

Electricity Reform Experiences in Asia, Pacific Region, GATS and Privatisation of the Industry

by

Steve Thomas

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PSIRU, Business School, University of Greenwich, Park Row, London SE10 9LS, U.K.

Website: www.psiru.org Email: psiru@psiru.org Tel: +44-(0)208-331-9933 Fax: +44 (0)208-331-8665

Director: David Hall Researchers: Robin de la Motte, Jane Lethbridge, Emanuele Lobina, Steve Thomas, Violeta Corral

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1. Introduction

The package of reforms, variously termed privatisation, deregulation and liberalisation, that has been applied to electricity industries worldwide in the past 10-15 years contains at least five elements most of which are interdependent. The main elements are:

- Privatisation;
- Wholesale competition;
- Retail competition;
- Unbundling; and
- Introduction of independent regulation

However, problems are emerging with elements of the package, such as the difficulty of designing wholesale markets and the withdrawal of foreign investment by Western utilities. Despite this, many developing countries, under pressure from international financial institutions (IFIs) such as the World Bank, are still proceeding with a partial set of measures. These sets of measures often have no logic. At best they will represent a diversion away from solving the real problems that developing countries face in ensuring that as many consumers as possible have access to an affordable and sustainable supply of electricity and at worst, they will destroy an existing structure that, with appropriate reforms, could have provided a good basis for dealing with these problems.

In the first section, we examine the elements of the reform package, their rationale and the problems implementing these elements faces. In the second, we look at experience with reforms in Asia and the Pacific region. In the third, we look at the impact of the General Agreement on Trade in Services (GATS) on electricity and what policies developing countries should adopt towards pressure to open up their electricity sectors. Finally, we look at the policies the World Bank is now advocating and what alternatives there are which would address better the problems faced.

2. The Reform Package

Traditionally, electricity has been supplied by a single fully integrated company or by two closely interlinked set companies, a generator/transmission company and a distribution/retail company. The main starting point for the reforms was that electricity industry could be usefully split into four main elements, generation and retail which could become competitive markets and transmission and distribution, which would remain regulated monopolies but would be separated from the competitive activities and would provide non-discriminatory access to the network for competing generators and retailers.

2.1. The theory of the reforms

2.1.1. Privatisation

There were three main justifications for privatisation. The first was that publicly owned companies are inevitably less efficient than privately owned companies because publicly owned companies are subject to counterproductive 'interference' by government and they are inefficient because they are not subject to the discipline that shareholders impose.

The second was that for many developing countries, publicly owned companies are subject to financial restrictions that prevent them from providing sufficient investment capital to pay for the necessary expansion and renewal of the system. Third, these foreign investors would bring skills and technology that local companies could not provide.

For developed countries where financing the investment programmes of nationally-owned companies is not a major problem, it was the ideological belief in private ownership that was the dominant force.

2.1.2. Wholesale competition

The traditional monopoly status of the generation part of the electricity sector (the generation element accounts generally for more than half of the retail price of electricity) was thought to lead to inefficiency because the costs of any poor decisions were almost invariably passed on to consumers rather than to shareholders, as would be the case in an efficient market.

Generally, it was expected that there would be a spot market and market led by long-term contracts. The spot market would be sufficiently liquid to provide price signals that would stimulate investment when needed

and which would be used as an index for contract prices. Market forces would maximise efficiency and would drive inefficient producers out of the market

2.1.3. Retail competition

While the retail element of electricity bills is small (about 5-10 per cent), the competitive pressure exerted on retailers was expected to force them to put increased pressure on generators to be efficient. It would also give consumers the right to choose their electricity supplier.

2.1.4. Unbundling

Integrated companies would be 'unbundled' into up to four separate companies. To ensure that the wholesale and retail markets operated fairly, it was seen as important that the owners of the networks have no interests in either generation or retail to give confidence that all competing companies would have access to the networks on equal and fair terms.

From a competition point of view, it was also important to unbundled retail and generation. If the wholesale and retail sectors were dominated by integrated generator/retailers, the wholesale market would be bypassed and competition would be much less intense than if generators had to compete hourly to sell their output.

2.1.5. Introduction of independent regulation

Previously, in most countries, electricity prices were set or approved by a government ministry. This was thought to be inefficient because decisions were often influenced by political considerations and because ministries often did not have the expertise to analyse properly the costs faced by the electricity industry and were unable to determine the 'efficient' price level.

Regulators that operated at 'arm's length' from government would be set up with sufficient funding, paid for by levies on the regulated companies (effectively this means consumers), to develop the skills and critical mass to understand fully the cost base of the regulated companies.

2.1.6. Interdependence of the package of measures

From a theoretical point of view, privatisation is the most obviously independent element, depending primarily in the belief that privately owned companies are inevitably superior to publicly-owned ones. In European countries with a large element of local public ownership in the electricity sector (e.g., the Nordic countries), the reforms have taken place with little change of ownership. In practice, the trend once liberalisation has taken place seems to be a slow process of privatisation as local authorities find that in a market, owning an electricity company does not allow the authority to use the company for the benefit of its local constituency. For countries with little tradition of local public ownership (e.g. France and UK), it does not seem to make sense to have competing companies mostly owned by national government.

Independent regulation is also largely separable although despite the fact that reforms are often termed deregulation in the USA, these reforms generally place a heavier burden on regulation. Contrary to expectation, markets need to be overseen and, for example, in the UK, about two thirds of the regulator's annual budget of about £40m is spent on regulation of markets.

Of the other three elements, a wholesale market is the key element. Without wholesale competition, retail competition is not feasible because the retail element of electricity bills is too small for competing companies to be able to offer sufficiently different prices to attract new consumers. The rationale for unbundling is to allow competing companies equal access to the network. If competition is not to be introduced, it is hard to see what strong arguments there would be for unbundling.

2.2. The practice

2.2.1. Privatisation

It is important to note that the first justification for privatisation, that private companies are more efficient than publicly owned ones is not supported by any empirical evidence. Comparing the efficiency of electricity companies is notoriously hard because of the difficulty of compensating for other factors, such as resource endowment and terrain, which will have a significant impact on comparative prices. Nevertheless, the studies that do exist show no evidence for the higher efficiency of privately owned companies: if anything, the evidence is in favour of publicly owned companies. The primary motive for privately owned companies is profit maximisation, not efficiency. In an efficient market, the most efficient companies will tend to be the most profitable, but if competition does not exist and there are serious market imperfections, companies that

can charge the highest prices will tend to be most profitable. So, intuitively, it would seem likely that private ownership can only lead to higher efficiency if efficient markets are created.

Equally, if the objective is to provide new investment capital, it would seem logical to bring investors in through new investment. Large Western utilities do not have limitless access to capital and if their capital is being used to buy existing assets, there may be little left to finance new investment. From a corporate strategy point of view, it would seem more logical to maximise the returns on the existing assets ('sweating the assets') than to take the risk of building more assets.

In practice, there was a huge surge of investment by US companies in the mid- to late-90s, led initially by relatively new companies such as Enron and AES, but followed by traditional US electric utilities such as Southern Company, Entergy, Houston, PPL, AEP, SoCalEd, PSEG and CMS. These companies often formed new subsidiary companies for their foreign ventures such as Mirant, Community Energy Alternatives and Mission. However, by the late 90s, it was becoming clear that these foreign ventures were far less profitable than had been expected and these companies began to withdraw starting with Entergy. By 2002, all the US companies were in full retreat selling all their investments and in some cases, e.g., PPL in Brazil, simply writing off their investment and walking away. The failure was not confined to developing countries. In the UK seven US companies took over UK distribution companies and all have now left, while the UK generation operations of several US companies (AEP, AES, Mission Edison, NRG etc) collapsed and had to be repossessed by the banks that lent money for the purchase of the plants.

The European companies were a little more circumspect in their investments, with only the French nationally-owned company, Electricité de France (EDF) aggressively expanding worldwide, but mostly in Latin America. The Spanish company, Endesa, moved into Latin America by taking over a Chilean company with the same name that was already present in a number of Latin American countries and Iberdrola (Spain) and EDP (Portugal) also moved into Latin America. The other large European companies such as E.ON, RWE, Vattenfall and ENEL have not invested to any significant extent outside Europe. EDF is now looking to sell its assets outside Europe while the companies from Spain and Portugal are unlikely to expand and certainly not outside Europe and Latin America.

