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**Stimulating Investment and Growth in the Philippines:
the Need for First-Order Market Reforms**

by

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Stimulating Investment and Growth in the Philippines: the Need for First-Order Market Reforms

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Abstract:

We show that the most important barriers to investment and growth in the Philippines are structural and institutional problems that are characteristic of limited access societies, which can be more effectively and efficiently overcome by prioritizing 'first-order' market reforms that increase competition and openness, rather than by government regulations that enforce against the distortions.

1. Introduction

Unlike many Asian countries which have taken advantage of an increasingly globalized economy by pursuing export-led growth, the Philippines has relied mainly on strong domestic demand, particularly private and public consumption. The upshot is some insulation from volatilities in world financial flows and global trade, as in the Asian financial crisis (AFC) and the more recent global crisis (GC). The downside is foregone growth opportunities – not only from the limited access to global markets, but also from the inevitably constrained growth of the domestic market. Because domestic aggregate demand has come mostly in the form of consumption, and the contribution of investment is low, domestic productivity growth has been slow and further expansion of the domestic market more difficult.

This occurs despite the large amount of remittances from overseas Filipinos that have boosted national savings. Remittances have exceeded 10 percent of GDP since 2001, resulting in the country consistently running a current account surplus (since 2003). The failure to use these savings for investment in (physical) capital formation, has constrained growth in domestic employment, potentially leading to the further loss of human capital to overseas employment.[2] It can be argued that the significant loss in human capital due to labor export is an important reason why remittances have not contributed significantly to domestic productivity.[3] In contrast, trade and FDI have been generally

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[2] Note that while evidence in some countries (cf. e.g. Woodruff and Zenteno [2007]) suggest that remittances increase investment in microenterprises, this does not seem to be the case in the Philippines.

[3] This is not to discount the contribution of remittances to human capital when recipient households use them to increase education and health spending, among others. But See Schiff

acknowledged to increase total factor productivity through technological diffusion and economies-of-scale effects.

Of course, labor exports need not necessarily undermine growth in net exports. In fact, labor migration can facilitate trade between source and host countries by alleviating information asymmetries between them (Javorcik, et al. [2010]). Both can ideally go hand in hand to prop up the domestic economy and serve as buffer in terms of international crises and at the same time further increase growth by integrating into global markets.

In reality, however, this balanced approach is difficult to achieve. The political economy requirements of an export-led growth strategy can be daunting, and the danger is that the overreliance on domestic demand and labor export can continue to mask and subsidize distortions and generate complacency in undertaking structural reforms.

Continued growth in exports requires sustained high-quality investments in both physical and human capital formation. Such investments, in turn, depend on sound macro and microeconomic environments that promote price stability, access to savings and credit, and a level playing field in which competitive pressures naturally allocate resources to the most productive endeavors. While the Philippines has gone a long way in instituting monetary and financial reforms, most notably, flexible exchange rates and inflation targeting (cf. Gochoco-Bautista and Canlas [2003]), such efforts are undermined by structural rigidities in the labor and goods markets which prevent the efficient and productive use of investment. Thus, while there is potentially greater supply of investment, investment demand is persistently low.

That investment demand is low is a product of deep-rooted institutional and political economy considerations. For instance, high industrial minimum wages and employment protection (cf. Esguerra [2010] and Nye [2011a]) hamper factor mobility from the agriculture to the industrial sector. Such minimum wages, on the other hand, are not binding in the lower-productivity agricultural and services sector (Nye [2011a]). The failure of agrarian reform, the lack of property rights, and weak bureaucratic structures have also hindered growth in agricultural productivity (cf. David [2003] and Fabella [2009]), and while there have been amendments to Foreign Investments Acts that limit participation of foreign equity in some manufacturing activities and services (cf. Hill [2003], Abrenica and Llanto [2003] and Balisacan and Hill [2003]), there still exist Constitutional prohibitions in the foreign ownership of land and limitations on equity of corporations. Even trade liberalization has been skewed towards import-competing, rather than export, industries (cf. Bautista and Tecson [2003]).

Instead of a level playing field, the overall business climate has been characterized by favoritism and cronyism which induce corruption and rent-

and Ozden [2005] for estimates of the size and effects of migration and the brain drain phenomenon for a number of countries, including the Philippines.

seeking behavior (cf. De Dios and Hutchcroft [2003]). The irony, however, is that efforts to expose and combat corruption have contributed to greater political instability (with extra-constitutional turnovers, coup d'etats, etc.) which have also contributed to the bad business climate. Furthermore, one wonders whether the recent spate of suspensions and cancellations of foreign business contracts (e.g. Fraport, Benelux) that are suspected to be anomalous will not undermine property rights for the sake of anti-corruption efforts.

Thus, spurring investment demand is a formidable challenge which requires a comprehensive and integrated view of economic and institutional variables. It is precisely one of the aims of this paper to quantify the contributions of such factors to investment growth, thereby identifying the most important opportunities and constraints. In this manner, we identify the challenges to an export-led growth strategy (which relies heavily on domestic and foreign investment). More importantly, however, this paper uses the quantitative results to justify an analytical framework that shows how market reforms that foster greater competition and openness can better address the most significant barriers to investment and growth. Such reforms are what Nye [2011a] refers to as 'first-order' reforms.

The next section provides recent time series data spanning at least two decades in the Philippines which show trends of subdued exports, investment and productivity, amidst some favorable macroeconomic conditions on the one hand, and some structural and institutional challenges on the other. Section 3 statistically analyzes the data to identify the major constraints (and significant opportunities) in the sustained growth of high quality investment. We find in Section 4 that the more significant variables are structural and institutional factors that determine whether the overall business climate is more or less a stable and level playing field in which competition freely drives capital and labor towards their most efficient use. (We find the effect of remittances on investment to be ambiguous at best). Section 5 thus proposes to prioritize first-order reforms that increase market competition and openness, and shows analytically how this can better achieve an efficient equilibrium, compared to government regulations that only address the manifestations of such distortions. Section 6 concludes.

2. Subdued Exports, Investment and Productivity

On the expenditure side, GDP growth in the past two decades has been dominated by private consumption. Looking only at years with positive GDP growth since 1990, private consumption has accounted for roughly four-fifths of total GDP growth (Figure 1), on average. As a consequence, while private consumption's share in GDP has been on the rise (from 73.8 percent of GDP in 1990 to 79 percent in 2010), those of other sectors have been declining, especially capital formation (from 24 percent to 18.5 percent).[4] As estimated in

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[4] More exactly, we only include years when GDP growth exceeded one percent, which excludes 1991, 1992, 1999, and 2009. Including 1992 and 2009, years of positive but marginal growth would have increased further the share of private consumption.

the income accounts, net exports have been positive in only two years in the past two decades as well, thus contributing negatively to GDP growth on average.

