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PHILIPPINES

Selected Issues

Prepared by Raju Singh, Ayako Fujita (both APD), Srikant Seshadri (PDR),
David Newhouse, Daria Zakharova (both FAD), and Richard Podpiera (MCM)

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Contents

I. Distributional Implications of the VAT Reform and Possible Mitigating Measures[1]

A. Introduction

1. **The Philippines recently carried out a reform of the value added tax (VAT) which has increased gross revenue substantially.** The VAT reforms were introduced as part of a package of fiscal measures that aimed to put the public sector deficit and debt on a sustainable path. In November 2005, the VAT base was extended to energy products and selected professional services, and in February 2006, the VAT rate was increased from 10 to 12 percent. As a result, revenue collection (net of mitigating tax measures) is estimated to have increased by about 1.3 percentage points of GDP in 2006.

2. **While the VAT reform is expected to deliver important macroeconomic benefits over the medium term, there is concern about the possible adverse effect on poor households.** The reform resulted in higher prices for goods and services, including petroleum products and electricity that were previously exempted from the VAT. To reduce the adverse impact of the reform on poor households, the government introduced a package of mitigating tax measures that included a reduction in selected petroleum excises. In addition to these measures, the authorities announced plans to spend 30 percent of the incremental revenue receipts from the VAT reform on infrastructure and social services, which will further ameliorate any adverse distributional effects.

3. **This chapter shows that the VAT reform had a moderate adverse effect on poor households, and was progressive in its overall distributional impact.** Households in the bottom per capita consumption quintile incurred a smaller proportional reduction in real consumption as a result of the reform than households in the top quintile. The progressive nature of the reform is consistent with the consumption patterns of poor households, who disproportionately rely on unprocessed agricultural products that are exempt from the VAT. In addition, extending the VAT base to petroleum products is also progressive, because, with the exception of kerosene, petroleum products are largely consumed by wealthier households.

4. **The package of mitigating measures adopted delivers substantial benefits to all households, although large benefits also accrue to wealthier households.** As mitigating measures, the authorities reduced tax rates on various products, and set aside a portion of the additional VAT revenues for social spending. This chapter finds that these measures, if implemented effectively, would reduce the income loss from the reform by about 25 percent, and as a share of income, the benefit would be higher for poor households. However, in peso terms, wealthier households receive a large amount of the benefits of the overall mitigating package.

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[1] Prepared by David Newhouse and Daria Zakharova.

5. **The mitigating measures increasing social spending are shown to be substantially better targeted to poor households than those that reduced energy taxes.** Increases in education and health spending are relatively well targeted because elementary and secondary students attending government schools, as well as public health center users, are more highly concentrated in poor households. By contrast, reducing fuel taxes largely benefits wealthier households, who account for the bulk of consumption of fuel products.

6. **A comparison of various options for the social spending component of the mitigating package highlights a trade off between covering large numbers of households and effectively targeting the poor.** Expanding health insurance, widening access to health facilities, and improving education and health facilities all deliver roughly one third of the benefits to the poorest quintile. Expanding access to elementary and junior high schools is even better targeted, with almost 58 percent of the benefit going to the bottom quintile. However, since school attendance is nearly universal in the Philippines, building new schools would benefit far fewer poor households than improving the quality of existing facilities.

7. **Replacing the existing social spending measures with targeted transfers has the potential to effectively compensate the poorest households at considerably lower cost.** The potential savings, however, may be reduced to the extent that implementation is flawed and administrative costs exceed the minimum required amount. Still, the capacity to identify poor municipalities—one form of targeting that is considered—exists and has been successfully applied in the Philippines.

B. Methodology

8. **The chapter uses the Family Income and Expenditure Survey (FIES) to establish whether the mitigating package was effective in targeting the poor.** To evaluate the distributional impact of the VAT reform, households are separated into income groups, using income per capita from the 2003 FIES as the measure of household welfare and real income.[2]

9. **The analysis is limited to the aspects of the VAT reform that are most relevant to the poor.** The focus of the analysis is on the following features of the VAT reform that are likely to have had most impact on low income households: (i) the increase in the VAT rate from 10 to 12 percent; (ii) the broadening of the VAT base to petroleum products, electricity, and professional services; (iii) the reduction in fuel excises; (iv) the removal of the franchise taxes;[3] (v) the reduction in the oil tariff from 5 to 3 percent; and (vi) devoting a portion of the additional VAT revenue to increased education and health spending. The first two measures

[2] In the Philippines, income per capita rather than consumption per capita is the standard welfare measure. The terms welfare and income are used interchangeably in the remainder of this chapter.

[3] A franchise tax is a percentage tax levied on gross receipts of a business.

comprise the VAT reform without mitigation, the next three measures comprise the mitigating tax measures,[4] and the final measure comprises the mitigating spending measure. The analysis simulates the effect of all six measures, designed to represent the full effect of the reform.

10. **The methodology examines the first-order effect of higher prices on household real income, which likely overstates the burden of the reform.** The reduction in household real income is compared across income groups, assuming that household and firm demand is fixed. The estimates ignore any consumption adjustments by households, as well as input adjustments by firms, and therefore should be interpreted as upper bounds on the magnitude of income effects. In addition, for simplicity, firms are assumed to pass on all increases in their costs to their customers in the form of higher output prices.

11. **Additional assumptions are required to simulate the effect of extra social spending.** The authorities announced that at least 30 percent of the additional revenue proceeds will be set aside for infrastructure and social spending. Based on the current composition of spending, it is assumed that 60 percent of the additional revenue will be devoted to social spending, and 40 percent to infrastructure. Because it is difficult to identify the distributional impact of infrastructure spending, the analysis focuses only on the social spending component, which is assumed to be divided equally between education and health spending. This additional spending is modeled as transfers to existing users of education and health facilities. This methodology likely overstates the benefit of additional spending, due to inefficiencies in spending procedures, and the assumption that users value the spending at cost. On the other hand, the methodology may underestimate the effect of additional spending by ignoring the benefits to households of the additional infrastructure spending.

12. **The analysis estimates both the direct and indirect impact of price changes resulting from the reform.** The direct impact results from changes in the tax rate on goods and services that are final products. For example, a 2 percentage point increase in the VAT rate (from 10 to 12 percent) would result in a 2 percent direct increase in the final prices of goods and services subject to the VAT, while the removal of fuel exemptions would result in a 12 percent increase in the fuel prices. The indirect impact results from changes in the after-tax price of intermediate goods, which in some cases are passed on to the price of final goods. For example, lower prices of petroleum product inputs following the reduction of excise taxes on fuels would decrease the costs of production (e.g. in transportation), which

[4] While the reduction in the excise taxes on diesel, kerosene, and fuel oil was intended as a purely mitigating measure, other "mitigating" measures were primarily intended to improve the structure of the tax system. In particular, the franchise tax was repealed to remove a potential problem of double taxation when VAT was extended to electricity, and the gasoline excise tax was reduced to equalize the tax treatment of regular and unleaded premium gasoline; while the earlier increase in the oil tariff rate to 5 percent had not been considered by the authorities to be a permanent feature of the tax system. Nonetheless, the analysis here treats all tax reducing measures as part of the package of mitigating tax measures.

may be passed on to consumers in the form of lower prices of final goods (e.g. bus tickets). Based on the 2000 input-output table for the Philippines, a simple input-output model is used to estimate how changes in excise taxes are passed on to the prices for other goods and services.

13. **The total price changes are then applied to the household consumption data in the 2003 FIES to estimate the incidence of the VAT reform.** Data on household consumption are used to calculate the budget shares of various goods and services purchased by consumers, defined as household expenditure on a given item divided by total household expenditure. These shares are multiplied by the corresponding price increases and then summed across consumption items to estimate the percentage decline in the household real income due to the VAT reform. Finally, the total real income effect is averaged for each income group to obtain the total income effect for each income quintile.

14. **The distributional impact of the reform can be evaluated across two dimensions:**

- *Targeting performance.* The targeting performance depends on each income group's share of the absolute burden or the benefit resulting from a tax reform. For example, a tax increase is well targeted if lower income households bear a disproportionately small share of the total burden, e.g. the bottom quintile bears less than 20 percent of the tax burden. For tax cuts and transfer programs, a well targeted package will result in lower income households enjoying a disproportionately higher share of the total income gain from the package.

- *Average effect.* The average effect is approximately equal to the average percentage welfare loss experienced by an income group. The reform is deemed progressive (regressive) if the percentage decrease in household consumption as a result of the reform is smaller (larger) for lower income groups.

15. **The targeting performance and average effect are related, but measure different concepts.** Targeting performance is used to assess the extent to which the additional revenue raised by the reform is drawn from poor households, in absolute income terms (in pesos). The average effect, however, is an approximate measure of the welfare loss experienced by poorer or richer households as a result of the reform, which is measured relative to household income. Therefore, a reform can be regressive, in the sense that the percentage reduction in real income is greater for the poor, but well targeted. This is because a relatively high percentage decline in poor household income may represent a relatively small amount of money in absolute terms, especially in a country with high inequality like the Philippines.

C. Distributional Impact of the VAT Reform

16. **The VAT reform reduced poor households' income by a moderate amount and was progressive.** The average gross reduction in household consumption was estimated at 2½ percent (Figure 1).[5] Households in the bottom quintile incurred a 2.4 percent reduction in real consumption, while households in the top quintile lost 2.7 percent. This finding is consistent with the consumption patterns of poor households, who tend to rely on unprocessed agricultural products that are exempt from the VAT. In addition, with the exception of kerosene, petroleum products are disproportionately consumed by wealthier households. The finding is also broadly consistent with a study of household consumption patterns using earlier data (Fletcher, 2003).

17. **The mitigating package is found to partially alleviate the impact of the VAT reform on consumers and is progressive.** The mitigating package of tax measures and increases in social spending reduces the average income loss from the reform across all households by about 25 percent (from 2.5 to 1.9 percent of income). Moreover, the mitigating package itself is quite progressive, due to the social spending measures. The mitigating measures are calculated to give back 1.2 percent of consumption to the bottom decile, but only 0.4 percent to the top quintile.

