3. **This process reflects a range of factors.** Employment has generally not kept pace with the increase in the population. Relatively modest economic growth has also contributed to widening wage differentials with advanced economies. A relatively strong educational base makes OFWs attractive to overseas employers. The large existing network of Filipinos

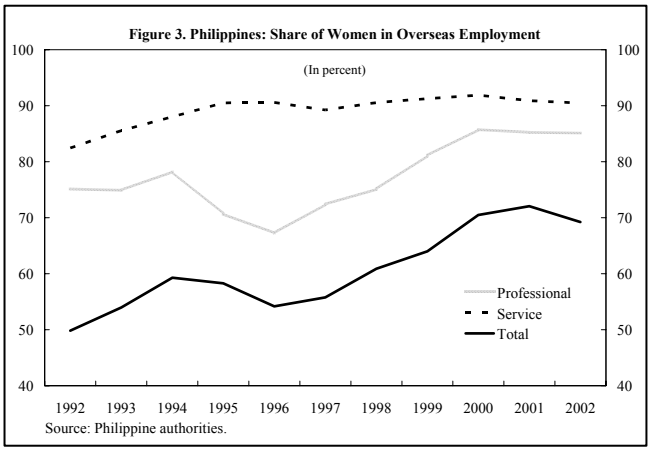
[2] See, for example, National Economic and Development Authority (2001).

[3] Of these, a little over two fifths are temporary workers on official contracts, and around one fifth are estimated to have an irregular work status. The remainder are permanent residents or citizens (including their spouses and children) of foreign countries. See Philippine Overseas Employment Administration (2003).

overseas likely facilitates job placement. Philippine government policy has also played a role in facilitating and regulating overseas employment.[4]

4. **The proportion of higher skilled labor among migrants has recently increased, as has the share of women**. Traditionally, a large proportion of OFWs comprised workers in the construction and manufacturing sectors (on average about 80 percent male). However, in recent years, the importance of these so-called "production" workers has declined, with skilled professionals (including nurses and doctors) now accounting for a greater share (over one third) of all deployments (Figure 2). Since the 1990s, about 35 percent of outgoing OFWs have been classified as basic service providers, the bulk of which have been women, mostly household helpers (Figure 3).

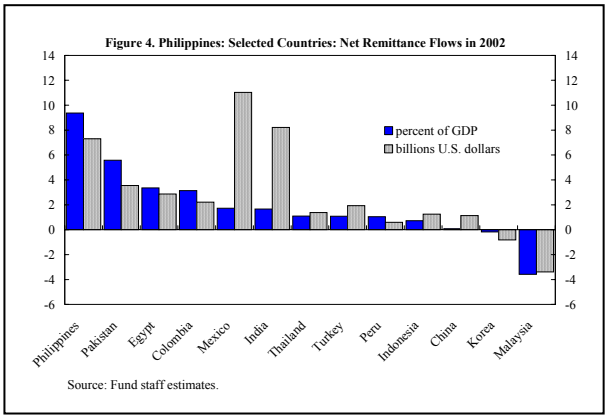


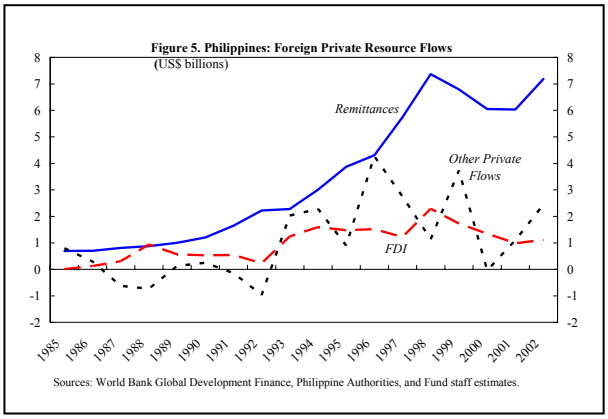


5. **Remittance inflows have increased substantially as the stock of OFWs has grown and shifted toward more highly skilled jobs.**[5] The Philippines is now the world's third largest recipient of remittances in absolute terms, behind India and Mexico. At over 9 percent of GDP, the level of remittances is high for such a relatively large economy and sets the Philippines apart from its Asian neighbors and indeed other lower middle-income countries (Figures 4, 5, and text table). Aside from exports of goods and services, remittances are by some margin the largest source of foreign exchange for the Philippines. Notwithstanding some increase in their volatility since the Asian crisis, remittances have also tended to act as a relatively stable source of foreign exchange compared to foreign direct investment and other private capital flows.

[4] For a discussion of the role of Philippine government policy in promoting labor migration, see OECD (2002).

[5] While the strong growth of remittances throughout the 1990s, with some slight tapering off in their growth in recent years, is clearly evident, more detailed assessments of changes in remittance flows are complicated by measurement problems (see Box 1).