The only remaining investors are now largely companies from the Pacific Rim, such as YTL (Malaysia) and Singapore Power, who are generally more interested in buying the networks than power plants. These are relatively small companies with limited financial capabilities. It is also far from clear that they have specialised skills not available in the countries they are investing in.

Overall, the explanation for the spectacular failure of Western electricity companies in foreign markets is a complicated story, but essentially, the companies largely overestimated their own capabilities, failed to understand the market conditions in the markets they were entering and, most important, failed to understand the nature and scale of risks they were taking. For the future, their shareholders, credit rating agencies and financiers will be highly unlikely to allow these companies to take on investments outside their home territories in the USA. How far these US companies bought new finance and new skills to the countries they moved into is a moot point.

2.2.2. Wholesale competition

Particularly for developed countries where demand growth is generally low and predictable, where the network is strong and effectively all consumers were supplied, access to investment capital is not an issue. Wholesale competition should have been the key element in the package, in short improving the efficiency with which a mature set of assets was operated. Market economists assumed that electricity could be bought and sold like any other commodity and that the special features that the electricity industry always cited were no more than special pleading to prevent electricity losing its privileged position.

The reality is that no wholesale electricity market in the world can claim to be operating efficiently and sustainably. There have been some well reported spectacular failures, such as California, Brazil and Ontario, but in most countries where there has been an attempt to introduce a markets, companies have got round the market by integrating generation and retail, bypassing the wholesale market or signing long-term agreements with generators with no linkage to market prices. In Europe, despite all the hyperbole about the NETA market, liquidity in the spot market is about 1 per cent of electricity demand and most power is generated by the companies that sell to final consumers. In the Nordic market, that covers Denmark, Finland, Norway and Sweden, liquidity is high – about 30 per cent – but there has been negligible investment in new generation since liberalisation in the mid-90s. In a dry year, 2002, wholesale prices went up six-fold and power cuts were narrowly averted. Unless new investment happens very soon, the next dry winter will lead to a similar

outcome or worse. For the energy intensive industries that the Nordic countries depend on, such price volatility is too disruptive.

The official response to this widely acknowledged market failure throughout Europe is to impose stronger pro-competition measures, such as breaking up dominant companies and preventing long-term contracts. However, these measures will only be effective if a competitive wholesale market is actually possible. The special features of electricity mean that many of the factors that allow wholesale markets to work for other commodities are absent for electricity, these include:

- Inability to store power. Most products can be stored. This allows consumers and producers to smooth out demand and price peaks by drawing down stores when prices are high and building stores when prices are low;
- Need for supply and demand to match at all times. In an electricity system, supply and demand must always match if the whole system is not to collapse. Without control over producers, a system operator does not have the tools to ensure security of supply. A free market implies free entry and exit and does not oblige producers to offer their products to the market;
- Lack of substitutes. For most products, there are ready substitutes that can be used if supplies are scarce or prices are high. The threat of switching to substitutes acts as a discipline on producers on price and availability. For many uses, electricity has no ready substitutes and even where substitution is theoretically possible, consumers are generally locked in to electricity by the equipment they use;
- Vital role in modern society. Modern society is now dependent on reliable supplies of electricity for it to function. A failure of the electricity system will lead to immediate and serious welfare and economic impacts, as the blackouts of 2003 amply demonstrated. For most products, a market failure can be mitigated by use of substitutes and stores but this is not possible for electricity. As a result, the demand for electricity cannot easily be influenced in the short-term by price changes; and
- Electricity is a standard product. In an interconnected network, electricity is a standard product. Switching to another supplier cannot produce 'better' electricity, so markets are purely price driven and will be exploited by those who have most to gain by cheaper power (large users) as well as the skills and negotiating power to get the best deal. If the market is functioning well, prices will inevitably be driven down to the short-run marginal cost, too low a level to justify new investment.

The supposed superiority of markets also assumed that competition would be a 'free good', in other words that the costs of introducing and operating a competitive market would be negligible. It also assumed that creating a free market would not compromise security.

The clearest cost of competition is the risk premium on investment. Building a power plant is a risky venture however the industry is structured:

- The equipment is technologically demanding and unless its construction and operation is well managed could be vulnerable to construction cost over-runs or unreliability;
- Power stations are capital intensive so if there is no market for its power, the owners still incur the financing charges, which could be up to two thirds of the cost of power in the case of renewables, large scale hydro-electric and nuclear power;
- Fossil fuel prices are unpredictable and unexpected rises or falls in fuel prices may make a power plant uneconomic, whether or not it is fossil-fuel fired. For example, a rise in gas prices relative, say, to coal, could make a gas-fired plant uneconomic, while a fall in fossil fuel prices could make a nuclear plant uneconomic.

In a monopoly market, even if the sector is well regulated, some risk falls on consumers who generally pay if the generator's costs are higher than forecast. As a result, investment in a power station was a low risk to the owners of the generating company and the real annual cost of capital was perhaps 6-8 per cent. Even in the imperfect markets created in Europe, investing in new generation is a large risk. Almost all the independent generators in Britain failed financially while the two large privatised generators there, National Power and Powergen, were so weakened by poor investment decisions that they were taken over. In Britain, even for a power plant with a long-term power purchase agreement, the real cost of capital is at least 15 per cent. So while shareholders pay if an investment fails, consumers always pay through the higher cost of capital. If we assume that repaying the capital accounts for about a third of the cost of power from a power plant, increasing the cost of capital by a factor of 2-2.5 will increase the overall generation cost of electricity by 33-50 per cent.

There are also the costs of designing and operating the market. In Britain, in 2003, the National Audit Office found that the cost of development and of running NETA for the first five years totalled about £770m or about £30 per consumer.¹ Since then substantial additional funds, not publicly accounted for yet, have been spent dealing with the problems thrown up by NETA and by expanding the system to include Scotland under the BETTA arrangements.

It seems highly implausible that the operation of competition through improving efficiency and discipline on investment decisions could be so effective as to pay for these extra finance and transaction costs.

2.2.3. Retail competition

If the competitive model of electricity and gas is working as planned, retail competition should have little or no impact on prices. Charges for use of the network will be the same for all competing retailers, while if the wholesale market is competitive and transparent, the wholesale price should be very similar for all suppliers. In a monopoly market, the retail element of the bill, reading meters, sending bills etc, is typically less than 10 per cent of the total bill for residential consumers, so, if prices reflect costs, which they should do in an efficient market, there should be only minimal differences between the prices charged by the different suppliers.

However, if, as argued above, an efficient wholesale market cannot be created and there is no reliable reference wholesale price, the onus will fall on final consumers to impose competition on the companies by switching supplier to the cheapest option frequently enough to force suppliers to charge prices that reflect only their costs.

While it plausible to assume that medium and large consumers will have the incentive and resources to negotiate low prices, there is absolutely no evidence that small consumers have the incentive to switch or the resources to identify the best deal. In most countries of the European Union with retail competition, switching rates are less than 5 per cent per year. In Britain, the market where retail competition seems to be working best judged by the criterion of switching rates, it is clear that consumers either cannot identify the cheapest deal or their criterion for choice of supplier is not price. Two thirds of consumers that have switched have moved to a company that has consistently been amongst the most expensive suppliers. Whichever the case, the result will be that small consumers are exploited because of their lack of cost-sensitivity. Suppliers will offer their best prices to the cost-conscious large consumers. This behaviour has been clearly demonstrated in Britain where large consumers have seen price reductions at the expense of small consumers.

The group of consumers likely to do worst from this are poor consumers. In a free market, no company should be obliged to supply a particular set of consumers, nor are they required to offer cost-reflective prices. Competing companies will see little incentive to compete over poor consumers who may use little electricity, may have difficulty paying their bill and will be less likely to buy other products from their electricity supplier. As a result, even if regulation requires companies to offer a supply to any consumer asking for it, poor consumers will tend to be offered high prices.

Any regulatory measures that try to address these problems in a competitive structure, for example, by capping residential power prices or by requiring poor consumers to be served at non-discriminatory prices, are likely to compromise the market so much as to make the assumption of the efficiency of markets invalid.

As with the wholesale market, the implicit assumption of the Commission is that retail competition is a free good. This is clearly not the case. The technical costs of switching (re-registering consumers) are high and, unfairly, must be borne mainly by the consumers that do not switch. There are also marketing costs, which are very high and again are spread across all consumers whether or not they switch. A comprehensive review of the costs of retail competition for electricity² found that each residential consumer is paying about £15-20 per year for the option of being able to switch, whether or not they took up the opportunity. The main costs are the cost of re-registering supplier and the marketing costs of the retailer. If, as the British regulator is encouraging consumers to do, more consumers switched, these costs would increase.

