

Problems of utility privatisation

Infrastructure services, such as water and sanitation, power, transport and communications, are essential for economic growth and sustainable development. As donors' support for infrastructure projects has declined, the private sector has got much more seriously involved. Indeed private sector participation in infrastructure projects in developing countries has risen dramatically since 1990. For more than two decades privatisation has been promoted as the best way to solve the problems of ailing public enterprises in developing countries. But how successful has it actually been?

Privatisation – does it work?

Results in the early 1990s looked good and the World Bank became fixated on privatisation. Of course these early studies did not cover most of the privatisation of utilities that was still to come. But in 1998 a study concluded that there was little doubt that privatisation 'worked' in the sense that privatised enterprises nearly always became more efficient and profitable, increased their capital investment and became wealthier. Other studies also claimed that privatisation worked and, furthermore, that it worked nearly everywhere. This was puzzling because it conflicted with our knowledge that developing countries usually had relatively weak legal and regulatory systems. So we probed further.

What we looked at

These studies had compared the periods immediately before and after privatisation. But new data meant we were now able to look at what had happened since privatisation, over periods of ten years or more. We also looked at a much wider range of (22) developing countries and used a far bigger sample of enterprises. Earlier studies typically involved less than 100 enterprises and indeed often less than

50. We used the World Bank Privatisation Database which identifies over 2,800 enterprises that were fully or partially privatised in developing countries between 1988 and 1998. Using a sample so much larger means that our results give a much more accurate picture of what is happening.

We also compared the performance of three different categories of enterprises – privatised public utilities, other enterprises that had been privatised and private enterprises that had never been in the public sector. We also identified the ten top performing private enterprises in each country (which were sometimes multinationals) and looked at what they had achieved.

How we judged performance

Assessing the effects of privatisation is not straightforward. How can we best measure the effect of such a change of ownership? Firstly, of course, an enterprise's performance may change because of other economic events that have nothing to do with its having been privatised. This is why we included in our sample private enterprises that had never been under state control. Their performance would give us a guide to how well private enterprises in general

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were doing during the periods we were looking at.

There are other problems too. If we chose to look at profitability for example, this might flatter privatisation because, under state ownership, non-profit goals might have been deliberately pursued. Nevertheless, like previous studies, we focused on operating and financial measures i.e. capital investment, employment, leverage, output, sales efficiency and profitability. We found that they did reveal poor performance just as easily as good and concluded that, though such measures are inevitably limited, they are still useful tools.

What we discovered

Interestingly, we found that much of the earlier optimism about privatisation (and also about the effectiveness of utility regulation) may have been premature. Possibly the mix of industrialised and developing country experience used in earlier studies obscured what was really happening in developing countries.

From our results it seemed that an enterprise's operational efficiency and financial performance could just as easily go down as up after privatisation. Utilities seemed to have done particularly badly – in general they had seen profitability, employment and capital investment fall, debts rise and sales remain stagnant. The only thing that had improved was their sales efficiency – and this seemed to have been achieved by shedding jobs.

The other (non-utility) enterprises that had been privatised also showed a fall in investment but not much change in any of the other measures of performance. It seemed that they continued to perform much as they had done before they were privatised – though, as the years went by, profitability did begin to fall along with investment.

It proved more difficult to generalise about what had happened to those private enterprises that had never been owned by the state, possibly because there was a lot of variation in how they had performed. The only trend seemed to be an increase in debt. We could only conclude that, for them, conditions had been more stable over time.

Did our results help explain why the privatised utilities had done so badly? This is more difficult to say. The job losses were not unexpected – even though many had predicted that increased investment would lead to larger workforces. Governments often protected employment immediately post-privatisation but, once such

guarantees expired, the privatised enterprises appeared able to make efficiency gains only by shedding jobs.

It is not easy to explain why the privatised utilities had increased their leverage i.e. their levels of debt relative to their assets. This can be a rational way to expand a business if it starts off with low debts. But we found nothing to suggest this was the case. Given that their profitability and investment levels were also falling it does rather look like they were using debt to prop themselves up (by financing their costs) rather than to expand.