Remittances in the Philippines and other Lower Middle-Income Countries in 2002

	Philippines	Lower Middle-Income Average 1/
Remittances, as percent of		
GDP	9.4	1.4
Imports	19.2	5.1
Domestic Investment	49.1	5.0
FDI Inflows	662.7	43.7
Total Private Capital Inflows	207.5	44.9

Sources: Fund staff estimates; and World Bank (2003).
1/ Data are for 2001.

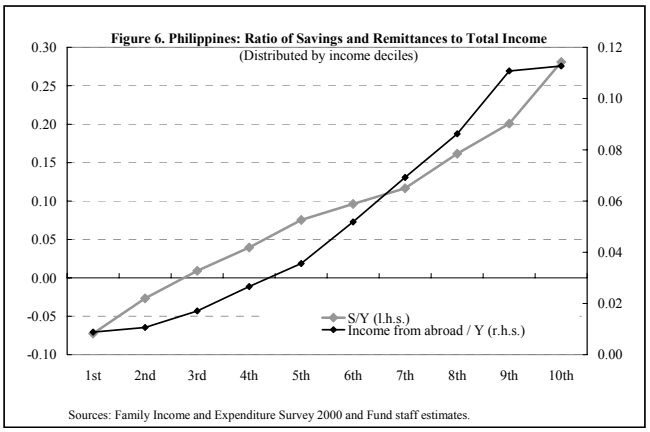
6. **The sources of remittance flows are also geographically diverse, reflecting the pattern of migration flows**. In 2002, the Middle East and Asia each accounted for about one third of total remittance flows with Europe and North America accounting for a further one quarter of flows (text table). This diversity may contribute to the relative stability of remittance flows, which grew by about 6 percent in 2003 despite the disruption to remittance flows from the Middle East due to the Iraq conflict.

Remittance Sources in 2002 (percent of total)

Middle East, of which:	36.3
Saudi Arabia	25.9
Asia, of which:	32.1
Japan	8.4
Hong Kong SAR	7.5
Singapore	5.2
Taiwan Province of China	5.0
Europe	16.0
North American	9.3
Others	6.3

Source: NSO Survey of Overseas Filipinos.

7. **Wealthier households derive a larger share of their income from abroad.** Family Income and Expenditure Survey (FIES 2000) data show that the proportion of income from abroad as a share of total household income is greater for higher income households (this is the case even when netting out foreign income from total income). A priori, this might seem counter intuitive as the anecdotal evidence suggests that migration is largely a lower and middle class phenomenon in the Philippines, such that one might expect income from abroad to be less important for the higher income deciles. However, income from abroad in the FIES includes both remittances as well as income from investments. Thus, it may well be that upper income households derive a large share of capital income from abroad. Unfortunately, the data are not yet available to allow a breakdown of income from abroad into these two constituents to further investigate these possibilities.



III. THE ECONOMIC IMPACT OF REMITTANCES

8. **Several channels have been identified through which remittances can affect economic activity:**[6]

- Remittances can be seen as a financial counterpart to migration, which can offset some of the output and other losses that may be associated with the loss of skilled workers—the so-called "brain drain."[7] The networks established by emigrants can also enhance resource transfers in other ways, by reducing information asymmetries that can hinder investment flows. Lucas (2001), for example, argues that the Chinese diaspora has played a significant role in the acceleration of foreign direct investment into China in recent years.

- The economic impact of remittances is likely to depend in part on the propensity of recipient households to consume or invest. Remittances that are invested in

[6] For a brief survey of recent literature on remittances, see Chami et al. (2003) and World Bank (2003).

[7] The extent and economic impact of the brain drain is itself controversial. Some recent studies have begun to challenge the traditional negative view that migration of highly skilled workers is detrimental to those left behind (Stark et al. (1997)).

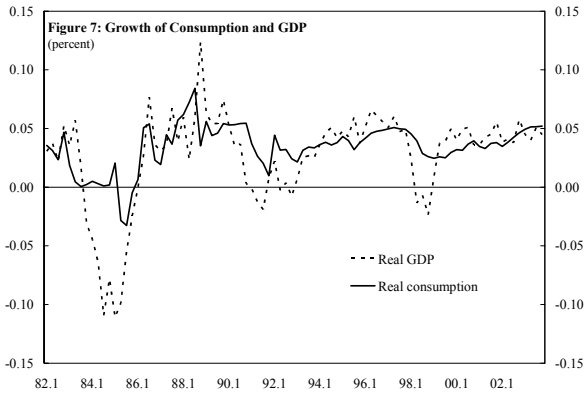
productive activities will contribute directly to output growth. But even remittances that are consumed will generate positive multiplier effects. Adelman and Taylor (1990) find that the size of this multiplier effect depends on whether remittances are received by urban or rural households (with the latter tending to consume more domestically produced goods and thus generating a higher multiplier effect). If remittances are used primarily to purchase nontradable goods, this could lead to an appreciation of the exchange rate and a deterioration in competitiveness, in effect a remittances-driven "Dutch disease." Anecdotal evidence for the Philippines suggests that, as in other countries, consumption and investment in real estate may account for a relatively high proportion of remittance use. This corresponds to some extent with a survey of remittance beneficiaries conducted for the Asian Development Bank, which finds that these are especially used to finance expenditure on food, education and rent.