For most developing countries, introducing retail competition for residential consumers seems implausible and a part open market is the most that can be assumed. This situation places a heavy burden on regulators. Competing retailers will try to allocate their cheap power to the competitive market where their business is at risk and save their expensive power for the captive market. Regulators will need to be very aware to prevent exploitation of small consumers.

2.2.4. Unbundling

For developed countries, the main problem with unbundling the transmission sector has been the reluctance of the integrated companies to surrender control over the infrastructure. It remains to be seen whether the high standards of reliability that the old integrated monopoly system showed will be emulated by an unbundled system.

In distribution, only the UK has enforced a strict separation between distribution and retail and it is too early to determine the consequences of this change. If, as expected, generating systems increasingly rely on small decentralised generation sources such as renewables and CHP, which feed directly into the distribution system rather than the transmission system, operators of the distribution system will have a much harder job and will have a key role in ensuring that supply and demand balance.

However, if there is to be no wholesale or retail competition, it is hard to see any major reasons to unbundled. For developing countries, unbundling would break up large strong companies, which can be centres of excellence in terms of skills and employment conditions, which have the muscle to negotiate effectively with suppliers and which should have access to lower cost capital than smaller companies would. Creating new management structures etc would also divert attention and resources from solving the real problems faced in the country.

Unbundling generation and retail has proved much more problematic and throughout Europe, generators are integrating into retail to reduce their exposure in the market, but at the expense of wholesale competition.

2.2.5. Independent regulation

The idea of an independent regulator imposing tough targets on monopoly companies without political interference sounds unexceptionable but there are a number of important issues that need to be addressed on accountability, methodology and risk to security of supply.

Accountability

While it is clearly desirable that the setting of prices and the oversight of markets not be subject to capricious intervention by politicians, regulators must ultimately be publicly accountable. Regulators should only be appointed and, if necessary, fired by a democratic process and their operation should be subject to Parliamentary scrutiny. An autocratic, unaccountable body might well be independent but would hardly be desirable. The powers given to a regulator need therefore to strike a balance between the need to avoid destructive political interference and the need for accountability. Ultimately, of course, if things go seriously wrong, politicians must take control of the situation and make the decisions necessary to solve the crisis. Few would argue it should have been left to the California Public Utilities Commission to sort out the mess in California in 2001.

Methodology

There is a belief that the UK reforms saw the introduction of a radical new, simpler and more efficient way, incentive regulation, to regulate monopolies than traditional rate-of-return methods. In practice, the new methods quickly collapsed back into an *ex ante* variant of rate-of-return regulation. The advantages of this new method are that it does give a longer time-frame to plan over and it does give companies greater incentives to reduce costs. But the disadvantages are that it effectively puts regulators in the role of investment decision-making and it tempts companies to make short-term cost cuts that might be at the expense of long-term reliability. It has not proved any less time consuming and complex than traditional rate-of-return methods.

Risk to security of supply

Regulators must make a fine judgement, often with inadequate information in setting performance targets that are tough enough to force the companies to seek all reasonable efficiency measures, but without forcing them to make unsustainable cost cuts. Regulators are frequently judged by how effective they are at forcing down prices and the temptation on them may be to err on the tough side, blaming the companies if targets are not met. However, there is an asymmetry to the risks. If the cost of the distribution and transmission parts of the electricity bill is a few per cent higher than they need be, the costs on society will be much less than if the regulator overestimates the scope for efficiency changes and compromises security of supply. Electricity is not a sector where obtaining the absolute maximum in terms of efficiency should be the priority.

3. Experience with reforms in Asia

3.1. Australia

Australia's electricity industry has been restructured following the principles of the British Model. The National Electricity Market (NEM) - a wholesale market for electricity supply in the Australian Capital Territory and the states of Queensland, New South Wales, Victoria and South Australia - commenced operating on 13 December 1998. The NEM delivers electricity to market customers on an interconnected power system that stretches more than 4000 km from Port Douglas in Queensland to Port Lincoln in South Australia. However, each of the states has a significant degree of control over the system, so it is necessary to examine each state separately.

3.1.1. Victoria

The State Electricity Commission was privatised and split up from 1994 onwards. The industry is regulated by the Essential Services Commission of Victoria. The transmission network was privatised in 1997 when the US utility, GPU bought it. In 2000, Singapore Power International bought the transmission network and it now trades as SPI PowerNet.

There are five distribution companies. The metropolitan distributors are AGL Electricity, CitiPower and United Energy; the rural distributors are TXU (formerly Eastern Energy) and Powercor.

AGL Electricity Networks supplies electricity to 261,000 consumers in North West Melbourne and is a subsidiary of AGL, an Australian electricity and gas company that operates across Australia, primarily in distribution and generation. CitiPower distributes electricity to 270,000 consumers in central Melbourne. It was bought by Cheung Kong of Hong Kong in July 2002 from a US utility, AEP, who had bought it from another US utility, Entergy, in 1998. United Energy was privatised in 1995, when Utilicorp (later named Aquila) took a 49 per cent stake with an Australian company, AMP investments taking about 40 per cent. Alinta Limited and entities managed by AMP Henderson (via Power Partnership) acquired all shares in United Energy Limited under a Scheme of Arrangement in July 2003. It distributes to more than 500,000 consumers in South Eastern Melbourne.

TXU Australia owns assets in a number of states and distributes to over 500,000 consumers in eastern Victoria through the company known as Eastern Energy. In August 2004, the TXU Australia was bought by Singapore Power International from the US utility, TXU, which had acquired it in 1995. PowerCor is Victoria's largest distributor providing electricity to about 600,000 consumers and is also owned by Cheung Kong, which acquired it in 2000 from Scottish Power.

3.1.2. New South Wales

The Department of Energy, Utilities and Sustainability's (DEUS) role is to provide leadership in electricity policy and regulation. The industry remains in public ownership. The transmission company is TransGrid; there are four distribution companies, Country Energy, EnergyAustralia, Integral Energy and Australian Inland Energy. There are four main generating companies of which the two largest are Delta Electricity (4240MW), Macquarie Generation (4640MW). Eraring Energy, and Snowy Mountains Hydro Electric Authority contribute the rest.

3.1.3. Queensland

The Queensland electricity supply industry is regulated by the Queensland Competition Authority. It currently comprises:

- generators (responsible for generating electricity) which compete and operate independently; there are three publicly owned generators and several privately owned generators, including the Gladstone Power Station;
- Powerlink Queensland (state owned), which owns and maintains the high voltage transmission grid;
- two distribution businesses, Energex and Ergon, with an effective monopoly over the distribution network within their regions;
- two retailers (subsidiaries of Energex and Ergon) with a regionally based monopoly over the retailing of electricity to franchise customers within their regions; and
- independent retailers.

Intergen (formerly owned by Shell and Bechtel but since August 2005 by the Ontario Teachers' Pension Plan and AIG Highstart Capital II) owns a 54 per cent stake in the Millmerran power station (the other partners are Marubeni Corp., GE Structured Finance, the EIF Group, and Tohoku Electric Power Co) and has 50 per

cent of the Callide C joint venture with CS Energy (owned by the Queensland government). Energex and Ergon are both state-owned companies.

3.1.4. South Australia

The industry is regulated by the Essential Services Commission of South Australia. Prior to the reforms, the industry was owned by the Electricity Trust of South Australia. This was split into three in 1998 in preparation for privatisation: ETSA Power, covering retail sales, ETSA Utilities, covering distribution (765,000 consumers), and ElectraNet SA, covering transmission. ElectraNet SA operates and manages the transmission network and was privatised in 2003. YTL (Malaysia) took 33 per cent, Powerlink 40.25 per cent (a Queensland public sector electricity transmission company) and 19.5 per cent to ABB.

In late 1999, the state awarded ETSA Utilities and ETSA Power to a consortium of Cheung Kong Infrastructure Holdings Ltd. and Hong Kong Electric International for A\$2.5bn.

TXU Australia generates electricity Torrens Island in South Australia, the generator has eight steam turbines that generate 1280MW. TXU Australia was bought by Singapore Power International in 2004. NRG Flinders owns 760MW of generating plant (Northern and Playford) and has contracts for the output of the 160MW Osborne cogen plant. NRG has been in Chapter 11 bankruptcy protection since May 14, 2003. AGL owns the 180MW Hallet power station; Origin Energy owns about 250MW of mostly peaking gas-fired plants.

