

Energy Liberalisation, privatisation and public ownership

September 2013

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Introduction

This paper reviews the trends in privatisation and liberalisation in the energy sector, and the development of remunicipalisation and renationalisation in Germany and elsewhere.

1. Liberalisation and privatisation trends

1.1. Liberalisation and unbundling: slowing down

The pressures from IFIs to unbundle and liberalise electricity systems have faced strong resistance everywhere. Outside OECD countries, very few countries have implemented the model in full. Those that did – such as Chile and Argentina – now face great problems which require a return to a much stronger role for the public sector; those which did so partially, such as Brazil, are also re-asserting the role of central planning.

In Africa, the process of unbundling has sometimes resulted in a split between generation on the one hand, and transmission and distribution on the other, as happened in Kenya; sometimes in a split between generation and transmission on one hand, and distribution on the other, as happened in Namibia; sometimes all three are separated, as in Nigeria; and in Tanzania, Tanesco remains a vertically integrated state utility..

The World Bank now takes the view that ‘many developing countries may retain intermediate structures for the foreseeable future’, rather than continue to full liberalisation. One reason for this is that it has failed to be useful: a World Bank paper in 2013 quotes an academic study which concluded that “it is difficult to find conclusive evidence of the consistently beneficial effects of the reforms actually implemented in many countries.” A survey of transmission grid operators in 178 countries found that two-thirds were still run by vertically integrated utilities.¹

In Europe, the liberalised energy markets are now coming under great pressure because they are seen as incompatible with the need to develop renewable energy. This is leading to stronger roles for governments, less respect for the markets, and e.g. in Germany to some remunicipalisation. See the separate paper on renewables for more details.

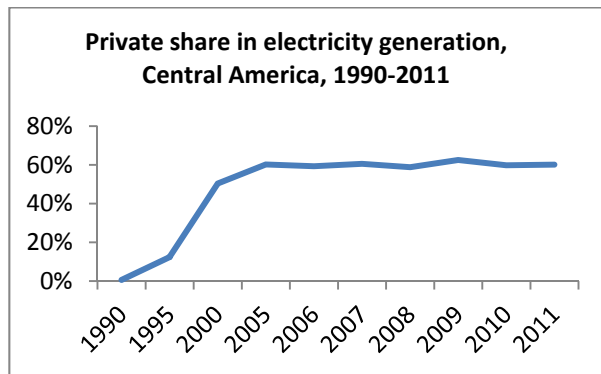
There are still pressures to create markets for private companies, however. In Vietnam, the World Bank is strongly promoting further unbundling of the public sector utility EVN: PSIRU has submitted a critique of these proposals, which has been published in the country’s leading academic journal. In Africa, the World Bank is strongly promoting regional power pools, as a way of enabling trading in electricity (see the separate paper on IFIs for more details).²

1.2. Privatisation

The pressures for privatisation are no longer as global or as constant as in the 1990s and 2000s. Moreover, there were many successful campaigns against electricity privatisation and liberalisation, in all regions, and in countries with all income levels. As a result, the public sector continues to have a strong and central role in most developing countries e.g. Eskom in South Africa, Eletrobras in Brazil, EVN in Vietnam. They also remain the principal source of investment finance - in Africa, for example, the private sector has contributed only 11% of the actual investment in electricity systems (see separate paper on IFIs for more detail).

According to World Bank figures, the private sector operated between 29% and 48% of distribution companies in developing countries, but the current proportion is certainly much lower. Many distributors were privatised in some Latin American countries in the 1990s, but some have been renationalised, and there were never many such privatisations elsewhere: in Africa, for example, there is one privatised distributor, Umeme in Uganda, and elsewhere only one or two management contracts. There are very few privatised transmission systems anywhere.

In effect therefore the great majority of private sector presence is in generation, through Independent Power Producers - IPPs. As the pattern of electricity generation in Central America shows, the private sector share grew rapidly from the mid-1990s, but reached its peak level by 2005 and not grown much since then. The trend is similar elsewhere, but the actual share is lower.

Chart A. Public-private generation in Central America 1990-2011

Source: Centroamérica: estadísticas de producción del subsector Eléctrico, 2011. CEPAL/ECLAC
http://www.eclac.org/mexico/publicaciones/xml/6/46906/2012-014-Estad.subs.elect.-2011-L.1061-alta_res..pdf

Privatisation means a constant threat however, either as a way for governments to raise money, or because public utilities come under financial pressure as a result of having to pay excessive amounts to IPPs, as can be seen in three current examples from Latin America:

- Colombia is selling its 57.6% shareholding in Isagen, the 3rd largest electricity generating company, to raise money. Potential buyers include AES, Duke Energy and GdF-Suez.³
- Panama is passing a bill enabling the sale of further shares in companies which are already partly or largely privatised, such as AES Panama, Enel Fortuna, and Elektra Noreste.⁴
- Honduras is planning to privatise street lighting and electricity distribution through PPPs, because of the deficits it has run up as a result of power purchase agreements: “The contracts signed with thermal power firms are ENEE's main financial burden as they take 90% of its total revenues. Although Elcosa, Emce, Luffusa and Enersa generated less than 58% of the country's energy in 2011, they took 82% of ENEE's revenues. The firm also has a substantial payroll as it employs 4,000 workers. To make matter worse, ENEE also faces considerable technical losses.”⁵

1.3. PPPs and IPPs

Privatisation is also being pursued through the promotion of public-private partnerships (PPPs) in infrastructure – and because the great majority of PPPs in electricity are in electricity generation, these PPPs take the form of independent power producers (IPPs). These private power stations have long-term contracts under which the government and/or a public sector utility guarantees to purchase output at a guaranteed price, known as power purchase agreements (PPAs). This means that the public sector carries the risk, while the private companies are guaranteed their profits.

There are many problems with IPPs. Firstly, the PPAs often mean that public utilities pay far more for power from IPPs than they charge consumers, so the utilities become increasingly indebted. Secondly, there is a huge incentive for corruption, with companies prepared to pay large bribes to get such long-term guaranteed profits. Thirdly, companies may still not make the investments if they do not fit their strategies, so countries cannot rely on the extra capacity. Fourthly, the great majority of IPPs use fossil fuels such as gas, coal or oil, and so are contrary to the drive for reduction in CO2 emissions.