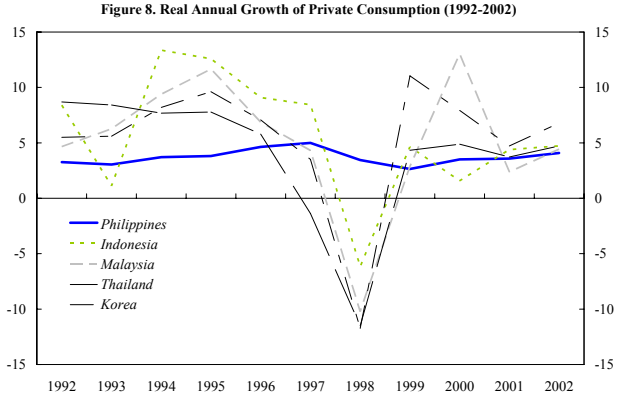
- The causes of remittances may also have an effect on their impact. Chami and others (2003) argue that where remittances are motivated by altruism, they will tend to have a counter-cyclical impact as family members receive increased remittances during economic downturns. To the extent that remittance income reduces the recipients' need to work, this may have a negative impact on overall economic activity. It is possible that remittance flows may generate similar problems at a national level by supporting the overall balance of payments position and thereby reducing incentives to implement reforms.

The remainder of this section tests some of these theories empirically, focusing first on whether remittances have helped to stabilize economic activity in the short term before turning to the longer term impact of remittances on growth.

Remittance Flows and the Stability of Income and Consumption

9. **A striking feature of the Philippine economy over the last two decades has been the relative stability of consumption as compared to income**. The growth in real private consumption has been much less volatile than the growth in real GDP since 1982 (Figure 7). Indeed, the standard deviation of the growth rate of consumption is 1.9 percent around a mean growth of 3.4 percent compared to 4.0 and 2.6 percent for GDP, respectively. This is particularly striking when viewed in a regional context—while growth in the Philippines has been on average lower than in the region, the Philippines avoided the substantial contraction of consumption that took place in many countries during the Asian crisis (Figure 8).





10. **In this context, the question arises as to whether remittances have tended to stabilize household disposable income and thereby consumption**. However, income from abroad has been historically much more volatile than GDP which would call into question whether these flows tended to stabilize disposable income (as proxied by GDP) and therefore consumption (Figure 8). Further, correlations of short term changes in remittances, income and consumption, are weak. The table below reports simple correlation coefficients for remittances and nominal income from abroad (derived from the national accounts) with real GDP (as a proxy for disposable income for which data are unavailable) and real consumption as well as some lags of these variables. All variables are expressed as log first differences and the data used are quarterly. If remittances are stabilizing, one would expect at some lag that they should be negatively correlated with income, though with consumption there could be an element of feedback. However, while some correlations have the expected sign, they are uniformly small. This simple analysis would tend to suggest that there may not be much off-setting movement in remittances in response to high-frequency shocks to income. To further test this conjecture, a simple vector auto regression model (VAR) was estimated.

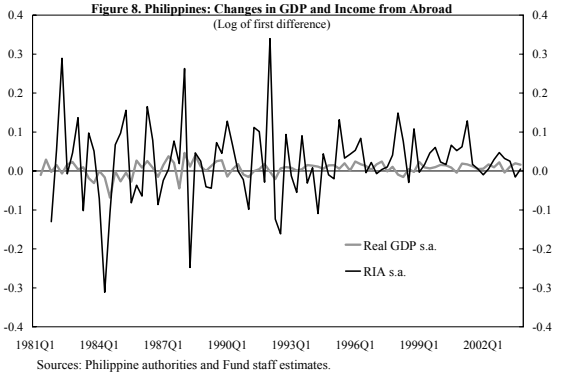


Figure 8. Philippines: Changes in GDP and Income from Abroad
(Log of first difference)

Sources: Philippine authorities and Fund staff estimates.

