

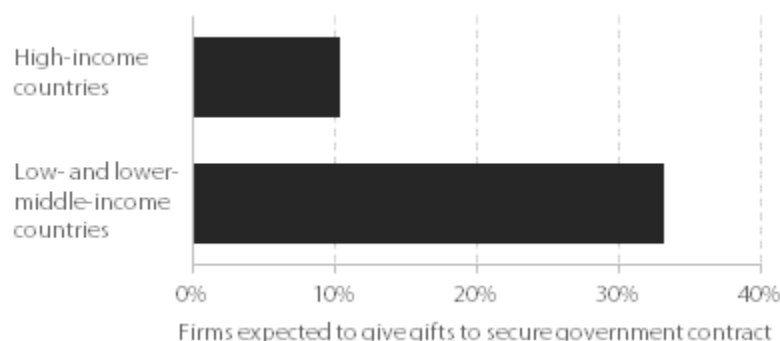
e-procurement: reducing corruption

Corruption exists in some form or other in every country and carries a huge global cost. Wasting money on bribes mean fewer [investors](#) are likely to invest in new projects that could improve the economy. For the private sector, this leads to lower employment and [growth](#). For the government, corruption erodes [taxes](#), leaving less money to spend on vital areas like education, health, or infrastructure. Similarly, government spending is partly wasted because resources are siphoned off. While corruption has remained an almost insurmountable challenge for decades, the peer-reviewed paper for this chapter identifies a relatively simple and astonishingly efficient policy that actually reduces corruption: Moving government procurement online, which makes the process more transparent and less corrupt.

Corruption's massive cost

While it's [impossible](#) to establish precisely, corruption has an [estimated global](#) cost of \$1 trillion annually. Procurement is a government's number one corruption risk: Every phase of a procurement process includes the risk of bribes, kickbacks, and collusion. Enforcement data from 427 cases of foreign bribery by the Organization for Economic Co-operation and Development (OECD) showed that more than half of all public procurement contracts involved bribery.

The World Bank's 2020 Enterprise Survey revealed that, across all countries, 23.7% of firms said they are expected to give gifts to secure government contracts. The survey shows that this is typically a bigger problem in lower-income countries: While 10% of companies in rich countries reported that they are expected to give gifts to secure government contracts, one-third of companies in low- and lower-middle-income countries said this (see Figure 9.1).ⁱ In East Asia and the Pacific, an astonishing 45% of all companies reported they have to give gifts.



SOURCE: World Bank's [2020 Enterprise Survey](#). 168 responses from low- and lower-middle-income countries and 44 high-income countries.

Figure 9.1 Percent of firms expected to give gifts to secure government contracts: Average for the 2000s.

Another form of corruption that drives up the cost of government procurement is cronyism. A recent [study](#) in Hungary showed that when the president's son-in-law was on a company's board, the company's probability of winning a tender was three times higher than that of the average bidder. When he moved off the board, this probability fell to less than half that of the average bidder. Cronyism is great for relatives of powerful political figures, but it means the government—and therefore taxpayers—must pay more than needed for companies' services.

Indeed, shady dealings and the abuse of power not only erode citizen trust, weaken democracy, and dampen economic growth but also reduce the effectiveness of government spending. The OECD estimated in 2010 that bribery in government procurement in OECD countries increases contract costs by at least 10%, suggesting that \$400 billion is lost to bribery alone every year. The International Monetary Fund's [analysis](#) of infrastructure spending suggests that "on average, over one-third of the resources spent on public investment are lost due to inefficiencies in its public investment management processes," and losses are highest in poorer economies.

Corruption of public procurement is particularly damaging because, in almost every nation, the government is by far the largest buyer of works, goods, and services from the private sector. Total public procurement amounted to [\\$15 trillion](#) in 2018, or [14.5% of global GDP](#). Public procurement is even more important in low- and lower-middle-income countries. Total spending is a similar proportion of these countries' GDP, but because overall government spending is much smaller, procurement in these countries makes up an astounding *half* of all public expenditure.ⁱⁱ

Procurement corruption also interferes with attempts to meet other SDGs. For example, of the World Health Organization's ten leading causes of inefficiency in the health sector, four are procurement-related.

Overall, the significant losses wrought by corruption hamper development.

The corruption SDG: Zero progress, dismal prognosis

It is appropriate then that the SDGs aim to crack down on corruption as part of Goal 16. This target [promises](#) to "substantially reduce corruption and bribery in all their forms" by 2030.



Source: <https://www.transparency.org/en/cpi/2022>

Figure 9.2 Corruption Perceptions Index (CPI) of the world 2012–22. Zero means highly corrupt, and 100 is very clean.