The IFIs and other global institutions, such as the G-20, are actively promoting PPPs for all forms of infrastructure, including water, airports, ports and roads, as well as energy. The G-20 and others, including the World Economic Forum, are encouraging a global network of national public-private partnership (PPP) units based inside governments, with a Global Infrastructure Facility managed by the World Bank's private sector lending arm, the International Finance Corporation - IFC to provide public finance for PPPs, and encouraging governments to provide further subsidies to make PPPs profitable.⁶

The G-20's approach has been strongly criticised by civil society organisations at the 2013 meetings in Moscow, who called for the G20 to:⁷

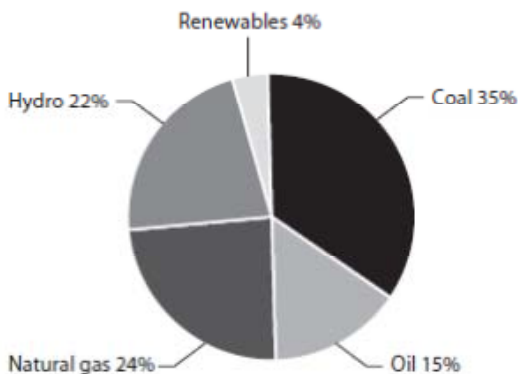
- relinquish its bias in favour of PPPs in order to weigh this approach with alternatives
- encourage governments to expand public investment in infrastructure ...large infrastructure projects are often driven by governments (and state-owned enterprises (SOEs)) of emerging market countries

- ensure that governments secure the necessary institutional capacity to: negotiate equitable financial arrangements; provide regulation, especially in the sectors where natural monopolies exist; deliver public goods; and prevent corruption
- support democratically controlled infrastructure investment, based on a “bottom-up” approach formulated by locally- and nationally-owned strategies.
- Take full account of the transaction costs of tendering and monitoring

A World Bank review in March 2013 found that PPPs invest mainly in coal, gas and oil-fired generation, including diesel, rather than renewables. Nevertheless, the IFIs are trying to help private companies is by capturing funds intended for climate change so that they can be used on PPPs.⁸

Chart B. PPP investments in electricity generation by fuel

a. Coal, Oil, Nature Gas, Hydro, and Renewables



Source: World Bank March 2013 Revisiting Public-Private Partnerships in the Power Sector <http://go.worldbank.org/69VJOM9P90>

1.4. Outsourcing

Another form of privatisation is outsourcing of work to contractors, which results in the replacement of permanent workers with casualised labour. This is used by both private and public companies. For example, there was widespread use of contractors by some of the multinationals which took over electricity companies in Latin America, especially Argentina; and European energy companies also tried to outsource work in the 1990s and 2000s.

One current battle over outsourcing is in Kenya, where there has been a major dispute between Kenya Power and Light and the union, KETAWU, over attempts to dismiss permanent workers and employ casual labour through contractors. KETAWU has been successful in blocking dismissals and converting the casualised and outsourced workers into permanent status.

2. Public sector : re-municipalisation and re-nationalisation

2.1. Remunicipalisation: Germany

In Germany, there has been a major shift towards direct municipal provision of energy services, especially electricity, since the mid-2000s. Between 2007 and mid-2012, over 60 new local public utilities (stadtwerke) have been set up and more than 190 concessions for energy distribution networks – the great majority being electricity distribution networks - have returned to public hands.

This process is expected to continue and accelerate. Almost all existing concessions in the energy sector are up for renewal in the period up to 2016, and about two thirds of all German communes are considering buying back both electricity generators and the distribution networks, including private shareholdings in some of the 850 Stadtwerke. The new and re-municipalised ‘stadtwerke’ are able to operate as supply companies, either buying or generating the mix of electricity they want.

There are campaigns and referenda initiatives for municipalised electricity in major cities like Hamburg, Stuttgart, Bielefeld, Bremen, Frankfurt and Berlin. These are gaining strong support from a German public which is very critical of electricity privatisation, especially because of price rises: this public support is also visible in the parallel stream of

referenda which have strongly rejected proposals for privatisation of electricity and other local utilities, and a public opinion poll of 2008 which showed that most citizens trust public enterprises more than private ones. (Röber 2009)

In addition, some municipal and regional authorities (länder) have bought large electricity companies from the major groups. German energy companies have wanted to sell some of their operations – partly because German and EU regulators have insisted on it, partly because they want to reduce debts, and partly because of problems with profitability, especially after the German government decision to phase out nuclear power. The CDU government of Baden-Wuerttemberg bought back 45% of EnBW for €4.7 billion Euros from the French multinational EDF; E.on sold Thüga, a holding for shares in many stadwerke, for €2.9 billion; six communes in North Rhine Westphalia bought the fifth biggest German electricity generating company, Evonik-Steag, for €649 million.⁹

Table 1. New and re-municipalised stadwerke in energy, Germany, 2007-2012

Note: the majority of these are electricity utilities; some electricity and gas; a small number are gas only.

Region (land)	New stadwerke	Re-municipalised distribution concessions	Other re-municipalisation
Baden-Württemberg	19	47	15
Bayern	7	8	3
Berlin			1
Brandenburg	1	21	2
Bremen			1
Hamburg	1		
Hessen	1	18	4
Mecklenburg-Vorpommern	2	2	
Niedersachsen	11	14	9
Nordrhein-Westfalen	12	13	19
Rheinland-Pfalz	1	4	
Sachsen	1	18	1
Sachsen-Anhalt		4	1
Schleswig-Holstein	6	27	1
Thüringen	1	16	
TOTAL	63	192	57

Source: press reports, VKU

German legislators and regulators have facilitated this re-municipalisation. The energy framework law was criticised in parliamentary hearings for creating barriers to re-municipalisation and public ownership of energy grids, especially around the lack of legal clarity for the return of property by the previous concessionaire, requirements to make available necessary information for new tenders, and the price of buy-backs of networks (Krischer 2011). A law in the state of North Rhine Westphalia in December 2010 facilitated re-municipalisation of previously privatised utilities, and also provides for the commercial expansion of communal Stadtwerke. One key motive was to break up the existing oligopoly in the electricity market, which since liberalization in 1999 has been dominated by four corporations (E.ON, RWE, Vattenfall and EnBW), as noted by the reports of the German monopoly commission which in 2009 gave the blunt analysis: “there is still no workable competition”.¹⁰

As a result, the majority of electricity distribution in Germany is now municipal, rather than private. As of 2011, stadwerke already hold 57% of electricity consumption (and the same dominance is visible in gas networks, where the municipalities hold 52%, and district heating, of which they hold 50%). Despite being the home of two of the largest private energy companies in Europe, electricity distribution in Germany is now predominantly public. The re-municipalisation of the distribution networks does not in itself give municipalities direct control over the level of renewable electricity used. Under the liberalised market required by EU law, distributors have to transmit whatever electricity is being sold by supply companies to the final consumers. The new and re-municipalised stadwerke, however, are able to operate as supply companies, either buying or generating the mix of electricity they want. In generation, however, the level is much lower, with municipalities owning about 10% of total installed generating capacity. Over 80% of electricity generation in Germany remains in the hands of the 4 largest companies, although this is expected to fall as the companies phase out their nuclear power plants as required by new national policy following the Japanese earthquake and tsunami.¹¹

Information about re-municipalisation has been disseminated by a strong national association of stadwerke, the VKU (Verbandkommunaler Unternehmen - the Association of Local Utilities), with over 1400 members, which actively

promotes re-municipalisation and acts as a vehicle of policy diffusion. It emphasises the distinctive feature of stadtwerke as pursuing public interest objectives: they “do not primarily pursue private commercial objectives but are guided by public welfare obligations. In our democratic system, they operate under local self-administration to serve “citizen value”, i.e. to meet the needs of the local community. The type of capital they form and secure is a community-oriented asset [eingemeinschaftlichorientiertes Vermögen].” In May 2012 the VKU launched a public campaign to promote the superiority of municipal enterprises.¹²

There is also a new collaboration to strengthen the role of municipalities in buying electricity and expanding their role as generators. Trianel is a joint venture of over 80 stadtwerke, formed in 1999 to facilitate energy trading by German municipal companies in the liberalised electricity and gas markets. It has since extended its functions, building pumped-storage power stations, gas and coal-fired power stations, and wind energy farms, including an investment of €800million in the first municipal off-shore wind farm in the North Sea. In 2010 it had sales over €2.5 billion. It has extended its membership internationally, so that it now includes municipal utilities in Switzerland, Austria, and the Netherlands. It also promotes the role of municipal energy companies, and joined the VKU campaign in May 2012, with a statement that: “Municipal companies have developed a historically sustainable business model, with a high level of public support, in contrast to the private power companies”.¹³

A key part of the background is the ambitious renewable energy policy objectives of the ‘Energy transformation’ [energiewende], because the private companies are seen as failing to deliver renewables. This is described in the separate paper on Renewable Energy.