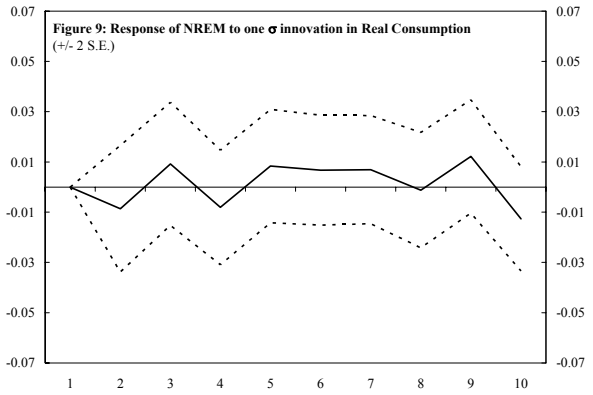
Table: Correlations of Remittances and NIA with Y and C

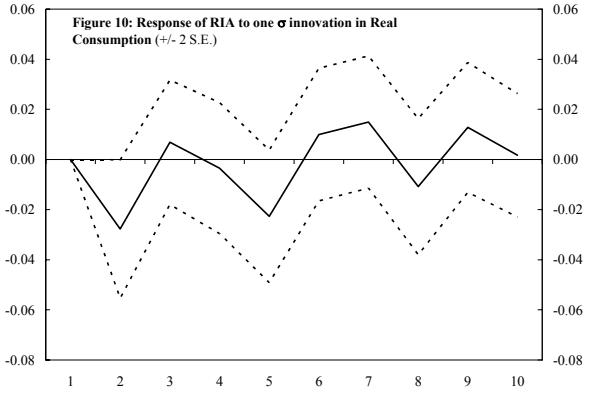
	Y	Y_{-1}	Y_{-2}	Y_{-3}	Y_{-4}
Δ log NREM	0.03	0.16	0.04	0.00	-0.06
Δ log RIA	0.16	-0.03	0.18*	0.03	-0.02
	C	C_{-1}	C_{-2}	C_{-3}	C_{-4}
Δ log NREM	0.13	-0.09	0.16	-0.03	0.02
Δ log RIA	-0.02	0.21**	-0.08	0.17	-0.14

Source: Author's estimates
Note: ** indicates significance at 5 percent level; * indicates significance at the 10 percent level.

11. **The results from a VAR model also provide mixed evidence on the stabilizing role of remittances in the short term**. Underlying this reduced form approach is a simple consumption model where consumption (C) is a function of disposable income (Y), remittances (R), and the real interest rate (r). The real interest rate is proxied by the 90 day treasury bill rate less the increase in the GDP deflator. The two remittance measures used are NREM (dollar remittances recorded in the balance of payments) and RIA (real income from abroad—part of net factor income from abroad in the national accounts). Unless otherwise indicated, unadjusted real values of all the variables expressed in log first differences (all of the series appear non-stationary) are used in the analysis. The VAR was estimated using quarterly data spanning 1985-2002 (see Appendix Figures 1 and 2). A simple ordering for the VAR is considered with shocks flowing from r, to R to Y and then finally C. No other identifying structural restrictions are imposed such that the errors are orthogonalized by the standard Cholesky decomposition. The impulse response of NREM to shocks in C and Y is not significant (Figure 9). The impulse response of RIA to shocks in C suggests that a

negative shock to consumption leads to an increase in net income from abroad with a lag of about 2 quarters (Figure 10), though the impulse response is only marginally different from zero. Moreover, the results are not robust to changes in lag lengths (information criteria tests suggest a lag of either 4 or 12 quarters) as well as to the ordering of the shocks, indicating a need for caution in generalizing.





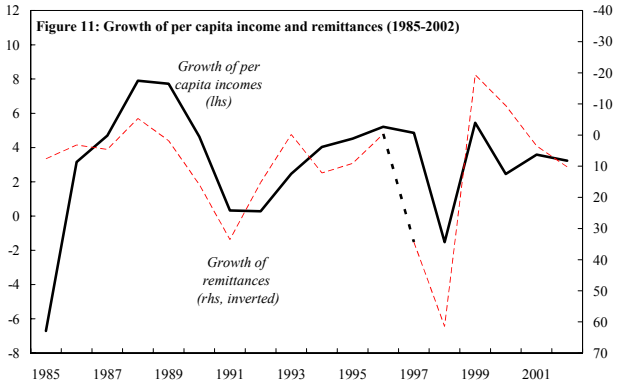
Remittances and Growth

12. **The literature on the relationship between remittances and growth is controversial.** There have been relatively few studies on the impact of remittances on the overall economy. One notable exception is Chami and others (2003), which finds that, on average, for a sample of 113 countries, remittances tend to have a negative impact on real growth in per capita incomes. They attribute this finding to adverse incentive problems.