But why had capital investment fallen when one of the main motivations for utility privatisation was the confident expectation that investment would increase? Initially, investment probably did increase partly because, prior to privatisation, levels were low. Also many governments provided incentives. However it was clear from our research that any increase in investment had not been sustained. We also found that the country context mattered; some had clearly attracted more investment than others. And we knew that in some countries there had been little or even no regulation. New regulatory agencies had not been established and there was confusion about whether previous regulation still applied.

Attracting foreign investment – does good regulation help?

Regulatory frameworks are difficult to design and implement, perhaps especially in developing countries where both capacity constraints and urgent unmet social and economic needs often complicate the problem. Therefore how well any given framework will impact on market incentives, and on investment behaviour in particular, is hard to predict. So we thought it was worth investigating whether a regulatory framework's reputation i.e. its perceived quality, might influence investors.

We asked whether regulation had influenced the flow of foreign direct investment (FDI) to the infrastructure sector in developing countries. In other words, when multinationals are deciding where to get involved in infrastructure projects in developing countries, does the reputation of those countries' various regulatory frameworks make any difference to their decisions?

Other reasons to invest

Of course there are many other reasons why a multinational might choose to locate in one developing country rather than another, and we did

not ignore these. Instead, we included control variables in our analysis to try to ensure that our results were not explainable solely because of such other reasons.

We chose nine variables to represent other possible attractions for FDI. The first, real gross domestic product per capita (GDP), is often used in FDI studies. It represents the level of income and demand in an economy. Studies also suggest that macroeconomic stability is attractive to investors so we chose three variables to represent this – changes in the annual inflation rate, changes in the real exchange rate and the average tax burden. We expected investors to prefer situations where, all else being equal, GDP was higher, inflation and exchange rates were relatively steady and tax burdens were lower. We found that they did but only GDP and exchange rate stability were significant.

We also considered trade openness (measured as the ratio of imports plus exports to GDP) as a variable. Would this have a positive or negative effect on investment decisions? If it represented a country's commitment to the freer international movement of goods and services, then trade openness might be expected to encourage FDI. On the other hand, trade protection has been widely used to shelter foreign (and domestic) investors from international competition. So if trade openness represented a lack of such protection to investors it might instead deter them. In fact we did find that trade openness was associated with lower FDI.

We investigated the effects of a country's level of financial development by including a measure of how able it was to finance large scale financial investment without outside help. As expected, where the amount of domestic credit available to the private sector (relative to GDP) was smaller, more FDI was attracted.

We also included a variable relating to the skills of the labour force, i.e. the secondary school enrolment rate, but any effect of this on investment was not statistically significant. Finally, we included two measures relating to the current state of a country's infrastructure. Given infrastructure's importance for achieving the first Millennium Development Goal of poverty reduction, we reasoned that the worse the current infrastructure was, the more foreign investment would be attracted. Using the number of telephone lines per 1,000 population and electricity generation per capita as our two variables we found that this was true for electricity supply but that the number of phone lines did not have a statistically significant effect.

Once we had allowed for all these other factors that might attract or deter FDI we were ready to look at how the perceived quality of a country's regulatory systems might impact on multinational investment decisions.

Assessing regulation quality

A good deal of research has been done on assessing governance or the quality of public institutions – particularly on how well they function and the impact they have on private sector behaviour. We used Kaufmann's indices which describe six aspects of this for a wide range of countries: political instability, rule of law, regulatory burden, voice and accountability, control of corruption and government effectiveness. These are calculated using hundreds of different variables measuring perceptions of governance, drawn from 25 separate data sources constructed by 18 different organisations.

We chose to use Kaufmann's index of government effectiveness to stand for the quality of regulation. This index is based on people's perception of the quality of public provision, the quality of bureaucracy, the competence of civil servants (and their independence from political pressure) and the credibility of government decisions.

Of course this index relates to regulatory quality across the whole economy rather than the infrastructure sector in particular. So we also used a variable that indicated whether or not independent regulators existed in the telecoms and electric power sectors, these being the sectors that account for nearly 75% of all private infrastructure investment in developing countries. This allowed us to see whether the existence of independent regulators made any difference to foreign investors' decisions on where to locate.

Thirdly, and finally, since broader aspects of governance and institutional development can affect investment decisions, we constructed a variable which used all six of Kaufmann's indices. This represented the overall quality of governance.

