

Corruption in Economic Development: Beneficial Grease, Minor Annoyance, or Major Obstacle?

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Summary

This paper reviews the overwhelming statistical evidence that countries with high corruption levels have poorer economic performance. There are several channels through which corruption hinders economic development. They include reduced domestic investment, reduced foreign direct investment, overblown government expenditure, distorted composition of government expenditure away from education, health, and the maintenance of infrastructure, towards less efficient but more manipulatable public projects.

A definition of corruption used by the World Bank and the IMF, among others, “the abuse of public office for private gains,” serves as a backdrop of the discussion. Whenever a public office is abused, a public function or objective is set aside and compromised. Only if a public function is unproductive could it be that policy goals were not harmed by corruption. Nevertheless, the proposition that bribery can grease the machinery of commerce is often heard, and hence deserves a careful look at the evidence. And the evidence clearly rejects this hypothesis.

While culture plays a role in determining what is considered a bribe versus a gift, the culture-induced difference seems small. There is no evidence to support the notion that corruption in Asia, East Asia included, has smaller negative consequences.

Corruption could be a symptom of many ills of a society. Hence, the fight against corruption has to be multi-fronted. While laws and law enforcement are indispensable, countries serious about fighting corruption should also pay attention to reforming the role of government in the economy, particularly those areas that give officials discretionary power which are hot beds for corruption. Recruiting and promoting civil servants on a merit basis, and paying them a salary competitive to private sector alternatives help to attract high quality, moral civil servants. International pressure on corrupt countries, including criminalizing bribing foreign officials by multinational firms, is useful. But the success of any anti-corruption campaign ultimately depends on the reform of domestic institutions in currently corrupt countries.

Introduction

“Corruption is like cancer, retarding economic development.”¹

“Corruption can be like ‘grease,’ speeding up the wheels of commerce.”²

“If corruption does slow down economic development, East Asia must be an exception because while the region seems corrupt, it is able to attract lots of foreign investment and generate growth.”

These statements about corruption are all read or heard from time to time, and it is probably feasible to find some anecdotes to support any or all of these possibly mutually inconsistent hypotheses. But there is a limit to what anecdotes can tell us. What does a careful examination of facts and data tell us? This paper reviews recent studies on the consequences of corruption on economic development.

There are some very good survey papers on corruption issues, for example, see Andvig (1991), Bardhan (1997), Kaufmann (1997b), UNDP (1997), and Tanzi (1998). This paper has two distinctive features. First, it places relatively more emphasis on Asia. Second, wherever possible, it concentrates on recent evidence based on systematic statistical analyses, including some from not-yet published studies by this and other authors.

This paper is organized in the following way. Section 1 discusses how cross-country difference in corruption may be measured. Section 2 reviews the evidence on economic consequences of corruption, with particular attention to recent empirical research, and with an attempt to interpret them in light of the Asian experience. Section 3 discusses the notion of cultural difference in the consequences of corruption. Section 4 discusses factors that may contribute to the different extent of corruption in different countries, and possible remedies to the problem. Section 5 provides some concluding thoughts.

¹ Statement similar to the one made by James Wolfensohn, President of the World Bank, *Transition*, 7(9-10), p9, September/October 1996.

² Some formal theorizing along this line can be found in Leff (1964), Huntington (1968), and Lui (1985).

1. Measuring Corruption

This paper focuses on corruption in the economic sphere involving government officials. Corruption here is defined as government officials abusing their power to extract/accept bribes from the private sector for personal benefit³. This is to be distinguished from political corruption (e.g., vote-buying in an election, legal or illegal campaign contributions by the wealthy and other special interest groups to influence laws and regulations), and bribes among private sector parties.

By the very nature of corruption (secrecy, illegality, variations across different economic activities), it is impossible to obtain precise information on the extent of corruption in a country, unlike, for instance, measuring inflation. This difficulty also precludes a precise grading of countries according to their relative degree of corruption.

That said, one can still get useful information on the seriousness of corruption in a country by surveying experts or firms in that country. Like pornography, corruption is difficult to quantify, but you know it when you see it. There are several survey-based measures of “corruption perception” that are increasingly visible now. I will describe four of them, in part because they cover relatively wide sample of countries, and in part because they are used in the research studies that I will review below.

(A) Business International (BI) Index

Business International Index is based on surveys of experts/consultants (typically one consultant per country) conducted during 1980-83 by Business International, now a subsidiary of the Economist Intelligence Unit. It ranks countries from one to ten, according to “the degree to which business transactions involve corruption or questionable payments.”

³ For instance, the World Bank defines corruption as “the abuse of public office for private gains” (World Bank, “Helping Countries Combat Corruption: The Role of the World Bank,” 1997).