13. **Initial analysis suggests that the growth of remittances in the Philippines has been negatively correlated with per capita GDP growth since the mid-1980s (Figure 11)**. The following equation is estimated by ordinary least squares (OLS):

$$\Delta Y_t = a_0 + a_1 \Delta Y_{t-1} + a_2 I_t + a_3 \Delta WR_t + \varepsilon_t \quad (1)$$

where Y is the log of real GDP per capita, I is the log of the investment to GDP ratio, and WR is the log of worker remittances to GDP (all of the variables used in the equation are stationary over the period estimated). The results (Appendix Table 1), using annual data for 1985-2002, show a negative correlation between per capita GDP growth and the growth of rate of



Source: Philippine authorities and IMF staff estimates.

remittances.[8] There is also a negative correlation between per capita GDP growth and net income from abroad—an alternative measure of remittance flows. The OLS estimates therefore indicate that over a longer time frame, remittances have tended to fluctuate counter-cyclically. However, to the extent that income growth is one of the main determinants of remittances as well as being affected by remittances, there is an endogeneity problem, which makes this result difficult to interpret.

14. **Instrumental variables are used to deal with the endogeneity problem in estimating the relationship between per capita growth in real income and growth in remittances**. Following the approach used by Chami and others (2003), in the first-stage regression, the growth rate of remittances is estimated as a function of other variables (instruments) that are correlated with remittance growth but uncorrelated with the error term in the second-stage regression. The following equation is therefore estimated in the first-stage regression:

$$\Delta WR_t = a_0 + a_1\Delta(Y_{PHL} - Y_{US})_t + a_2\Delta M_t + a_3(R_{PHL} - R_{US})_t + v_t \qquad (2)$$

where *WR* is the log of worker remittances to GDP, and the instruments are, the ratio of per capita GDP in the Philippines (Y_{PHL}) to that in the United States (Y_{US}); a measure of migration from the Philippines in the form of deployment of OFWs (M); and the ratio of real interest rates in the Philippines (R_{PHL}) to those in the United States (R_{US}). The United States is essentially used as a proxy for all host countries.

The growth of per capita real income is then estimated as a function of the fitted growth rates of remittances ($\hat{WR}$) from the first-stage regression. The share of investment in GDP is also introduced, as are various measures of growth in the ratio of private capital inflows to GDP. The second-stage equation is therefore estimated as follows:

$$\Delta Y_t = a_0 + a_1\Delta Y_{t-1} + a_2 I_t + a_3\Delta\hat{WR}_t + a_4\Delta PCF_t + \varepsilon_t \qquad (3)$$

where Y is the log of real GDP per capita in the Philippines, I is the log of the investment to GDP ratio, and PCF is a measure of the ratio of private capital inflows to GDP. The detailed results of the second stage regression are presented in Appendix Table 2.

15. **The results of the instrumental variables estimates are inconclusive.** There is some evidence of the negative relationship between remittances and growth, as found by Chami and others. But the results are not robust to alternative specifications. In particular, while there is a negative and significant coefficient on the (fitted) growth rate of remittances using the official data for remittances, the coefficient becomes insignificant when the problematic 1998 observation for remittances is excluded. When the equations are re-

[8] There is no significant correlation, either positive or negative, for years prior to 1985 when remittances were much smaller in scale.

estimated using net income from abroad as an alternative measure of remittances, the coefficient on the latter remains negative, but not significant. There also appears to be no robust relationship between per capita income growth and remittances when the equations are re-estimated across a longer time period (1973–2002), or between per capita income growth and either investment or private capital inflows (in contrast to the results presented by Chami and others, 2003).

IV. CONCLUSIONS

16. **There is no doubt that remittances in the Philippines are an important source of support, especially for the balance of payments**. Anecdotes abound about the extent to which current consumption of residents is supported by remittances from OFWs. Indeed, the data presented in this paper highlight the magnitude of these flows, as well as their growth over the last 30 years, notwithstanding substantial short-term volatility.

17. **We are unable to empirically confirm, however, that remittances smooth income and consumption when looking at high frequency fluctuations in the Philippines**. This may be indicative of other complex factors driving their growth. One possible explanation for this finding is that the remittances are not so closely driven by cyclical fluctuations in the home country, but more by exogenous forces affecting the level and composition of demand for overseas Filipino workers. These could include cyclical conditions in the main host countries for OFWs, as well as changes in the skill composition of OFWs and competition from migrant workers from other countries. For example, Merkle and Zimmerman (1992) find using then West German data that savings and remittances of migrants can be explained by remigration plans and economic conditions in Germany as well as demographic variables. One might conjecture that subject to these "supply constraints," OFWs remit a relatively constant amount of their income to relatives at home. Further analysis of these factors as important determinants of remittance flows are a topic for future research.

18. **Similarly, we do not find compelling evidence that remittances lead to lower growth in the Philippines case**. Anecdote and theory suggest that labor effort may suffer with transfers. However, determining the empirical relationship between remittances and growth is complicated by problems of endogeneity, associated difficulties in finding adequate instruments to explain the behavior of remittances, and measurement issues. Microeconomic-based studies may provide an alternative and possibly more fruitful avenue for research in this area.