Unfortunately, the world has made basically no progress since this target was set down in 2015. The most pertinent data for the target is the corruption index from Transparency International. It uses survey reports to estimate the [perceived levels of public sector corruption in](#) 180 countries and territories around the world, with zero denoting a highly corrupt country, and 100 meaning very clean. For the eleven years since 2012, the global average has remained entirely unchanged at 43 (see Figure 9.2). Based on current trends, it appears the world will never achieve its SDG

corruption targets. For the full 16th SDG goal, the SDG index shows very little progress, implying completion only in 2115.

The big problem is that there are very few proven ways to reduce corruption. Many direct approaches to reducing corruption show little impact. International promises of a 'zero tolerance' policy [should be taken](#) with a grain of salt. More than 140 countries have signed the United Nations Convention against Corruption, yet it has had very patchy results. The OECD has its own convention on bribery, but only a handful of states are actively following it. Neither the UN nor the OECD has any authority of enforcement. Because they rely on the power of persuasion, countries have been sluggish at implementing and following up on laws that would make any difference.

Stamping out corruption, therefore, requires extensive worldwide reform and huge cultural shifts, and of course, any movements for change must prevail against strong vested interests. Where corruption exists, it usually benefits influential people either in the government or private sector. It is difficult to convince these powerful figures or groups to forgo the money or preferential treatment they receive. Whenever anti-corruption regulations or laws are put in place, there is a strong incentive to skirt them. Indeed, many countries lauded in Transparency International's annual index for being low-corruption countries are [home to corporations](#) that bribe officials in less transparent nations.

Fortunately, the peer-reviewed paper for this chapter highlights a relatively simple way of making government less corrupt and more effective: Make procurement visible and transparent by moving the whole process online, known as e-procurement.

A simple, substantial solution with many benefits

The transparency of an online e-procurement system makes it much more difficult for private entities to garner special treatment. The digital fingerprint that's left from operating the system increases accountability in decision-making. A well-designed system can even alert authorities to red flags for corruption, collusion, or other wrongdoing. Its public nature also means that outside watchdogs or monitors can watch for and catch signs of malfeasance.

While it won't magically make all corruption disappear, evidence shows that e-procurement will substantially reduce the negative impact. Many countries across the world have already implemented e-procurement, especially high-income ones. However, almost 40% of low- and lower-middle-income countries haven't, which presents an opportunity to dramatically reduce corruption and gain numerous other important benefits too.

Countries with e-procurement systems are often able to adjust to new needs or threats more quickly. During the first months of the Covid pandemic, when countries were scrambling for protective gear, oxygen, and ventilators, governments with e-procurement systems adjusted their procedures to lockdowns and other new variables in half the time it took countries with non-electronic procurement systems.

In part, this was because introducing e-procurement speeds up the entire procurement process, leading to faster, more efficient spending. When South Korea adopted an online system, the average time it took for the government to select a winning bid after receiving firms' offers dropped from 30 hours to only 2 hours. In Argentina, the duration fell by more than 11 days after the country switched to e-procurement.

Of course, doing things quickly isn't the same as doing things well. However, there is evidence that digitizing procurement can mean better oversight and improved service delivery. A good example is India, where there was a 12% increase in road quality grade after shifting to an e-procurement system.

Quality likely improves in part because moving to an online procurement system increases competition for government contracts. In non-electronic systems, potential bidders have to look up procurement tenders in obscure paper-based journals, which is costly and time-consuming, especially for smaller companies. It's far easier and cheaper to apply through an online system, leading to more applicants. When Bangladesh switched to e-procurement, for example, the rate of awarded contracts that only received one bidding firm almost halved from 33% to 17%. In India's Karnataka State, the number of suppliers increased from 130 to 4,800 in the first three years of its e-procurement system operation; in South Korea, the number of bidders doubled from 70,000 to 147,000 in its first three years.

e-procurement also tends to bring in more bids from smaller firms. An analysis of the open data from Ukraine's reforms shows that a remarkable 97.7% of businesses bidding in its e-procurement system are small and medium enterprises. In 2021, some 64,801 small or medium businesses won contracts worth a collective \$16.6 billion, while 1,524 large companies won contracts worth \$5.9 billion.

Not only is it easier for firms to bid, but governments also spend less to advertise contracts, which can be quite expensive. When transitioning to e-procurement, the Indian state of Andhra Pradesh found that it needed to use 25% less space for advertising, saving half a million dollars annually. And the Philippines spent 50% less on newspaper advertising costs after switching to e-procurement, saving \$9 million annually.