(B) International Country Risk Guide (ICRG) Index.

Produced every year since 1982 by Political Risk Services, a private international investment risk service. The ICRG corruption index is apparently based on the opinion of experts and supposed to capture the extent to which “high government officials are likely to demand special payments” and to which “illegal payments are generally expected throughout lower levels of government” in the form of “bribes connected with import and export licenses, exchange controls, tax assessments, police protection, or loans.”

(C) Global Competitiveness Report (GCR) Index

Unlike the BI and ICRG indices, the GCR Index is based on a 1996 survey of firm managers, rather than experts or consultants. Sponsored by the World Economic Forum (WEF), a Europe-based consortium with a large membership of firms, and designed by the Harvard Institute for International Development(HIID), this survey asked the responding firms about various aspects of “competitiveness” in the host countries where they invest. 2381 firms in 58 countries answered the question on corruption which asked the respondent to rate the level of corruption on a one-to-seven scale according to the extent of “irregular, additional payments connected with import and export permits, business licenses, exchange controls, tax assessments, police protection or loan applications.” The GCR corruption index for a particular country is the average of all respondents’ ratings for that country.

(D) Transparency International (TI) Index

Produced annually since 1995 by Transparency International, an international non-governmental organization dedicated to fight corruption worldwide, the index is based on a weighted average of approximately ten surveys of varying coverage. It ranks countries on a one-to-ten scale.

As a survey of surveys, the TI index has its advantages and disadvantages. If the measurement errors in different surveys are independent and identically distributed (iid), the averaging process used to produce the TI index may reduce the measurement error. But iid assumption may not hold.

Moreover, since different surveys cover different subsets of countries, the averaging process may introduce new measurement errors when cross-country rankings are produced. One should also note that, as the TI indexes in different years are derived from potentially different set of surveys, they should not be used to measure changes in corruption level over time for a particular country.

As examples of the corruption ratings according to these sources, I reproduce below the BI, TI and GCR indices for a subset of countries. In the original indices, large numbers refer to low corruption (e.g., the BI-index value for Singapore is 10). To avoid awkwardness in interpretation, I re-scale all the indices in Table 1 so that low values imply low corruption (e.g., the re-scaled BI index value for Singapore is 1). To facilitate comparisons, I have rescaled the GCR ratings from the original 1-7 range to 1-10 range in the table.

Table 1: Corruption Ratings for Selected Countries

	BI	TI97	GCR97
<u>Asian countries</u>			
Singapore	1	2.34	1.77
Hong Kong	3	3.72	2.17
Japan	2.25	4.43	2.96
Taiwan	4.25	5.98	4.60
Malaysia	5	5.99	5.67
S. Korea	5.25	6.71	6.20
Thailand	9.5	7.94	7.93
Philippines	6.5	7.95	7.94
China	n.a.	8.12	5.86
India	5.75	8.25	7.30
Indonesia	9.5	8.28	7.94
Pakistan	7	8.47	n.a.
Bangladesh	7	9.20	n.a.
<u>Non-Asian countries</u>			
Canada	1	1.90	2.37
United Kingdom	1.75	2.72	1.93
Germany	1.5	2.77	2.61
United States	1	3.39	2.41
France	1	4.34	3.51
Mexico	7.75	8.34	6.24
Kenya	6.5	8.70	n.a.
Colombia	6.5	8.77	7.41
Russia	n.a.	8.73	7.61
Nigeria	8	9.24	n.a.

Notes: See the text immediately preceding the table for sources on BI, TI and GCR indices. In the original BI, TI and GCR indices, small numbers imply more corruption. All the indices in the table have been rescaled so that large numbers imply more corruption. For BI and TI indices, the values in the table = 11-original scores; and for the GCR index, the values in the table = 8-original scores. The GCR ratings are rescaled from the original 1-7 range to 1-10 range.

It is worthwhile to emphasize again that these indices reflect people's self-reported perception, as opposed to objective measures of corruption. Perception can be different from reality. However, two things may be worth noting. First, for many questions such as how corruption affects foreign investment, perception -- and thus perhaps our measure -- could actually matter. Second, despite the very different sources of the surveys, the pairwise correlations among the indices are very high. For example, according to Wei (1997b), the correlation between the BI and TI indices and that between BI and GCR indices are 0.88 and 0.77, respectively. These high correlations suggest that statistical inference on the consequences of corruption is not very sensitive to the choice of corruption index.

2. Economic consequences

In this section, we review some recent studies that systematically examine the consequences of corruption on the economic development. Wherever possible, I illustrate the results from these studies using examples from Asian countries.