18. **Nonetheless, in line with their much higher consumption shares, a sizeable portion of the benefit from the mitigating package accrues to high-income households.** Households in the bottom quintile enjoy only about 15 percent of the benefit from the package of tax cuts and spending increases, while households in the top quintile enjoy about 30 percent of the benefit (compared to their 50 percent share of income). The reductions in energy and franchise taxes, which account for over 40 percent of the total mitigating package, are particularly poorly targeted, with the bottom quintile receiving only 7 percent of the total benefit and the top quintile receiving 43 percent. Social spending measures, on the other hand, are relatively well targeted with almost 28 percent of the benefit accruing to the bottom quintile (Table 2).

19. **Consistent with past research on fuel subsidies, there are substantial leakages associated with the fuel tax cuts.**[6] The most important component of the tax mitigating package was the reduction in the excises on petroleum products, particularly diesel. Price reductions in diesel and gasoline primarily benefit wealthier households, who consume the

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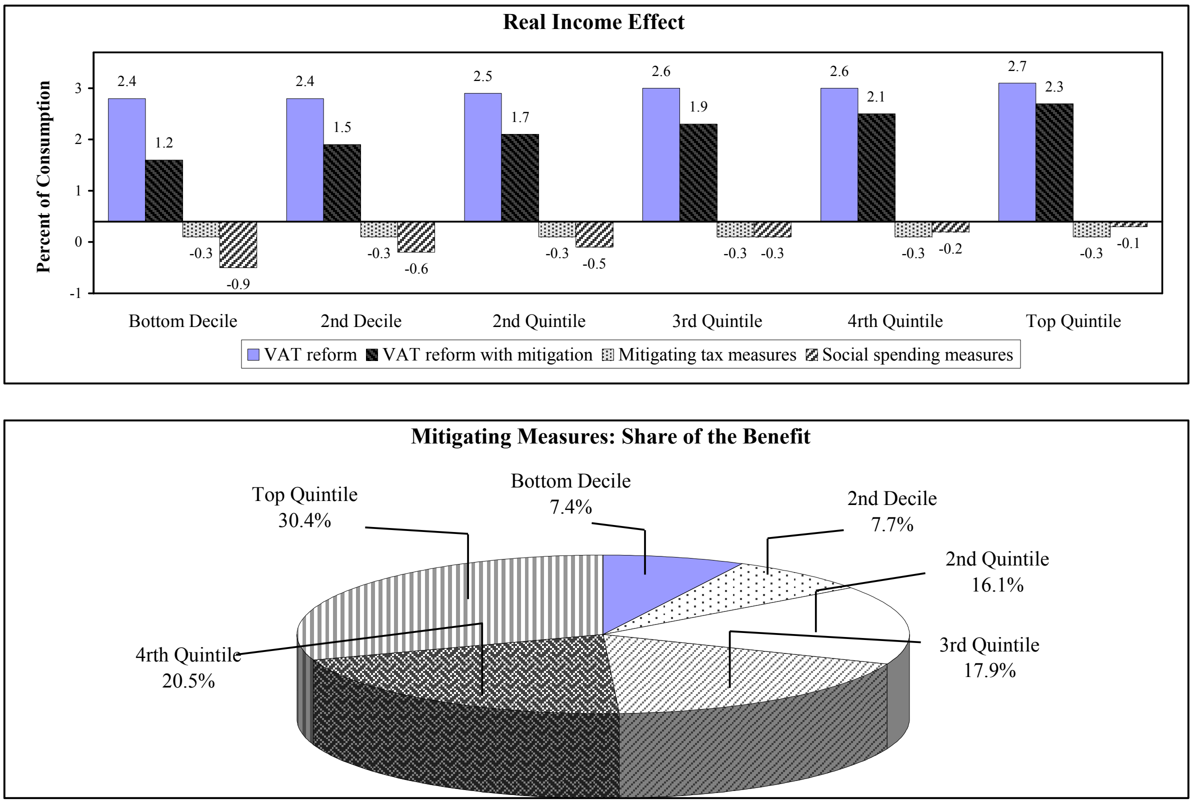
[5] The model overestimates the income loss from the reform by about 30 percent, compared to the estimated revenue gain. The discrepancy can likely be explained by imperfect tax administration. The model assumes that tax compliance is universal, which also implies that the reform may overestimate total household income loss. However, in so far as the proportion of expenditure inappropriately withheld from the VAT is the same for each income group, the distributional implications will be unaffected.

[6] Coady et al. (2006) find that fuel subsidies are not well targeted to the poor in five countries where studies have been carried out.

majority of these products directly. While reducing diesel and gas prices also lowers the price of other goods and services, wealthier consumers disproportionately benefit from lower prices throughout the economy as well. The measure that was best targeted to poor households is the reduction in the price of kerosene. However, because kerosene consumption is relatively small, the revenue given back through the kerosene price reduction was a negligible portion of the total mitigating package.

Figure 1. The Philippines: Income Effect and Targeting of the VAT Reform and Mitigating Measures.



Source: Fund staff estimates based on the 2000 input-output tables and the 2003 FIES.

20. **Ultimately, the performance of the social spending component of the mitigating package depends on its composition.** The above analysis makes the simplifying assumption that additional social spending benefits existing users of health and education in proportion to usage. Alternatively, social spending increases could be used to expand access to health and education facilities. A comparison of the targeting and coverage of various forms of social spending could therefore be useful in guiding the choice of programs that should benefit from the additional spending.

D. Social Spending Options

21. **Five alternative forms of social spending are evaluated, to investigate whether altering the composition of social spending could improve targeting and coverage** (Table 1). The first three programs are health related: improving existing public health facilities, expanding access to health facilities, and uniformly expanding access to health insurance. In addition, two education programs are considered: improving existing educational facilities and expanding access. A program's coverage is the proportion of households that benefit, while targeting is determined by the percentage of benefits accruing to each income group.

Table 1. The Philippines: Coverage and Targeting of Health and Education Spending.

	Bottom Decile	2nd Decile	2nd Quintile	3rd Quintile	4th Quintile	Top Quintile	All
Coverage 1/	(In percent of total population in income group)						
Health							
Improving public facilities	6.9	7.1	7.1	7.2	6.2	3.7	6.2
Expanding access	18	16.8	17.1	15.4	14.1	11.3	15.1
Expanding insurance	94.7	92.7	87.6	75.4	57.6	34.9	69.8
Education							
Improving school facilities	28.2	27.2	25.3	22.3	19.5	15.7	24.5
Expanding school access	5.4	3.4	2.4	1.4	0.6	0.2	1.8
Targeting 2/	(In percent of total beneficiaries in income group)						
Health							
Improving existing public facilities	14.0	13.1	24.1	23.1	17.0	8.8	17.3
Expanding access to facilities	15.2	12.7	23.4	20.5	17.2	11.1	17.2
Expanding insurance	13.4	13.2	24.6	21.3	16.7	10.9	17.3
Education							
Improving school facilities	16.6	14.0	23.2	19.5	15.4	11.3	16.9
Expanding school access	37.4	20.4	24.1	11.9	5.0	1.2	14.2
Memorandum items:							
Percent sick or injured last month 3/	26.1	25.6	26.5	26.4	25.1	23.5	25.5
Percent aged 6-15	33.7	30.6	27.7	23.7	20.1	15.9	23.9

Source: Fund staff estimates based on the 2002 Annual Poverty Indicator Survey.

1/ Defined as the number of benefiting individuals divided by the total population in income group, in percent.
2/ Defined as the number of benefiting individuals divided by the total number of beneficiaries, in percent.
3/ Includes those that used non-public health facilities.

22. **Determining which households in the survey would benefit from the simulated programs requires several simplifying assumptions.** In this case, persons are assumed to benefit from improving public heath facilities if they reported, within the last month, experiencing illness or injury and visiting a public hospital, rural health unit, or barangay health station. By contrast, a person benefits from expanded access to health facilities if they were ill or injured, but did not visit any health facility in the last month. For health insurance, the assumption made is that all persons living in households with no insurance benefit from

an expansion. Finally, for education, improving education facilities is assumed to benefit all children age 6 to 15 that were attending elementary or junior high school, while expanding access to education was assumed to benefit children of those ages currently not attending school.

23. **Simulation results highlight the trade off between coverage and targeting.** While expanding access to education appears to be the best targeted program, with almost 60 percent of the benefit accruing to the bottom quintile, relatively few households benefit. The low coverage of this program is explained by high student participation rates in the Philippines—only 5.4 percent of the children in the bottom decile and 3.4 percent of the second decile do not attend school. The other four programs are targeted about equally well, while offering better coverage than education expansion.

24. **While all forms of social spending considered in this analysis appear to be better targeted than fuel tax cuts, none deliver an especially high percentage of benefits to the poor.** Of these, improving existing school facilities offers the most appealing combination of coverage and targeting, because poor households tend to have more children in school. However, with the exception of expanding access to education, which suffers from low coverage, the five social spending programs considered in this section provide only marginally bigger benefit to the poor than uniform untargeted transfers. It may therefore be useful to investigate alternative ways of compensating poor households, including direct targeted transfers.

E. Targeted Transfer Schemes

25. **An alternative approach to mitigation involves uniform cash transfers to households with certain characteristics.** Four transfer schemes are evaluated, based on their coverage, progressivity, and targeting performance. To ensure a fair comparison, each is designed to cost as much as the existing mitigating measures. Therefore, to the extent that coverage varies, the amount of the transfer for participating households will also differ by program.

26. **The four transfer schemes are constructed as follows:**

- The first scheme targets the poorest municipalities, as determined by the NSCB's poverty map, such that 30 percent of all households are covered.[7] In this hypothetical program, each participating household received P 2,300 per month.

[7] The "30 percent" was an arbitrary cut off to represent households below the poverty line. However, since transfer schemes are not perfectly targeted, the 30 percent would necessarily include some well-off households.

- The second transfer scheme targets households living in the municipalities currently benefiting from the KALAHI program.[8] The KALAHI program operates in 177 municipalities from the poorest 42 provinces. Municipalities were selected if they were in the poorest quartile of each province, as determined by a poverty map based on human capital, housing, and access to services. The 177 municipalities were matched to the household survey. Six percent of households lived in KALAHI municipalities, and the simulated scheme granted each residing household a P 11,700 per month transfer.

- The third scheme targets poor households based on a proxy means test. The proxy means test identifies key socio-economic characteristics that are strongly correlated with economic status of a household, attaches a numerical weight to each characteristic, and assigns a score to each household by summing the weights for each characteristic that pertains to the household. All households with a score below a threshold are eligible for the program. This simulated program used a threshold at the 30^{th} percentile of the distribution of scores, and the resulting transfers to household with scores below the threshold amounted to P 2,300 per month. A similar program was successfully implemented in Indonesia in 2005 (see Box).

