

Economics focus

Digging for dirt

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The depths to which economists go to measure corruption

CORRUPTION can be difficult to avoid—the checkpoint policeman reluctant to return your passport; the apparatchik behind the desk who pushes your papers to the bottom of the pile; the customs officer painfully slow to use his rubber stamp—but it is not easy to measure. Vast amounts of money flow through public hands. How much is diverted into private pockets? Kautilya, a statesman and scholar in ancient India, thought it impossible to tell, “just as fish moving under water cannot possibly be found out either as drinking or not drinking water”.



This would not satisfy Paul Wolfowitz, the World Bank's president, who is determined to fight corruption in borrowing countries. Fortunately, a growing number of economists, not least at the bank, are turning to the tricky task of quantifying corruption. With some ingenuity, they are striving to measure how much water civil servants are drinking.

Some of the biggest fish were attracted to Iraq's oil-for-food programme, which ran from 1997 to early 2003. Under the scheme's original terms, Iraq sold its oil to whomever it chose, at a price it set (subject to United Nations approval). The proceeds (\$64 billion in 2000 dollars) were paid into an escrow account and spent largely on food and medicines, under UN supervision.

American intelligence officials estimate that Iraq received \$230m-240m in bribes from those eager to buy its oil. Economic intelligence, as applied by Chang-Tai Hsieh and Enrico Moretti, of the University of California, Berkeley*, suggests that it got far more. As they point out, Iraqi oil, such as Basra Light, is a close substitute for Arabian Light. Before UN sanctions, there was no systematic price difference between the two. But in 1997-98, Basra Light fetched \$2 a barrel less; in 2000-01, the gap was more than \$5. Bidders would be happy to offer bribes, kickbacks and political favours to secure oil this cheap. Indeed, they could pay up to \$5 billion and still break even. How these potential spoils were divided between Iraq and its customers is hard to say, but Messrs Hsieh and Moretti reckon Iraq collected \$700m-2 billion.

Although a lot of money, this is a small proportion (1-3%) of Iraq's oil revenues. Petty corruption often cuts more deeply. During Indonesia's rainy season, the dirt tracks that connect Javanese villages to their fields often become impassable. According to one estimate, every dollar spent surfacing these roads—with sand, rock and gravel—brings benefits worth \$3.30 over the roads' lifetime. But Indonesia suffers from widespread corruption, collusion and nepotism. Some of the World Bank money allocated to village infrastructure ends up greasing palms not smoothing gravel.

Corruption underfoot

But how much? In a remarkable study¹ backed by the bank, Ben Olken, of Harvard University, dug deep into the sand and stone to find out. He reports the gap between what a village claims it spent on a road, and what he and his engineers reckon the road really cost. They left little to guesswork. To discover prices and wages, they surveyed quarries, labourers, truckdrivers and suppliers. To get a fix on quantities, they dug holes in the roads, taking a sample of the material that had gone into their construction. And then they built their own "test roads", to find out what it cost to do the job properly.

Mr Olken calculates that on average 28% of reported spending went missing, mostly because roadbuilders skimmed on materials. (Not all of the gap can be put down to venality, though: some of the gravel, for example, was probably worn away.) Thanks to his measure of corruption, Mr Olken can weigh up different strategies to fight it.

He reaches an unfashionable conclusion. The bank puts great store by "empowering" the poor to keep their officials honest. In Indonesia, villages must hold public hearings before they get the second and third slices of their money. In a random sample of villages, Mr Olken tried to stir up a bit of Tocquevillean spirit ("Town meetings are to liberty what primary schools are to science...they teach men how to use and how to enjoy it") by sending out hundreds of invitations to villagers to attend the public hearings. His efforts raised attendance, but this had little measurable effect on corruption.

For all its romantic appeal, monitoring by villagers suffers from a free-rider problem. If your neighbour keeps a beady eye on road spending, you can benefit from his vigilance without making an effort yourself. Why, then, should you bother? But by the same logic, why should he?

Mr Olken puts his faith in a less fashionable ally: auditors. A group of villages, chosen at random, were told that they would be audited at the end of the project. This threat reduced missing expenditures by about eight percentage points, to 20% or so. The audits are not cheap, costing the state about \$335 apiece, and auditors have been known to lapse into cosy collusion with those they scrutinise. But done properly, Mr Olken says, bean-counting is a promising way to extend the useful life of roads.

A victory for centralised accountancy over local democracy, then? Not quite. Mr Olken shows that corrupt officials care both about their chances of being caught and about the severity of the punishment if they are. The threat of an audit weighed more heavily on village heads who were politically insecure, holding only a narrow majority and facing re-election within two years. Detection cannot be left to the village, but punishment can be. On this point also, Kautilya, writing 2,300 years ago, offers a helpful observation: as punishment for the theft of public property by government servants, he recommended smearing the offenders with cow dung and ashes.

* "Did Iraq Cheat the United Nations?". Available at

<http://www.nber.org/papers/w11202>

† "Monitoring Corruption". Available at

www.nber.org/~bolken/corruptionexperiments.pdf