On domestic investment

A recent story in China Youth Daily may be a representative case of how bureaucratic corruption and extortion can kill a small business.⁴ Huang Shengxin, a 36 year old former soldier and recipient of a Class III military medal, was a private business owner in Guangxi Province's Fangchenggang City in Southwestern China. When he left the army in 1982, he thought he would go into the restaurant business. Through his and his family's long hours of hard work, his "Changxin Restaurant" had developed a good reputation and even won an official honorable designation from the

⁴ Reproduced in New World Times, (in English, circulated in the Greater Washington DC area) April 24, 1998, p18, which attributed it to Zhang Shuangwu, China Youth Daily without giving the original date of

county government. Huang himself was designated a National Outstanding Private-Sector Worker in recognition of his success in business.

This was when the trouble began. Bureaucrats and their relatives loved the restaurant. They paid countless visits over the years, sometimes in the name of work inspection. The problem is that they did not pay the bills. By Huang's account, by February 1997, the County Government of Tanying, where the restaurant was located, owed him 80,665 Chinese yuans⁵ in unpaid bills. On May 20, 1997, burdened by his inability to return the restaurant to its profitable past, Huang sadly folded "Changxin Restaurant."

Let us now turn to some statistical evidence based on the data on a large cross-section of countries. In a regression of total investment/GDP ratio, averaged over 1980-1985, on a constant and the corruption index, the point estimate of the slope is 0.012 (Table IV, in Mauro, 1995, p696). To illustrate the quantitative effect of corruption, let me do a sample calculation by taking literally the point estimate and the corruption ratings. If Philippines could reduce its corruption level to the Singapore level, other things being equal, it would have been able to raise its investment/GDP ratio by 6.6 percentage points $(=(6.5-1) \times 0.012)$. This is quite a substantial increase in the investment.

[When Mauro (1995) used linguistic and ethnic fractionalization as an instrumental variable for corruption in the above regression, he obtained an even larger point estimate on the effect of corruption on investment/GDP ratio, about twice as large.]

On foreign direct investment

In examining a data set of bilateral foreign direct investment in the early 1990s from fourteen major source countries to forty one host countries, Wei (1997) found clear evidence that corruption in host countries discourages foreign investment (the coefficients on corruption and host country marginal tax rate are -0.09 and -1.92, respectively). Using the point estimates in the paper and the BI-corruption

publication.

⁵ Just under US\$10,000 at mid-September, 1998 exchange rate of US\$1 = 8.3 Chinese yuans.

ratings in Table 1, let me provide a sample calculation as an illustration. If India could reduce its corruption level to the Singapore level, its effect on attracting foreign investment would be the same as reducing its marginal corporate tax rate by 22 percentage points $[(5.75-1) \times 0.09 / (0.01 \times 1.92)]$.

Many Asian countries offer substantial tax incentives to lure multinational firms to locate in their countries. For example, China offers all foreign invested firms an initial two years of tax holiday plus three subsequent years of half of the normal tax rate. This research thus suggests that these Asian countries would have attracted just as much or even more foreign investment without any tax incentive if they could get domestic corruption under control.

In fact, Wei(1995) documented that, contrary to a cursory reading of the news, China is an underachiever as a host of direct investment from five major source countries (the U.S., Japan, Germany, the United Kingdom, and France), once one takes into account its size, proximity to some major source countries and other factors. Wei(1998) suggests that high corruption in China may very well have contributed to this.

On economic growth

If corruption reduces domestic investment and reduces foreign investment, one would think that it would also reduce the economic growth rate. Mauro examined how the conditional growth rate (that is, the growth rate given the country's starting point and population size) is affected by corruption. He found that the data reveals just that relationship.

To illustrate the quantitative effect, let me take the point estimate in Column 6, Table VII of his paper. If Bangladesh were able to reduce its corruption to the Singapore level, its average annual per capita GDP growth rate over 1960-1985, would have been higher by 1.8 percentage points $(=0.003 \times (7-1))$. Assuming its actual average growth rate was 4% a year, its per capita income by 1985 could have been more than 50% higher.⁶

Using an instrumental variable approach, such as in Column 8 in Table VII of Mauro's paper,

⁶ $(1+0.018/1.04)^{25} - 1 = 0.54$. Lower assumption on its actual growth rate (say 3% a year) would result in even greater improvement in 1985 per capita income from reducing its corruption level.

one would get even larger effect of corruption on growth, though the result becomes borderline significant at the 15% level.