Unsurprisingly, the relative unimportance of exports to growth has limited the country's global exposure and vulnerability to international crises. As seen in Figure 2, the Asian Financial crisis (AFC) and recent global crisis (GC) have had very short-lived (and relatively minor) impact on GDP and GNP growth, especially in comparison to other East Asian countries. In fact, Figure 2 shows that the political instability the country experienced in the early 1990s , as a result of repeated coup attempts, had a more severe and lingering effect on GDP growth

Figure 1.. Consumption-side Sectoral Contribution to GDP Growth (sum to 100%)
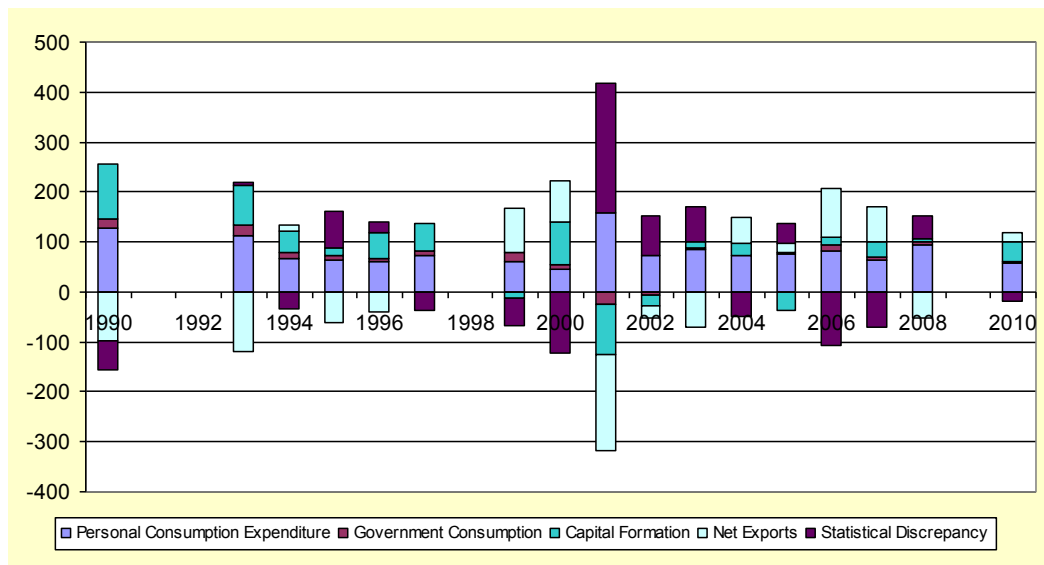
Note: Years when GDP growth was less than one percent or negative were excluded.

Figure 2 also reveals the main reason for the resilience of consumption and consequently GDP growth: the strong inflow of remittances that is reflected in the typically higher GNP than GDP growth.[5] The Philippines is ranked fourth in the world in terms of foreign remittance receipt, following only Mexico, China, and India. Figure 3 shows the surge in OFW remittances, which have propped up Balance of Payment accounts and national savings in recent years. According to the World Bank's World Development Indicators, national savings has exceeded 30 percent of GDP since 1999.[6] However, the investment rate has not kept pace with the rise in the savings rate, as Figure 4 shows. The investment rate has been on a downtrend since the AFC, even as the current account surplus has been on an uptrend and even as the national savings rate has reached historical peaks. This clearly suggests that remittances are not translating to investments.
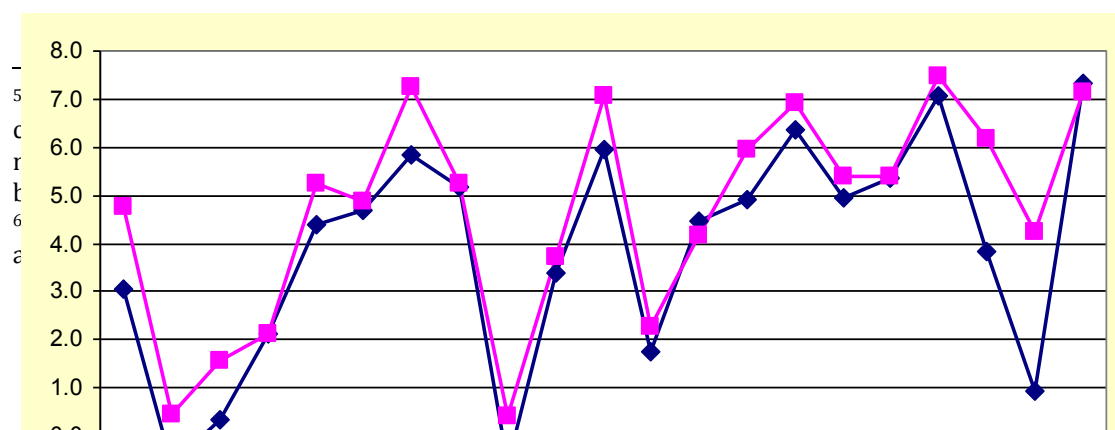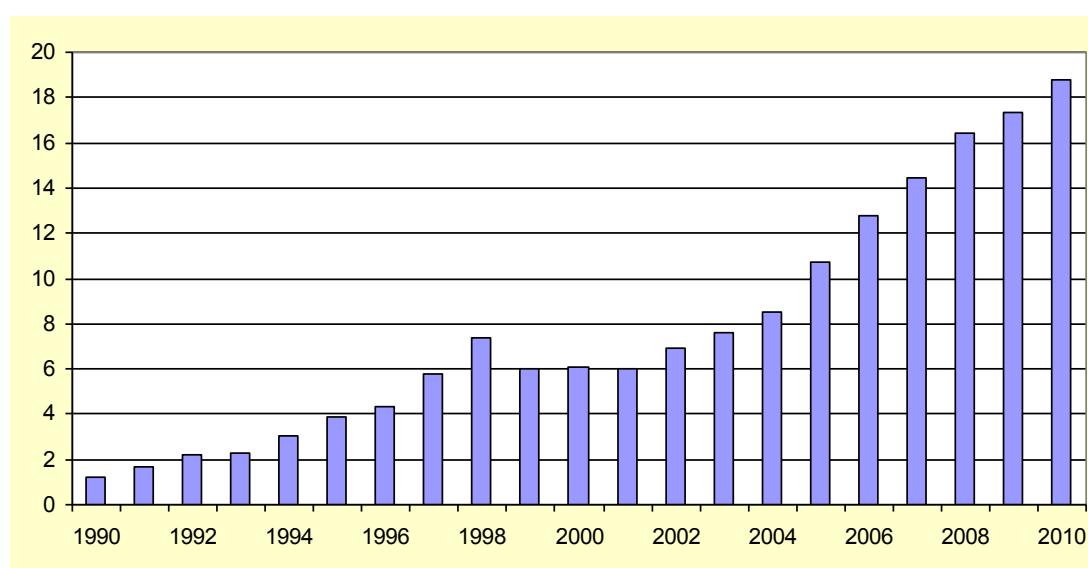
Figure 2. GDP and GNP Growth

Figure 3. Remittances inflow in US$ Billion

One could argue that the slow growth in investment might be due to the rise in the services sector relative to manufacturing, with services being less capital-intensive than the manufacturing sector. Figure 5 lays out the relative contribution of agriculture, industry, and services to GDP growth in the last two decades and shows that services has accounted for more than half of total growth in the period. This is best exemplified by the business process outsourcing (BPO) sector which has taken off in the last decade – growing more than 20 percent per year – to now be second only to India's in size and to even outpace India's in growth in recent years. Yet this raises the question of why industry lags behind when previous studies have shown that it dominates services (and agriculture) in terms of productivity.[7]

A possible reason might be that the industrial sector is constrained by high minimum wages (while minimum wages do not bind in the agricultural nor for much of the lower productivity segment of the services sector). (See Nye [2011a], also Esguerra [2010]. From Nye: "According to Esguerra [2010] the

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[7] See Table 1.3 of Balisacan and Hill (2003) for instance.