3.1.5. Western Australia

Western Power is the fully-integrated, state-owned electricity company supplying Western Australia. It was created in 1995 when the State Energy Commission was split into separate gas and electricity operations. It owns 3280MW of capacity (60 per cent of the state's capacity). The government, through the State Office of Energy is currently discussing breaking up the industry, but it would be retained in public ownership.

3.1.6. Tasmania

The Office of the Tasmanian Energy Regulator, within the Government Prices Oversight Commission, set up in 1996, regulates the electricity sector. Unbundling of the former vertically integrated Hydro-Electric Corporation (HEC) created three entities focused on the core business activities of generation, transmission and distribution/retail. All three remain in state ownership

Aurora Energy Pty Ltd is Tasmania's electricity distribution and retail company, Transend owns and operates the transmission network and Hydro Tasmania owns the power stations and remains in state ownership. In November 2005, Tasmania will enter the National Electricity Market as a peaking generator when the Basslink electricity cable links the island to the mainland.

3.1.7. Northern Territories

The Utilities Commission of the Northern Territory is the independent industry regulator. In April 2000, the Northern Territory government commenced a process of reform of the Territory's electricity supply industry, whereby the Power and Water Corporation's (Power and Water's) effective monopoly over the supply of electricity to final consumers is to cease. However, the state owned Power & Water Corporation remains a fully vertically integrated corporation with a retail monopoly for all but large consumers.

3.1.8. Australian Capital Territory

The sector is regulated by the Independent Competition and Regulatory Commission. ActewAGL formed in October 2000 when the Australian Gas Light Company (AGL), a major private sector group, and ACTEW Corporation, a government-owned enterprise, entered into Australia's first utility joint venture. Ownership of ActewAGL is shared equally between AGL and ACTEW Corporation. ActewAGL Distribution owns and operates the network in ACT and ActewAGL Retail sells power to consumers.

3.2. Hong Kong

Hong Kong has a high electricity consumption per capita. Its population of nearly 7 million people used about 46TWh of electricity, nearly 7000kWh per capita, a higher per capita figure, for example, than the UK. This is despite the transformation of the Hong Kong economy in the past decade to a service economy with very little manufacturing.

Electricity is supplied by two fully vertically integrated companies, Hong Kong Electric (HEC), which supplies Hong Kong Island and China Light & Power (CLP), which supplies the mainland territories including Kowloon and the New Territories. Total installed capacity is about 11.7GW, about 70 per cent of which is owned by CLP. The two systems are interconnected but with limited capacity and there are also

links to China to allow the import of power from the nuclear power plant in which CLP has shares in China (Daya Bay in the Guang Dong province).

The two companies are regulated under a 15 year Scheme of Control Agreement that expires in 2008. Under this, the companies set their tariffs so that they make an agreed rate of return on assets. The Hong Kong administration is expected to publish a consultation document on the arrangements that would apply after 2008 at the end of 2004. The government appears not to have any prior position on any reforms. There are advocates of opening up the system to competition but there are also those (notably the electricity companies) that argue that the special characteristics of Hong Kong make such a solution unwise. These special characteristics include the importance to a service economy of reliable electricity supplies, the high population density of Hong Kong which means most people and work-places are in high-rise buildings that cannot function without power.

Both HEC and CLP are privately owned companies, HEC being a subsidiary of Cheung Kong Holdings, while CLP is part of the CLP Holdings Group. Cheung Kong is a diversified group with interests, for example, in property, telecoms and life sciences as well as electricity. It is an international group with holdings in 42 countries, although in energy, its main foreign investments are in Australia and Thailand.

3.3. Indonesia

Indonesia's electricity sector was nationalised after independence under an integrated public monopoly, Perusahaan Listrik Negara-Djakarta (PLN). The Java-Bali system is relatively well developed, but the outer islands less so: overall, 57 per cent of Indonesians have access to electricity. In 1992 the former dictator, president Suharto, decreed that the private sector could again participate in the electricity sector, and with the encouragement of the World Bank this has been developed through the introduction of Independent Power Producers (IPPs), and plans for unbundling PLN and introducing further liberalisation.

The IPPs were negotiated with associates of the Suharto government, and as a result of the non-transparent and, according to many sources, corrupt, way in which the agreements were reached, provided for 50 per cent more capacity than Indonesia actually needed. The IPPs were supported by a total of 27 Power Purchase Agreements (PPAs), under which PLN undertook to purchase 80 per cent of plant capacity for a minimum of thirty years, at prices well in excess of PLN's selling price. The currency collapse of 1998 made these prices totally unaffordable for PLN, which was faced with bankruptcy unless it could cancel or renegotiate the agreements to reduce the cost of electricity.

PLN's could not cancel the agreements because of resistance by the multinationals involved in the IPPs, supported by their governments and multilateral agencies. A corruption trial of USA multinational Edison was dropped, partly at the request of the USA ambassador³, while the multinationals pursued claims for breach of contract, including MidAmerican Energy, who won US\$573 million at arbitration⁴, and Florida Power and Light who won \$241million⁵. The companies also collected compensation from 'political risk' insurance: the World Bank's insurance agency, MIGA, paid \$15m to Enron on account of a power project that was cancelled, although even MIGA accepted that to proceed with the project was not a viable policy option. The cost of the PPAs has thus been carried entirely by Indonesians, who are not only having to compensate the multinationals for the profits that they have lost, but also paying much higher prices: the government of Indonesia agreed, in 2001, to increase prices by 24 per cent per annum until 2005.

3.4. Japan

The Japanese electricity industry is controlled by ten vertically integrated regional companies. The two dominant companies are Tokyo Electric (TEPCO) and Kansai Power, with a third company Chubu Electric also important. These three companies own about 60 per cent of Japan's 216GW of generating plant. Most of the rest is owned by the six other interconnected companies, Kyushu EPC, Tohoku EPC, Shikoku EPC, Hokuriku EPC, Hokkaido EPC and Chugoku EPC. The other regional company, Okinawa EPC supplies Okinawa, but is not interconnected and owns less than 2GW of plant. The remainder of the plant is owned mainly by two companies, the Electric Power Development Corporation (EPDC, 16GW) trading as JPOWER and Japanese Atomic Power Company (JAPCO, 2.6GW), which build plants using new or challenging technologies selling their output to the regional companies. EPDC was majority owned by government with the regional companies holding the balance of shares. However, in October 2004, the government and the electricity companies sold their shares and the company is now an independent generator. 90 per cent of JAPCO's shares are held by the regional companies and JPOWER.

All the regional electricity companies are privately owned and liberalisation efforts by government have had limited impact so far. From 2000, the largest consumers (those with demand in excess of 2 MW) could choose their supplier, representing 30 per cent of the market. This is expected to increase to 60 per cent when choice is extended to those using 500kW from April 2005. The government will review whether to extend choice to all consumers in 2007.

The Japanese companies have not yet invested much outside Japan although activity is beginning to increase. TEPCO is a member of a consortium building a power plant in Vietnam, but most of its other foreign activities are as a consultant.

3.5. Malaysia

Malaysia's electricity sector remains organised under a vertically integrated public sector utility, Tenaga Nasional Bhd (TNP), which was partly privatised through a flotation on the stock exchange in 1992. IPPs were authorised in the 1990s, involving local firms, not multinationals, and with the purchase prices denominated in local currency, thus avoiding the problems of exchange rate changes. Both TNP and the IPPs are profitable.

3.6. Nepal

Nepal's electricity sector is covered by an integrated public utility, the NEA, but the government has sought to pursue policies of restructuring and privatisation since the early 1990s. The measures include privatisation by leasing existing small hydropower plants to private sector management, and the licensing of private IPP developments in hydropower. However of 105 licenses issued, 53 have been cancelled by the government: and two of the IPPs in operation have PPAs which are having a negative impact on the finances of the NEA. One 20MW project, Chilime, is structured as a private company, with 51 per cent belonging to the NEA, 25 per cent to NEA staff, and 24 per cent will be sold to the general public.

3.7. New Zealand

The New Zealand electricity industry has undergone significant reform in the two decades. The first of these reforms was the establishment of the ECNZ in 1987, as a nationally owned enterprise to operate as a commercial, profit-making organisation. Originally ECNZ was the sole provider of electricity in NZ (including generation, transmission and retail). Electricity was distributed by local supply authorities. In 1994 Transpower, the transmission company was separated from ECNZ but remained in national ownership.