- Finally, the fourth transfer scheme targets households living in poor barangays. The barangays are ranked based on the average proxy means score of resident households. The available budget is then distributed to the barangays with the lowest score, such that 30 percent of households are covered, with a monthly transfer per household of P 2,300.

27. **All four alternative transfer schemes are more progressive and better target the poor than the existing mitigating measures.** Table 2 presents the incidence of the alternative compensation schemes. The KALAHI and the proxy means schemes are slightly better targeted than uniform transfers to households living in poor municipalities or barangays. However, the KALAHI program only covers 6 percent of all households, compared to about 30 percent of households covered by the other three schemes.

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[8] Initiated in 2003, the KALAHI-CIDSS is a development project that aims to empower communities through their enhanced participation in projects that reduce poverty. Community grants are used to support the building of low-cost, productive infrastructure, such as roads, water systems, clinics, and schools. The project is implemented by the Department of Social Welfare and Development (DSWD) with financial and technical support provided by the World Bank.

Indonesia: Social Safety Net to Mitigate the Impact of Fuel Price Increase*

To mitigate the impact on the poor following the domestic fuel price increase in October 2005, the government launched a cash transfer program for 16 million low-income families. The program became effective in the fourth quarter of 2005 and ended in November 2006. With over 60 million people covered, this cash transfer program was possibly the largest such program in the world. The cash transfer was intended to compensate these households for the income losses due to the direct and indirect impacts of price increases in fuel and other commodities. Each beneficiary family received Rp. 300,000 (about US$30) every three months. The full cost of the program is estimated at nearly 0.7 percent of GDP.

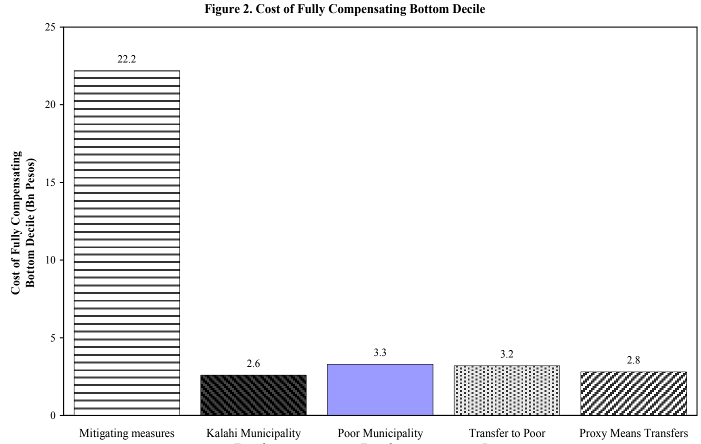
Targeting. Indonesia's Central Statistics Bureau has developed a database of low-income households. The development of the database was carried out in four stages. First, village leaders were interviewed to identify low-income families. The results of these interviews were crosschecked with other sources (e.g. a previous poverty census) to develop a roster of potential poor and near poor households. Second, a survey was undertaken of these households to ascertain key economic and social characteristics. Third, poverty rankings were determined using a proxy means test that correlates observable household characteristics with household income. Fourth, the budgetary allocation for the cash transfer for each region was determined from previous household survey data, with household eligibility set by the household's score on the proxy means test.

Delivery mechanism. Beneficiary cards and receipt coupons were printed and delivered by the Post Office. Eligible households with access to a post office collected their cash quarterly on designated days. Those in remote areas without such access received cash in their village.

* Source: World Bank.

28. **The proxy means transfer program offers the most favorable combination of targeting performance and coverage.** It covers over 88.5 percent of households in the lowest decile but only 0.6 percent of households in the top quintile, with total coverage of 30 percent by design. The targeting under this program is also better than the targeting under the other transfer schemes. Under the proxy means program, households in the first two deciles receive over half of the benefits, compared to about 47 percent under the KALAHI program, less than 43 percent under the poor municipality and barangay schemes, and only 15.1 percent under the current compensation program.

Figure 2. Cost of Fully Compensating Bottom Decile



29. **This analysis also suggests that replacing the existing measures with targeted transfers has the potential to effectively compensate the poorest households at a fraction of a cost** (Figure 2). For example, fully compensating the bottom decile for the adverse effects of the VAT

reform using transfers to poor municipalities rather than the existing mitigating package requires 85 percent fewer pesos. However, this finding should be interpreted with caution. First, since transfers programs are not perfectly targeted, not all households in the bottom decile would receive compensation. Rather, households would be compensated on average, with total compensation fully offsetting the total tax burden of the VAT reform for the bottom decile. Second, our analysis does not account for the administrative costs associated with putting new transfer schemes in place, nor possible inefficiencies and leakages in implementing transfer programs, which would reduce the attractiveness of targeted transfer programs relative to tax cuts.

F. Conclusion

30. **Concerns about negative distributional effects from the VAT reform do not appear well-founded.** The VAT reform itself is found to be generally progressive and well targeted. The tax mitigating measures were successful at alleviating the effect of the reform on households in general, but a large amount of the benefits accrued to high income groups. The planned social spending increases are likely to be more successful in reaching the poor.

31. **Various transfer programs are identified that would be much better targeted than across-the-board energy tax cuts.** In addition to the existing KALAHI program, the analysis in this chapter has identified three other targeted transfer programs that would be much better targeted than across-the-board energy tax cuts: targeting municipalities based on their predicted poverty level; targeting barangays based the assets and demographic characteristics of their households, and targeting poor households directly. Household level targeting suffers from the least benefit leakage to wealthier households, although the advantage becomes less important as coverage increases.

32. **A well-designed social safety net can significantly enhance the conduct and the flexibility of fiscal policy and improve the reform outcomes for the poor.** A well designed social safety net generally targets the poor more effectively than untargeted social spending, and much more effectively than tax reductions. Moreover, the institutional capacity developed to implement targeted transfers can be used to mitigate the adverse effects of economic shocks and any new reforms. This reduces the need to resort to ad hoc mitigating measures, including temporary changes in domestic taxes and import duties that can undermine government revenues, introduce inefficient relative price distortions, and weaken the business environment by destabilizing the tax system.

Table 2. The Philippines: Benefit Incidence and Coverage for Alternative Compensation Schemes

	Bottom Decile	2nd Decile	2nd Quintile	3rd Quintile	4th Quintile	Top Quintile	All
Average income effect 1/			(Percent of measured consumption)				
Mitgating measures	1.2	0.9	0.8	0.6	0.5	0.4	0.7
Tax measures	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Social spending measures	0.9	0.6	0.5	0.3	0.2	0.1	0.4
Kalahi municipality transfer	5.8	3.0	1.7	0.8	0.3	0.1	1.5
Poor municipality transfer	4.5	2.9	1.8	0.9	0.4	0.1	1.4
Transfer to poor barangays	4.7	3.0	1.8	0.9	0.3	0.1	1.4
Proxy means	5.2	3.1	1.6	0.4	0.1	0.0	1.3
Per capita income	6,123	9,532	14,073	22,053	36,155	97,791	35,579
Average transfer 2/			(Pesos per month)				
Mitgating measures	503	522	548	609	699	1036	681
Tax measures	125	169	231	333	481	904	419
Social spending	378	352	317	277	219	132	262
Kalahi municipality transfer	1941	1244	833	511	280	186	681
Poor municipality transfer	1519	1219	916	560	337	225	681
Transfer to poor barangays	1614	1278	943	558	291	165	681
Proxy means	2008	1603	1064	408	111	13	681
Total income per household	38356	52666	71020	103859	162261	356563	147837
Coverage 3/			(Percent)				
Mitigating measures	100	100	100	100	100	100	100
Poor municipality transfer	66.9	53.7	40.4	24.7	14.9	9.9	30.0
Kalahi municipality transfer	16.6	10.6	7.1	4.4	2.4	1.6	5.8
Transfer to poor barangays	71.1	56.3	41.6	24.6	12.8	7.3	30.0
Proxy means	88.5	70.7	46.9	18.0	4.9	0.6	30.0
Share of the benefit 4/			(Percent)				
Mitgating measures	7.4	7.7	16.1	17.9	20.5	30.4	...
Tax measures	3.0	4.0	11.0	15.9	22.9	43.1	...
Social spending	14.4	13.5	24.2	21.1	16.7	10.1	...
Kalahi municipality transfer	28.6	18.3	24.5	15.0	8.2	5.5	...
Poor municipality transfer	22.3	17.9	26.9	16.4	9.9	6.6	...
Transfer to poor barangays	23.7	18.8	27.7	16.4	8.6	4.8	...
Proxy means	29.5	23.6	31.3	12.0	3.3	0.4	...
Share of total income	2.6	3.6	9.6	14.0	21.9	48.2	...

Source: Fund staff estimates based on the 2000 input-output tables and 2003 FIES.

1/ Income gain as a percentage of total household consumption.
2/ Benefit per household in pesos.
3/ Percent of participating households.
4/ Percent of the benefit accruing to households.

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II. Can a Shift to Services Set the Philippines on a Stronger Growth Path?[1]

A. Introduction and Background

1. **Over the past year, the Philippines has seen a marked change in sentiment regarding its macroeconomic prospects.** As business sentiment has improved, and sovereign spreads have fallen, expectations are high that the economy could shift to higher growth, with stronger fiscal and external balances, and a declining debt trajectory. This transformation in expectations is all the more striking given that manufacturing output and investment; have been steadily declining as a share of GDP since the 1990s. While fiscal reforms have largely driven the recent macroeconomic ebullience, this chapter examines the role that the services sector can play in advancing the economy to a stronger long-term growth path.