Perhaps most importantly, studies have repeatedly documented that e-procurement and the resulting competition mean lower prices. The digitization of the process lowers the bidding and transaction costs for companies, thus attracting more firms to the market, which stimulates competition and usually means lower prices.

In Moldova, e-procurement reform resulted in 15.4% savings on medical procurement transactions worth \$60 million and 19% savings on the HIV/AIDS program procurement budget, including 95% savings on key antiretroviral drugs.

In Table 9.1, across a wide range of procurement areas, you can see the overall savings from a number of countries that recently switched to e-procurement systems.

Table 9.1 Reduction in procurement prices from e-procurement.

Country	% reduction
ARGENTINA	4
BANGLADESH	7
BRAZIL (São Paulo)	25
CHILE	3
INDIA (Andhra Pradesh)	8
INDIA (Bangalore)	4–12
MAURITIUS	20
MEXICO	5–25
PHILIPPINES	10–25
SOUTH KOREA	12.5
UKRAINE	3.5–5.8

If we discard the lowest and highest price reductions in Table 9.1, which are more likely outliers, the average documented decrease in procurement price is 6.75%.

One important variable is how much of the total procurement budget can be digitized. If a project pertains to national security, it may never be publicly tendered. Other projects may be too complicated for officials to want to attempt. To account for this, the study for this chapter estimated that, on average, only half of all procurement would be digitized.

It's important to note, too, that savings only arrive once a pilot version of an online procurement system kicks off, which on average, occurs in the third year of a country's transition to e-procurement. The earlier years are used for planning, which on average takes about a year, and designing and building, which takes approximately 1.5 years. This chapter's study arrived at these figures by analyzing 11 countries in the World Bank's global Public Procurement Database that have moved to e-procurement. These included low-income countries such as Bangladesh, Uganda, and Rwanda, as well as middle-income countries such as Ukraine and Tunisia and high-income countries like Italy and South Korea.

Although countries will generally start to see savings once a program begins its pilot stage, they are only likely to see substantial benefits from e-procurement by the sixth year of operation, when at least half of the procurement budget has been digitized.

What that means in terms of total money saved hinges on a country's total procurement budget. For an average low-income country, this means zero benefits in the first two years, followed by \$7 million in the first pilot phase in year three, ramping up to \$140 million annually by the sixth year. This comes from spending about \$4.2 billion every year on procurement, with half of it spent through e-procurement, where prices are 6.75%—or \$140 million—lower. Because countries get richer over time, their procurement budgets also increase, meaning the benefit of saving 6.75% increases to \$212 million by year 12.

For the average lower-middle-income country, the benefits follow the same pattern, but because the budget is almost ten times larger, the benefits are similarly bigger. In year 6, with annual procurement of \$35 billion, even if e-procurement only covers half the spending, it delivers benefits worth \$1.2 billion per year and increases as the economy grows.

What will it cost?

Setting up e-procurement is not terribly expensive, but most of the costs are incurred in the first five years before countries start seeing meaningful benefits. Planning, developing, and building an online system is a large undertaking. Most countries will have to evaluate current procurement laws and policies to make sure any necessary legal reforms are passed, such as allowing e-signatures rather than requiring written ones. Officials will also have to acquire software and hardware and then adapt those to local needs before installing. Procurement officers will need to be re-trained and sometimes hired. Companies, too, need to be educated on the new process. Without all of this, you can't start a pilot e-procurement system, and the pilot, too, will take about 2.5 years to complete.

Moreover, the cost can range quite a bit. In part, the cost depends on the thoroughness of the country's program. Ideally, under e-procurement, the entire public procurement process would be comprehensively recorded and visible online. But that's a vast, complex process to make transparent online. It includes planning, distribution of bidding documents, taking questions from potential suppliers, vetting candidates, overseeing submission and the evaluation of bids, contract awards, and payment. Not every country that's adopted e-procurement records all these aspects online or secures and integrates them thoroughly.

The study for this chapter found four major areas of the procurement process that should be digitized to lower corruption substantially: Notification, access, attestation, and submission. It's possible to hit those four points without spending much at all. Of the 11 countries the paper reviewed, Uganda and Mauritius spent the least to set up their e-procurement programs at less than \$2 million each in initial investment. At the other end of the spectrum, South Korea spent \$43 million on its initial investment to build a fully integrated system that is deployed across all the government's procurement agencies and integrates encryption technology and digital certification.

Once an e-procurement system is in place, it needs to be maintained, but these costs are generally much smaller. They may not be any higher than what was required to run a government's old procurement system. The statistics show that the average maintenance cost was \$1.3 million through the piloting and operations phases (effectively years 3 through 12 of the transition). Some countries like Mauritius did this for as little as \$360,000 a year—a trifling sum for even developing country governments—while South Korea's elaborate system (which included no outsourcing of design, building, and operation) cost more than ten times that figure annually to maintain at \$4 million.