On the size and composition of government expenditure

Tanzi and Davoodi (1997) carried out a systematic study on the effect of corruption on government's public finance. There are several important findings. (A) Corruption tends to increase the size of public investment (at the expense of private investment among other things) because many items in public expenditure lend themselves to manipulations by high level officials to get bribes. (B) Corruption skews the composition of public expenditure away from needed operation and maintenance towards expenditure on new equipment (see also Klitgaard, 1990, for this point). (C) Corruption skews the composition of public expenditure away from needed health and education funds, because these expenditures, relative to other public projects, are less easy for officials to extract rents from. (D) Corruption reduces the productivity of public investment and of a country's infrastructure. (E) Corruption may reduce tax revenue because it compromises the government's ability to collect taxes and tariffs, though the net effect depends on how the nominal tax rate and other regulatory burdens were chosen by corruption-prone officials (see Kaufmann and Wei, 1998).

Similarly, Mauro (1997) found that corruption tends to skew public expenditure away from health and education, presumably because they are more difficult to manipulate for bribe purposes than are other projects.

Let me illustrate some of the Tanzi-Davoodi findings by looking at the effect of a change in corruption on a variety of indicators, averaged over 1980-95. An increase in corruption from the Singapore level to Pakistan level would increase the public expenditure/GDP ratio by 1.6 percentage points (Column 2 of Tanzi-Davoodi's Table 1); and reduce government revenue/GDP ratio by 10 percentage points (Column 2 of Tanzi-Davoodi's Table 2).

An increase in corruption reduces the quality of roads, and increases incidence of power outages, telecommunication faults, and water losses. Specifically, an increase in corruption from the Singapore level to the Pakistan level would be associated with an extra 15 percent increase of roads in

bad condition, after controlling for a country's level of development and its public investment to GDP ratio (Column 2 in Table 5).

On labor movement

Our discussion so far has been focused on bureaucratic corruption - bribes paid to or extorted by public officials. This is deliberate. But I want to note briefly that corruption is certainly not restricted to this type only. Corruption between private parties is also widespread in many countries, with serious consequences. I will use some space here to discuss its manifestation in labor union activities.

Bribe payment to supposed agents of a labor union can compromise the collective interest of the union. The case of meat cutters in New York City in the 1970s helps to illustrate this point.⁷ The supermarkets in New York had to deal with a well-organized labor union, the Amalgamated Meat Cutters and Retail Food Stores Employees Union, which basically had monopoly over the local labor supply. The supermarkets were reported to make regular payments to a middleman, who in turn paid union officials to buy labor peace. One large Midwest beef processor paid large sums to this individual (and hence the union officials indirectly), which helped the firm to do much of the meat cutting in the Midwest (at the expense of New York meat cutters) without encountering labor unrest in New York. In the process, the middleman and a few labor union officials had profited, but the majority of the New York labor union members didn't. While this is a U.S. example, one can imagine that similar cases may have happened in labor unions elsewhere.

Recent revelations of corruption and fraud in the election of Teamsters Union officials in the U.S. further tarnished its reputation (which was still painfully recovering from its early unfavorable image of mob connections), and this dealt a serious blow to the effectiveness of the union.

⁷ This case is taken from Rose-Ackerman (1978, p195), who attributed the original source of the story to The Wall Street Journal, September 10, 11, 1974; and New York Times, March 14, 26 and October 8, 1974.

On urban bias, poverty and other consequences

The desire to extract bribes distorts the behavior in a variety of ways. In particular, less “manipulatable” public projects often do not get into the budget adequately, even if they have high social value. Large scale defense projects are often favored by politicians and bureaucrats because their size and secrecy are often conducive to kickbacks.⁸

Defense contracts are often budgeted at the expense of rural health clinics specializing in preventive care (Gray and Kaufmann, 1998). To the extent that rural residents tend to have lower incomes than their urban counterparts, this corruption-induced policy bias may worsen the income distribution, and at the same time, divert the needed resources away from the countryside.

The last example shows that poverty can be made worse and more persistent by corruption. In fact, one can expect that corruption would make poverty worse in cities as well as in rural areas, as poor people have less means to bribe officials and less political power in general. Rose-Ackerman (1997) listed several channels through which poor people are hurt by corruption. (A) The poor will receive a lower level of social services. (B) Infrastructure investment will be biased against projects that aid the poor. (C) The poor may face higher tax or fewer services. (D) The poor are disadvantaged in selling their agricultural produce. And (E) their ability to escape poverty using indigenous, small scale enterprise is diminished.

Using cross-country regressions over the period 1980-97, Gupta, Davoodi, and Alonso-Terme (1998) show that high and rising corruption, as measured by the ICRG index, increases income inequality and poverty. Several channels have been identified in the paper through which corruption worsens the (relative and sometimes absolute) poverty: corruption lowers economic growth, biases the tax system to favor the rich and well-connected, reduces the effectiveness of targeting of social programs, biases government policies towards favoring inequality in asset ownership, lowers social

⁸ At the writing of this paper (April 1998), a Taiwanese general in charge of procurement is under investigation for vastly overpaying for a French-made warship in exchange for huge bribes. Similarly, India’s arms purchase from Sweden gave birth to one of the most spectacular corruption scandals in both countries’ national politics.

spending, reduces access to education by the poor, and increases the risk of investment by the poor.