ECNZ was split into two more nationally-owned enterprises in 1996 - ECNZ and Contact Energy - and a wholesale electricity market was established. Another major reform was the privatisation of Contact Energy in 1999. Contact Energy is now the largest electricity retailer and generates about 30 per cent of the country's electricity. Contact has ten power stations in NZ. It is majority owned (51 per cent) by an Australian company, Origin Energy, which bought it from the US company, Mission Edison in October 2004. Mission Edison had bought 40 per cent of the shares in 1999 and subsequently increased its holding to 51 per cent. The last significant reform, in April 1999, was the separation of the lines and energy businesses of the former Electricity Supply Companies and the split of ECNZ into three competing nationally-owned enterprises - Meridian, Genesis and Mighty River, all still nationally owned.

A major network failure in February 1998 led to power cuts in the Auckland area over four weeks. These were widely blamed on the Auckland distribution/retail company, Mercury Energy, which is owned by the Auckland local authorities.

3.8. Philippines

Prior to restructuring, the Philippine power industry was divided into a generation and transmission sector, which is controlled and operated by government through the National Power Corporation (Napocor), and a distribution sector largely in private hands. At the height of the power crisis in the early nineties, Executive Order 215 encouraged greater private sector participation in energy projects through BOT schemes and independent power producers (IPPs).

Because of the IPP contracts, government guaranteed that they would pay for electricity that was never used, and electricity that was never even generated.⁶ This cost was passed on to consumers as PPA, or purchased power adjustment. The IPP contracts made huge profits for their local and multinational owners. In 2001, fifteen IPPs were among the top 1000 corporations in the Philippines.

A US\$600m loan from the Asian Development Bank and the Japan Bank for International Cooperation in 1998 was tied to the complete restructuring of the power industry, including the passage of an enabling law. The ADB-JBIC loan aimed to dramatically reduce government's role in the power sector, unbundle and privatise the power industry, and sell Napocor. The Philippines is among the first of ADB's developing member countries to implement privatisation of generation assets, the entry into concessionaire agreements for the operation of transmission assets, and the introduction of a wholesale electricity spot market (WESM).⁷

In June 2001, the Electric Power Industry Reform Act (EPIRA) was approved; this is the most comprehensive legislation mandating the full privatisation of the electric power industry in the Philippines. EPIRA's major provisions include: (a) *Deregulating and privatising the generation sector*. EPIRA expressly declares that the generation sector is not a public utility and not subject to the rate-of-return limits (12 per cent) that apply to other parts of the sector. Napocor's generation assets and contracts with IPPs, along with real estate and other disposable assets, shall be privatised.⁸ (b) *Privatising transmission*. The National Transmission Company (Transco) was created which would be privatised. (c) *Distribution*. The distribution sector is still a public service which may be undertaken by private distribution utilities, cooperatives, local government units, and other authorised entities over a specific franchise area. (d) *Retail competition*. Retail competition was to be facilitated by several new mechanisms, including: open and non-discriminatory access to the transmission and distribution systems. (e) *Universal levy*. The universal levy ensures that Napocor's "stranded costs" – excess debt and IPP obligations worth roughly US\$11bn – are recouped upon privatisation. When EPIRA was enacted, its total financial obligations of Napocor were more than US\$18bn, with roughly 65 per cent due to the obligation to IPP contracts.⁹

Napocor used to be the largest Philippine Corporation in terms of assets and net sales; it had the monopoly over the Philippine power industry. However, its IPP obligations and the burgeoning foreign debt due to the 1997 Asian financial crisis made Napocor a loss-maker. Over the past decade, Napocor's workforce had been reduced by nearly 80 per cent through various forms of "institutional reengineering" of the state-owned utility. When the Omnibus Power Bill (later enacted as EPIRA) was first filed in Congress in 1994, Napocor had some 17,000 employees.¹⁰ In February 2003, the remaining 8,850 Napocor employees were legally terminated.¹¹ In 2005, only 3,790 employees remained with a "residual" Napocor and further jobs may be lost if more Napocor plants are sold.

Although government claims at least \$1bn in savings from the renegotiations of IPP contracts in 2003-2004, this had not been translated to lower electricity costs for the consumers. Electricity rates have gone up and will continue to rise. PPA rates exceeded the basic electricity charge, doubling electricity prices. In August 2004, the energy regulatory commission approved a 40 per cent increase in Napocor rates. Attempts to privatise Napocor have continually been delayed and little is expected to be achieved in 2006

3.9. Singapore

Until 1995, electricity supply in Singapore was provided by the nationally owned Singapore Public Utilities Board (PUB). In 1995, the electric utility business was separated and corporatised in preparation for privatisation then planned for 1996. It was expected that Singapore Power Pte Ltd (SPPL) would initially be split into two generation companies, one transmission and distribution company and one retail company. In 1996 a decision was taken to delay privatisation by several years but divisions were set up within SPPL. Senoko and Seraya, each with about 2200MW of plant, PowerGrid (distribution and transmission) and Power Supply (retail) were set up. A third generator Tuas (TPPL) owned by a government investment vehicle, Temasek Holdings was set up to build the new 4000MW Tuas power plant. In April 2001, after continual delays in privatisation plans, Seraya and Senoko were transferred from SPPL to Temasek in preparation for flotation.

In 1998, a power pool was set up for day-ahead trading, but after two years it was found to have little significance and in 2003, revised trading arrangements were introduced. A few large consumers were given choice of supplier and in 2003 the limit was reduced so that those consuming more than 240MW/year could choose. Senoko Power now has about 2500MW of plant, Seraya Power about 2700MW and Tuas about 1200MW, but the companies remain in public ownership.

3.10. South Korea

South Korea has a population of about 52 million people, an installed generating capacity of about 52GW and consumption of about 274TWh, making its per capita electricity consumption comparable to that of European countries.

Until 1997, the South Korean electricity system was owned and operated by a single fully vertically integrated company, Korean Electric Power Company (KEPCO). This was fully publicly owned at national level. In 1997, the President (Kim Dae-Jung) launched an attempt to split up and privatise KEPCO, introducing competition in both generation and retail supply. In 2001, the generation sector was separated from KEPCO and split into six companies and a power exchange, Korean Power Exchange (KPX) was introduced. The six generators remained in public ownership. It was planned that in 2003, six distribution companies would be spun off from KEPCO leaving KEPCO as the national transmission company.

However, determined opposition to these changes from trade unions and other civil society groups led to the suspension of these reforms by the new Korean government elected in December 2002. The Korean Tripartite Commission, a long standing organisation composed of government, industry and trade union members formed a joint study team to re-examine the issues partly through national consultations and partly through a fact-finding tour of countries where electricity reforms had been attempted such as Brazil, USA and Canada. The President agreed to be bound by the recommendations of the Study Team. In June 2004, the Study team produced a majority report recommending against the earlier plans to break-up, privatise and introduce competition to the Korean electricity industry. It recommended that internal competition within the distribution units of KEPCO would be a more efficient way of increasing competitive pressures within KEPCO. The government agreed to these recommendations. It is not yet clear how the industry will be organised in future, particularly the fate of the six generation companies.

A small amount of IPP capacity exists, with the Korean company, LG Power owning about 1000MW of capacity. Hyundai began building a 600MW plant (expected to be completed in 1996 but this was taken over by the US company, Mirant, and again in 2002 by a Hong Kong based company, Meiya Power made up interests including PSEG (USA) and Hydro Quebec (Canada). In October 2004, PSEG sold its interest to BTU group (owned by Middle east investors) and Hydro Quebec sold its interest to Darby Asia Investors (Hong Kong). The largest IPP is Hanwha Energy with 1800MW in which El Paso owns 50 per cent with Korean interests owning the remainder.

3.11. Taiwan

The Taiwan electricity industry is dominated by the nationally owned Taiwan Power Company (Taipower) which is a fully integrated company owning about 33GW of plant. There are two major IPPs, the 2400MW Mailiao plant owned by Taiwanese interest and the 1300MW Ho Ping power plant jointly owned by Taiwanese interests and China Light & Power (Hong Kong).