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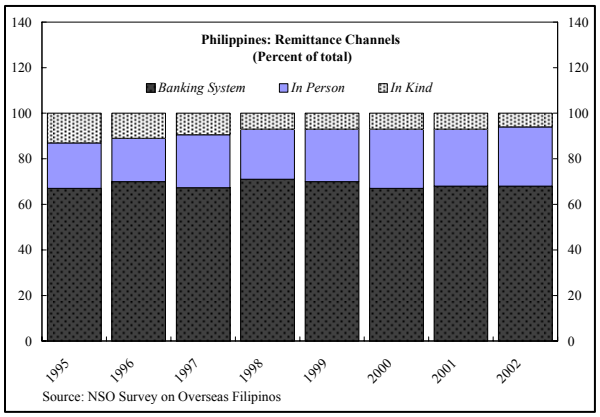
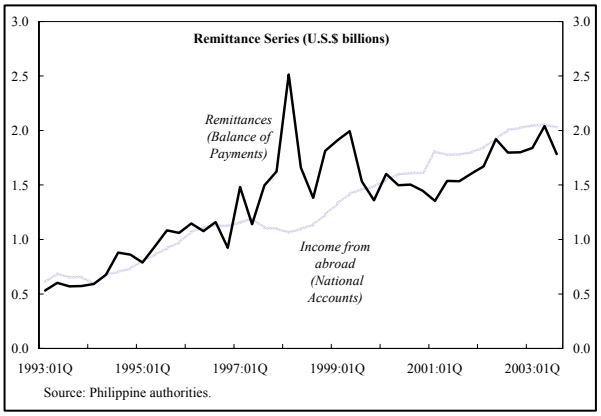
Box. Philippines: Measurement Issues

In the Philippines, balance of payments data on workers' remittances are largely recorded under compensation of employees. In 2002, compensation of employees amounted to $7.2 billion, whereas current transfers amounted to only $0.2 billion. The former includes remittances from the 4¾ million of overseas Filipino workers who are regarded as likely to return to the Philippines eventually, while remittances from the 2¾ million Filipinos who have become permanent residents or citizens of other countries are recorded as current transfers.[1]

These amounts include only remittances channeled through the banking system. The official data do not capture transfers through other channels, such as private couriers, remittances carried in person or made in kind in the form of goods, or through hawala-like informal funds transfer systems.[2] Survey data suggest that remittances through these channels have remained stable in recent years at about 30 percent of total (recorded and unrecorded) remittances.



Interpreting recent trends in remittances is further complicated by differences (after 1993 when the foreign exchange market was significantly liberalized) between the measures used for balance of payments and national accounts purposes. As noted above, the former capture actual remittances channeled through the banking system. The latter are estimated differently, on the basis of documented deployment of OFWs (thus excluding illegal workers) and their average incomes, with incomes also recorded on a gross basis rather than according to amounts actually remitted.



The picture is further clouded by a break in the series of the balance of payments measure of remittances in 1998, due to the introduction of a new foreign exchange reporting form. This may account for at least part of the sharp counter-cyclical increase in the balance of payments measure of remittances during the Asian crisis.