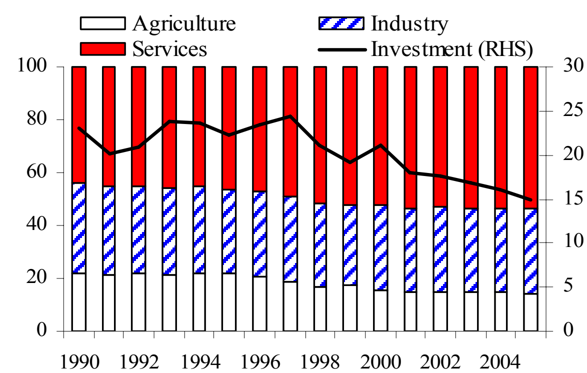
2. **Growth performance in recent years has been led by the services sector.** Especially since the Asian crisis, the services sector's contribution has been key for both GDP and employment growth. The share of services in the economy has grown over the past decade to reach over 50 percent of GDP, while agriculture and industry have declined in relative importance. The decline in industry's share of GDP has been marked, falling by some 7 percentage points since 1980. Available data suggest that the growth in the services sector has been mainly for the domestic economy, and that the contribution of services to exports has been limited thus far.[2] Meanwhile, the investment-to-GDP ratio has fallen to about 15 percent over the past few years.

Sectoral Performance

	Real GDP growth		Employment		Exports 1/	
	1991-1997	1998-2005	1991-1997	1998-2005	1991-1997	1998-2005
	(Growth rate, y/y, in percent)					
Agriculture	2.04	2.87	1.71	0.71	4.36	1.38
Industry	3.36	2.83	4.45	0.92	19.89	7.31
Services	3.53	5.17	4.29	3.55	21.57	-2.70
	(Contribution to growth, in percent)					
Agriculture	0.45	0.56	0.78	0.22	0.48	0.01
Industry	1.17	0.95	0.70	0.14	13.19	5.71
Services	1.52	2.37	1.71	1.64	4.72	-1.27
Total	3.14	3.89	3.19	2.01	18.39	4.45

1/ Data for 1991-1999 uses service and income data based on the old BoP methodology, but excludes investment income, personal income, and peso conversions of FCDs. Differences between the two methodologies in classification of certain income and services likely cause services contribution in 1991-1997 to be overstated.

GDP share by industry and investment
(in percent of total GDP, nominal)



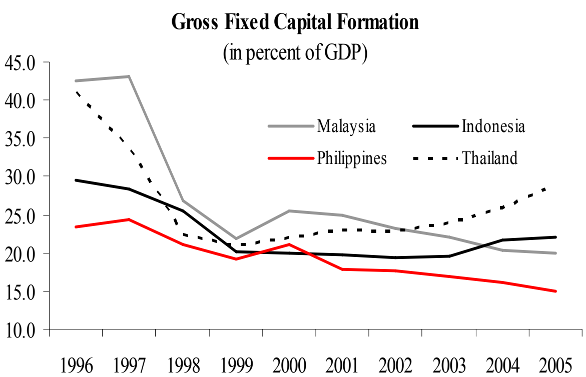
[1] Prepared by Ayako Fujita and Srikant Seshadri.

[2] With the recent emergence of the Business Process Outsourcing (BPO) industry, this may have already changed. However, the growth in the exports of services is not, as yet, evident in the balance of payments data. The authorities are currently taking steps to strengthen data gathering in this area.

3. **Recent trends distinguish the Philippines from some of its neighbors.** Average GDP growth is higher in the post-Asian crisis period in the Philippines, while the majority of Philippines' regional peers have experienced substantially lower growth in the post-Asian crisis period compared with the pre-crisis period. Nevertheless, those countries have seen a gradual recovery in their investment ratios, even if they are also still considerably below pre-crisis levels.[3] Furthermore, sectoral growth in those countries has been more balanced, and services do not appear to have played a significant part in the region's resurgent growth, with the exception of Hong Kong SAR and Singapore.

Real GDP Growth and Service Share

	Real GDP growth (in percent, average)		Service sector share (in percent, nominal)	
	1991-1997	1998-2005	1991-1997	1998-2005
China	11.53	8.95	33.87	39.77
Hong Kong SAR	5.33	3.76	78.17	84.10
Indonesia	6.88	2.02	40.65	39.23
India	5.76	5.87	42.55	48.78
Korea	7.25	4.22	56.44	60.63
Malaysia	9.24	3.77	45.00	41.82
Philippines	3.14	3.89	46.30	52.78
Singapore	8.64	3.76	62.49	63.48
Thailand	6.81	2.98	49.91	47.96



B. A Closer Look at Service Sector-led Growth

4. **Trade and transport, storage, and communications services have been growth drivers, while private and financial services have started to add new momentum.** Trade and transport, storage, and communications services have been supported by resilient retail consumption associated with steadily increasing remittance inflows over the last five years, while transport services have recently gained momentum due to the expansion in tourism. Reflecting the upsurge in BPO activity (see Box), private services have started to record higher growth since 2003. Financial services and real estate services have also picked up in the last two years, as both of these services have now been marketed to Overseas Filipino Workers (OFWs), who are beginning to save and invest more as they earn higher incomes.[4]

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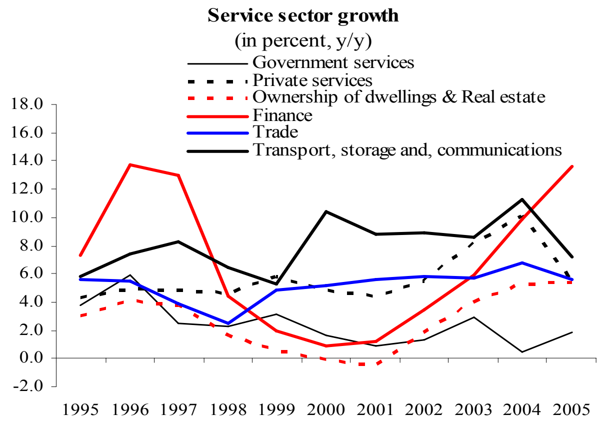
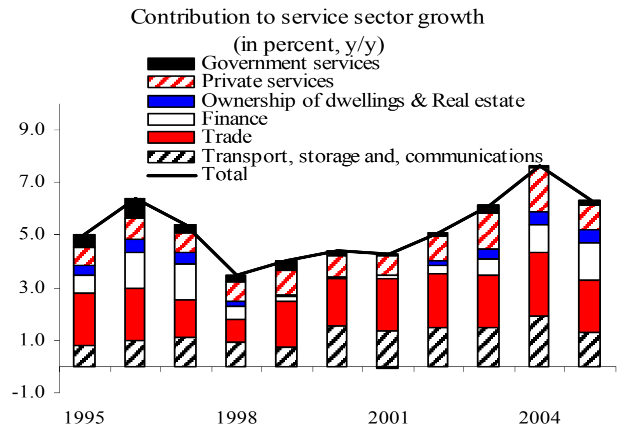
[3] In Malaysia, 2006 data suggest that investment has recovered.

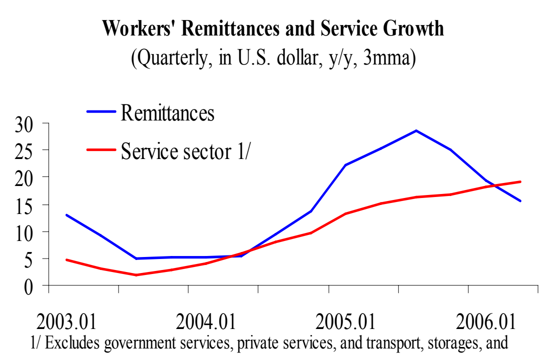
[4] In the case of financial services, part of the rise is also due to services emanating from the disposal of NPLs in the banking system, so part of this rise may be temporary.



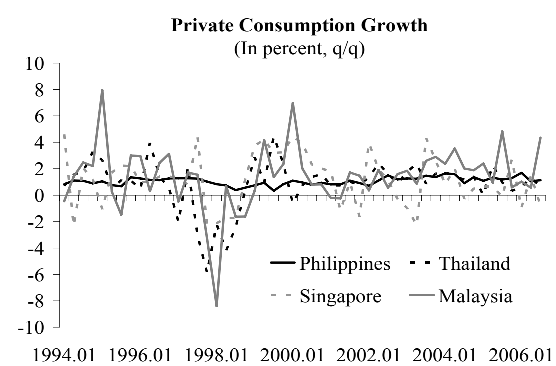


5. **Several factors could explain the Philippines' strength in the service sector.** These include: (i) large and growing remittance inflows; (ii) sufficient supply of skilled-labor, and (iii) competitive wages in certain service sectors.

- **Large and growing remittance inflows.** Recorded remittances have grown rapidly, particularly since 2002, reaching 11 percent of GDP in 2005 compared to 7 percent of GDP in 2002. This is not only because the number of workers deployed abroad has grown, and remittances are being better captured in the data, but also because the technical skill levels and wages being earned in a strong global economy are higher.[5] The steadily rising remittance inflows have also kept consumption growing at a healthy pace, relative to regional peers, supporting domestic demand. Some other emerging market countries that benefit from large remittances inflows —notably India and Mexico— have also recently experienced rapid growth in remittances, accompanied by an expansion in services in their domestic economies.

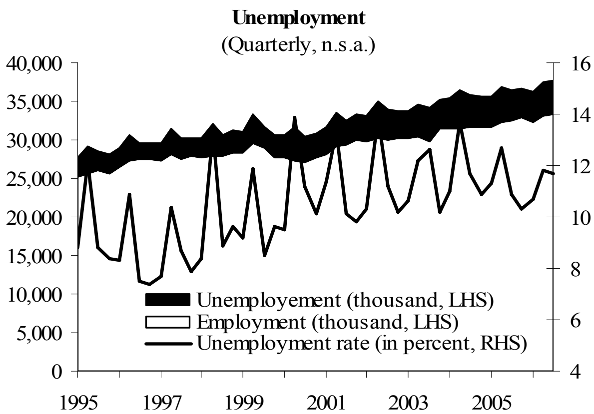


1/ Excludes government services, private services, and transport, storages, and communications.



[5] There is now greater regional diversification of worker placements, with increasing numbers of workers being placed in the Middle East, and Central and Eastern Europe, whereas in the past workers were mainly concentrated in the U.S., Western Europe, and closer to home, in Hong Kong SAR and Singapore.

- **Sufficient supply of skilled-labor.** The unemployment rate in the Philippines remains high, averaging over 10 percent during 2000-2006, as the economy has not created a sufficient number of jobs for a growing population. Population has grown on average by 2 percent per year, while employment growth has not kept pace. Due to a lack of attractive job opportunities, a number of skilled-workers and new graduates have migrated to industrialized countries, such as the U.S. and Canada. However, the rate of migration can be stemmed if more jobs become available in the high value-added service sector.[6]



- **Competitive wage levels.** In addition to language skills, cost savings are the most significant determinant of location for BPO centers. Salary levels for skilled workers such as workers for the BPO industry in the Philippines are recognized as competitive relative to other countries in the region, and slightly higher than those in China and India. Together with cultural and social affinities with customer countries such as the U.S., competitive wages have played a key role in attracting BPOs to the Philippines. Moreover, industry observers believe wage pressures going forward might be higher in countries such as India and Vietnam which have begun to hit supply bottlenecks with regard to the available labor pool.