Plans to privatise and split up Taipower, in place since the 1990s, have been continually delayed, and privatisation is not expected before 2006. The nuclear and hydro plants (about 5GW of each) will not be privatised and there is ongoing controversy about the completion of the Lungmen plant. Taipower has no major foreign investments. In 2005, the government set up a commission to decide whether to privatise Taipower. The commission is expected to report its findings in early 2006

3.12. Thailand

In the 1960s Thailand formed three nationally-owned enterprises to run the electricity sector: the Electricity Generation Authority of Thailand (EGAT) responsible for generation and transmission throughout the country, and the Metropolitan Electricity Authority (MEA) and Provincial Electricity Authority (PEA) in charge of distribution in Bangkok and the rest of Thailand respectively. In the early 1990s private power generation was encouraged, which resulted in the creation of large IPPs, involving multinationals (with 8 per cent of installed capacity) small IPPs, usually owned and run by large industrial firms (with 8 per cent of installed capacity) and renewable producers (2 per cent of capacity). EGAT separated off some of its own capacity into EGCO, with 22 per cent of installed capacity. All the IPPs were based on PPAs which included guarantees of a 15-20 per cent rate of return and take or pay purchasing agreements. When demand for electricity fell this loaded EGAT with excess capacity and excess costs. Given the rigidity of the IPP contracts, the only way EGAT could adjust was by closing its own power plants.

From 2001 the plans to liberalise the sector have been slowly abandoned, including the cancellation of the proposed power pool, and were finally scrapped in 2003. This followed the Thaksin government's policy of creating national champions in all sectors, including electricity, and so the new policy restored EGAT to a central role as, in effect, a "single buyer" of all electricity. The government also proposed the privatisation by sale of EGAT, and a restored monopoly position would ensure a higher price for the shares. By 2004 civil society opposition had emerged on a number of aspects of energy policy, including the price rises resulting from the PPA contracts, and environmentalist concerns over use of fossil fuels, and the privatisation proposal was powerfully opposed by the trade union representing EGAT workers.¹²

From February 2004 a series of demonstrations and strikes were organised by the union, highlighting the dangers of privatisation in terms of higher prices, the risk of corrupt allocation of shares to cronies, and the risk of foreign control developing through buying of shares. In March 2004 the government backed down and announced the cancellation of the EGAT privatisation plans. The general election in February 2005 resulted in victory for the Thaksin government and privatisation plans were revived, but by February 2006, plans were still far from finalised.

3.13. Summary of experience

3.13.1. Privatisation

Most countries that have tried to privatise their electricity companies have suffered serious delays and the lack of a credible market of buyers means that privatisation to international buyers is unlikely to be successful. In the cases where privatisation has taken place, the first buyers (usually American) have generally sold their stake on and companies have often changed hands more than twice. This would not seem a good recipe for sound long-term stewardship of long-lived assets. The main buyers in recent years have been relatively small companies from the Pacific Rim, such as Cheung Kong, YTL and Singapore Power, who seem more interested in buying the relatively low risk monopoly assets rather than power plants.

3.13.2. Wholesale markets and retail markets

The only country that has anything approaching a wholesale electricity market is Australia and there, the market is far from proven. There is even less experience of retail competition.

3.13.3. Independent Power Producers

Before the liberalised model became the dominant model for electricity reforms, the World Bank strongly promoted IPPs, which were given long-term inflexible Power Purchase Agreements. Experience with these has almost invariably been poor. The basic problem is that the investing company has to minimise its risks so it seeks a take-or-pay terms and guaranteed profits denominated in dollars. For developing countries which often have unstable currencies and volatile electricity demand growth rates, this often has resulted in severe problems with local utilities driven to bankruptcy because they were required to buy power they did not need or power that was far more expensive than was available from their own plants. IPPs are inflexible, leaving the local utility with the job of providing the flexible and at best can only provide a limited proportion of electricity demand. The actions of some of the international companies have also been highly questionable in several cases leading to bitter and often politicised disputes. Experience suggests that relying for power on any more than a very small proportion of power needs is highly risky to the utility buying the power and its consumers

3.13.4. Unbundling

The lack of success in introducing competition means that what unbundling has taken place has largely been an irrelevance and a diversion from addressing the real problems.

3.13.5. Regulation

Even for developed countries such as the UK, setting up an effective regulator is not easily accomplished and even the regulators themselves acknowledge that it requires several years for the regulatory agency to become effective. For developing countries where the required skills are unlikely to be present, building up a regulatory body will be a slow process and if aggressive foreign companies are brought in (often backed by their government), regulators will need to be very strong to be effective against them. If reforms are to be introduced, establishing an autonomous regulatory body should be a first step and subsequent steps should not be undertaken until it is clear that the regulatory body has a full enough knowledge of the industry to be effective.

4. The General Agreement on Trade in Services

Electricity was never part of General Agreement on Trade and Tariffs (GATT), mainly because it was judged that electricity was not a product because it was not storable. Energy goods were also regarded as outside the scope of GATT on grounds of the exception relating to the conservation of exhaustible natural resources (Article XX:9g) and on the national security exception (Article XXI). From a practical point of view, electricity was only traded internationally to a very limited extent. Electricity was also supplied largely either by integrated companies that undertook all parts of the electricity business from generation to retail or by distribution/retail companies that were tightly bound by monopoly arrangements to generator retailers. The electricity business was almost invariably carried out by national companies that had negligible interests outside their local territory and which only operated in the electricity sector.

Reforms to the electricity sector and the passing of the General Agreement on Trade in Services (GATS) in 1995 appeared to change the situation. The industry was generally split into up to four separate activities, generation, transmission, distribution and retail, with generation and retail opening to competition. Of these activities, transmission, distribution and retail would, intuitively, be regarded as services while the position of generation is not clear. Particularly in densely populated continental regions like Europe, international trade was expected to take on a much more important role and electric utilities began to expand into new international markets and into other sectors such as gas, telecoms and water.

Electricity therefore became one of the target sectors for the GATS around 2000 with representatives of the USA and the EU in particular keen to open this sector up to provide opportunities for their electricity companies in new markets. However, little progress has been made in the 'offer and request' process (countries request other countries to open up specified sectors and countries offer to open up sectors) with very few offers in the electricity sector and the whole GATS process seems to have ground to a halt.

There would appear to be at least four major problems:

1. Classification of generation. There is still no agreement on whether electricity generation is a product or a service (as argued, for example by the USA and the EU). If generation is classified as a product, it would fall under the rules of GATT, a situation which the WTO warned would be problematic.¹³
2. International investment by electric utilities from the USA and the EU has collapsed leading to the contradictory situation of the USA exhorting developing countries to commit to open their electricity sectors at the same time as US companies are withdrawing from all foreign investments as quickly as they can.
3. The liberalised competitive electricity model is far from proven and in the past five years the doubts about the liberalised model's effectiveness have grown rather than being dispelled. Given that GATS commitments are effectively irreversible, there would appear to be little reason to make a commitment until it was clear that the new model will work.

How a GATS commitment would work in practice is far from clear. But it may be useful to divide the industry into monopoly and potentially competitive activities. For generation and retail, if markets are created, this would require that any generators or retailer would be free to compete on equal terms with all other companies regardless of nationality or ownership. If the market proves not to be viable, it would not be possible for a government to abandon the market and go back to a regulated monopoly in either generation or retail. The monopoly activities, transmission and distribution, will remain monopoly activities for the foreseeable future so the issue is more that privatised assets could not be renationalised if, for example, the government did not believe that a privatised service would offer adequate security of supply.

Until the classification of generation is resolved, a market of international investors has re-emerged and the doubts about the effectiveness of the liberalised model have been resolved, it would be irresponsible for a government to irreversibly commit any part of the electricity sector to opening up under GATS rules.

5. World Bank policies

The position of the World Bank is of particular importance. It funds a significant proportion of electricity investments in developing countries, its policies are emulated by regional banks such as the Asian Development Bank and it provides a forum for pro-market ideas. The World Bank has finally begun to admit its 'one-size-fits-all' policy of privatisation and liberalisation of electricity industries is not the perfect solution it was claimed to be. In June 2004, the World Bank's chief economist, François Bourguignon,

admitted “there was probably some 'irrational exuberance' in recent years on the potential benefits of privatisation”¹⁴. The President, James Wolfensohn, also said that “the Washington Consensus¹⁵ [the 1989 international agreement that paved the way for privatisation and liberalisation of utility industries] has been dead for years”¹⁶.

Their admissions on the failings of their liberalisation/privatisation policy raise three questions:

- What is the World Bank’s current position on privatisation and liberalisation?
- Why has foreign investment in electricity industries collapsed? and
- What does the World Bank recommend developing countries to do?