In total, the initial 3.5 years of planning, building, and design will typically cost about \$4.5 million annually, irrespective of a country's size. Then the pilot phase will cost about \$1.4 million per year as e-procurement is scaled up, and after that, the operations will cost almost \$1.5 million each year. In total, the cost of the first 12 years, as estimated in this chapter's paper, is about \$19.2 million in today's dollars.

Fantastic benefits for a modest price

This is a relatively small cost, particularly compared to the significant benefits countries accrue from adopting e-procurement. For the average low-income country, the benefits across the first 12 years of its e-procurement transition amount to more than \$600 million, as seen in Table 9.2. That means that for each dollar spent, the low-income country will realize savings worth \$38. This makes e-procurement an exceptionally good value-for-money policy.

Table 9.2 Benefits, costs in millions of dollars the first 12 years for the average country.

	Benefits	Costs	BCR
Low-income	\$732	\$19.2	38
Lower middle-income	\$5,919	\$19.2	309

For lower-middle-income countries with much higher procurement budgets, the deal is even better. They will, on average, pay the same \$19.2 million for the first 12 years of e-procurement, but the benefits will amount to almost \$6 billion. For each dollar spent on e-procurement, the lower-middle-income country will realize savings worth \$309, making the investment in e-procurement an incredible policy option.

This is a very robust result—even assuming much higher costs or lower benefits or slower implementation, the process still delivers a BCR beyond 15. Indeed, the benefits outlined in Table 9.2 are quite cautious estimates. For one, this calculation only includes benefits that come from reductions in procurement prices. As detailed above, there are many other upsides to e-procurement. These calculations also assume that only 50% of spending will make it into a country's e-procurement system, which leaves half the budget still to be improved. It is probable that many nations will do better.

Moreover, the calculations in Table 9.2 only examine the benefits a country receives in the first 12 years from the start of the e-procurement program. Yet the benefits will reasonably continue for decades, growing with the economy and government's procurement budget. Since most of the high costs show up in the first five years, a longer-range view would probably show a much higher benefit-cost ratio.

So, why isn't e-procurement everywhere already?

The benefit-cost ratios for e-procurement reforms are huge and compelling, even under the most conservative of scenarios. So, why hasn't it happened everywhere? There are practical issues. Not all governments are competent at doing strategic planning in-house. The timing of costs and benefits may also make governments less inclined to prioritize e-procurement. The political leader who pushes for adoption may well be out of office by the time benefits roll in, but the costs will come immediately.

Fittingly, procurement of an e-procurement system itself is often subject to the same problems that stifle innovation in bids for government projects more generally—too many specifications limit ingenuity and competition. This is especially true if the restrictions are imposed by rich donor governments without consideration of the users of a system.

The final and largest problem is that there are always going to be people who benefit from the status quo. Sometimes, this includes rent-seeking from political leaders and public officials. If big businesses and the incumbent government are happy with the existing way of doing business—even if it is inefficient and wasteful—reform will be difficult.

Essentially, mustering political buy-in requires the backing of a coalition of winners, of the people and organizations that will benefit. For e-procurement, this means smaller businesses that currently have little opportunity to win bids, but it also means visionary politicians who can see the benefits for the country and its people as a whole.

The data and texts in this manuscript are not finalized. Intended use is for finding references, links and sources for the finalized text of the book Best Things First.

I remember when I presented research on the incredible efficiency of e-procurement to Bangladeshi Finance Minister Abul Maal Abdul Muhith. Many thought convincing Bangladesh to introduce this system would be an uphill battle because of the many vested interests. But while the minister recognized that many below him would be annoyed, he enthusiastically embraced the proposal, exactly because more e-procurement would allow Bangladesh to spend more resources where they matter.

The challenges associated with ensuring e-procurement is adopted for the rest of the low- and lower-middle-income world should not be ignored, but this research clearly shows that not only is it eminently doable, but it is also very likely to be one of the world's most efficient solutions.

The academic paper is entitled "The investment case for e-government procurement: A cost-benefit analysis." It is authored by

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ⁱ Based on <https://www.enterprisesurveys.org/en/enterprisesurveys> downloaded data.

ⁱⁱ <https://www.worldbank.org/en/news/press-release/2015/11/18/many-developing-countries-can-improve-public-services-through-fair-and-open-procurement-practices-says-wbg-report>, also estimating via development indicators, total government spending in low- and lower-middle-income countries is 26.3%, so 13% is still half.