2.2. Other re-nationalisations

Table 2. Re-nationalisations of electricity companies (excluding Germany)

Country	Date		
Argentina	2009-2013	distribution companies Edecat, Edelar ¹⁴	Pampa Energia
Argentina	Jul 2013	Metrogas, gas distribution company ¹⁵	British Gas
Belize	2009	2 electricity distribution companies, Belize Telemedia Ltd (BTL) and Belize Electricity Ltd (BEL) ¹⁶	
Bolivia	2010 - 2013	2 electricity distribution companies, transmission company, and generating companies	Iberdrola, GDF-Suez, Rurelec, Red Electrica
Brazil	May 2007	Return to majority public ownership of distributor Light	AES
Dominican Republic	2003	distribution companies EdeNorte and EdeSur	Union Fenosa
Egypt	2005	3 IPPs	EdF
Finland	2011	Bought out transmission company Finngrid	
Japan	2012	Nationalisation of nuclear company Tepco	
Lithuania	2011	Renationalisation and integration of electricity companies privatised in 2000s	
Venezuela	2007	distributor EdC, generation companies	AES, CMS

Japan: In 2012 Japan finally nationalised Tepco, the nuclear power company which had been hit by leaks of radioactive material as a result of the 2010 earthquake and tsunami.

Lithuania : At the end of 2011 Lithuania completed the renationalisation of its energy system, reversing the privatisation introduced in the early 2000s.

In Argentina, the state has taken an increasing role in the sector since the economic crisis of 2000.

- The government intervened in the electricity sector between 2002 and 2007 by making public investments in additional generating capacity, and ending market-based pricing. An academic study found that this was very effective: “Public investment and investment through public-private participation (PPP) in the sector not only relieved the capacity constraints, but also allowed government to keep prices under control.... On average, prices would have been 75% higher, had the Argentine government not taken price and investment-related measures”¹⁷
- the gas distributor Metrogas was effectively renationalised in May 2013 when YPF (the oil and gas company which was itself renationalised in 2012) bought the shares which were still owned by British Gas (BG) in Gas Argentino SA (GASA), the controller of 70% of capital in Metrogas. YPF will have to resolve cash-flow problems that have laid Metrogas very low of late with tariffs long since frozen and costs rising.¹⁸

- The electricity distribution companies Edecat and Edelar were renationalised by provincial governments in 2009 and 2013, following problems of under-investment, labour disputes, and low prices.¹⁹

Bolivia has systematically nationalised electricity generation, distribution and transmission companies since 2010. All of these had been privatised in the 1990s, as part of the unbundling and liberalisation programmes of the World Bank.

- In January 2013 Bolivia nationalised the two major electricity distributors Electropaz, which supplies more than 470,000 customers in the area of La Paz, and Elfeo (more than 80,000 customers in the Oruro region), and the associated service companies Compañía Administradora de Empresas Boliviana and Empresa de Servicios Edeser, all of which were owned by Iberdrola. In May 2012, the transmission company Transportadora de Electricidad (TDE) was nationalised, which had been owned by the Spanish electrical transmission company REE.
- In 2010, four power generation companies were expropriated, including two subsidiaries of GDF SUEZ and Rurelec (UK). Nationalisations in the power sectors are based on articles 20 and 378 of the Bolivian constitution (energy production chain in the stages of generation, transmission and distribution may not be restricted solely to private interests).²⁰
- Bolivia still plans further nationalisations in the sector, to establish 100% state ownership of Empresa Electrica Valle Hermoso, Empresa Guaracachi, Transportadora de Electricidad (TDE) and Empresa de Distribucion Larecaja SAM²¹

Belize: Dean Barrow's administration nationalised Belize Telecoms Limited (BTL) and Belize Electricity Limited (BEL) in 2009. Legal cases regarding the nationalisations of BTL and BEL remain ongoing.²²

The Dominican Republic nationalised its distribution companies in 2003, five years after privatisation, because of increasing public unrest over prices.

Brazil: the distribution companies owned by the Rede group were taken over by the regulatory body Aneel in 2012 because the danger of bankruptcy threatened the power supply in 5 states. In 2013 a court agreed the company would be taken over by another Brazilian private group, Energisa.²³

3. Current conflicts over privatisation

3.1. Indonesia

Indonesia has been attempting to unbundle and privatise its public sector utility PLN since the early 2000s. There are also a number of IPPs, many set up in the 1990s with corrupt agreements which force PLN to buy power at excessive prices. The union has fought a long battle, including a victory in the constitutional court against a 2003 law, but a new law enables various forms of privatisation, including outsourcing.

3.2. Kenya

The Kenyan electricity sector has already been subjected to unbundling, and partial privatisation through IPPs, most of which have been corrupt and expensive, and the partial privatisation of Kenya Power and Light. There are continuing attempts at privatisation in various forms, including outsourcing, and the possible use of private companies to take over some distribution. The union KETAWU has threatened strike action over the dismissal of workers and their replacement by contractors using casual staff, and also campaigned on formalising the employment status of casual day labourers employed by the power company.²⁴

3.3. Korea

Three nuclear reactors have been shut down as a result of safety concerns, after safety equipment was found to be inadequate as a result of bribes paid by the nuclear power industry. The government has started discussing further liberalisation as a way of dealing with the crisis, despite the fact that this option was dropped 8 years ago after strong campaigns by unions and others.

3.4. Nigeria

Nigeria has great problems with its electricity system. Only 40% of the urban population and 10% of the rural population connected, there are frequent blackouts, and lack of finance. The electricity system was unbundled in 2005 with the support of the World Bank, and the government decided in 2010 to privatise all parts of the system, and to increase electricity prices to make the business more profitable. This provoked massive public protests, and the price rises were reviewed, but the privatisation continued, and most of the successful bidders include companies with close

connections to the government. The Nigerian union has warned investors that there are many unresolved labour disputes.

3.5. Pakistan

There have been attempts to privatise the national electricity utility, WAPDA, for over 15 years. For some years it was taken over by the military. The campaign against its privatisation remains strong, led by the union. WAPDA is under great financial pressure because the introduction of private power generators (IPPs) in the 1990s forced WAPDA to pay much higher prices to the new private companies, while being unable to raise the prices charged to citizens.