Philippines had the 28th highest minimum wage in the world in 2007 at PPP rates (out of 130 countries) and the 8th highest minimum wage out of a group of about 30 developing and transition economies (slides 35 and 36).")

Figure 4. Philippine Savings and Investment Rate
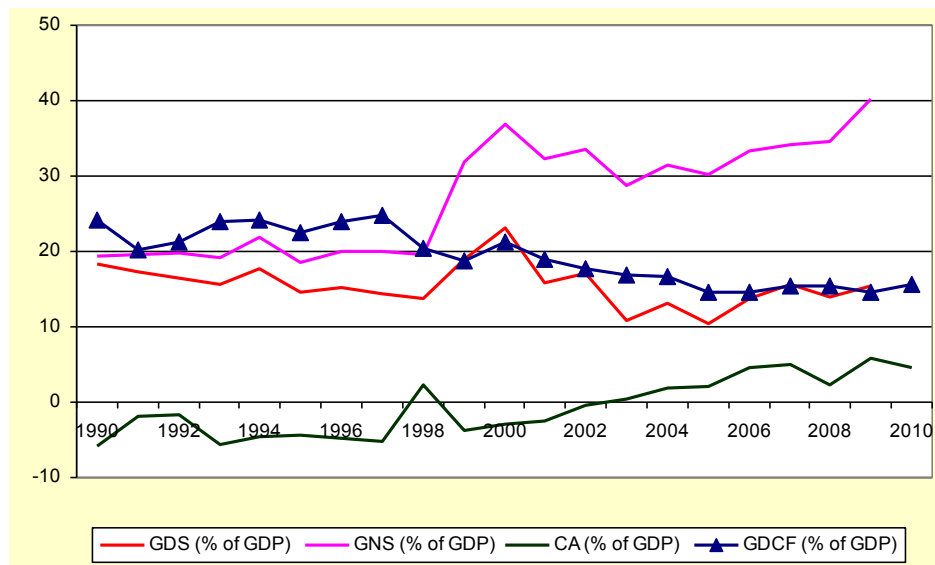
Even within the manufacturing industry, there exist some rigidities between export-generating and import-competing activities. Table 1 shows that the export-oriented segment has been constrained relative to the import-substituting segment. Such 'import bias' in trade activities is a result of non-neutral trade liberalization policies (cf. Bautista and Tecson [2003]). Other factors such as high transport costs, red tape which slow down trade facilitation, and lack of infrastructure, have also possibly undermined the competitiveness of exports. Note that the Philippines ranked 85th out of 139 countries in the World Economic Forum Global Competitiveness Index Ranking in 2010-2011. It ranked poorly in almost all categories, but especially in institutions (125th), labor market efficiency (111th), innovation (111th), and infrastructure (104th). In the World Bank's Ease of Doing Business rankings, the Philippines ranked 148th out of 183 countries, and ranked especially poorly in Starting and Closing a Business (156th and 153rd, respectively), Protecting Investors (132nd), Getting Credit (128th), Paying Taxes (124th), and Enforcing Contracts (118th).

Figure 5. Production-side Sectoral Contribution to GDP Growth (sum to 100%)
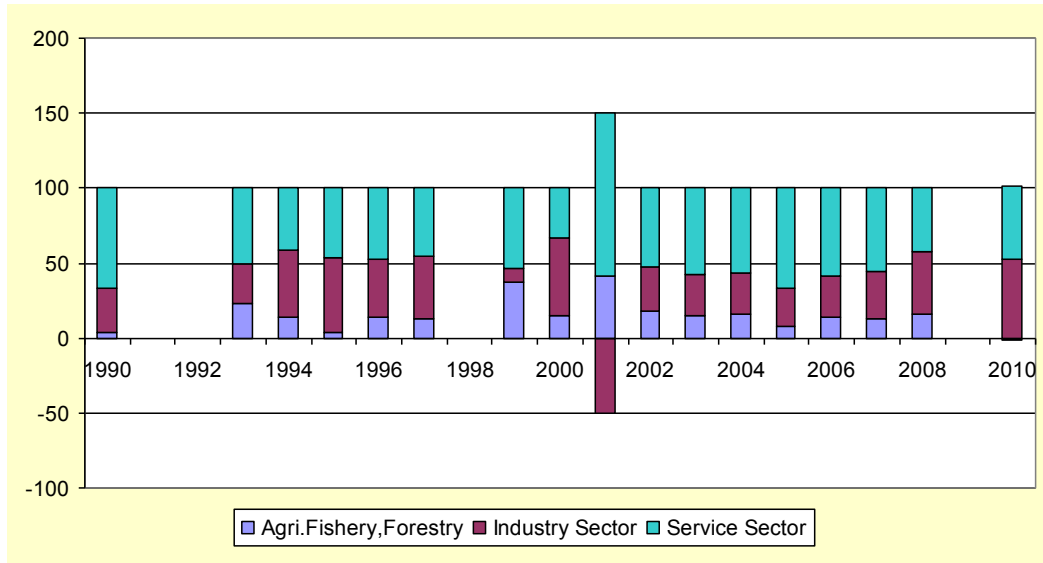
Note: Years when GDP growth was less than one percent or negative were excluded.

Table 1. Distribution of Manufacturing Foreign Direct Investment, 1973-2000 (%)

Manufacturing Industry	1973	1980	1985	1990	1995	2000
Import-substituting	69.9	73.8	78.4	72.9	52.4	87.5
Food	6.1	13.7	22.1	19.6	3.1	46.0
Chemicals & chemical products	9.3	29.2	26.5	27.0	10.7	34.4
Petroleum	41.8	4.6	6.2	5.2	12.9	0.0
Metal & metal products	3.5	15.8	13.1	10.8	6.9	3.3
Non-metallic mineral products	3.2	2.1	2.6	3.1	3.1	0.0
Transport equipment	5.9	8.5	7.9	7.3	15.7	3.8
Export-oriented	15.4	11.6	10.1	14.8	43.1	10.9
Textiles and garments	12.7	5.6	4.4	5.1	3.7	0.3
Machinery, apparatus, appliances	2.7	6.0	5.7	9.8	39.3	10.5
Other	14.7	14.5	11.5	12.2	4.5	1.6
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Bautista and Tecson (2003)

There are also various degrees of protection in all sectors ensuing from institutional reasons, such as weak agrarian reform, NFA/subsidies, restrictions on foreign ownership, tax breaks or particularistic concessions, which have created distortions and have impeded the flow of investment to productive activities. The overall business climate is also characterized by high corruption and rent-seeking, weak property rights, weak bureaucracy/red tape, political instability (see Figure 6).