What we found was that good regulation does indeed attract FDI. Each of the three measures above – the government effectiveness index, the existence of an independent regulator, the overall quality of governance – independently encouraged foreign investment. Though, when we put the second two together, the positive effect of an independent regulator became statistically insignificant. It would seem

then that foreign investors in infrastructure are more influenced by the overall governance environment than by whether an independent regulator exists.

So, since we found that FDI does respond positively to good regulation, this research provides further encouragement for efforts to build capacity and strengthen institutions for robust and independent regulation in developing countries.

Getting the order right

The need to get the order of economic reforms right in order to get the desired results is widely recognised. In international trade for example, there has been great debate about the order in which barriers to more open trade should be removed if developing countries are to benefit. And it is generally accepted that, in the 1990s, the financial crisis in Asia was largely the result of many of the constraints on the international movement of capital being removed before improving the weak financial regulatory frameworks found in many developing countries. Furthermore, as we mentioned in Policy Brief No 2, the extremely negative results of rushed and unregulated privatisation in Russia are well known.

However, despite a growing general awareness of the need to manage economic reform processes effectively and to establish good regulation and competitive markets, very little research has focused on the order in which developing countries' utility sector reforms have been undertaken and what the results have been. What work has been done has focused on telecoms where one study found that establishing separate regulatory authorities before privatisation was associated with more investment and network expansion. Another concluded that phone networks expanded significantly faster when competition was introduced at the same time as privatisation rather than later on.

We decided to look at the order in which privatisation, regulation and competition had occurred in the electricity generating sectors of 25 developing countries. And we judged the generators' performance after privatisation in terms of how efficiently they used capital and labour, the extent to which they were able to increase their generating capacity and the amount of electricity they actually produced (per head of population).

We speculated that they would perform better if competition or an independent regulator were established before privatisation took place. It is important

to note that in this case the data was not available for us to judge the quality of either the competition or the regulation. Therefore we accepted that competition existed if either a wholesale electricity market had been introduced or generators had been allowed to compete to supply distributors or large users. Similarly, if a country claimed to have an electricity regulatory agency not directly under ministry control, then we counted that as an independent regulator, regardless of how 'independent' it might actually be in practice.

We also introduced various control variables to allow for other features of a country that might affect electricity generation. For example, richer, more urbanised and more industrialised countries use more electricity per person, so we allowed for that. Similarly we introduced a variable to indicate a country's level of 'economic freedom' because issues like protected property rights and 'law and order' affect economic performance.

There was a problem with the method we used that, potentially, could undermine our conclusions i.e. it is possible that privatisation, competition and regulation might influence each other as well as the performance of the electricity generator. For example, governments might sell off the worst performing generators first because they are keen to get rid of them. By the time they privatise the better performers governments might have had time to improve the regulatory and competitive environment. While we did introduce some measures to deal with this we cannot guarantee to have eradicated the problem altogether.

Turning to our results, we found that they supported what we had suspected. (Results for labour productivity were inconclusive but data problems in this area were probably responsible.) In countries where electricity generators were made to compete before being privatised the sector generated more electricity more efficiently. This was also true if an independent regulator had been established before privatisation. Furthermore we found that putting a regulator in place pre-privatisation gave private investors more confidence to invest and expand capacity. And capital productivity improved when competition preceded privatisation, supporting the idea that managerial slack can linger on regardless of ownership if monopolies are not challenged. The existence of a regulator also improved capital productivity, although this took a little longer to show results. In general the results did seem to confirm that electricity power reform is complicated and that privatisation alone may well disappoint.

GATS - a threat to water regulation?

In Doha, in 2001, the World Trade Organisation (WTO) agreed to negotiate, under GATS, about reducing barriers to international trade in environmental goods and services – including the supply of water. Opening up such services to international competition should mean easier access to international private capital, technology and management expertise. But is this necessarily going to help make clean water accessible to more people? Many are sceptical. They think the proposed GATS rules will prevent national governments prioritising such social objectives as poverty reduction, equity, consumer protection and universal service. And that if more private sector enterprises get involved in supplying water they will prefer to serve higher-income urban consumers and prices will rise. Either way the poor would lose out.