The Karachi electricity utility, KESC, was privatised in 2005 to a Saudi company, which has since sold it to the Abraaj group, a private equity company, which gets 24% of its finance from DFIs and IFIs. This privatisation is still regarded as a disaster by workers, consumers, and Karachi City Council, all of whom have repeatedly demanded its renationalisation, and continue to do so in late 2013.²⁵

3.6. Paraguay

The government of Paraguay has announced plans to privatise the state energy company, ANDE. The probable buyer is the mining multinational Rio Tinto, which recently announced plans to build an aluminium smelter in the country. The union, SITRANDE, has launched a campaign against this. (see Annexe for further information)

3.7. Philippines

The government and the privatised National Power Grid Company have tried to force the province of Albay to agree to the privatisation of its electricity cooperative, Albay Electric Cooperative (ALECO), which is in debt. The member-consumers in ALECO led by its labor unions have already proposed a viable solution based on continued public control, but the government reject this.

“On July 30th, 2013, the National Power Grid Corporation shut off power to 1.2 million people in the Philippine province of Albay, citing millions in unpaid bills. 160,000 households had no power, and hospitals and other emergency facilities used generators to operate and maintain critical services..... Local citizens group and the employee union of ALECO argued that the power outage was blackmail to force Albay citizens to accept privatization of the local power cooperative.”²⁶

The Philippine unions have been fighting privatisation and its consequences for many years. They recently won a long-running court case to claim back pay or reinstatement for over 5,000 workers who were illegally dismissed when the national utility, Napocor, was privatised in 2003. The Supreme Court has ruled in favour of the workers, that they are entitled to back pay worth USD \$1.3 billion dollars, though this has still not been paid.²⁷

3.8. Tunisia

Tunisia has a strong public sector electricity company, but private companies from Europe and the Middle East want to profit from the possible solar energy from the Sahara desert, as well as other forms of privatisation. The private consortium promoting the Desertec project has now collapsed, but a recent visit by French businesses, GdF-Suez told the Tunisian government that they want to see PPPs created.²⁸

4. Annexe (English): Lessons from international experience

Note: This summary of the arguments against electricity privatisation was prepared for the Paraguayan union SITRANDE in August 2013

4.1. Trends: more nationalisation than privatisation

Nationalisation of electricity companies is now more common than privatisation, in large part because private owners have increased prices but not invested.

- In Latin America, privatised distribution or generating companies have been wholly or partly renationalised in Argentina, Belize, Bolivia, Brazil, the Dominican Republic, and Venezuela in the last 10 years, while there have been no new privatisations.
- In Bolivia, the electricity system was privatised in the 1990s and early 2000s, and sold to multinationals such as Iberdrola and REE (Spain), GdF (France) and Rurelec (UK). Connection charges were the highest in Latin America, only 78% of the population was connected in 2009, and there was very little investment in new transmission and distribution lines. The government has now renationalised most generating, distribution and transmission companies in the last 3 years, and has cut electricity prices by 60%.²⁹
- In Europe, the public sector is becoming more important too, because the private energy companies have not delivered renewable energy. In Germany, over 200 electricity utilities have been brought into the public sector, and 60 new public sector utilities have been created, since 2007. The public sector now owns over 80% of the networks, and a growing proportion of electricity generation.³⁰

4.2. Illegality, corruption and abuse of power

In some countries, courts have ruled that electricity privatisation is unconstitutional or illegal.

- In Mexico, proposals to unbundle and liberalise the system were rejected as unconstitutional by the Supreme Court in 2002, ruling that it contravened the requirement for state ownership of the system.³¹
- In Ecuador, the Constitutional Court ruled that a proposed privatisation of distribution companies was illegal.³²
- In Thailand, in March 2006, the Supreme Administrative Court declared that the privatisation process started by then prime minister, Thaksin Shinawatra, was illegal on a variety of grounds. It ruled that: 'The government has abused its power in privatizing the state enterprise'.³³

IPPs depend on long-term power purchase agreements (PPAs), lasting for 20-30 years, under which the government or a state agency guarantees to buy the output at an agreed price. The potential profits from such contracts create incentive for corruption, and there have been prosecutions of companies for corruption over IPPs in many countries, including Indonesia, Pakistan, and Nigeria.³⁴

4.3. Efficiency

Private electricity companies are not more efficient than public sector companies. A global study in 1995, which compared dozens of public and private electricity operators all over the world, and found no significant systematic difference between public and private in terms of efficiency.³⁵ Studies of the UK privatisations concluded that there is "little evidence that privatisation has caused a significant improvement in performance. Generally the great expectations for privatisation evident in ministerial speeches have not been borne out"³⁶.

There is no evidence that ANDE is inefficient, but it has suffered from lack of investment. A report on Paraguay by a UK academic in 2010 said of ANDE that: "its internal management and technical capacity are regarded as better than those at other state-owned enterprises", and that interruptions of supply were "caused by years of under-investment in new generating and transmission capacity."³⁷

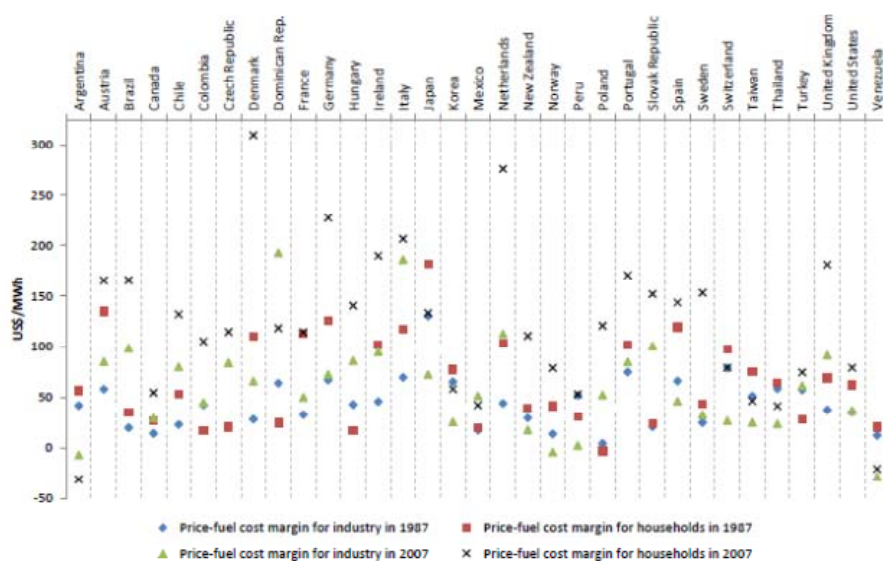
4.4. Prices – increased by privatisation and liberalisation

Privatisation and liberalisation do not decrease the price of electricity – they increase it. The cost of attempting to create competition is higher than the cost of maintaining a traditional monopoly system, because of the combined cost of capital, cost of marketing, cost of customer switching, cost of installation (Thomas, 2006).

In Latin America, and in the rest of the world, privatisation, unbundling and marketisation are linked with higher electricity prices for households.³⁸ A study of countries in Latin America and eastern Europe found that the result of unbundling and creating wholesale markets in electricity was not to reduce prices, but to increase them.³⁹ A new

study has shown that in nearly all countries which have privatised and liberalised to some extent, the non-fuel costs of electricity to households and to industry has risen sharply in the 20 years up to 2007.