Figure 6 Philippine Governance Indicators 1996-2009
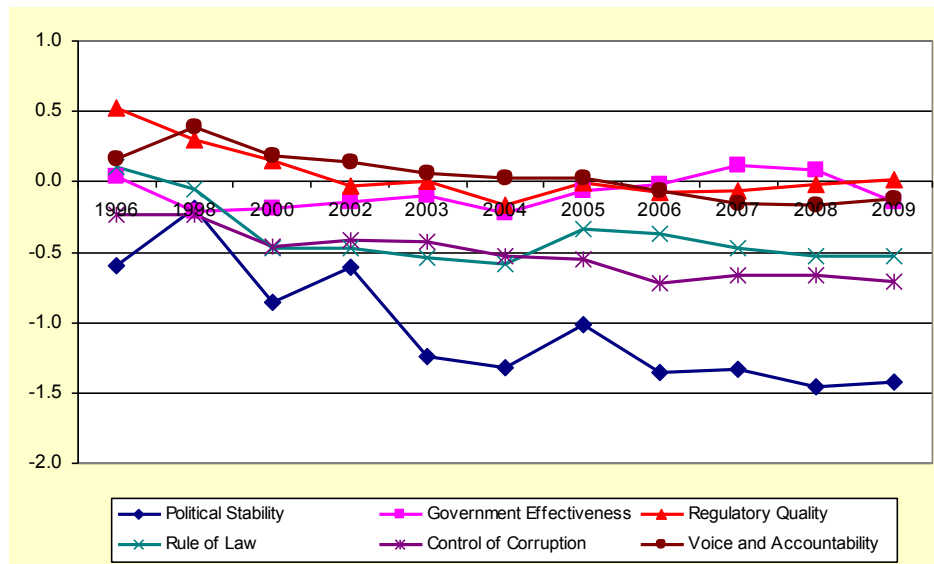
Source: World Bank World Governance Indicators

It is thus no wonder that investment demand is low. Yet there are indicators that the supply of investment is relatively unconstrained. Figure 7 reflects the success of monetary and financial reforms that have lowered interest rates and inflation and contributed to overall macroeconomic stability. Even during the AFC and GC, Figure 8 shows that total financial resources of banks have more or less held up (more so after GC than AFC). Also, the debt/GDP ratio shows signs of lowering to more modest levels in recent years (see Figure 9).

Figure 7. Interest Rates and Inflation
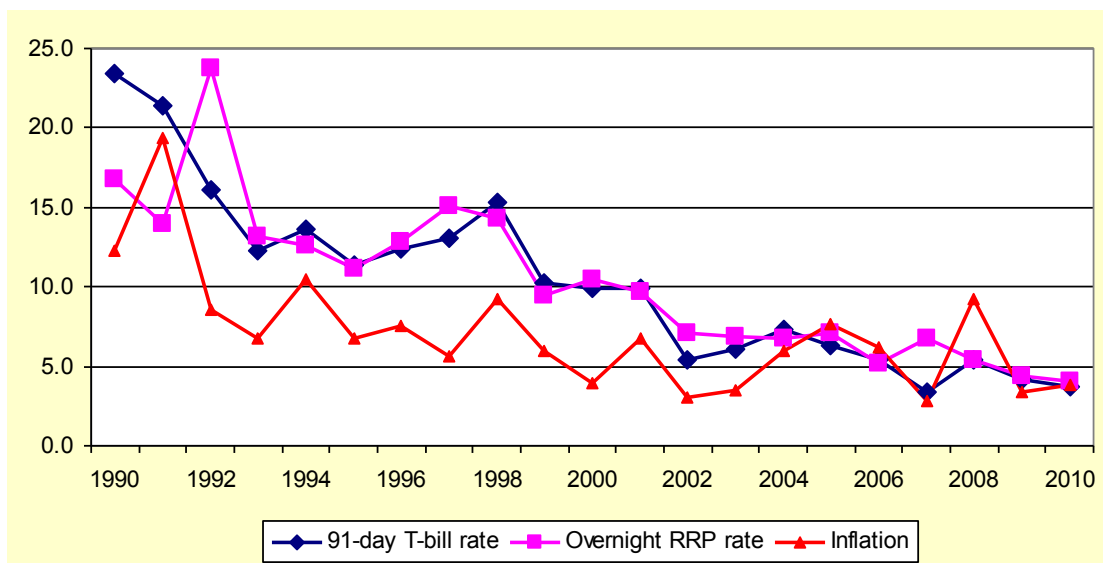
Thus, the constraints to investment growth seem largely determined by weak demand. In the next sections, we show particularly that the most significant barriers which prevent the efficient use of investment flows are structural and institutional factors.

Figure 8. Total Resources of Universal and Commercial Banks (Php Billion) 1996-2000 and 2006-2010