Does Corruption ‘Grease’ the Wheels of Commerce?

While the previous evidence has clearly showed that domestic investment, foreign investment and economic growth are lower in more corrupt countries, one sometimes still hears a version of “virtuous bribery” story. In particular, some say that bribes often work as “grease” that can speed of wheels of commerce. In a country that is rife with bad and heavy regulations, the opportunity to offer bribes to circumvent bad government control is like deregulation, and hence can be good.

Kaufmann and Wei (1998) argues that this view is true only in a very narrow sense when the bad regulation and official harassment are taken as exogenous. Officials often have lots of leeway to customize the type and amount of harassment on individual firms. Tax inspectors may have room to over-report taxable income (see Hindriks, Keen and Muthoo, 1998). Fire inspectors can decide how frequently they need to come back to check fire safety in a given year. Using data on a survey of nearly 2400 firms in 58 countries, Kaufmann and Wei show that, even within a country, managers of the firms that pay more bribes on average spend more rather than less time negotiating with government officials. It is likely that there was, on average, a disadvantage to those paying bribes as well as to the society in general. This evidence supports the idea of “tailored harrassment” and “endogenous obstacles,” and thus rejects the hypothesis of exogenous obstacles and beneficial “grease.”

3. Culture: Is Asia Special?

Denis Osborne’s (1997) paper documents clearly the possible differences in attitude towards corruption and bribery in different countries and times. Tanzi (1995) argued that firms in some countries are culturally less inclined to have arms-length economic relationships, which in turn may lead to more ingrained corruption.

While there is ample evidence that different people may have different views with respect to

bribes versus gifts,⁹ or group loyalty versus self-interest, Osborne also observed that many of these differences may not be inherently cultural. For example, seemingly greater tolerance of bribes in some communities may be a result of the short horizons of the official due to uncertainty about the future in a time of rapid change, or pitifully low salaries of civil servants that are regarded by the officials or ordinary citizens on the street as “unfair” (Osborne, 1997, P22). These should not be properly defined as “cultural.” Furthermore, Osborne documented that throughout human history, from ancient Greece, William Shakespeare in the West, to Confucianism and Hinduism in the East, one can find repeated expressions of distaste by scholars and ordinary people for corruption and dishonesty.

We do not have enough good, detailed country studies on the interaction among culture, corruption and economic development. Pasuk Phongpaichi and Sungsidh Piriyarangsana's book, Corruption and Democracy in Thailand, bravely as well as brilliantly offers an in-depth study of corruption in Thailand. At the beginning of the book, the authors reviewed many early studies of the subject, many of which attribute Thai corruption to cultural heritage (see their description of the work by Lucien Hanks (1982), Fred Riggs (1966), Edward Van Roy (1970), Thinapan Nakata (1977), and Clard Neher (1977)). With a large-scale survey, the Pasuk-Sungsidh book concludes that Thai people do have a higher limit than those in many other countries on the amount of money officials may take from the private sector before it is considered corruption.

In the previous section, we cited evidence that foreign investors on average invest less in more corrupt countries. Some may suspect that East Asia must be an outlier since it seems such a popular destination for foreign investment. Let us note here that, yes, foreign investment in East Asia has been big, but East Asia is a large market and has been growing faster than the world average. Many East Asian countries also have low wages. On these factors alone, East Asia naturally attracts more foreign investment. To see whether foreign investors are less sensitive to corruption in Asian host countries, one needs to control for these factors. A section in Wei (1997) did exactly that. The evidence shows that there is no support for the Asian exceptionalism hypothesis. Instead, investors from the major

⁹ See also Rose-Ackerman (1998a) for an illuminating discussion of bribes versus gifts.

source countries are just as averse to corruption in East Asia as elsewhere. Putting it differently, among East Asian host countries, foreign investors still prefer to go to less corrupt countries other things being equal. One should note that the paper does not compare whether domestic and foreign investors may have different degrees of sensitivity to corruption.

4. Effective ways to fight corruption

Because corruption is a crime in most countries' penal codes, it is common to emphasize the role of law enforcement in the fight against corruption. While there is no question that law and law enforcement are important, we should note that it is at least as important to look into the root causes of corruption, the institutional environment and the incentive structure under which corruption thrives.

Several important theoretic works (e.g., Rose-Ackerman, 1978; Tanzi, 1998; etc) have pointed out factors that affect a country's level of corruption. I will first review these factors from the theoretical viewpoints and summarize recent empirical attempts at testing and quantifying the roles of these factors.