Figure 3.3 Electricity end user price - fuel cost margins in 1987 and 2007



Source: Erdogdu 2013⁴⁰

4.5. Private distribution failures

The privatisation of distribution companies has created many problems, with private companies trying to force up prices, producing great public resistance.

- Both the Dominican republic and Belize renationalised distribution companies, as a result of continuing public opposition and company demands for state subsidies.⁴¹
- In Argentina, the state has refused to allow further price rises, but has provided growing subsidies to enable the private companies to make a profit.
- In Guatemala, the privatised distribution companies have provoked public anger by excessive price increases and poor service. In October 2012, soldiers killed 6 people demonstrating against price rises by the companies, which are now owned by a UK company, Actis.⁴² Actis also owns the privatised distribution company in Uganda, called Umeme, which “defrauded the government of Uganda to the tune of USD \$197 million by over-declaring losses”, was sued by 2,000 consumers for over-charging, and was rated as one of the most corrupt institutions in the country by a Transparency International survey; and the regulator has said that Umeme’s contract “would have been terminated a long time ago”, but there is a punitive compensation clause in the contract.⁴³

A World Bank report concluded that experience shows that a centralised public sector utility delivers much better results in rural electrification than fragmented or privatised approaches:

“countries that have taken a centralized approach to electrification, with the national utility responsible for extending the grid, have been more successful than those that followed decentralized approaches, where a rural electrification agency attempted to recruit multiple utilities or private companies into the electrification campaign.”⁴⁴

4.6. Private generators: failing to invest

The IEA says that “in most developing countries upfront public investment in developing national and local capacity is the most important ingredient” for attracting any private investment at all – and even then it will only take place “where a commercial return can be reliably earned on the investment”.⁴⁵ As a result, private electricity generators invariably require long-term government guarantees, usually in the form of power purchase agreements (PPAs) which guarantee to pay for the potential output of a power station for up to 25 or 30 years, regardless of demand – so the state still carries the risks. Every IPP project in Mexico, for example, has explicit government guarantees.⁴⁶

- Brazil introduced privatisation and liberalisation in the 1990s, relying on private companies to develop new power stations. In 2001 there was a crisis due to a shortage of generating capacity resulting from the failure

of the new market to stimulate investment in new generation. Brazil then suspended the privatisation and liberalisation programme, and later re-established a strong central state-owned Energy Planning Company (EPE, Empresa de Pesquisa Energética), which now employs about 250 people. It forecasts demand 20 years ahead, plans required infrastructure and generation, and commissions specified projects.⁴⁷

- Chile privatised and liberalised its system in the 1980s, under the military dictatorship. But the new system effectively “encouraged power firms to postpone or avoid altogether the installation of additional generation capacity”, which led serious energy crises in 1998-99, and again in 2007-2009, when the government had to spend over \$US1 billion to subsidise fuel and electricity prices, and make heavy use of expensive diesel generators.⁴⁸ The crisis highlighted problems with the coordination and transparency of the private generating companies and “the relative weakness of public bodies in dealing with short-term profit-oriented private firms, and the lack of a long-term energy strategy.”⁴⁹

Private IPPs nearly always use gas generation, which is not as cheap or clean as hydro plants, and so: “in countries like Ghana tariffs increased steeply after the introduction of thermal generation with IPPs.” (Dagdeviren 2009) A World Bank study also describes them as “relatively costly because of technology choices, procurement problems, and currency devaluations”, and says that they “represent a small fraction of total generation capacity and have mostly complemented incumbent state-owned utilities.”⁵⁰

4.7. Unbundling and liberalisation

4.7.1. not working in high income countries

A global review of liberalisation and deregulation in the USA, EU and other OECD countries, published in the Electricity Journal in 2009, identified a number of common features in this experience. It found a consistent pattern of problems, including consumer opposition, lack of competition, higher prices, ‘gaming’, oligopoly, lack of investment or innovation.⁵¹ The report was written by the director of the Electricity Consumers Resource Council (ELCON), which represents industrial consumers of electricity in the USA, who were expected to benefit from deregulation. ELCON now believes that “the structure of today’s “organized markets” is neither competitive nor sustainable”.

Table 3. Common problems in liberalised electricity systems in OECD countries

1	Consumers – both large and small – strongly oppose restructuring.
2	Restructuring has not resulted in “real” or “true” competition.
3	Restructuring has brought higher electricity prices.
4	Technological innovation has not been realized.
5	High concentration of generation ownership, and joint ownership of generation and transmission, throughout the restructured world.
6	Single-price, bid-based auctions are easy to game and difficult to police.
7	It is very difficult to negotiate reasonable long-term contracts.
8	A disincentive to invest ... failure to build necessary infrastructure leads to concerns over reliability
9	Inadequate transparency and cooperation
10	Regulators have not protected consumers from the problems of restructuring.
11	Developing renewable energy resources requires a move away from liberalised markets.

Source: 1-10 Andersen 2009⁵²; 11 UK Climate Change Committee Report⁵³

In the USA, during the 1990s, new legislation encouraged ‘de-regulation’, unbundling, and the creation of wholesale and retail markets. But many states stopped unbundling their power systems after the energy crisis in California in 2000, when a cartel of private companies increased the price of electricity by 800% and the state suffered a series of blackouts – except in the city of Los Angeles, whose publicly owned vertically integrated power company continued to work and produce electricity at normal prices.⁵⁴

In Europe, all countries have been required by the EU to unbundle and liberalise wholesale and retail markets since 1998. But the overall effect has been to increase prices and decrease consumer satisfaction. An EU-wide analysis found that both privatisation and unbundling had a damaging effect: “public ownership tends to decrease prices [and] vertical disintegration tends to increase prices”⁵⁵

Major blackouts in Italy and elsewhere in 2003 were attributable to large amounts of commercial trading of electricity over transmission lines, according to an official report, the underlying causes were “the unresolved conflict between the trading interests of the involved countries and operators and the technical and legal requirements for safe and reliable operation of the networks.” A similar diagnosis has been made of the USA blackouts (UCTE 2003, Rigby 2003, Thomas and Hall 2003).

4.7.2. Problematic in developing countries

About half the countries in the world have tried some form of unbundling, but most developing economies in the world have rejected, frozen or reversed liberalisation and unbundling. Many countries continue to run their electricity systems through vertically integrated utilities managing generation, transmission and distribution, like Ande, including half the countries in Latin America, and countries such as South Africa, China, and Indonesia.⁵⁶

Global reviews of experience have repeatedly concluded that privatisation of electricity in developing countries is a dangerous policy:

- A survey by an UNCTAD official in 2004 concluded that: *“in a long-run development perspective, full-scale privatisation of gas and power sectors in developing countries entails significant risks, and therefore a flexible policy approach is preferable to a rigid commitment to extensive liberalization”*⁵⁷
- An academic review of experience in 42 countries in 2009 *“questioned the superiority of the ‘private model’ for developing countries. Increasingly, the public sector is involved in private projects to undertake or share the risks that the private sector is unwilling to take on.”*⁵⁸

4.8. Aluminium companies: huge consumption, secret subsidies

The involvement of Rio Tinto in the proposed privatisation in Paraguay is alarming. Aluminium companies need huge amounts of electricity for their smelters, and use secret agreements to get prices far lower than ordinary customers. In South Africa, for example, the multinational aluminium company BHP Billiton has been consuming 9% of all the electricity produced in the country, at less than one-fifth of the tariff paid by other consumers. In Australia, the Alcoa company was given a 30-year guarantee of cheap electricity, which cost the government over US \$1billion, and consumed about 9% of all electricity in the state of Victoria. Aluminium companies already consume more than 10% of the entire electricity production of Brazil.⁵⁹

4.9. Casualization

Outsourcing by privatised electricity companies has often fragmented the workforce and casualised workers.