Figure 9. Philippine National Government Debt as percent of GDP

3. Estimation

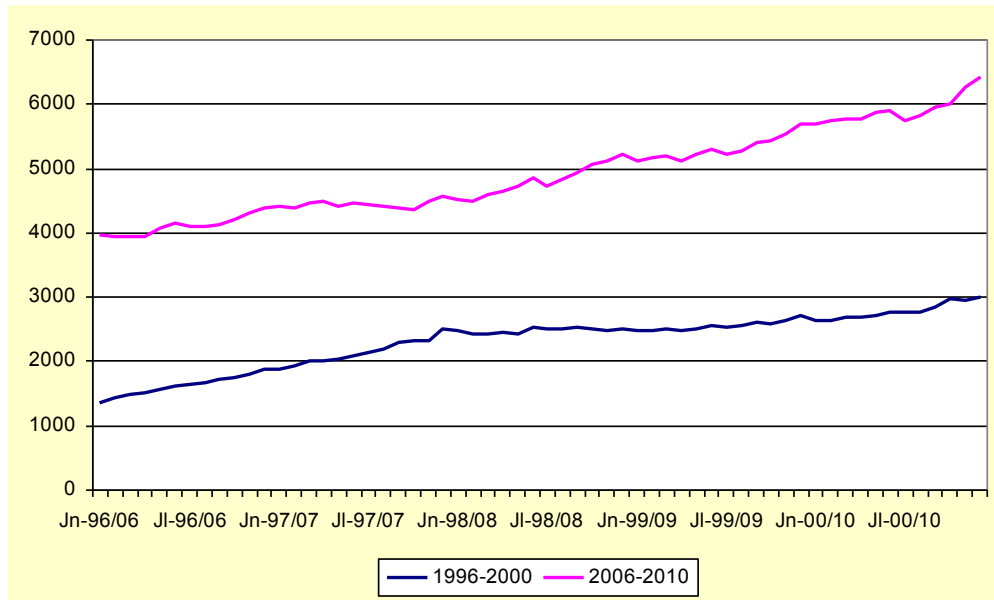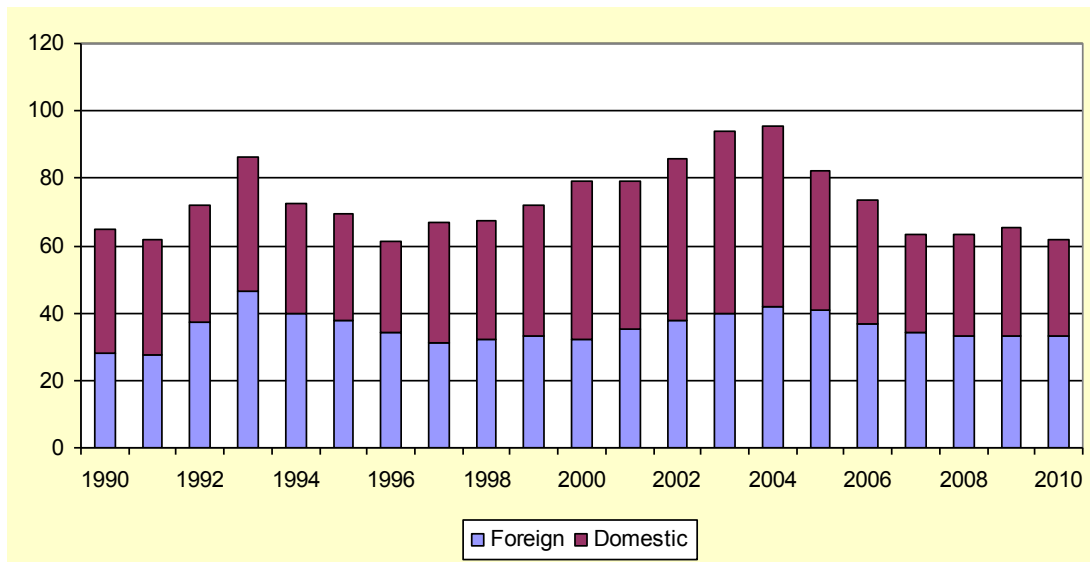To the extent that both export-led and sustainable domestic demand-driven growth rely on sustained high-quality investments, we identify the significant constraints to investment.   Our hypothesis is that the rate of investment is determined by institutional and governance factors, by the macroeconomic environment, and the risk of default, among others. More formally, that

$$\Delta \frac{I}{Y} = f(\sum_i \Delta Inst_i, \Delta \frac{debt}{Y}, \Delta \frac{def}{Y}, \Delta r, \Delta \frac{fdi}{Y}, \Delta \frac{rem}{Y},)$$

where *I* is investment, *Y* is GDP, *Inst*$_i$ refers to a particular institutional measure (corruption, investment profile, bureaucratic quality, government stability), *debt* is government debt, *def* is government deficit, *r* is real interest rate, *fdi* is foreign direct investment (FDI), and *rem* refers to remittances. We estimate the differenced form to reduce the chance of getting a spurious relationship given time series data, and we only use lagged values of the explanatory variables to avoid simultaneity issues.

4.   Results

The regression results are presented in Table 2. There are three alternative models differing only in the subset of explanatory variables included in the regression.

In Model 1, fixed capital formation is regressed against the Political Risk Services' measure of bureaucratic quality (*BQ_prs*), control of corruption (*Corrup*), government stability (*GS_prs*), and investment profile (*InvProf*) which includes contract viability and expropriation risk, as well as the government debt ratio (*Debt_pct*), the government budget deficit ratio (*Defct_pct*), the real interest rate (*RIntRate*), the FDI ratio to GDP (*FDI_pct*), and the remittance ratio to GDP (*Remit_pct*), as well as a dummy variable for the years 1998 and 1999 (*D1998_9*), which was the height of Asian Financial Crisis.[8]   The results show that among the institutional variables, (lagged) *Corrup* and *InvProf* are strongly correlated with fixed capital formation and have the expected signs. In contrast, *BQ* and *GS* are insignificant and have the wrong signs.[9] All the other economic variables except for *Remit_pct* are insignificant but have the correct signs. *Remit_pct* is significant but has a perverse sign, suggesting that increases in remittances have been associated with declines in the investment rate. D1998_9 is negative and highly significant, indicating an especially large decline in fixed capital formation during the AFC.[10]

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[8] We use the PRS measures of institutions and governance instead of the World Bank World Governance Indicators because they are available for a greater number of years.

[9] This also partly because of correlations among the institutional variables.

[10] The full regressions results for Models 1-3 are in Annex Tables 2-4, including the regression diagnostic tests, which show the models pass all the typical goodness-of-fit tests.

If *BQ_prs* and *GS_prs* are dropped from Model 1, we get Model 2, which shows roughly similar results (significant *Corrup*, *InvProf*, *Remit_pct*, *D1998_9*) except that *Defct_pct* is now also significant. As expected, a higher government deficit is associated with lower investments.

It can be argued that remittance figures may be misleading in one way: the share of remittances that is being coursed through the formal financial system has been increasing over the years, so that it is difficult to disentangle the part of the rising remittances that is because of an actual increase from the part that is merely because of better capture. If one takes out *Remit_pct* from Model 2, we get Model 3, which shows *Debt_pct* to be significant and to be of the expected sign, in addition to *Corrup*, *InvProf*, and *D1998_9*.

Table 2. Determinants of Fixed Capital Formation

Variable	Model 1		Model 2		Model 3	
	Coefficient	*p-value*	Coefficient	*p-value*	Coefficient	*p-value*
Constant	0.62	0.150	0.43	0.265	0.12	0.739
DBQ_prs_1	-1.77	0.228	-	-	-	-
DCorrup_1	2.85	0.003	2.69	0.003	2.96	0.002
DGS_prs_1	-0.17	0.626	-	-	-	-
DInvProf_1	2.91	0.003	2.30	0.006	1.50	0.026
DDebt_pct_1	-0.03	0.528	-0.05	0.280	-0.09	0.082
DDefct_pct_1	-0.39	0.115	-0.43	0.098	-0.40	0.149
DRIntRate_1	-0.06	0.483	-0.09	0.300	-0.05	0.570
DFDI_pct_1	0.10	0.754	0.19	0.585	0.40	0.271
DRemit_pct_1	-1.46	0.026	-0.97	0.085		
D1998_9	-4.86	0.008	-5.74	0.001	-5.76	0.002
R^2	0.803		0.730		0.651	
AIC	3.51		3.64		3.80	
No. of obs	21		21		21	

Note: See Annex Table 1 for variable descriptions and Annex Tables 2-4 for full regression results.

The results are consistent in showing that institutional variables, particularly corruption and contract enforcement are crucial to raising capital formation in the country. Note, moreover, that such factors have the largest effects (apart from the AFC dummy variable), and that *both* of them are significant. This implies that measures to address one factor, e.g. corruption, cannot be as effective if it undermines contract enforcement at the same time. In this respect, the cancellation of contracts for the sake of anti-corruption ideals might be detrimental to investment growth.