A. Opportunities induced by Government's Role in the Economy

While we want to recruit ethical individuals to become government officials, economists are never tired of pointing out the importance of minimizing the institutionalized opportunity for officials to take bribes. The more discretion government officials have over the operation of business or lives of citizenry, the more likely corruption would occur and flourish, other things being equal. Labyrinthine government regulations create fertile grounds for government officials to extract rents, whereas an economy where government's role is minimal is less likely to breed corruption.

This point is almost elementary. If it requires obtaining a license and paying a tariff before a firm can import certain goods, then officials deciding who gets a license and granting tariff exemptions have the opportunity to extract bribe payments. If no license or tariff is needed, no firm would pay bribes before importing.

Tanzi's excellent survey (1998) offers a number of concrete descriptions of where opportunity for corruption may arise as a result of government (over-)regulation. For example, in the taxation area, he pointed out that the more difficult it is to understand the laws, the more likely there is corruption; the more discretion given to tax administrators over the granting of tax incentives, determining tax liabilities, and selecting audits and litigations, the more likely there is corruption.

Similarly, the size of government spending and the procedure used in allocating the expenditure also significantly affects the opportunity for corruption. Also, if a government is involved in providing certain goods and services at subsidized prices, say foreign exchange, credit, public housing, educational opportunities, or water and electricity, then officials with the duty to decide also have the opportunity to pocket a fraction of the implicit subsidy (e.g. the difference between the market value of the goods or services and the price the government is asking), in the form of bribes extracted from the recipient of the subsidized goods or services.

In the papers both by Mauro (1995) and by Kaufmann and Wei (1998), it is shown that the corruption index and the index of government regulation is positively correlated.

Many countries in Asia have been pursuing active industrial policies. Industrial policies by their very nature involve discretion on the part of government officials, in terms of which industry to support, which firms within an industry to support, how to allocate subsidized loans, grants, tariff rebates, and so on. Ades and Di Tella (1997) argue that, logically, industrial policies can promote corruption as well as investment. Using data on indices of corruption and industrial policy across a number of countries, they then show that corruption is indeed higher in countries with more active industrial policy. The negative effect of corruption induced by the industrial policy seems large (probably on the order of 56% to 84% of the direct beneficial effect), and therefore should not be neglected in any cost-benefit analysis of industrial policies.

Before leaving this subsection, it should be pointed out that, while less discretion by government officials reduces the scope for corruption, we are not advocating abolishing all the regulations. Many regulations and even bureaucratic discretion serve useful functions in the society. The point is rather that we should be mindful of the implications for corruption when designing

government regulations.

B. Civil servant recruitment and promotion system

The moral character and quality of government officials are certainly another very important determinant of the extent of corruption in a country. The quality of the bureaucrats, in turn, is highly related to how they are recruited, paid, and promoted. In a country where nepotism and patronage are rampant, or government posts are sold explicitly or implicitly, bureaucrats will be less competent and less well-motivated because success depends on advantages gained by connection or bribing superiors rather than merit, and will be very vulnerable to corruption. The German sociologist Max Weber (1947) made this point amply clear.

Rauch and Evans (1997) composed indices of degree of meritocratic recruitment and promotion for civil servants in 35 countries (as well as their average wages relative to private sector alternatives). They then show that the cross-country ratings such as the International Country Risk Guide are statistically significantly related to the way civil servants are recruited and promoted. Meritocratic recruitment is most important for reducing corruption, followed by meritocratic promotion and security of employment.

C. Compensation for civil servants

It has been long recognized that it is naive to give people power, pay them a pitiful wage, and expect them not to use their power for personal gains. Because of this realization, Singapore, starting in the 1960s under the leadership of then Prime Minister Lee Kuan Yew, and Hong Kong, starting in the late 1970s, began to pay their civil servants well, sometimes above their best alternative in the private sector. For example, it is often noted, fondly or not, that the Singapore's cabinet ministers' salaries are pegged to those of the CEOs in the largest multinational firms in the world. The Singapore Prime Minister's pay is several times that of the United States President. Many scholars (and the governments in Singapore and Hong Kong) contend that this wage policy is in an important way responsible for the very low corruption levels in these two economies. [Singapore is often rated as one

of the least corrupt countries in many surveys.]

The view that high salaries to civil servants help to deter corruption is certainly not restricted to Asia. For example, according to Tanzi (1998), Assar Lindbeck (1998) attributes the low corruption in Sweden during the 1870-1970 period partly to the fact that high-level government administrators earned 12-15 times the salary of an average industrial worker.

Systematic and statistical examination of the evidence on the connection between corruption and public sector wage is a relatively recent undertaking. In a cross-country regression study cited above, Rauch and Evans (1997) did not find robust support for the role of high salaries. But the World Bank's World Development Report 1997 and the working paper by Van Rijckeghem and Weder (1997) do report evidence that countries with poorly paid public officials tend towards higher corruption.