- In Argentina, privatized companies used outsourcing to drive down working conditions, in the areas of system maintenance, personnel, invoicing, collections, etc. In order not to be laid off, workers agreed to accept voluntary severance, then accepted a contract with the company to do the same tasks but as a self-employed person. The workers lost the security of the employer-employee relationship and had to provide for his or her own future pension.⁶⁰
- In Panama, Union Fenosa deliberately used outsourcing as a way of cutting jobs: *“the outsourcing process, which is expected to be completed in 2005, will cut the required labor force by over 230 employees”*.⁶¹
- In Colombia, Endesa introduced systematic outsourcing in the privatized distribution company Codensa: by 2002 about 7000 workers were on these contracts, with worse working conditions, casualisation and the loss of union organization.⁶²

5. Annexe (español) lecciones de la experiencia internacional

Note: This summary of the arguments against electricity privatisation was prepared for the Paraguayan union SITRANDE in August 2013

5.1. Tendencias: más nacionalización que privatización

La nacionalización de las empresas del sector de la electricidad es actualmente más corriente que la privatización, debido, en gran medida, a que los propietarios privados han incrementado los precios pero no las inversiones.

- En América Latina, las empresas de distribución o generadoras privatizadas se han vuelto a nacionalizar total o parcialmente en Argentina, Belice, Bolivia, Brasil, la República Dominicana y Venezuela en los últimos 10 años, mientras que no se han producido nuevas privatizaciones.
- En Bolivia, el sistema eléctrico fue privatizado en los años 90 y principios del 2000, y vendido a multinacionales tales como Iberdrola y REE (España), GdF (Francia) y Rurelec (Reino Unido). Los gastos de conexión eran los más altos de América Latina, solamente el 78% de la población estaba conectado en 2009 y la inversión en nuevas líneas de transmisión y distribución era muy escasa. Ahora, en los últimos tres años, el gobierno ha vuelto a nacionalizar la mayoría de las empresas de distribución y transmisión, y ha reducido el precio de la electricidad en un 60%.⁶³

- En Europa, el sector público también está cobrando importancia, porque las empresas energéticas privadas no han suministrado energía renovable. En Alemania, desde 2007 se han incorporado más de 200 compañías eléctricas al sector público y se han creado 60 nuevos servicios de distribución públicos. El sector público posee ahora más del 80% de las redes y una creciente proporción de la generación de electricidad.⁶⁴

5.2. La ilegalidad, la corrupción y el abuso de poder

En algunos países, los tribunales han dictaminado que la privatización de la electricidad es inconstitucional o ilegal.

- En México, las propuestas de segmentar y liberalizar el sistema fueron rechazadas al ser consideradas inconstitucionales por parte del Tribunal Supremo en 2002, que dictaminó que infringían el requisito de propiedad estatal del sistema.⁶⁵
- En Ecuador, el Tribunal Constitucional dictaminó que la propuesta de privatización de las empresas de distribución era ilegal.⁶⁶
- En Tailandia, en marzo de 2006, el Tribunal Administrativo Supremo declaró que el proceso de privatización iniciado por el entonces primer ministro, Thaksin, era ilegal por diversos motivos. Dictaminó que: “El gobierno ha abusado de su poder al privatizar la empresa estatal”.⁶⁷

Los operadores privados, conocidos como Productores de Energía Independientes (PEI), dependen de los Acuerdos de Adquisición de Energía Eléctrica (AAE) a largo plazo, que duran de 20 a 30 años, en virtud de los cuales el gobierno o una agencia estatal garantiza comprar la producción a un precio acordado. Los beneficios potenciales de este tipo de contratos crean incentivos para la corrupción y ha habido procesos contra empresas por corrupción sobre los PEI en muchos países, entre ellos Indonesia, Pakistán y Nigeria.⁶⁸

5.3. Eficacia

Las empresas eléctricas privadas no son más eficaces que las empresas del sector público. Un estudio mundial de 1995 comparó docenas de operadores eléctricos públicos y privados de todo el mundo y no encontró diferencias sistemáticas significativas entre el sector público y el privado en términos de eficacia.⁶⁹ Los estudios de las privatizaciones del Reino Unido concluyeron que existen “pocas pruebas de que la privatización haya producido una mejora significativa en el rendimiento. Generalmente, las grandes expectativas de la privatización manifestadas en los discursos ministeriales no se han materializado”.⁷⁰

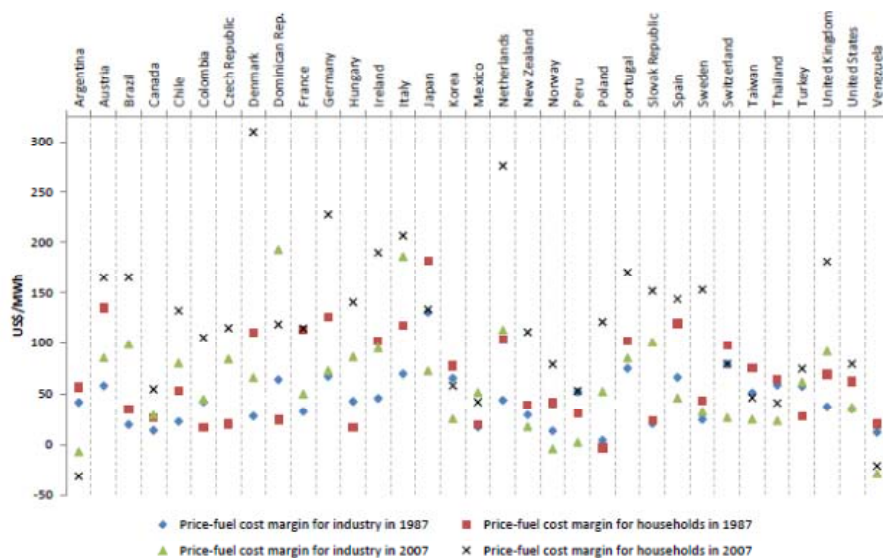
No existen pruebas de que Ande sea ineficaz, pero ha sufrido una falta de inversión. Un informe sobre Paraguay realizado por un universitario del Reino Unido en 2010 dijo de Ande que: “su gestión interna y su capacidad técnica son consideradas como mejores que las de otras empresas propiedad del estado”, y que las interrupciones en el suministro estaban “causadas por años de inversión insuficiente en nuevas capacidades de generación y transmisión”.⁷¹

5.4. Los precios – incrementados por la privatización y la liberalización

La privatización y la liberalización no disminuyen el precio de la electricidad – lo aumentan. El coste de intentar crear competencia es mayor que el coste de mantener un sistema de monopolio tradicional, debido a la combinación del coste del capital, el coste de la comercialización, el coste de las transferencias de clientes, el coste de la instalación. (Thomas, 2006)

En América Latina, y en el resto del mundo, la privatización, la segmentación y la mercadización están vinculadas con precios de la electricidad más elevados para los hogares.⁷² Un estudio sobre países de América Latina y de Europa oriental descubrió que el resultado de la segmentación y la creación de mercados mayoristas de electricidad no era bajar los precios, sino aumentarlos.⁷³ Un nuevo estudio ha mostrado que en casi todos los países en los que se ha privatizado y liberalizado en alguna medida, los costes de la electricidad que no son de combustible aumentaron considerablemente para los hogares y la industria durante 20 años hasta 2007.