5.1. The World Bank’s current position

The World Bank used the publication of a research report in June 2004 to allow senior Bank staff to present their latest thoughts on privatisation for developing countries. This research report, by Kessides, Lead Economist in the Bank’s Development Research Group (Kessides, 2004), was strongly backed by senior management with supervision from the Bank’s Chief Economist and an advisory board comprising ‘gurus’ of liberalisation such as Newbery and Joskow. The Bank’s views are expounded in the press release (World Bank, 2004a) and the transcript of the press conference at its launch (World Bank, 2004b). These documents show that the Bank’s position on electricity privatisation is now shot full of contradictions. In the press release (World Bank 2004a), Michael Klein, Vice President for the joint World Bank/IFC Private Sector Development department and IFC Chief Economist still recommends privatisation of public utilities:

‘Many countries can benefit from careful privatisation of services if they do things right and don't oversell the benefits.’

Kessides acknowledges that electricity and water are more ‘problematic’ than telecoms but blames inadequate regulation for privatisation failures (World Bank, 2004b):

‘Regulatory weaknesses explain most failed attempts at infrastructure reform and privatisation in developing countries.’

He even makes the extraordinarily presumptuous assertion that the unpopularity of privatisation in Latin American countries (disapproval rates in excess of 80 per cent) is due to poor regulation not due to distrust of privatisation itself (World Bank 2004a):

‘This dissatisfaction with privatised utilities is not due to their ownership structure, but rather to the weakness of institutions charged with regulating them.’

On regulation François Bourguignon, the World Bank's Chief Economist and Senior Vice President said (World Bank 2004b):

“effective regulation” [is] the most critical enabling condition for getting infrastructure reform right. “Regulation that provides a credible commitment to safeguarding the interests of both investors and customers is crucial to attracting the long-term private capital needed to secure an adequate, reliable supply of infrastructure services,” the report says. Specifically, the report notes that regulatory agencies must be free of political influence, and that their decisions must be subject to review by the judiciary or oversight by another non-political entity. Regulatory processes, it urges, must encourage competition, be open and transparent, and be designed before privatisation is undertaken.

Kessides acknowledges that establishing credible regulatory bodies is not easy (World Bank 2004a);

‘The study warns, however, that such unbundling, *“makes the regulatory task more complex, which is likely to be a problem in environments with weak governance --as in most developing and transition economies.”*’

However, it is when it comes to its views on public ownership that the full extent of the World Bank’s ‘irrationality’ becomes clear. Kessides says (World Bank, 2004a)

“Privatisation is no panacea, and neither is returning to the ‘old ways’ of wasteful, inefficient publicly-owned utilities.”

Losses in publicly owned utilities are invariably ascribed to inefficiencies without any acknowledgement that they could have been the result of government poverty-reduction strategies. Kessides only allows for the possibility that public ownership could be appropriate, where a country cannot manage the regulatory burden and in such cases the natural monopoly parts of the utilities can be publicly owned.

Much of the publicity for the report is cloaked in concern for poverty reduction (World Bank, 2004b): 'privatisation must address the needs of the poor, particularly by extending service coverage' and (World Bank 2004a) 'there is also a continued need for well-designed subsidies and targeted safety nets to ensure that the poor benefit from efficiencies and gain access to vital services.' The people of developing countries will be the judges of how convincing the Bank's concern is.

Kessides claims credit for poverty reduction in the 1990s, with the clear implication that the public sector's efforts were ineffective (World Bank, 2004a):

'private sector participation in infrastructure has prompted increased investment and expanded services coverage'

Kessides does acknowledge that the private sector is not interested in investing in developing country utility industries. He shows that foreign investment in 2001 was less than half the level of 1997 but ascribes this to temporary factors (World Bank, 2004a): 'falling stock markets worldwide, financial crises in emerging markets, and hesitancy caused by public opposition to privatisation'. In fact the level of foreign investment now is probably far below 2001 levels. Kessides does not acknowledge that the problems could be more fundamental, only suggesting 'pricing must provide investors with an incentive' as a way to re-awaken interest in privatisation.

If international private investors are not currently an option, this leaves domestic private finance as the only option if privatisation is to be pursued. Kessides does not address this option, but an earlier World Bank report dismisses the option of using private domestic finance. This is probably correct for all but the largest and richest developing countries. Bacon & Besant-Jones (Bacon, 2002) argue 'domestic capital markets are too undeveloped to replace foreign finance'.

5.2. The collapse of foreign investment

The World Bank attributes the collapse of foreign investment to temporary conditions (falling stock markets) and problems that can be fixed (public opposition). The reality may be that the problems are more deep-seated. To examine this, it is necessary to understand why foreign investors' experience so far has been so poor. There would seem to be at least four factors:

- **Currency risk.** If the currency in a foreign market is devalued, prices will have to rise if profits to the parent company are to be maintained. For example, currencies in Brazil and Argentina fell in real terms by a factor of 2-3 in a short period. Raising prices in such a situation simply to maintain 'dollar' profits for foreign investors is unlikely to be attractive for governments at such a time, when inflationary pressures are likely to be high;
- **Demand risk.** Demand growth can be very volatile in developing countries and if demand falls rather than rises, income and profits can be cut. For example, in Brazil in 2001, demand had to be cut by about 20 per cent because of lack of supply. This meant income to distribution companies was cut by a similar percentage;
- **Political risk.** While in an economist's ideal world, governments should not arbitrarily interfere in utility industries, in the real world, governments cannot stand by if their citizens are faced with electricity prices that do not allow them to meet their basic need; and
- **Corporate incompetence.** While private electric utilities like to portray themselves as commercially astute, they have made many serious errors.

The last point is well illustrated not from a developing country but from Britain. In 2001, four US utilities (AES, AEP, NRG and Mission Edison) made large purchases of generating plant in Britain (about 12,000MW, about 20% of British generating capacity). These purchases were based on an inaccurate forecast of wholesale prices and a poor understanding of the structure of the market in Britain. Within 18 months, the investments had all failed and the companies had each written off billions of dollars of investment.

Perhaps the fourth factor is temporary and utilities will get smarter with experience, but currency and demand instability and the political imperative of maintaining reliable, affordable supplies of electricity will not go away. Investors and investment analysts - it is they who ultimately decide on investment policy, not utility management - have long memories of heavy losses and it will be a long time before such companies are allowed to go 'adventuring' in foreign markets, no matter how benign the regulatory climate and how strong the incentives appear to be. For all but the richest and largest developing countries, the option of

national private investment is either not viable or unwise – it would divert scarce resources from other important national investment needs.

5.3. What does the World Bank recommend developing countries to do?

So how does a developing country, dependent on loans from IFIs such as the World Bank and the IMF for its economic survival, disentangle this mass of seeming contradictions? Clearly public ownership is anathema to the World Bank and in the Poverty Reduction Strategy Papers the World Bank is requiring indebted countries to produce, governments would be well advised to continue to offer privatisation as one part of their poverty reduction strategy. However, for infrastructure it is clear that the availability of foreign investment has dried up for some time to come and private national resources are not a good option, so what choice is there other than national public resources?

On prices, the World Bank's message is that privatisation will not lead to lower prices – ('don't oversell the benefits'). Countries will have to continue to ratchet up the allowed profits and government underwriting until private investors are tempted back ('pricing must provide investors with an incentive'). This will clearly not reduce poverty.

The World Bank says regulation must be strong and in place before privatisation. However, if regulation is strong, will foreign investors be interested? The Bank states that regulation must be 'free of political influence'. This sounds unexceptionable but it begs the question, who has the legitimacy to appoint (and dismiss) regulators other than democratically elected governments and how can the regulators be publicly accountable except through democratic parliamentary processes? The Bank stresses the importance of regulation but acknowledges that most developing countries will have difficulty establishing effective organisations.

It is hard to see how a developing country can elaborate a policy on electricity that is both coherent and acceptable to the IFIs given this mass of contradictions.

6. Alternatives

The fundamental weakness of the World Bank's promotion of the 'British Model' was that it was a 'one-size-fits-all' approach that paid little attention to what problems the country actually faced. If a priority was increasing investment, it is far from clear why selling the companies would stimulate this and if giving unserved consumers access to power was a priority, it is not clear how introducing competition would further this aim.

The starting point for any reforms should therefore be a clear diagnosis of the problems in the electricity industry that need to be solved. International experience can be usefully used to review experience in other countries and see how common problems were solved (or not) elsewhere, but the analysis must ultimately be driven by nationals of the country involved who know the problems at first hand and who understand well the political, economic traditions of the country. The importance of 'national styles' should not be underestimated. For example, any solution for the USA will inevitably be legalistic and heavily involve lawyers while other countries would have a very different approach.