What is GATS?

The General Agreement on Trade in Services (GATS) came into force in 1995. It is intended to promote trade and investment flows through 'liberalisation' i.e. removing barriers that stand in the way of the free movement of money, goods and services (but not people). GATS has two main parts. One is a framework agreement with some general rules and principles. The other is a list of specific agreements that individual countries have made about letting foreign suppliers into particular sectors of their domestic markets. Countries have a free choice as to whether they make such specific agreements. All WTO members are bound by the framework agreement but as things stand this does not greatly restrict them if they have not also entered into any specific agreements. Indeed the right of individual governments to regulate service supply within their own borders so as to pursue their own policy objectives is specifically recognised.

However this may change because negotiations are continuing about the barriers to trade and investment that arise from domestic regulation. GATS

only covers services that are supplied on a 'commercial basis' or 'in competition with one or more service supplier'. It specifically excludes 'services provided in the service of government authority'. So far GATS does not spell out what these 'government' services are, leaving individual governments free to define them as they like (and therefore liberate them from GATS rules). But, if negotiations about the principles of domestic regulation led to a tighter definition, then governments could lose their autonomy over publicly provided services like water.

Also, currently, the principles of domestic regulation demand that the regulation of services be 'reasonable, objective and impartial'. A necessity test has been proposed which would require regulation to be 'no more burdensome than necessary' to achieve its objective. But there are doubts about whether this could really be assessed or whether indeed it would be desirable to try.

As we see, there is considerable uncertainty about how GATS might impact on governments' ability to regulate the provision of essential services such as water to their populations. Therefore governments need to be fully informed about, and carefully weigh up, the pros and cons of entering into specific agreements under GATS and, indeed, the particular negotiating positions they adopt on GATS principles.

Why is water regulation so important?

Private investment in the water sector has not delivered the predicted benefits. One reason for this is that the sector is particularly difficult to regulate. Firstly, the technology needed to provide piped water more or less rules out any competition in supplying it, since the costs involved in setting up a network and moving water down it are enormous. Therefore often the only real competition involved is winning the contract or concession agreement. But serious

problems arise here due to the high costs involved in organising the bidding process, monitoring contract performance and enforcing the contract terms when failures are suspected.

Concession agreements to supply water often cover ten or 20 years or even more. Over such a long time period it is impossible to foresee all the future events that might affect the economic viability of the contract or the level of service that might come to be required. Therefore contracts have to allow for things like prices, volumes and water quality to be renegotiated as time goes on and the situation changes. This demands skilled negotiation on the part of both regulators and private companies if outcomes are to be mutually beneficial.

Furthermore, the global water services market is dominated by a small group of multinational companies, with the five biggest accounting for 45 per cent of all private water projects during the 1990s. But when there are only a small number of bidders for a contract there is more chance of collusion (actual or tacit) in the bidding process so the process is less competitive. There is then a risk that one of the bidders may be able to take advantage of this to get unfairly favourable terms either on signing the contract or in subsequent negotiations.

Fifty-five per cent of water concession contracts in Latin America were significantly renegotiated within a few years of being signed – in Buenos Aires prices were raised within months. And water and sewerage concessions in developing countries are the second most likely concession contracts to be cancelled (after toll roads).

Because water contracts have to be incomplete and competition in the sector is weak it is critically important that governments are able to regulate effectively. Therefore they need to think more than twice before they sign away any of their power to regulate under GATS.

This CRC Policy Brief draws heavily on the CRC Working Papers below:

No. 62 Zhang, Y-F., Parker, D. and Kirkpatrick, C. *Competition, Regulation and Privatisation of Electricity Generation in Developing Countries: Does the Sequencing of the Reforms Matter?* 2004

No. 105 Cook, P. and Uchida, Y. *An Appraisal of the Performance of Privatized Enterprises in Developing Countries* 2004

No. 124 Kirkpatrick, C., Parker, D. and Zhang, Y-F. *Foreign Direct Investment in Infrastructure in Developing Countries: Does Regulation Make a Difference?* 2006

No. 125 Kirkpatrick, C. and Parker, P. *Domestic Regulation and the WTO: the Case of Water Services in Developing Countries* 2006

Which are available on the CRC web site at:
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