Figure 3.3 Electricity end user price - fuel cost margins in 1987 and 2007



Fuente: Erdogdu 2013⁷⁴

5.5. Los fallos de la distribución privada

La privatización de las empresas de distribución ha creado muchos problemas, con empresas privadas que intentan incrementar los precios, lo que ha dado como resultado una resistencia pública significativa.

- La República Dominicana y Belice volvieron a nacionalizar las empresas de distribución a consecuencia de la continua oposición pública y de las peticiones de subsidios estatales por parte de las empresas.⁷⁵
- En Argentina, el estado se ha negado a permitir nuevas subidas de precios, pero ha proporcionado subvenciones cada vez mayores para permitir que las empresas privadas obtuvieran beneficios.
- En Guatemala, las empresas de distribución privatizadas han provocado el descontento de la población debido al excesivo incremento de los precios y al servicio deficiente. En octubre de 2012, unos soldados mataron a seis personas que se estaban manifestando contra el aumento de los precios por parte de las empresas, las cuales en la actualidad pertenecen a una compañía del Reino Unido, Actis.⁷⁶ Actis posee también la empresa de distribución privatizada de Uganda, denominada Umeme, que “defraudó al gobierno de Uganda alrededor de 197 millones de US\$ declarando pérdidas excesivas”, fue demandada por 2.000 consumidores por sobrefacturación y fue clasificada como una de las instituciones más corruptas del país por un estudio de Transparencia Internacional; y el regulador ha dicho que el contrato de Umeme “se habría concluido hace mucho tiempo”, si no hubiera existido una cláusula de indemnización punitiva en el contrato.⁷⁷

Un informe del Banco Mundial concluyó que la experiencia muestra que un servicio público de distribución centralizado da muchos mejores resultados en la electrificación rural que los enfoques fragmentados o privatizados:

“los países que han adoptado un enfoque centralizado de la electrificación, con un servicio público de distribución nacional responsable de extender la red, han tenido más éxito que aquellos que han seguido enfoques descentralizados, en los cuales una agencia de electrificación rural intentó reunir múltiples de servicios de distribución o empresas privadas en la campaña de electrificación”.⁷⁸

5.6. Los generadores privados: el fracaso a la hora de invertir

La AIE dice que “en la mayoría de los países en desarrollo la inversión pública inicial en el desarrollo de la capacidad nacional y local es el ingrediente más importante” para atraer cualquier inversión privada – e incluso entonces solamente tendrá lugar “si se puede obtener de manera fiable una rentabilidad comercial sobre la inversión”.⁷⁹ En consecuencia, los generadores de electricidad privados requieren sistemáticamente garantías estatales a largo plazo, generalmente en forma de Acuerdos de Adquisición de Energía Eléctrica (AAE), que garantizan el pago de la producción potencial de una central eléctrica por unos 25 ó 30 años, independientemente de la demanda – de manera que los riesgos siguen recayendo en el estado. En México, por ejemplo, cada proyecto de un PEI, cuenta con unas garantías gubernamentales explícitas.⁸⁰

- Brasil introdujo la privatización y la liberalización en los años 90, confiando en que las compañías privadas desarrollarían nuevas centrales eléctricas. En 2001 tuvo lugar una crisis debido a la escasez de capacidad de generación resultante del fracaso de los nuevos agentes del mercado a la hora de invertir en nuevas instalaciones de generación. En consecuencia, Brasil suspendió el programa de privatización y liberalización, y posteriormente volvió a establecer una sólida Empresa de Pesquisa Energética (EPE) estatal central, que emplea actualmente a unas 250 personas. Prevé la demanda en los próximos 20 años, planifica las infraestructuras y la generación que se requieren y encarga proyectos específicos.⁸¹
- Chile privatizó y liberalizó su sistema en los años 1980, durante la dictadura militar. Pero fue el nuevo sistema el que en la práctica “alentó a las empresas eléctricas a aplazar o evitar totalmente la instalación de una capacidad de generación adicional”, lo cual dio lugar a una grave crisis energética en 1998-99, y más tarde en 2007-09, cuando el gobierno tuvo que gastar más de mil millones de US\$ para subvencionar el combustible y los precios de la electricidad, y utilizar de forma intensiva los costosos generadores diesel.⁸² La crisis puso en evidencia los problemas vinculados con la coordinación y la transparencia de las empresas privadas generadoras de electricidad y “la relativa debilidad de los organismos públicos a la hora de enfrentarse a las compañías privadas orientadas a los beneficios a corto plazo, y la falta de una estrategia energética a largo plazo.”⁸³

Los PEI privados casi siempre utilizan generadores con gas, que no es tan barato o limpio como las plantas hidroeléctricas, y por ello: “en países como Ghana, las tarifas se incrementaron drásticamente tras la introducción de generadores térmicos con los PEI”. (Dagdeviren 2009) Un estudio del Banco Mundial también los describe como “relativamente costosos debido a las opciones tecnológicas, los problemas de abastecimiento y las devaluaciones de la moneda” y dice que “representan una pequeña proporción de la capacidad de generación total y principalmente han complementado los servicios de distribución de propiedad e incumbencia estatal”.⁸⁴

5.7. La segmentación y la liberalización

5.7.1. No operan en países de rentas altas

Un estudio sobre la liberalización y la desregulación en Estados Unidos, Europa y otros países de la OCDE, publicado en el *Electricity Journal* en 2009, identificó una serie de características comunes en esta experiencia. Encontró un modelo constante de problemas, entre ellos la oposición de los consumidores, la falta de competencia, precios altos, el “juego con el sistema”, el oligopolio, la ausencia de inversión o innovación.⁸⁵ El informe fue elaborado por el director del *Electricity Consumers Resource Council* (ELCON), que representa a los consumidores industriales de energía eléctrica en Estados Unidos, los cuales esperaban beneficiarse de la desregulación. ELCON considera ahora que “la estructura de los ‘mercados organizados’ actuales no es ni competitiva ni sostenible”.