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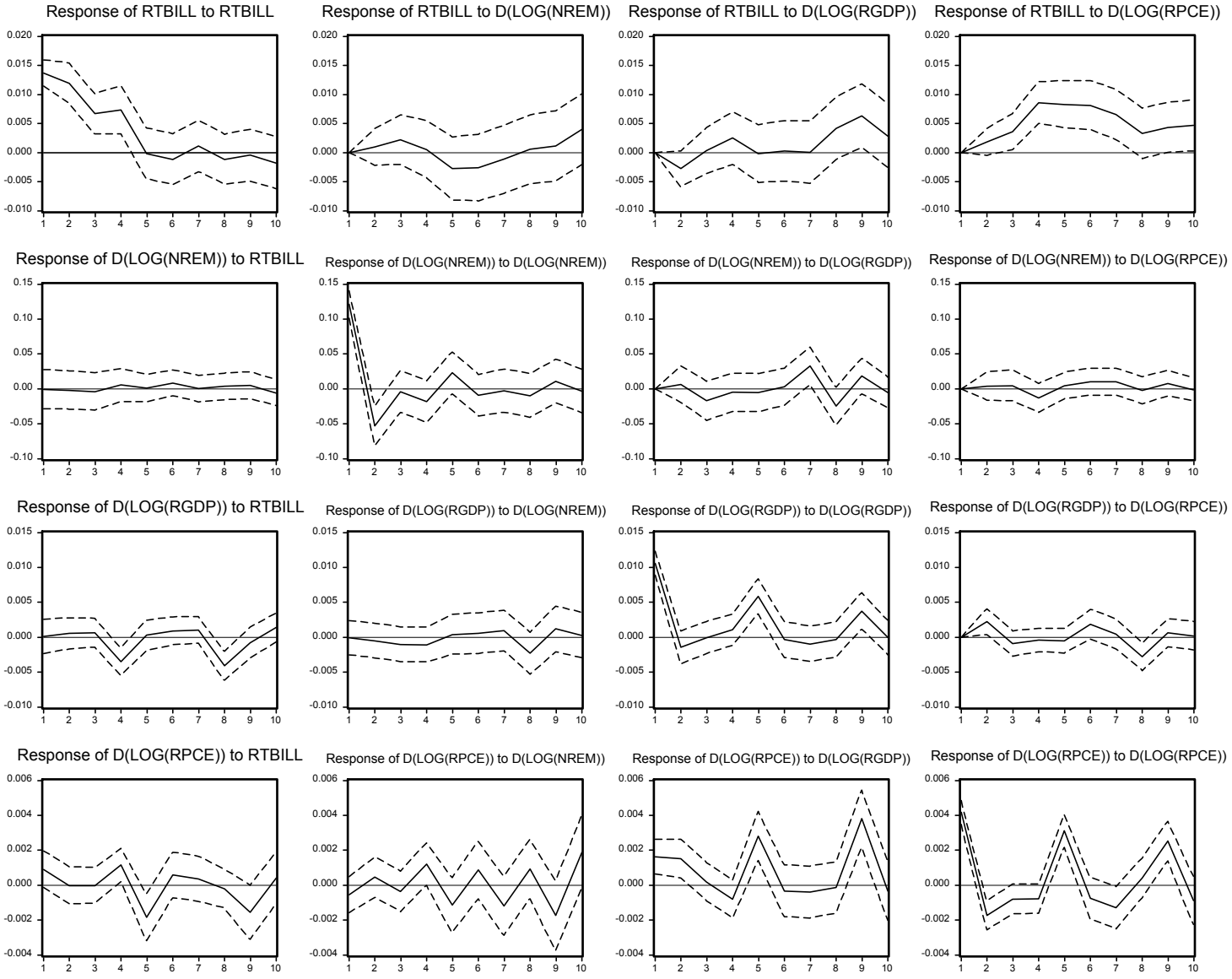
[1] Strictly speaking, according to the IMF Balance of Payments Manual, employment income should be attributed only to those who work abroad for less than a year and should be recorded on a gross rather than a net basis.

[2] Informal funds transfer systems in the Philippines are sometimes referred to as "padala." For a discussion see El Qorchi and others (2003).