6. **Looking ahead, the services sector in the Philippines holds significant promise, but there may be challenges in climbing up the value-added ladder.** The Philippines has established a strong presence in voice-based BPO sectors such as call centers, and there are also signs of growth potential in other offshore services, such as medical transcription and animation. However, the Philippines faces greater challenges in higher value-added sectors, such as engineering design, research outsourcing, and other Knowledge Process Outsourcing (KPO) services. This is in part because operators sometimes find it difficult to retain the relatively few skilled workers in these areas, who are frequently enticed by higher pay to other offshore destinations, where a stronger critical mass of such skills exists.

[6] A recent survey indicates that the annual number of graduates in engineering, science, and business has grown by 23.7 percent since 1994-95, while the total jobs in the economy across all sectors have grown by less than 20 percent.

Service competitiveness indicators

	Philippines	China	Vietnam	Pakistan	India	Indonesia	Thailand
Global services location index, total score 1/	5.78	6.14	5.00	...	6.87	5.47	5.72
Of which : Financial structure	3.58	3.21	3.55	...	3.47	3.51	3.27
People and skills availability	1.16	1.76	0.69	...	2.14	1.06	0.94
Business environment	1.05	1.17	0.76	...	1.26	0.89	1.51
Ranking among total 40 countries	4	2	26	...	1	13	6
ITO/BPO success factors indicator 2/ 3/	3.75	3.50	3.25	2.75	...	...	...
Offshore attractiveness index, ITO 4/	2.84	3.40	...	...	4.25	...	...
Ranking among total 14 countries	11	3	...	...	1	...	...
Offshore attractiveness index, BPO 4/	3.85	3.31	...	...	4.14	...	...
Ranking among total 14 countries	2	9	...	...	1	...	...

1/ Source: A.T. Kearney, 2005. The weighted distribution for the three categories is 40:30:30. The financial structure is rated on a score of 0 to 4, and the categories for people and skills availability, and business environment are on a scale of 0 to 3.
2/ Source: Lehman Brothers. The indicators are scored with consideration of educational infrastructure, labor cost, entrepreneurialism, supportive policies, political stability, and linguistic skills.
3/ ITO: information technology outsourcing, BPO: business service outsourcing.
4/ Source: neo IT. The index is scored with consideration of financial benefit, service maturity, people, infrastructure, and catalyst.

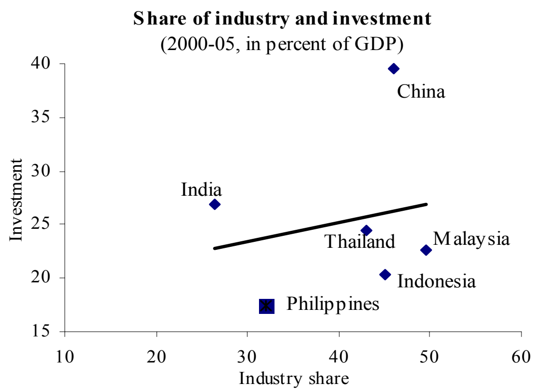
7. **The emergence of off-shoring services in the Philippines could have a significant multiplier effect.** From a macroeconomic standpoint, comparisons with India are the most tempting, because India's shift to a much stronger growth path has coincided with it establishing its presence in the BPO and KPO industries.[7] In India's case, the indirect impact of the growth of these services may have been much stronger than the direct contribution—the creation of wealth in urban centers related to these services also generated a large multiplier effect, as it created demand for other domestic services, drawing in labor from the more rural areas, who in turn remitted part of their earnings to rural areas, generating further demand for services (particularly financial).[8] While it is too early to make definitive predictions, if the growth of the Philippines' off-shoring industry were to mirror India's in the mid-1990s, such indirect effects could take root as well. However, in explaining the strong growth generated by the service sector in India, there are two other factors that appear to have played a role: (i) the direct effects have been enhanced by a return of many high skilled workers in the Indian diaspora abroad; and (ii) the indirect effects were enhanced by a banking sector that was willing and able to expand lending to the Small and Medium Enterprise (SME) sector of the economy. Neither of these factors is as yet strongly evident in the case of the Philippines.

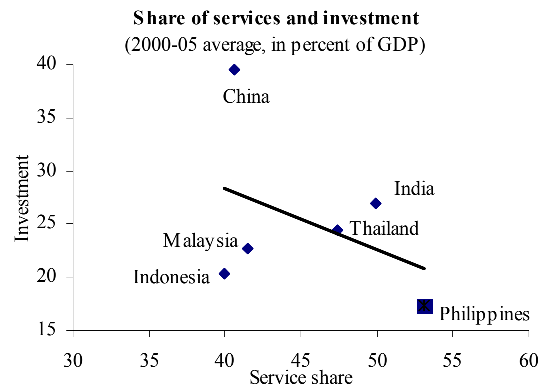
[7] According to industry consortium estimates, the service sector related to Information and Communications Technology (ICT) in India has grown rapidly, currently employing 1.3 million people (4.5 times the employment in 1990), while revenues have trebled to 4.5 percent of GDP in 2005-06 from 1.5 percent of GDP in 1997-98. By comparison, the Philippines industry consortium estimates that the BPO sector's employment has grown nearly five-fold since 2000 to 112,000 employees in 2005, while revenues have grown from a negligible share to 1.5 percent of GDP over the same period.

[8] There are many studies on the impact of service sector growth on the Indian economy, and potential development lessons it offers, from academic, multilateral, and private financial institutions. Among them: Singh (2006), Malik (2006a, and 2006b) and Gordon and Gupta (2004).

C. Has the Sectoral Shift toward Services Lowered the Investment Ratio?

8. **The investment ratio may have been affected by on-going sectoral shifts**. It is plausible that the service sector is not capital-intensive, and as economies shift from industry and manufacturing to services, output overall becomes less capital intensive, and the investment ratio might decline. Cross-country plots suggest some support for a relation between the investment ratio and sectoral composition of GDP —a higher share of industry might raise the investment ratio, and a higher share of services might lower the investment ratio (with these two statements synonymous if the agricultural sector is small).





9. **Cross-country panel regressions were run to test more formally for a relationship between sectoral shares and investment.** The basic specification uses three explanatory variables for the change in the investment ratio: (i) changes in the real interest rate; (ii) lagged growth of GDP as a proxy of expected growth; and (iii) changes in the sectoral share in GDP of each sector.[9] A separate dummy variable was also included to test if the pre-Asian crisis period had a significant effect on the investment ratios of all the countries in the sample, as might be expected given the investment boom that preceded the crisis. The main independent variable of interest is the sectoral share of industry, or services. Thus, the equation tested is:

$$\Delta I_{t,j} = \alpha_1 + \alpha_2 * \Delta Y_{t-1,j} + \alpha_3 * \Delta r_{t,j} + \alpha_4 * \Delta H^i_{t,j}$$

where I is the investment ratio in percent of GDP, Y is real GDP, r is the real interest rate, H is each sector's share in GDP with $i= D$ (industry), or S (services). For each sector, a separate regression was run. The model is estimated with annual data for 1985-2005, with the

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[9] The inclusion of lagged-growth of GDP assumes adaptive expectations, where past growth is seen as a basis for current investment decisions. Other more sophisticated specifications are certainly possible, and a more robust econometric specification would be an interesting refinement for future research. The coefficient for lagged-growth is expected to be positive, and the interest rate coefficient is expected to be negative. For sectoral shares, a positive coefficient is expected for the industry sector and a negative for the service sector.

sample economies *j,* including China, Hong Kong SAR, India, Indonesia, Korea, Malaysia, Philippines, Singapore, and Thailand. Fixed effect terms are suppressed.

Estimation Results

	(i)	(ii)	(iii)	(iv)	(v)	(vi)
α_1	1.03 (5.44)***	1.04 (5.65)***	1.02 (2.36)***	1.05 (2.46)***	0.21 (0.77)	0.21 (0.76)
α_2	0.01 (4.76)***	0.01 (4.08)***	0.01 (4.54)***	0.01 (3.98)***	0.01 (5.01)***	0.01 (4.25)***
α_3	-0.08 (-0.46)	-0.10 (-0.57)	-0.09 (-0.58)	-0.11 (-0.68)	-0.02 (-0.11)	-0.03 (-0.23)
$\alpha_{4,S}$			0.02 (0.06)	0.01 (0.03)		
$\alpha_{4,D}$					0.76 (4.31)***	0.77 (4.16)***
Dummy		0.01 (0.77)		0.01 (0.70)		0.02 (0.92)
Adj. R^2	0.17	0.17	0.16	0.16	0.22	0.22
DW stat.	1.79	1.77	1.78	1.76	1.72	1.70

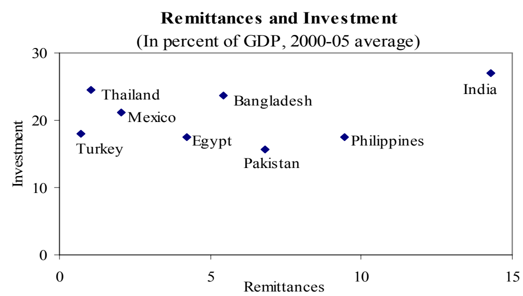
Note: Absolute values of asymptotic t-statistics in parentheses; *** significant at the 1 percent level.