Table 4. Problemas comunes en los sistemas eléctricos liberalizados de los países de la OCDE

1	Los consumidores – tanto grandes como pequeños – se oponen firmemente a la reestructuración
2	La reestructuración no ha dado lugar a una “verdadera” o “auténtica” competencia
3	La reestructuración ha traído consigo precios más elevados de la electricidad
4	La innovación tecnológica no se ha realizado
5	Alta concentración de la propiedad de la generación y propiedad conjunta de la generación y la transmisión a través del mundo reestructurado
6	Las subastas de precio único, las licitaciones, son fáciles de jugar y difíciles de controlar/regular
7	Es muy difícil negociar contratos razonables a largo plazo
8	Un desincentivo para invertir ... el fracaso a la hora de construir las infraestructuras necesarias suscita dudas respecto a la fiabilidad
9	Transparencia y cooperación inadecuadas
10	Los reguladores no han protegido a los consumidores de los problemas relativos a la reestructuración
11	El desarrollo de fuentes de energía renovable requiere un distanciamiento de los mercados liberalizados

Fuente: 1-10 Andersen 2009⁸⁶; 11 UK Climate Change Committee Report⁸⁷

En Estados Unidos, en los años 90, una nueva legislación fomentó la “desregulación”, la segmentación y la creación de mercados mayoristas y minoristas. Pero muchos estados dejaron de segmentar sus sistemas de energía eléctrica tras la crisis energética de California en 2000, cuando un consorcio de empresas privadas incrementó el precio de la electricidad en un 800% y el estado sufrió una serie de apagones – excepto en la ciudad de Los Ángeles, cuya compañía eléctrica pública integrada verticalmente siguió trabajando y produciendo electricidad a un precio normal.⁸⁸

En Europa, la UE ha solicitado a todos los países que segmente y liberalicen los mercados mayoristas y minoristas desde 1998. Pero el resultado global ha sido un incremento de los precios y una disminución de la satisfacción de los consumidores. Un análisis a escala de la UE encontró que tanto la privatización como la segmentación tenían un efecto perjudicial: “la propiedad pública tiende a disminuir los precios [y] la desintegración vertical tiende a incrementar los precios”.⁸⁹

Los principales apagones en Italia y en otros lugares en 2003 se atribuyeron a la gran cantidad de actividad comercial eléctrica sobre las líneas de transmisión, según un informe oficial, siendo las causas subyacentes “los conflictos sin resolver entre los intereses comerciales de los países y los operadores afectados, y los requisitos técnicos y legales para un funcionamiento seguro y fiable de las redes”. Se realizó un diagnóstico similar sobre los apagones de Estados Unidos (UCTE 2003, Rigby 2003, Thomas and Hall 2003).

5.7.2. Problemática en los países en desarrollo

Cerca de la mitad de los países del mundo han intentado alguna forma de segmentación, pero la mayoría de las economías en desarrollo en el mundo han rechazado, congelado o invertido la liberalización y la segmentación. Muchos países, entre los que se incluyen la mitad de los países de América Latina y países tales como Sudáfrica, China e Indonesia, siguen dirigiendo sus sistemas eléctricos mediante servicios públicos de distribución integrados verticalmente que gestionan la generación, la transmisión y la distribución, como Ande.⁹⁰

Los análisis mundiales de la experiencia han llegado a la conclusión en repetidas ocasiones de que la privatización de la electricidad en los países en desarrollo es una política peligrosa:

- Un estudio realizado por un funcionario de la UNCTAD en 2004 concluyó que: “en una perspectiva de desarrollo a largo plazo, la privatización a gran escala de los sectores del gas y la electricidad en los países en desarrollo supone un riesgo considerable, por lo que es preferible un planteamiento político flexible a un compromiso rígido de amplia liberalización”.⁹¹
- Un análisis académico de la experiencia en 42 países en 2009 “cuestionó la superioridad del ‘modelo privado’ para los países en desarrollo. ... Cada vez más, el sector público está implicado en los proyectos privados para emprender o compartir los riesgos que el sector privado no está dispuesto a asumir”.⁹²

5.8. Las empresas del sector del aluminio: el enorme consumo, las subvenciones secretas

La implicación de Rio Tinto en la privatización propuesta en Paraguay es alarmante. Las empresas del aluminio necesitan enormes cantidades de electricidad para sus fundiciones y utilizan acuerdos secretos para obtener precios mucho más bajos que los clientes normales. En Sudáfrica, por ejemplo, la compañía multinacional del aluminio BHP Billiton ha estado consumiendo el 9% de toda la electricidad producida en el país por menos de una quinta parte de la tarifa pagada por los demás clientes. En Australia, la compañía Alcoa recibió una garantía de treinta años de electricidad barata, que cuesta más de mil millones de US\$ al gobierno, y consumió cerca del 9% de toda la electricidad en el estado de Victoria. Las compañías del aluminio ya consumen más del 10% de la totalidad de la producción de electricidad de Brasil.⁹³

5.9. La precarización del empleo

La subcontratación por parte de las compañías eléctricas ha fragmentado a menudo la mano de obra y precarizado a los trabajadores.

- En Argentina, las empresas privatizadas utilizaron la subcontratación para reducir las condiciones de trabajo en las áreas de mantenimiento del sistema, personal, facturación, cobros, etc. Con el fin de no ser echados, los trabajadores acordaron aceptar un despido voluntario y posteriormente un contrato con la empresa para hacer las mismas tareas pero como trabajadores por cuenta propia. Los trabajadores perdieron la seguridad de la relación empleador-empleado y tuvieron que proveer su futura pensión.⁹⁴
- En Panamá, Unión Fenosa utilizó deliberadamente la subcontratación como una forma de recortar empleos: “el proceso de subcontratación, que se espera completar en 2005, reducirá la mano de obra requerida en más de 230 empleados”.⁹⁵
- En Colombia, Endesa introdujo la subcontratación sistemática en la compañía de distribución privatizada Codensa: en 2002 había unos 7.000 trabajadores contratados de este modo, con peores condiciones de trabajo, empleos esporádicos y sin afiliación sindical.⁹⁶

NOTES

- ¹ Global Trends in Electricity Transmission System Operation: Where does the future lie? Mallika Chawla and Michael G. Pollitt; PSIRU 2012 Overview of energy in Africa <http://www.psiru.org/sites/default/files/2013-01-E-Africa.docx>
- ² PSIRU 2013 Electricity Sector in Vietnam: Is Competition the answer? <http://www.psiru.org/reports/electricity-sector-vietnam-competition-answer>
- ³ La Republica (Colombia) July 31, 2013 Colombia: Celsia, AES, Duke and GDF Suez are potential candidates for Isagen
- ⁴ Panama: Bill allowing share sales passes second debate La Prensa de Panama, July 31, 2013
- ⁵ La Prensa (Honduras) July 30, 2013 Tuesday Honduras: ENEE will outsource various services via PPPs
- ⁶ G20 2013 Long-Term Financing of Growth and Development <http://www.g20.org/news/20130228/781245645.html>; WEF 2013 Strategic Infrastructure; Steps to Prepare and Accelerate Public-Private Partnerships <http://www.weforum.org/reports/strategic-infrastructure-steps-prioritize-and-deliver-infrastructure-effectively-and-efficie>
- ⁷ Responsible Investment in Infrastructure: recommendations for the G20 <http://www.g20civil.com/documents/196/1546/>
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