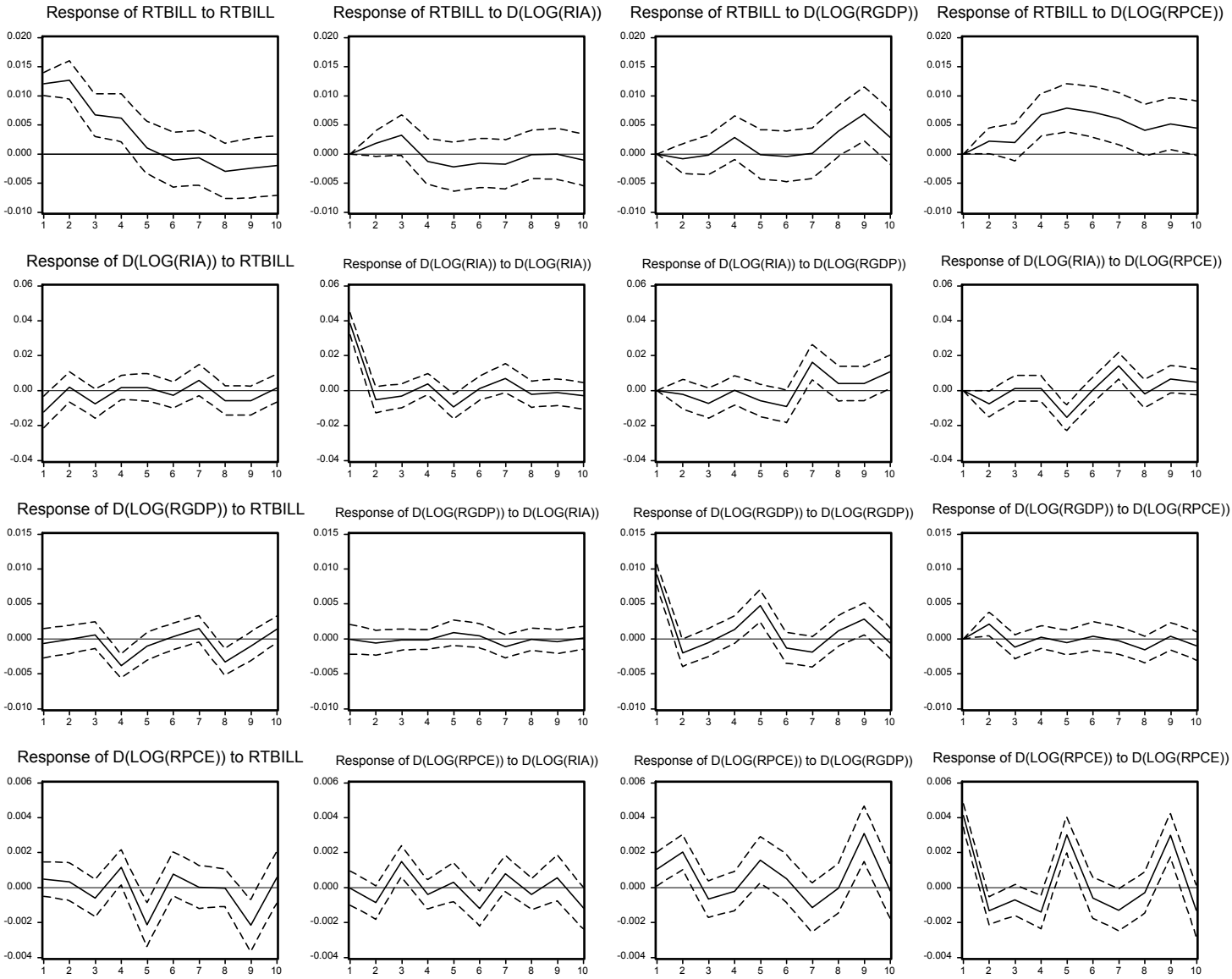
APPENDIX

Appendix Figure 1: Impulse Response Functions Using NREM
(Response to One S.D. Innovations ± 2 S.E., 12 lags)



APPENDIX

Appendix Figure 2: Impulse Response Functions Using RIA
(Response to One S.D. Innovations ± 2 S.E., 12 lags)



Appendix Table 1. Philippines: Estimated Equation for Per Capita Real Income Growth

	1985–2002		1973–2002
Sample Period	I	II	III
Constant	0.080	-0.032	-0.063
	(0.846)	(-0.352)	(-0.723)
Lagged per capita real income growth	0.504	0.462	0.800
	(2.992)	(2.747)	(4.322)
	***	**	***
Investment / GDP	0.033	-0.042	-0.047
	(0.566)	(-0.736)	(-0.872)
Growth of remittances / GDP	-0.128		0.011
	(-3.148)		(0.674)
	***		
Growth of net income from abroad / GDP		-0.204	
		(-3.118)	
		***	
R-squared	0.568	0.565	0.536

Source: Fund staff estimates.
Note: T-statistics in parenthesis (*, **, ***, indicates significant at 10, 5, and 1 percent, respectively).

Appendix Table 2. Philippines: Instrumental Variable Estimation of Equation for Per Capita Real Income Growth

	I	1985–2002					
Sample Period	1973–2002	II	III	IV	V	VI	VII
Instruments:		Income Gap (growth)			Income Gap (growth), Migration (growth) and Interest Rate Gap		
Constant	-2.971 (-0.208)	0.242 (1.337)	0.687 (0.812)	-0.084 (-0.688)	0.148 (1.193)	0.111 (0.774)	-0.083 (-0.413)
Lagged per capita real income growth	6.898 (0.230)	0.504 (1.832) *	0.108 (0.132)	0.476 (1.306)	0.497 (2.474) **	0.494 (2.292) **	0.476 (1.328)
Investment / GDP	-1.939 (-0.209)	0.125 (1.153)	0.373 (0.774)	-0.093 (-0.735)	0.072 (0.957)	0.051 (0.596)	-0.092 (-0.740)
Growth of remittances / GDP	-1.578 (-0.203)	-0.303 (-2.750) **	-0.846 1/ (-0.911)		-0.197 (-3.152) ***	-0.155 1/ (-1.445)	
Growth of net income from abroad / GDP				-0.617 (-2.076) *			-0.608 (-2.113) *
Growth of private capital inflows / GDP	-0.521 (-0.078)	-0.298 (-0.767)	-0.986 (-0.676)	-0.068 (-0.142)	-0.143 (-0.520)	-0.083 (-0.280)	-0.065 (-0.138)
R-squared	-159.7	0.044	-3.812	-0.677	0.489	0.490	-0.622

Source: Fund staff estimates.
1/ Excluding 1998 observation for remittances.
Note: T-statistics in parenthesis (*, **, ***, indicates significant at 10, 5, and 1 percent, respectively).