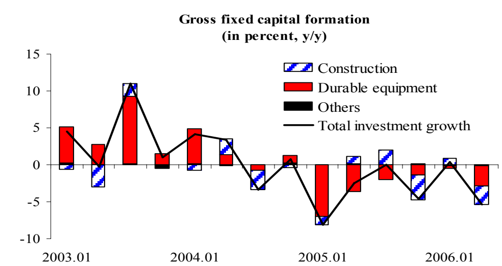
10. **The regression results suggest that the share of industry has a significant and positive relationship with the investment ratio.** The estimated coefficient on the industry share is statistically significant, and positive, while there appears to be no significant relationship between changes in the investment ratio and the services sector share. The coefficient on lagged growth bears the expected sign and is statistically significant, but the real interest rate is not statistically significant, though the coefficient bears the expected sign. A clear indication of the excessively high investment ratio relative to expected growth is not observed for the pre-Asian crisis period, possibly because expected growth was also high during the period.[10] There is support for the notion that the declining share of industry partly explains the decline in the investment ratio. However, there is no strong support in the data for the notion that a rise in the services sector share actually lowers the investment ratio. This could be because the services sector may not indeed be less capital-intensive as hypothesized, but could also be because the services predominant across the economies in the dataset are themselves likely to have large variations in capital intensities.

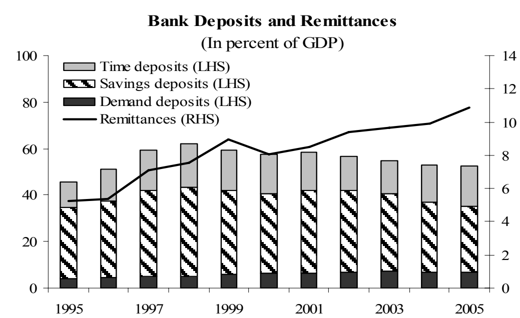
[10] Since a simple adaptive expectations model is employed using lagged-growth as a proxy of expected growth, the high investment during the period is largely explained by the high growth expectations and associated expected return on investment prior to the crisis. A more sophisticated specification might reveal stronger statistical significance of the dummy variable.

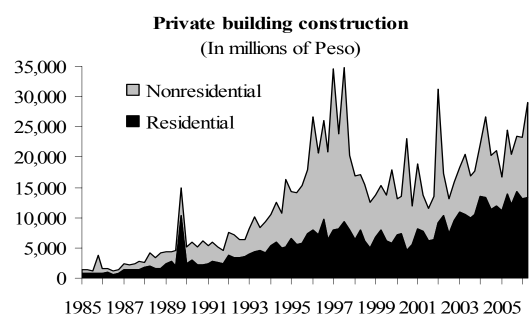
D. Is there a Relationship between Remittances and Investment?

11. **Rising remittances appear thus far to have a weak association with investment.** In a cross-section of remittance receiving countries, there appears to be little relationship between remittances and investment, as country specific factors could determine whether a rise in external inflows leads to greater consumption, including housing-related spending on the one hand, or greater investment in fixed capital on the other.[11] In the Philippines, the investment ratio has steadily declined since the Asian crisis, thus it is clear that the increase in remittances has not increased investment thus far. It is difficult to tell whether investment is falling predominantly because of issues with the supply of credit, or whether the demand for credit that is also low.[12] The fact that banks are still repairing their balance sheets, and are risk averse in the current environment might suggest that financial intermediation is the primary issue. Yet, if this were the case, one might have expected that a rise of more than 3 percentage points of GDP in remittances since 2002 might have had a more pronounced effect on investment, which has, however, continued to decline as a share of GDP.[13]









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[11] Hausmann et al (2005) offers some possible explanations for this. Countries where economic returns to investment are low, or the private appropriability of those returns may be low (due to high taxes or corruption, for example) may tend to see a rise in remittances go towards increased consumption, housing, and/or capital flight. Whereas, countries where the primary problem is due to poor financial intermediation, causing access to capital to be limited (even though there may be plenty of productive uses for it), and the cost of finance to be prohibitive, are likely to see increased investment from a rise in external inflows.

[12] See Chapter III of this Selected Issues Papers.

[13] Remittances may be substituting for consumer lending which has not taken off as in other countries, yet consumption has maintained its steady growth.

12. **However, the lack of response of investment could also be a transitory phenomenon.** Over time, a rise in remittances can cause an endogenous change in consumption-investment decisions. The shifting skill and regional patterns could also have potentially powerful implications for the saving patterns of the dependents in the Philippines who are the end users of these funds. In 1991, nearly 60 percent of families in the Philippines who considered their main income source as coming from abroad came from the bottom two quartiles of the income distribution. By 2003, this share had dropped to just under 18 percent, implying that the share of families in the top two brackets counting income abroad as their main source of income rose from 40 percent to 82 percent.[14] The most likely interpretation of this fact is that the skill set of remitters has shifted exogenously, and there are both "pull" and "push" factors taking higher skilled workers abroad. Given that some 80 percent of families that receive income from abroad as their main source are now middle and high-income families, it is much more likely now than in 1991 that the uses for this income go beyond consumption and subsistence, and are put toward saving and investment. This suggests that the lack of a relationship between investment and remittances could indeed be transitory, and that going forward, one may see a pick up in investment in physical capital.

E. Policy Implications and Conclusions

13. **Whether it is through growing remittances, or through growth in off-shoring services, the Philippines is increasingly "exporting" its labor to sustain growth, while domestic investment has declined.** Put differently, to sustain slightly higher growth rates over the post-Asian crisis period during which investment has declined, the Philippines has relied on a combination of: (1) a scale effect —sending higher numbers of workers abroad; and (2) a quality effect —exploiting higher returns to human capital abroad, and more recently through the growth of off-shoring, capturing a share of those higher returns domestically.[15] From the standpoint of long-term sustainability, there are natural limits to the scale effect. Therefore, to move to a decisively stronger growth path, the Philippines needs to prioritize the following areas:

- First, improvements in infrastructure are necessary to support the emerging service sector. For the BPO industry, these include not only continuous upgrading of the technological hardware that has made the Philippines competitive thus far, but also

[14] Based on the Family Incomes and Expenditures Surveys conducted by the National Statistics Office. The bottom two brackets are defined as those having incomes under 50,000, and 100,000 pesos respectively. The third quartile has income between 100,000 and 250,000 pesos, and the top bracket has income over 250,000 pesos.

[15] To the extent that the returns to human capital are higher where the stock of physical capital is higher, as elucidated, among others, by Lucas (1988), the Philippines may also be successfully leveraging off the world's physical capital stock to sustain growth.

access, in terms of roads and transportation to cities that are new emerging centers for these industries beyond Metro Manila.

- A renewed emphasis on the provision of stronger education, including across engineering and scientific disciplines, are essential if higher value-added overseas jobs, or high value offshore servicing industries are to make the Philippines their home.

- The need for education is further underscored, if the Philippines is to turn its relatively high population growth into a demographic advantage in an "aging" world. Otherwise, sustaining a growing population on income sources that emanate directly or indirectly from abroad with a stagnant set of labor skills could prove untenable.

- Finally, as the demographics of the end-users of income from service sector jobs (domestically and abroad) change, besides education, there is also a need for greater savings out of these incomes, and more productive investments being made using these savings.[16] Absent this, the strong indirect effects from the growth of services which have been seen in other countries may not be realized.

[16] The BSP, together with the Overseas Workers Welfare Administration (OWWA), is conducting an education campaign to encourage OFWs to save and invest greater shares of their remittances domestically.

BOX: EMERGENCE OF THE BUSINESS PROCESS OUTSOURCING (BPO) INDUSTRY

The Philippines has recently established a strong presence in the Business process outsourcing (BPO) industry. Although the growth contribution has remained small thus far (contributing 0.2 percent to real GDP growth in 2005), employment and revenues from BPO have significantly increased in recent years. Among the various type of operations, voice contact centers have witnessed a significant expansion, while other services such as software, animation, and medical transcription have gradually started to emerge. Currently, about 90 percent of BPO firms in the Philippines are foreign-owned, mainly for in-house operations.

The Philippines is an attractive outsourcing destination. According to some business attractiveness surveys, the country is highly ranked as an outsourcing location, compared with other key destinations. Low labor costs, high linguistic and cultural compatibility with the US, and the quality of telecommunication infrastructure are widely recognized factors that work in the Philippines' favor, especially for voice-related operations. However, the lack of a sufficiently deep Information Technology (IT)-skilled labor pool has prevented the country from ranking similarly in IT, and IT-enabled services.

This recent emergence of the BPO industry has had positive spilled-overs. With increasing demand for office space, the real estate market has been tightening, especially in Metro-Manila, reducing the office vacancy rate to 6.0 percent in 2006 from over 15.0 percent in 2002. This has also started to create new construction demand, together with demand for residential buildings for BPO employees, and construction and sub-sectors, such as mining and quarrying, and electricity, gas, and water, have started to gain.

Growth in the BPO industry is expected to accelerate. Total revenue is expected to grow by on average 38 percent per year, to over US$12 billion by 2010, while employment is also expected to increase by almost 50 percent per year. Should such expectations be borne out, the BPO industry should be a key growth driver in the Philippines.

BPO Industry Overview
(As of 2005)

	Revenue (in bin of U.S.$)	Employment (in thousand)
Contact center	1.79	112.00
Back office	0.18	22.50
Medical transcription	0.07	5.50
Legal transcription	0.01	0.45
Other data transcription	0.04	3.00
Animation	0.07	4.50
Software development	0.20	12.00
Engineering design	0.05	2.80
Distal content	0.01	0.50
Total	2.42	163.25

Source: Business Processing Association, Philippines (BPA/P).

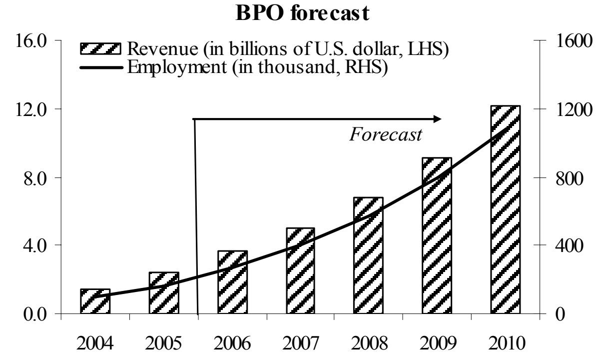
Comparisons with Other BPO Destinations
(Millions of U.S. dollar, as of 2004)

	BPO		IT Service	
	Exports	Ranking 1/	Exports	Ranking 1/
Canada	5,500	5	8,200	2
India	5,200	1	12,200	1
Philippines	**800**	**2**	**330**	**11**
China	300	9	700	3
Mexico	200	6	100	9
Poland	70	3	110	4
Malaysia	40	8	120	8
Czech Republic	40	7	60	6
Russia	25	14	550	7
Hungary	25	10	50	10
Romania	25	11	30	12

Source: neo IT, M*apping Offshore Markets Update 2005*

1/ The ranking is based on a country's aggregated ratings on five factors: these factors include financial benefit, service maturity, people, infrastructure, and catalyst.