The results also indicate that government's fiscal standing, whether in terms of debt or deficit, is an important factor affecting capital formation. However, what government debt or deficit actually proxies for cannot be easily disentangled, and the way in which it negatively affects investment is not clear. On one hand, it can be seen to affect investor confidence, or as a factor limiting investment supply. (Note that interest rates are insignificant, suggesting that fiscal standing might be a more important supply-side constraint.) This would be consistent

with the low credit rating of the country's debt by different agencies (Fitch, Moody's, and Standard and Poor's).

On the other hand, fiscal standing could be indicative of underlying demand-side factors – like the lack of adequate public infrastructure or, more generally, government inefficiency in the use of funds.

Remittances seem to be perversely related to capital formation (although one could argue that brain drain effects are so large so as to deter investment), but data issues render this result less than definitive. Finally, the results confirm that there has been an extraordinary decline in fixed capital formation as a result of the AFC.[11]

5. Competition and Openness: the need for first-order policies

The Philippine Development Plan 2011-2016, recently published by the National Economic Development Authority (NEDA) [2011], points to the lack of investment as a crucial reason for low employment growth and overall economic growth. The barriers to investment include lack of infrastructure, especially in transportation and power supply; and weak institutions and governance failures, particularly weak bureaucracy, red tape, corruption, inadequate enforcement of law and contracts, and low competition measures. The latter is especially seen in the lack of competition agriculture, maritime and air transport, power, cement, and banking and is acknowledged to be due to "dominant firms exerting social influence and political clout".

To address these problems, the plan proposes to expand tax collection and the involvement of government (e.g. private-public partnerships), while putting in place policing and/or regulatory mechanisms to limit corruption and address institutional reforms.

While the plan is comprehensive in its acknowledgement of the various factors that hinder investment and growth, the proposed solutions are very broad and encompassing such that the order of priorities is not clear. While it is laudable to attempt to address all issues, the reality is that resources are limited and that efforts in one area may have negative unintended consequences in others.

The previous section similarly points to structural and institutional distortions as the main constraints to investment. However, we clarify that what makes such distortions important is that together they are symptomatic of the low level of competition and openness in the economy. Rent-seeking by elite groups is a feature of what North, Weingast and Wallis (NWW) (2009) refer to as 'limited access' societies. Although NWW do not give exact recommendations as to how to transition from limited to 'open access' societies in which elite control is minimized and trade flourishes, they clearly point out that open access societies are characterized by competition and openness.

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[11] Clearly, the limited number of observations used in the regressions is another important caveat. The lack of an extended time series for institutional variables is the main constraint to increasing the number of observations used in the regressions.

Thus, in this section, we stress the importance of prioritizing what Nye (2011a) calls 'first-order' reforms that open up markets and increase competition (as opposed to 'second-order' efforts that regulate against distortions, e.g. going after and punishing rent-seekers.) We show that whenever underlying distortions are present, first-order market reforms are more efficient than government regulations that attempt to alleviate these distortions. That is, any economic activity or transaction that takes place amidst existing distortions still attains its lowest price in a free market than in a regulated environment.

To illustrate this, consider a market with two firms or agents $i = 1,2$ with corresponding marginal cost c_i who each choose price p_i to maximize its profit π_i from supplying at quantity q_i:

$$Max_{p_i} \pi_i = (p_i - c_i) q_i$$

Let total demand be equal to $Q = q_1 + q_2$, and assume that $c_1 < c_2$, such that firm 1 is the relatively more efficient firm. If the firms can compete freely, each firm would try to undercut each other, since the firm with the higher price gets zero demand, while the lower-priced firm gets all Q. (If both offer the same price, they each supply $\frac{Q}{2}$.) As a result of this 'Bertrand' competition, the (Nash) equilibrium price is the lowest possible price c_1, at which point the inefficient firm 2 is driven out.

And yet even when there are underlying distortions such that the first-best price c_1 cannot be met, it can be shown that the second-best price under Bertrand competition is still lower than in a regulated environment – even with benign regulators who seek to cure the underlying distortion.

To see this, suppose there is some distortion ε which allows firms to bid prices above their marginal costs to the extent of ε and earn some positive profits. That is, let there be two competing price strategies – the lowest price $c_1 + \varepsilon$ below which not even firm 1 wants to enter the market, and the highest possible price $c_2 + \varepsilon$ above which some other, even more inefficient, firms can start to enter. (That is, prices $c_1 + \varepsilon$ and $c_2 + \varepsilon$ restrict the model to a 2×2 game.) Then the payoffs from choosing price $c_1 + \varepsilon$ against $c_2 + \varepsilon$ are given by the following matrix:

	$c_1 + \varepsilon$	$c_2 + \varepsilon$
$c_1 + \varepsilon$	$\varepsilon\frac{Q}{2}, (c_1 + \varepsilon - c_2)\frac{Q}{2}$	$\varepsilon Q, 0$
$c_2 + \varepsilon$	$0, (c_1 + \varepsilon - c_2)Q$	$(c_2 + \varepsilon - c_1)\frac{Q}{2}, \varepsilon\frac{Q}{2}$

(where the first (second) element in each pair of payoffs refer to the payoff/profit from adopting row (column) strategy.) Assuming that $\varepsilon > c_2 - c_1$, (that is, that firms 1 and 2 are close enough competitors), then the unique Nash

equilibrium of the game is $[(c_1 + \varepsilon), (c_1 + \varepsilon)]$.[12] That is, equilibrium price is bid down to the second-best price of $c_1 + \varepsilon$.

If, instead of letting firms freely compete, the government steps in to 'enforce' against, or regulate, ε, by de facto choosing the socially optimal level of Q. Note that to the extent that firms could charge a premium ε, there would be a loss in social welfare W equal to εQ, which the government could limit by restricting Q at a level that internalizes society's negative externality from ε. Thus, the government, in weighing all the benefits and costs in society associated with the provision of Q, solves the following optimization problem:

$$Max_Q W = (p_G - c_1)q_1 + (p_G - c_2)q_2 - \varepsilon Q$$

where p_G is the de facto equilibrium price when government enforces the socially optimal level of Q. At the social optimum, this price is equal to[13]

$$p_G = \varepsilon + c_1 + c_2$$

which is clearly greater than the equilibrium price under competition.

The intuition is straightforward. When left on their own, profit-maximizing firms will take advantage of the distortion and bid at a premium, but forces of competition discipline firms to price close to the marginal cost of the efficient firm. Inefficient firms are driven out. But (even) a benign government regulator's objective is to optimize the benefits (and lessen the costs) to all sectors of society, including the welfare of less efficient ones since they are also part of society. In 'balancing' the interest of all sectors, more efficient firms end up subsidizing the inefficiency of others for the initial failure or distortion ε. Thus, p_G has to cover all marginal costs on top of the cost of the initial distortion.