The following should therefore be treated as an external view of what Sri Lanka's problems in the electricity sector are and the ideas presented, no more than options that might be investigated by a national team.

6.1. Restrictions on borrowing by publicly owned companies

Many developed countries face restrictions on public spending imposed by IFIs such as the International Monetary Fund (IMF) as conditions of loans. While there might be a case to restrict spending on 'consumption', e.g. the costs of the civil service, benefits etc, it makes no sense to prevent nationally-owned companies from making investments that have a high probability of producing good returns on the investment. Brazil has argued this case and has gained an important concession from the IMF on public finance. It was reported this would allow Eletrobras (the nationally-owned holding company that owns much of the electricity sector) to almost double its investment in electricity infrastructure, releasing about 4bn Reais (about US\$1.4bn) per year for investment.¹⁷ This is still not enough to fund all Brazil's electricity investment needs and private sector funding will also be needed but it will be via long-term contracts through a variant of the 'single buyer model' that ensures the long-term availability and price of the power produced.

6.2. Prices that do not cover fully costs

Prices are an emotive subject and increasing prices is seldom a politically comfortable decision as it is hard to avoid this impacting most on poor consumers. However, if keeping prices low prevents utilities from investing to keep up with demand leading to unreliable service, and from expanding service to unserved consumers, keeping prices low is clearly not an equitable policy. Price increases will be more palatable if accompanied by measures that protect the poorest consumers, preferably funded by taxpayers rather than electricity consumers. They will also be more acceptable if they can clearly be shown to lead to improved service and extension of the service to unserved and if it is clear that the proceeds of higher prices are not funding company excessive profits in another country.

6.3. Government interference in utility decision-making

Government interference is one of the most commonly cited problems with publicly owned utilities. Government interference is often used in a rather lazy way. Legitimate management oversight of publicly owned companies is often characterised as interference and the commercial freedom that privatisation is expected to bring is often found to be an illusion. Shareholders, rightly, expect to be informed of company decisions and if they do not like the decisions, they have a variety of ways, from selling their shares to replacing the management to express their disapproval. Equally, governments often intervene when things have already gone wrong. Their interventions are not always ideal but the fundamental problem was the original; one, not the intervention of government. Having said that, there clearly are cases where government interference is destructive and unwarranted and ways need to be found to reduce the risk of this happening.

Some sort of framework is required that allows government to make legitimate interventions but prevents arbitrary interference. One possible idea is the French government's 'Contrat de Plan', which is a 5-year framework agreed between the government and the utility that sets the performance objectives the government has for that period (e.g. on prices, reliability, connection of consumers etc) but leaves management with substantial discretion about how it meets these targets. If management fails to meet these objectives, it can of course be replaced.

6.4. Need to bring power to unserved consumers

In Sri Lanka, about 60 per cent of consumers have access to an electricity service, but in some rural areas, the figure can be as low as 20 per cent. Of the consumers not now served, it is estimated that only half can economically be connected to the grid. Privatisation and introduction of competition blatantly will not help solve the problem of connecting those consumers who can be connected to the grid and could easily hinder it. For the remaining unserved population, Sri Lanka has distinct advantages in having a range of small scale, sustainable resources, such as small-scale hydro, biomass and wind-power that can bring power economically to isolated areas. Such schemes often have other advantages such as community control, developing local skills and sourcing equipment from national companies.¹⁸

7. Conclusions

The option of the full package of reforms that come under the general heading electricity liberalisation is clearly not possible in Sri Lanka. Privatisation, even if it was politically acceptable is not practical because of the collapse of foreign investment in the electricity sector. Even in developed countries which have the necessary preconditions, competition at the wholesale and retail level is at best unproven and at worst unsustainable. This leaves only unbundling and regulation that can be adopted from the package of measures. Establishing a competent regulator, which is not under the day-to-day influence of government may well be a useful step, but its advantages apply whatever structure and ownership of the electricity sector is chosen.

This leaves just unbundling which has no obvious advantages other than being a facilitating measure for future privatisation and liberalisation and the effort needed to carry it through would tend to distract effort from solving more pressing problems.

GATS is also an irrelevance and until uncertainties ranging from the classification of generation to the efficacy of the liberalised model are sorted out, it would be irresponsible for government to make commitments to GATS that will effectively be irreversible.

The priority now is to launch a process that will be driven by the real needs of the Sri Lankan electricity sector not by a programme to implement an unproven model that was not designed for Sri Lanka and does not address its problems.

References and footnotes

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- ² D Maclaine (2004), Doctorate Thesis, SPRU, University of Sussex.
- ³ Wall Street Journal 'Washington's Tilt to Business Stirs a Backlash in Indonesia', 12 Feb 2004
- ⁴ The Jakarta Post: 'PT PLN First half losses surge 12-Fold' 1 Sep 2000
- ⁵ Wall Street Journal 'Washington's Tilt to Business Stirs a Backlash in Indonesia' 12 Feb 2004
- ⁶ Studies by the Freedom from Debt Coalition show that take-or-pay guarantees compel Napocor to buy the contracted power even when the full amount is not actually generated or delivered. About 70 per cent to 90 per cent of the installed capacity of the plant is contracted, but the actual deliveries so far have only been from 10 per cent to 40 per cent. In 2002, it was discovered that there is one plant that does not generate at all, in stead it buys its power from Napocor at a discounted rate and sells it to the Export Processing Zone to which it has a contract to generate and supply power to. Another guarantee which is absent in most countries that have contracts with IPPs is the fuel guarantee in which the government has to provide the fuel to be used by the IPPs. A foreign exchange guarantee is where the government absorbs any fluctuation in the peso-dollar exchange rate. The exchange rate when most contracts were forged in the early nineties was P26 to P27 per US\$1; the exchange rate since 2001 ranges from P50 to P55 per US\$1. From: "A National Situationer on the Philippine Power Industry", Freedom from Debt Coalition January 2004
- ⁷ ADB Reconfirms its Support to Power Sector Restructuring in the Philippines, ADB Media Center, Manila Philippines, 13 September 2004
- ⁸ The Power Sector Assets and Liabilities Management Corporation (PSALM) was created to manage the sale, disposition and privatization of said assets. A 'residual' Napocor will retain its existence only to perform missionary electrification function through the Small Power Utilities Group (SPUG) in areas not connected to the transmission system.
- ⁹ "A National Situationer on the Philippine Power Industry", Freedom from Debt Coalition January 2004
- ¹⁰ In 1997, Napocor had a total workforce of 13,500. Mass layoffs and dislocations in 1998-1999 were caused by the abolition of several offices as well as decommissioning of old power plants. By end-1999, some 2,300 employees had already been separated from service or opted for early retirement. When EPIRA was enacted in June 2001, the number of Napocor personnel was 8,850.
- ¹¹ Rule 33 of EPIRA's implementing rules and regulations provides that Napocor officials and employees shall be considered legally terminated and be entitled to separation benefits at the rate of 1 ½ months per year of service. In January 2004, the Department of Energy reported 99 per cent completion of the restructuring of six agencies under it, including Napocor -- Napocor's workforce had been streamlined to 4,740 from 6,380 while Transco's manpower totalled 3,710; PSALM reported 56 per cent completion of its staffing pattern out of the total 220 employees.
- ¹² The Politics of Privatization in Thai Power Sector: Past, Present and Future. Decharut Sukkumnoed Department of Development and Planning Aalborg University Denmark.
- ¹³ www.wto.org/english/tratop_e/serv_e/energy_e/energy_e.htm
- ¹⁴ World Bank (2004) 'Credible Regulation Vital For Infrastructure Reform To Reduce Poverty, Says World Bank' Press release, June 14, 2004.
- ¹⁵ The main lines defined in this 'Consensus' are: The elimination of institutional barriers blocking foreign capital; The privatisation of Government-run enterprises (whether strategic or not); The end of Government monopolies; The energy sector viewed as a mere producer of a simple commodity, eliminating its strategic character from discussion; The efficiency and competitive edge of national output as a way of being included in what is known as globalisation.
- ¹⁶ <http://www.southcentre.org/info/southbulletin/bulletin80/bulletin80-03.htm>
- ¹⁷ Business News Americas, 2004. Petrobras, Eletrobras to invest US\$3.8bn more on IMF deal. April 27, 2004.
- ¹⁸ S D Thomas, I R Rajepakse & J Gunasekara (2005) 'Turning off the lights: GATS and the threat to community electricity in Sri Lanka' ITDG Publishing, Bourton on Dunsmore, UK, 64 pp.