BPO forecast



Source: Business Processing Association, Philippines (BPA/P).

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III. Credit Growth and Bank Balance Sheets in the Philippines[1]

A. Introduction

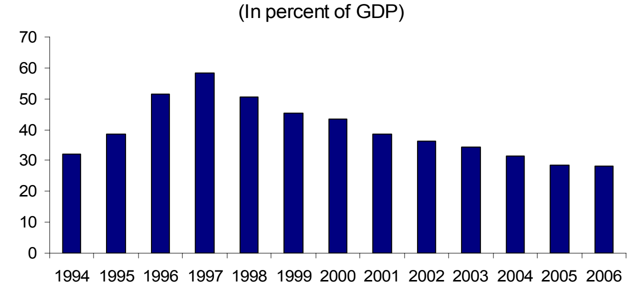
1. **Bank lending growth has been sluggish in the Philippines for a number of years.** Following the Asian crisis, a mix of weak credit demand and reluctance by banks to extend credit has been argued to have contributed to the significant decline in lending relative to GDP observed in the Philippines. In recent years, however, a number of steps have been taken to strengthen the banking sector. Yet, credit growth has not recovered.

2. **This chapter attempts to shed more light on the factors hampering credit growth.** Demand side factors are more fully modeled than in previous studies on the Philippines (Lamberte, 1999), allowing the relative roles that demand and supply side factors are playing in credit growth to be more clearly identified. In addition, the longer sample period used permits testing for the stability of these relationships over time. The results suggest that balance sheet variables account for a large part of the explained credit growth variation and increasingly so since late 2004. While demand factors are important as well, this finding suggests that decisive resolution of the distressed asset problem will be necessary if the banking system is to contribute fully to an investment revival.

B. Background

3. **The banking sector problems in the Philippines originated in the run-up to the Asian crisis.** Until 1997, bank loans expanded significantly, partly driven by a real estate boom. Following the crisis, as asset prices collapsed and growth slowed sharply, the quality of bank assets deteriorated and bank credit declined substantially. Commercial bank loans in percent of GDP contracted from a peak of 58 percent in 1997 to 28 percent in 2006 (Figure 1).[2]

Figure 1: Comercial Bank Loans
(In percent of GDP)



Sources: CEIC Data Company Ltd, and IMF staff calculations.

4. **The decline in credit could be traced to both demand and supply factors.** Guinigundo (2005) argues that low bank lending reflects both the deterioration in asset quality as well as the slowdown in economic activity. Demand for credit declined as investment was sharply reduced because of uncertainty and some over-capacity achieved in pre-crisis years.[3] At the same time, the erosion of borrowers' creditworthiness, combined

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[1] Prepared by Richard Podpiera and Raju Singh.

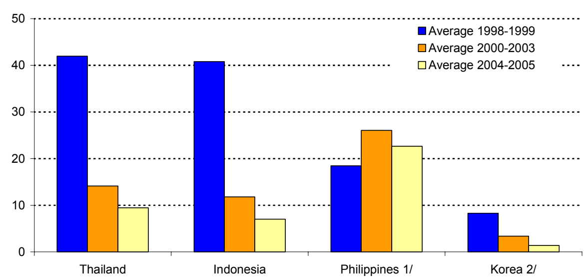
[2] While credit growth accelerated significantly in 2006, it remained slightly lower than nominal GDP growth.

[3] Lower demand has been also likely driven by regional developments, as some multinational corporations have relocated from the Philippines to other regional hubs with lower costs. Furthermore, highly rated borrowers have been able to secure capital market financing.

with weakened bank balance sheets, resulted in a more cautious lending stance by banks that made them highly selective in their lending behavior even at higher interest rates.[4]

5. **Progress in strengthening bank balance sheets has been relatively slow.** The banking system in the Philippines did not exhibit the same degree of weakness as some of its neighbors in the direct aftermath of the Asian crisis (Figure 2). However, the large amount of nonperforming assets (NPAs) that accumulated on the banks' books during the crisis has not until recently been aggressively addressed, a result of the country's fiscal position constraining the possible use of public money, and of weak legal protection for bank supervisors. Over the past two years, the Bangko Sentral ng Pilipinas (BSP) has carried out a number of reforms aimed at strengthening the supervisory framework, cleaning up the balance sheet of banks, and improving financial transparency. As a result, the amount of NPAs on bank balance sheets has declined and banks have started to raise new capital (Figure 3).

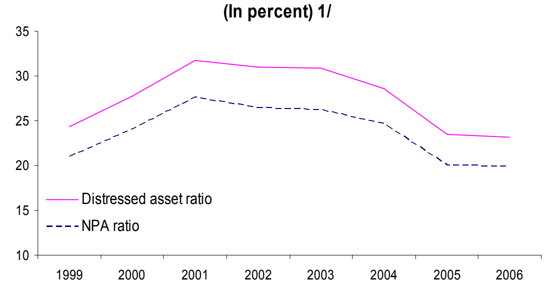
Figure 2 : Non Performing Loans
(Ratio to total loans)



1/ NPL plus "real and other properties owned or acquired" (ROPOA) over TL plus ROPOA.
2/ Average 1998-1999 only contains 1999 data

Sources: CEIC Data Company Ltd; and IMF staff calculations.

Figure 3 : Banking Distress Indicators
(In percent) 1/



1/ 2006 Data refers to March 2006

6. **The authorities have implemented a framework for the disposal of bad assets.** Part of the NPA problem has been resolved under the Special Purpose Vehicle (SPV) Act adopted in 2002. While in other Asian economies, asset management companies have been funded by the government, the process in the Philippines has been led by the private sector. The SPV Act offers tax incentives – such as exemption from documentary stamp tax and capital gains tax – and regulatory relief for banks selling their distressed assets. Sales of P 100 billion of NPAs (one fifth of the stock) have been concluded. The SPV framework expired in April 2005, but was extended in March 2006 for another two years.

7. **Financial transparency has also improved.** The extent of the deterioration in bank asset quality following the Asian crisis has not been always transparently reported. Guinigundo (2005) observes that asset valuations were often unreliable, due to poor appraisal standards, leading to potentially overstated financial statements. Starting from end-2005, the financial statements of banks have to be prepared in line with International Financial Reporting Standards (IFRS), new accounting standards with stricter valuation requirements.

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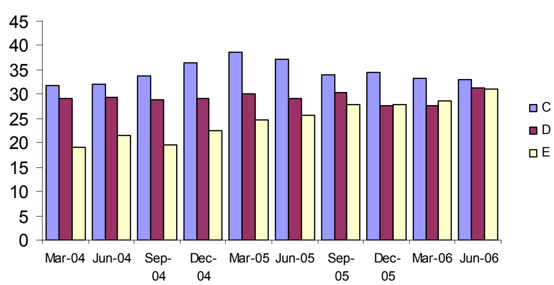
[4] Other supply side factors have likely included the impact of ongoing regulatory reforms—as expectations of stricter regulations on non-performing assets likely made banks more cautious in lending—and a lack of centralized credit information bureau that would help banks limit risk in credit decisions.

New rules and standards have also been issued to clarify the role of external and internal auditors (in February 2005 and November 2005, respectively).

8. **Furthermore, the authorities have taken steps to strengthen the regulatory framework and tighten enforcement.** Prudential regulations governing lending to related interests (DOSRI) were expanded in March 2004 to include subsidiaries and affiliates. Exposure limits have also been introduced, as well as stiffer penalties for noncompliance. A new prompt corrective action (PCA) framework was adopted in February 2006, allowing banking supervisors to intervene before a significant decline in capital occurs and introducing specific sanctions if banks do not comply with their agreed capital restoration plan.

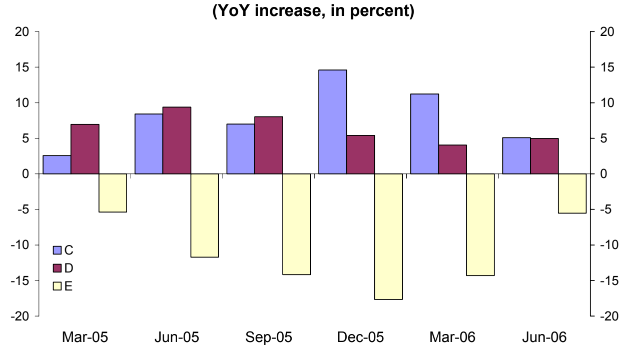
9. **Nonetheless, weak balance sheets seem still to be constraining bank lending and investment.** Lending to households is growing rapidly, albeit from a small base, supported by a pick-up in residential real estate loans and automobile and credit card financing. Corporate loans have, by contrast, remained sluggish. The stock of distressed assets in the banking sector – although declining – remains high, and tighter regulations and supervision may have amplified its effect on bank lending.[5] A weak capital base can lead banks to avoid risky assets (loans) in favor of safer investments (government securities). Such portfolio shifts on the part of banks can restrict the supply of credit to the economy. On both accounts, preliminary evidence suggests that balance sheet variables seem still to influence the behavior of banks. Weaker banks – as measured by Fitch ratings – have tended to contract their loan book in favor of higher securities holdings (Figures 4 and 5).

Figure 4 : Securities Holdings by Bank Ratings
(in percent of assets)



Ratings are from Moody's and Fitch. C denotes an adequate bank with one or more troublesome aspects; D denotes a bank which has weaknesses of internal and/or external origin; and E denotes a bank with very serious problems.

Figure 5: Loan Developments By Bank Ratings 1/
(YoY increase, in percent)



1/ Ratings are from Moody's and Fitch. C denotes an adequate bank with one or more troublesome aspects; D denotes a bank which has weaknesses of internal and/or external origin; and E denotes a bank with very serious problems.

C. Data and Methodology

10. **The empirical analysis presented in this chapter is based on bank level data.** Quarterly balance sheet data have been compiled for the largest 23 commercial banks continuously active over the period 1998 Q1 – 2006 Q2 from data published by the BSP.

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[5] The distressed assets ratio stood at 20 percent at end-November 2006 according to staff calculations, which exclude interbank loans. The authorities definition, which includes interbank loans, points to a distressed assets ratio of 17 percent at end-November.