Furthermore, if there are other costs involved in enforcing the socially optimal level of Q, p_G will have to cover the additional marginal costs from these as well. These could include the actual costs of enforcement (e.g. regulatory bodies and bureaucratic processes, courts and litigation) and 'avoidance' costs which firms can incur in trying to avoid getting caught (e.g. bribes to officials – see Becker, Murphy and Grossman (BMG) [2005]).

Thus, for pure efficiency reasons, reforms that increase competition give better second-best outcomes than regulations that directly enforce against the distortions. While government might be well-meaning in trying to combat distortions, regulation might end up creating more distortions (and increasing price to unnecessary higher levels).

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[12] If firm 2 is too inefficient such that $\varepsilon < c_2 - c_1$, then both $[(c_1 + \varepsilon), (c_1 + \varepsilon)]$ and $[(c_2 + \varepsilon), (c_2 + \varepsilon)]$ are the two pure Nash equilibria of the game. Note, however, that even price $(c_2 + \varepsilon)$ is still lower than the price under regulation. See subsequent exposition.

[13] The first-order condition is given by $p_G - \varepsilon - c_1 - c_2 = 0$.

Of course, the government might have different objectives, e.g. equity considerations, in choosing to regulate, such that subsidizing weaker segments of society is a desirable end on its own, especially with the government's thrust on 'inclusive growth'. Even then, however, it is not clear that more regulation is the best way to achieve this. Redistribution might be more efficiently addressed by non-distortionary taxes. [14] Simply put, the government can allow free competition to drive prices to $c_1 + \varepsilon$, and then impose a tax rate equal (or close) to ε.

One might argue that marginal costs are difficult to infer, and that ε cannot be easily known. But figuring out the socially optimal way of regulating a good also requires some idea of the size of the distortion or externality, and the marginal costs not only of the most efficient firms, but of all other players as well. Note that one can easily generalize the model to include many firms/players, in which case competition still drives price close to the marginal cost of the most efficient players, but the regulated price entails covering the cost of the distortion and the marginal costs of all other players. Paradoxically, then, while free entry and competition even in an initially distorted environment can still approximate efficient outcomes, regulating more and more players, *even in order to combat the distortion*, can actually increase the overall distortionary effects.

Perhaps it is telling that throughout history, greater openness and competition have fuelled the rise of economies. Arguably no country, for instance, has reached developed economy status by going after rent-seekers and corrupt agents. Instead, greater competition usually limits the scope of rent-seeking, which further strengthens the market and allows for greater increases in productivity.[15]

The danger is that in trying to address corruption directly, the government can de facto limit economic activity in order to limit the corruption. (This is precisely the mechanism involved in the cancellation of anomalous contracts.) It is not altogether clear that the result will even be socially optimal, let alone efficient, for the effort requires knowledge not only of the amount of corruption, but of the costs to all players involved – contracting parties and all third-party interests. And even if such were perfectly known, it would be more efficient to let firms compete and transact freely. Even if such transactions involve some rent-seeking, the distortions would be limited for as long as there are ready entrants to step in – when rent-seeking is too high, the transaction would simply become unaffordable.

The key is that the market has to be truly open – not just from the supply side but also from the demand side. In centralized government transactions, for instance, in which the government is a monopsonist, the resulting price can be very high since there are no other buyers that would bid down the corruption rents or bribes, which would then lead suppliers to bid at even higher prices that

[14] BMG, Weitzman [1974], and Miron [2008, 2004], for instance, precisely make the point that taxation of goods that produce negative externalities is more efficient than regulating such goods.
[15] See, for instance, Mokyr and Nye [2007], Nye [2008, 2009] for the example of Britain, and Nye [2011a, 2011b] for China.

include larger bribes in order to get the contract. If there were alternate buyers, e.g. decentralized and competing government units, then even corrupt buyers would decrease bribe requirements from suppliers in order to get the contract.[16]

Thus, that free market reforms seem to have not worked in curbing corruption is not a failure of the market, but rather a failure to institute *complete* market reforms and a tendency to compensate by adopting complicated and costly regulations. Note that the enforcement and avoidance costs (including litigation) involved in anti-corruption campaigns can be so large so as to dissipate the net gains. [17]

There is the danger, then, of adopting a haphazard approach to reform in which competition is introduced, albeit incompletely, and regulation is added to try to address remaining distortions or to redistribute gains (or both). For instance, the Philippines' open skies policy is supposed to encourage free entry and greater competition in the airline industry, but prohibitively high tax rates could undermine entry of foreign competitors. Furthermore, other interests and parties, such as the competitiveness of airports, need to be considered as well. Note that anti-corruption efforts have stalled the operations of the Ninoy Aquino International Airport (NAIA) 3, which illustrates how second-order regulation can frustrate the first-order reform of opening up the airline industry.

Another example is the NFA, which is difficult to justify either on efficiency or redistributive grounds. Given that there already exist distortions in agriculture, as in the failure of land reform and weakness of property rights (cf. Fabella), buying farmers' produce at uncompetitive rates only subsidizes the underlying distortions. Even for purely redistributive reasons, it is not altogether clear why such an arrangement would be more efficient than a straight transfer or subsidy to farmers. Lastly, in terms of ensuring steady and stable supply of agricultural produce by importing and re-selling domestically, there seems to be no compelling reason to believe that government (NFA) as importer would be better at forecasting demand (and holding adequate stock) than would freely-competing private importers.

Perhaps, then, it is not such a puzzle why the Philippine economy, despite the many reform efforts attempted, still lags behind and is still constrained from taking off. Market reforms have simply not been deep and thorough enough. Without sustaining first-order reforms that promote real competition and openness, the temptation has been to rely on various regulatory efforts in the hope of addressing the issue of the day. The temptation for any government to overregulate especially in weak economic environments is understandable, but the danger is that this can perpetuate and even create more distortions even

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[16] Beck and Maher (1986) and Lien (1986) show formally that with competitive bidding, the lowest-cost firm wins the contract and bribery is efficient. See also Pradhan (1997) for a review.
[17] This point has been increasingly made in the literature since Tullock's (1967, 1971, 1975) and Krueger's (1974) seminal works on rent-seeking which show how resources can be wasted in trying to capture rents amidst regulated environments.

with the most benign governments.[18] To effectively destroy the layers of distortions, perhaps it is best to concentrate on the core competitive environment. This, though, is politically difficult as it would threaten the positions of incumbent elites, and the gains might not be immediately felt and taken credit for.

6. Conclusions

While trade and investment are now widely acknowledged to be drivers of sustained economic growth, the debate centers on how to increase and sustain them. It is easy to claim that the Philippines faces unique problems and opportunities, especially compared with the rest of Asia, in order to justify unorthodox analyses and recommendations. On closer inspection, however, the real barriers that the country faces are structural and institutional problems that are characteristic of limited access societies. The most effective and efficient reforms have to address these barriers in a way that limits further distortions. We have argued how prioritizing first order market reforms that increase competition and openness is key.