What is important here is not the absolute level of civil servants' wages, but their values relative to the best private sector alternatives. In Van Rijckeghem and Weder's paper, given the constraint of data availability, they take the average civil servant pay relative to average manufacturing sector wage, as their measure of officials' incentive to resist corruption.

Using a regression technique, they found a negative and statistically significant correlation between public sector's relative wages and the extent of corruption involving government officials. Based on their point estimates, they also calculated, for each country in their sample, the ratio of public to private sector wages that is needed in a literal calibration of their regression in order to reduce the corruption to Singapore level, which has the lowest corruption grade (this is called "calibrated ratio to reduce corruption to Singapore level" below). It maybe instructive to reproduce the part of their Table 6 below that reports the actual versus the calibrated ratios for the Asian and other selected countries in the sample. Like all other projections in this paper, the numbers below are meant to be illustrative and not to be taken literally.

Table 2: How Much Increase in Civil Servants' Legal Pay Is Needed if one takes Van Rijckeghem - Weder (1997) calculation literally?

Country	Public Sector relative to Manufacturing Sector Wage		
	Actual	Calibrated ratio to reduce corruption to Singapore level	Needed increase in Public Sector's Legal Pay by taking van Rijckeghem-Weder literally
	(1)	(2)	(3)
<u>Asian Countries</u>			
Singapore	3.49	3.49	0%
Hong Kong	1.79	2.85	59%
India	1.09	5.40	395%
Korea	1.91	7.08	271%
Sri Lanka	0.85	5.07	496%
<u>Non-Asian Developing Countries</u>			
Mexico	0.50	5.04	908%
Turkey	0.92	5.38	498%
Colombia	0.64	4.87	660%
Kenya	0.90	5.36	496%
Ghana	0.63	6.77	975%

Source: The first two columns are from Table 6 in Van Rijckeghem and Weder (1997). Column (3) is author's calculation based on the first two columns.

A few things are particularly worth noting in the table. First, to really eradicate corruption (or to reduce it to the Singapore level), one needs to raise the public sector's pay by a substantial margin (sometimes by 500% or even 900%). Although government officials in Asia are comparatively better-paid than some of their African and Latin American counterpart and hence a smaller increase is needed, the 60%, 200% to 500% increase may be still fiscally infeasible for these countries. Second, we do not know for sure if the warranted salary increase should raise the pay to the government officials above

their private sector alternatives.¹⁰ If they do, there is a serious equity issue even if these governments have the money (or have the ability to transform most of the currently illegal bribes to the incremental taxes needed to raise the civil servants' legal pay). Third, if civil servants are paid a higher salary than their private sector alternatives, many people may pay a bribe to be chosen for these public jobs. So the high pay policy itself may create new type of corruption. Fourth, extortion and bribe-taking practices could have become part of the bureaucrats' work culture and habit, so that increased legal pay may not do much to reduce corruption, at least initially.

Fortunately, one need not draw such a pessimistic conclusion from this exercise if one realizes that the public sector wage is but one of the elements in a successful anti-corruption campaign. We now turn to another important component below.

D. Legal system, "watch-dog" organization, "hot-line," client surveys, free press and democracy.

In any fight against corruption, the ability for a country to detect acts of corruption and to prosecute those guilty of committing them is essential to deter corruption.

There are several channels through which detection and punishment capacity is realized. Let me mention seven of them here: (A) An independent and impartial judicial system, (B) an official anti-corruption agency such as Hong Kong's Independent Commission Against Corruption (ICAC),¹¹ (C) existence of grassroots "watchdog" organizations, (D) a telephone "hot line" as those in the United Kingdom and Mexico that allow citizens to complain directly to the government, (E) public opinion surveys such as those carried out by Public Affairs Center in Bangalore, India or by the World Bank's Economic Development Institute in other countries that register the public's attitude, particularly those

¹⁰ One should note that the true private sector alternatives for senior government officials with comparable skills and responsibilities are likely paid a lot more than the average wage in the manufacturing sector. But the manufacturing sector wage is the only wage data available on a consistent cross-country basis. The assumption in the study is that, across countries, the manufacturing wage and the salaries of the private sector alternative of government officials are highly positively correlated.

¹¹ See Quah (1989 and 1993) for a discussion of Hong Kong and Singapore's anti-corruption measures along this and other lines.

of the poor, towards corruption, (F) freedom of the press to bring to light any official corruption, and finally (G) democracy that serves the dual purpose of throwing corrupt officials out of power by the populace and protecting those individuals and organizations that dare to expose corrupt officials. All of these channels are potentially important. There are some case studies and much anecdotal evidence that demonstrate both effectiveness in specific countries and time periods, and suggestions on how to implement them. It seems possible that the extra revenue collected by the government as a result of the actions of the various anti-corruption bodies can exceed the cost of these bodies.