Commercial banks are the main provider of corporate loans in the Philippines and this sample covers 80 percent of total assets of the financial system as of end-June 2006. Since foreign banks may have the implicit backing of their parent company, the relationship between balance sheet information and lending may not be the same as for local banks and for this reason foreign banks were not included in the dataset.[6]

11. **The framework used focuses on balance sheet variables in explaining bank lending.** This chapter draws upon the theoretical contribution of Bernanke and Gertler (1987, 1989) on the relationship between bank capital and lending. This framework was used by a number of researchers to study the significant credit slowdown in the U.S. before and during the 1990-91 recession, as it was argued that demand factors alone could not explain its magnitude. The resulting empirical body of work has singled out declines in bank capital, tightened bank regulatory standards, and heightened market scrutiny of bank capital as the major factors behind the curtailment of bank lending (Sharpe, 1995). The framework has also been used to study credit growth in Japan (e.g., Woo, 2003).

12. **The regression analysis explores the role balance sheet problems have played in the banks' decisions to slow credit growth and invest more in securities.** Results from three specifications are reported. The first specification reports the results from an OLS regression in the pooled sample. The second includes a complete set of time effects. The third regression adds a complete set of bank fixed effects. More specifically, panel regressions of the following form were estimated:

$$C_{it} = \alpha_i + \beta_t + \gamma B_{it-1} + \varepsilon_{it} \qquad (1)$$

where C_{it} denotes a measure of the policy choice for bank i in period t (growth in bank lending or shift in the portfolio allocation between loans and less risky assets), B_{it-1} denotes a measure of bank balance sheet quality lagged one quarter, α_i denotes a bank fixed effect, and β_t denotes a time effect. Balance sheet strength was measured in three alternative ways: capital-to-asset ratio, nonperforming loans as percent of total loans, and nonperforming loans and foreclosed assets as percent of total loans.[7] Bank lending is measured by growth in total loans over the previous quarter in percentage terms and shifts in portfolio allocation by the change in the share of loans in loans plus securities.

13. **Two approaches are taken to assess demand side effects.** In addition to the explicit inclusion of balance sheet variables in the estimation, an attempt is made to assess the relative role of demand factors in credit growth. In the first stage, the set of time dummies were interpreted as proxies for general credit demand conditions affecting all banks

[6] In addition, all data were carefully examined for unexplained outliers.

[7] Foreclosed assets (ROPOAs), mainly real estate, form a significant part of bank assets in the Philippines. These assets are illiquid and their valuation is problematic. They are therefore an important source of potential weakness for bank balance sheets.

irrespective of their balance sheet strength. These dummies could, however, also capture economy-wide factors other than demand conditions. Hence, following Woo (2003), the time dummies were replaced in the second stage by an explicit set of lagged demand side factors D_{t-1} (annualized nominal GDP growth or nominal fixed investment growth), and nominal lending rates, LR_{t-1} :

$$C_{it} = \alpha_i + \gamma B_{it-1} + \delta D_{t-1} + \eta LR_{t-1} + \varepsilon_{it} \qquad (2)$$

D. Results

14. **The results suggest that balance sheet strength significantly influences credit growth.** Table 1 reports the results for regressions for (quarter-on-quarter) loan growth and shows that the estimates for the coefficients on the capital ratio variable are consistently positive and statistically significant. Confirming the preliminary evidence shown in Figure 5, these results suggest that banks with weaker capital positions tended to expand their loan portfolio more slowly than stronger capitalized banks. Similarly, banks which carried less problem assets on their books were able to lend more in the ensuing period.[8]

15. **Balance sheet variables seem to have gained increased traction recently.** Overall, the measures of fit of the regressions are somewhat lower than in previous studies using shorter sample periods. One explanation could be that there are structural breaks in the data that render the pooled results less robust. To explore this possibility, model (3) in Table 1 was estimated over a 12 quarter rolling window. Figure 6 charts the estimated coefficient on the capital ratio. The results suggest that the role played by balance sheet variables, while stable until late 2004, has increased recently. At the same time, the standard error of the estimation has widened.[9] One reason could be that banks may have responded differently to the recent tighter prudential regulations and strengthened enforcement, with weaker banks increasingly curtailing their lending activities.

[8] Including both the capital ratio and problem assets in the equation does not change the results qualitatively.

[9] These results were robust even once loan growth was adjusted for the sale of NPAs to asset management companies. Failing to make these adjustments may lead to the erroneous conclusion that the lending of a troubled bank has been curtailed, when in fact the decline in its outstanding loans is due to loan sales.

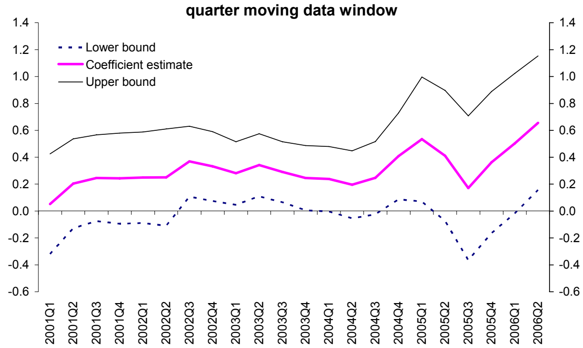
Table 1. Philippines: Regressions for Quarterly Bank Loan Growth, 1Q 1998 - 2Q 2006

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Pooled sample	Pooled sample	Fixed effects	Fixed effects	Fixed effects	Pooled sample	Pooled sample	Fixed effects	Pooled sample	Pooled sample	Fixed effects
Set of time dummies	No	Yes	Yes	No	No	No	Yes	Yes	No	Yes	Yes
Capital-to-assets ratio, lagged	0.12***	0.13***	0.26***	0.23***	0.22***	...	...	...	...	...	...
	(0.04)	(0.04)	(0.07)	(0.07)	(0.07)						
Lending rate, lagged	...	...	...	-0.28***	-0.23**	...	...	...	...	...	...
				(0.09)	(0.09)						
Nominal GDP growth, lagged	...	...	...	0.21*	...	...	...	...	...	...	...
				(0.12)							
Nom. fixed investment growth, lagged	...	...	...	...	0.05**	...	...	...	...	...	...
					(0.02)						
(ROPA+NPLs)/loans, lagged	...	...	...	...	...	-0.04***	-0.04***	0.01	...	...	...
						(0.01)	(0.01)	(0.02)			
NPL ratio, lagged	...	...	...	...	...	...	...	...	-0.05***	-0.06***	0.04
									(0.02)	(0.02)	(0.04)
Number of observations	625	625	625	625	625	625	625	625	625	625	625
R^2	0.02	0.13	0.23	0.13	0.13	0.03	0.14	0.21	0.02	0.14	0.21

Source: IMF staff estimates.

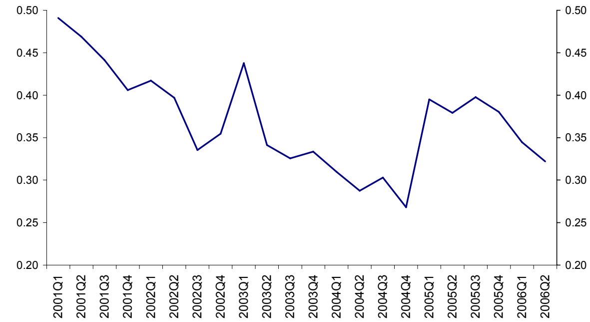
Notes: The dependent variable is quarter on quarter loan growth in percentage points. Standard errors are in parentheses. "*" indicates significance at the 10 percent level, "**" and "***" at the 5 and 1 percent level, respectively.

Figure 6. Coefficient estimates (capital-to-assets) using a 12-quarter moving data window



Source: IMF staff calculations.

Figure 7. Proportion of explained loan growth accounted for by demand factors



Source: IMF staff calculations.

16. **Demand factors appear also to have played a role in explaining credit growth.** The estimates for the coefficients on the time dummies are statistically significant and their inclusion enhances the explanatory power of the model. The estimated proportion of explained loan growth attributable to these dummy variables has, however, decreased over time (Figure 7). These results would suggest that economy-wide factors such as weak credit demand now account for about a third of the explained variation in credit growth.[10] Modeling more explicitly demand variables in equation (2) confirms these results, yielding statistically significant coefficient estimates with the expected signs. The level of lending rates is negatively associated with increases in credit growth, while nominal GDP and investment growth are positively linked with bank lending.

17. **Finally, the regression results also confirm that weaker banks have shifted their portfolio towards safer assets.** Table 2 reports the results for regressions for (quarter-on-quarter) changes in banks' portfolio as measured by the share of total loans in total loans plus securities. The estimates of the coefficient on the capital ratio variable are consistently positive and statistically significant, suggesting that weaker capitalized banks have decreased the share of their portfolio invested in loans. The results also show that banks with more problem assets, ROPOAs and NPLs, on their books shifted their portfolio away from loans and towards securities. These results holds even after controlling for time and fixed effects.

[10] This attribution is based on comparing the fit of model (3) in Table 1 with the estimation of the same model without the set of time effects. The difference in explained variability is interpreted as the lower bound for the explanatory contribution of demand factors.

Table 2. Philippines: Regressions for *Changes* in Bank Portfolio Choice, 1Q 1998 - 2Q 2006
(change in loans/(loans+securities) as dependent variable)

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Pooled sample	Pooled sample	Fixed effects	Pooled sample	Pooled sample	Fixed effects	Pooled sample	Pooled sample	Fixed effects
Set of time dummies	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Capital-to-assets ratio, lagged	0.001*** (0.0002)	0.001*** (0.0002)	0.001*** (0.0004)	...	...	...	...	...	...
(ROPA+NPLs)/assets, lagged	...	...	...	-0.0004** (0.0002)	-0.0005*** (0.0002)	-0.001** (0.0006)	...	...	...
NPL ratio, lagged	...	...	...	...	...	...	-0.001*** (0.0004)	-0.001** (0.0004)	-0.001 (0.0007)
Number of observations	685	685	685	685	685	685	685	685	685
R^2	0.01	0.08	0.09	0.01	0.09	0.11	0.01	0.07	0.09

Source: IMF staff estimates.

Notes: The dependent variable is the ratio of loans to loans and securities. Standard errors are in parentheses. "*" indicates significance at the 10 percent level, "**" and "***" at the 5 and 1 percent level, respectively.

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