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[18] In the case of anti-corruption efforts, Bardhan notes that "too many rules rather than discretion may have the perverse effect of providing opportunities for corruption simply to circumvent mindless inflexibilities."

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Annex Table 1. Variables in the Regression

Variable	Description
BQ	Political Risk Services' (PRS) measure of bureacratic quality (1-4, with 4 as best score)
Corrup	PRS measure of corruption within the political system (1-6, with 6 as best score)
GS	PRS measure of government's ability to carry out its program and to stay in office (1-12, with 12 as best score)
InvProf	PRS measure of risk to investment including contract viability/expropriation (1-12, with 12 as best score)
Debt_pct	Government debt as a percentage of GDP
Deft_pct	Government deficit as a percentage of GDP
RIntRate	Real lending interest rate
FDI_pct	Foreign direct investment as a percentage of GDP
Remit_pct	Foreign remittances as a percentage of GDP
D1998_9	Dummy variable for 1998 and 1999 (Asian Crisis)

Annex Table 2: Model 1

Modelling DFixCap_pct by OLS (using Data1)
        The estimation sample is: 1987 to 2007

	Coefficient	Std.Error	t-value	t-prob	Part.R^2
Constant	0.619839	0.3977	1.56	0.150	0.1954
DBQ_prs_1	-1.77116	1.378	-1.29	0.228	0.1417
DCorrup_1	2.84836	0.7392	3.85	0.003	0.5975
DGS_prs_1	-0.165044	0.3279	-0.503	0.626	0.0247
DInvProf_1	2.90503	0.7388	3.93	0.003	0.6072
DDebt_pct_1	-0.0291834	0.04468	-0.653	0.528	0.0409
DDefct_pct_1	-0.389804	0.2255	-1.73	0.115	0.2301
DRIntRate_1	-0.0583410	0.08014	-0.728	0.483	0.0503
DFDI_pct_1	0.103481	0.3207	0.323	0.754	0.0103
DRemit_pct_1	-1.45985	0.5583	-2.61	0.026	0.4061
D1998_9	-4.85513	1.460	-3.33	0.008	0.5253

sigma	1.20118	RSS	14.4284222
R^2	0.803995	F(10,10) =	4.102 [0.018]*
log-likelihood	-25.8568	DW	2.59
no. of observations	21	no. of parameters	11
mean(DFixCap_pct)	-0.0634887	var(DFixCap_pct)	3.50535

Instability tests:
variance   0.17162
joint   2.0756
Individual instability tests:
Constant   0.051395
DBQ_prs_1   0.098492
DCorrup_1   0.049183
DGS_prs_1   0.047762
DInvProf_1   0.055135
DDebt_pct_1   0.12319
DDefct_pct_1   0.16039
DRIntRate_1   0.068818
DFDI_pct_1   0.093371
DRemit_pct_1   0.036281
D1998_9   0.023810

AR 1-1 test: F(1,9)   =   1.8123 [0.2112]
ARCH 1-1 test: F(1,8)   =   0.26656 [0.6196]
Normality test: Chi^2(2) =   1.2238 [0.5423]
Hetero test: not enough observations
Hetero-X test: not enough observations
RESET test: F(1,9)   = 0.032896 [0.8601]

Annex Table 3: Model 2

Modelling DFixCap_pct by OLS (using Data1)
         The estimation sample is: 1987 to 2007

	Coefficient	Std.Error	t-value	t-prob	Part.R^2
Constant	0.427103	0.3656	1.17	0.265	0.1021
DCorrup_1	2.69162	0.7259	3.71	0.003	0.5340
DInvProf_1	2.30081	0.6928	3.32	0.006	0.4790
DDebt_pct_1	-0.0521466	0.04614	-1.13	0.280	0.0962
DDefct_pct_1	-0.425555	0.2369	-1.80	0.098	0.2120
DRIntRate_1	-0.0900918	0.08320	-1.08	0.300	0.0890
DFDI_pct_1	0.191003	0.3400	0.562	0.585	0.0256
DRemit_pct_1	-0.969943	0.5172	-1.88	0.085	0.2267
D1998_9	-5.74360	1.401	-4.10	0.001	0.5833

sigma	1.28634	RSS	19.8559941
R^2	0.730263	F(8,12) =	4.061 [0.015]*
log-likelihood	-29.2095	DW	1.87
no. of observations	21	no. of parameters	9
mean(DFixCap_pct)	-0.0634887	var(DFixCap_pct)	3.50535

Instability tests:
variance   0.35070
joint   1.4922
Individual instability tests:
Constant   0.13140
DCorrup_1   0.060215
DInvProf_1   0.057352
DDebt_pct_1   0.11362
DDefct_pct_1   0.10631
DRIntRate_1   0.13033
DFDI_pct_1   0.076229
DRemit_pct_1   0.070752
D1998_9   0.023810

AR 1-2 test: F(2,10) = 0.035724 [0.9650]
ARCH 1-1 test: F(1,10) = 0.17138 [0.6876]
Normality test: Chi^2(2) = 0.55948 [0.7560]
Hetero test: not enough observations
Hetero-X test: not enough observations
RESET test: F(1,11) =1.6999e-007 [0.9997]

Annex Table 4: Model 3

```
Modelling DFixCap_pct by OLS (using Data1)
      The estimation sample is: 1987 to 2007
```

	Coefficient	Std.Error	t-value	t-prob	Part.R^2
Constant	0.121807	0.3577	0.341	0.739	0.0088
DCorrup_1	2.96189	0.7773	3.81	0.002	0.5276
DInvProf_1	1.49597	0.5942	2.52	0.026	0.3278
DDebt_pct_1	-0.0869902	0.04614	-1.89	0.082	0.2147
DDefct_pct_1	-0.395637	0.2582	-1.53	0.149	0.1530
DRIntRate_1	-0.0513263	0.08804	-0.583	0.570	0.0255
DFDI_pct_1	0.402580	0.3504	1.15	0.271	0.0922
D1998_9	-5.76304	1.531	-3.76	0.002	0.5215

```
sigma                    1.40539  RSS                25.6764906
R^2                     0.651193  F(7,13) =    3.467 [0.025]*
log-likelihood          -31.9088  DW                      1.84
no. of observations           21  no. of parameters          8
mean(DFixCap_pct)   -0.0634887  var(DFixCap_pct)      3.50535

Instability tests:
variance           0.22944
joint              1.2261
Individual instability tests:
Constant           0.12855
DCorrup_1          0.032688
DInvProf_1         0.22884
DDebt_pct_1        0.11163
DDefct_pct_1       0.13034
DRIntRate_1        0.14297
DFDI_pct_1         0.096831
D1998_9            0.023810


AR 1-2 test:      F(2,11)  =  0.29706 [0.7488]
ARCH 1-1 test:    F(1,11)  = 0.072569 [0.7926]
Normality test:   Chi^2(2) =   1.8511 [0.3963]
Hetero test: not enough observations
Hetero-X test: not enough observations
RESET test:       F(1,12)  =  0.91259 [0.3583]
```