While the intuition for the importance of these channels seems straightforward, so far there is very little systematic statistical analysis of their relative importance for a broad sample of countries. Such will be a very fruitful future research topic.

E. International Pressure

There are two kinds of international pressure that can be brought to bear on the corruption problem. First, international organizations such as the United Nations Development Program, the World Bank, the International Monetary Fund, the Asian Development Bank, and the like, can provide moral suasion, pressure as well as technical assistance¹² to induce or help countries in their fight against corruption. Various conferences on good governance and corruption organized by the UNDP, the World Bank and so on are useful. Cutting off loans or threatening to cut off loans by the IMF or World Bank on the ground of corruption in recipient countries may be even more effective on the margin in some cases.¹³

The second channel is concerted international effort to criminalize the offering of bribes by multinational firms to host countries' officials. Until December 1997, the United States has been the only major source country of international direct investment that has an enforced law -- The Foreign Corrupt Practices Act (FCPA) of 1977 -- that prohibits its companies from bribing foreign officials.

¹² Proper procurement guidelines are an example of this.

¹³ There is little data on this, perhaps because the battles are often not fought in the open.

For most other major source countries in the OECD, not only has it been not illegal to bribe foreign officials, but bribes have been, up until very recently, tax-deductible.¹⁴ The U.S. law has not been very effective in reducing corruption in foreign countries, perhaps because companies from other countries are too eager to pick up the business that the U.S. firms miss due to the law.¹⁵ Thus, corruption-prone foreign officials do not feel enough pressure to change their behavior even if they are genuinely interested in attracting foreign investment into their countries. An international treaty that bans foreign corruption can strengthen the collective ability of all major multinational firms not to pay bribes. They would be more likely to resist demands for bribes if they can be confident that they will not lose business to their competitors as a result.

It should be pointed out that we should not have any romantic hope on the degree of effectiveness of international pressure. First, the mandates of almost all international governmental organizations place some limits on how much anti-corruption objective can be pursued in the organizations' activities. If the World Bank were to suspend lending to countries with severe corruption ratings according to the Transparency International, it would have to stop half or more of its loans. This would conflict with the survival tendencies of the organizations, and contradict its other very important objectives, even though these objectives themselves may be jeopardized by corruption.

Second, and more importantly, domestic efforts and domestic institutions ultimately determine the success in reducing corruption. If government officials do not intend to seriously reduce corruption, they would simply not request a loan if the international organization requires corruption reduction as a prerequisite.

So while the international pressure is useful and should be applied whenever and wherever

¹⁴ Britain has a 1906 (?) law that can be interpreted as prohibiting its firms from bribing foreign officials. But it is effectively unenforced.

¹⁵ Hines (1995) found that the U.S. firms do invest less in more corrupt countries. Wei (1997a) found that U.S. firms are not very different from those from other OECD source countries in this regard, and hence, U.S. firms' behavior may not be attributable to the FCPA. A Wall Street Journal article (September 29, 1995), "Greasing Wheels: How U.S. Concerns Compete in Countries where Bribes Flourish?" suggests that some firms may indeed evade the requirement of law.

possible, it should be regarded as supplemental to other domestically-based reforms.

5. Concluding remarks

While one may think of examples in which some firms/people are made better off either by paying a bribe or the opportunity to pay a bribe, the overall effect of corruption on economic development is negative. This is just as true in Asia as elsewhere.

Systematic research conducted recently by a number of authors find that the more corrupt a country, the slower it grows. There are several channels through which corruption hinders economic development. They include reduced domestic investment, reduced foreign direct investment, overblown government expenditure, distorted composition of government expenditure away from education, health, and the maintenance of infrastructure, towards less efficient public projects that have more scope for manipulation and bribe-taking opportunities.

While culture plays a role in determining what is considered a bribe versus a gift, the culture-induced difference seems small. There is no evidence to support the notion that corruption in Asia, East Asia included, is any less harmful than corruption elsewhere.

The fight against corruption has to be multi-fronted. While laws and law enforcement are indispensable, countries serious about fighting corruption should also pay attention to reforming the role of government in the economy, particularly those areas that give officials discretionary power which are hot beds for corruption. Recruiting and promoting civil servants on a merit basis, and paying them a salary competitive to private sector alternatives help to attract high quality, moral civil servants.

International pressure on corrupt countries, including criminalizing bribing foreign officials by multinational firms, is useful. But the success of any anti-corruption campaign ultimately depends on the reform of domestic institutions in currently corrupt countries.

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