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Electricity liberalisation: The beginning of the end

by

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1. Foreword

Public Services International is the global trade union federation representing 20 million public service workers in 150 countries. Our members are committed to providing quality public services to their citizens, and ask only to be given the proper tools to do their jobs. Unfortunately, with the pressure on governments to privatise and liberalise public services, our members are increasingly unable to provide the services that their citizens and their communities require.

Safe, reliable and affordable electricity is a fundamental building block for all modern societies. It is one of the key components of sustainable development, providing the backbone for society's social and economic well-being. In developed countries, recent shortages and blackouts starkly demonstrated our complete dependence on safe and reliable supplies. In developing countries, regrettably, shortages and blackouts are the norm.

The research indicates that privatisation is running into serious problems all over the world, regardless of the wealth of the country. It points out that the particular nature of the electricity sector makes it difficult, if not impossible, to impose market dynamics. The conclusion that we draw is that the public monopoly organisation is still the best option for the sector, despite the professions of the free-market ideologues in the World Bank and in other powerful organisations.

The implications of the past 15-20 years' experiments with privatisation is that governments must assume their responsibilities in providing this essential public service. The challenge is how to best do this. A number of examples of stable, reliable public energy systems exist around the world, and policy makers should draw from them for inspiration, rather than from free-market economic theoreticians.

Another recommendation from PSI for national and international policy makers is that they change their view of the role of workers and their unions. Workers are repositories of knowledge and potential partners for change and improvement. Trade unions are the organisations that workers created to defend their interests and to consolidate their voices. Both should be seen as partners for change, assuming respect for their rights and their dignity. This is especially true in the energy sector, where management, whether in the public or private sectors, needs as much help as it can get to provide essential public services.

We hope that decision makers will have the courage and integrity to re-examine some of their policy decisions and will be open to critical research, such as this, that may challenge accepted conventions.

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2. Introduction

The World Bank is finally beginning 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 privatization'¹. The President,

¹ World Bank (2004) 'Credible Regulation Vital For Infrastructure Reform To Reduce Poverty, Says World Bank' Press release, June 14, 2004.

James Wolfensohn also said that ‘the Washington Consensus² [the 1989 international agreement that paved the way for privatisation and liberalisation of utility industries] has been dead for years’³. How far this is a genuine and welcome change of heart or whether it is a pragmatic response to current realities is not clear. Electricity privatisation, as the World Bank concedes is widely unpopular now and, as it also acknowledges, foreign investment in electricity industries has dried up as US and European electric utilities lick their wounds from massive losses on foreign investments not only in developing countries but even in ‘safe’ environments like the UK. So, privatisation is no longer politically or practically an option in many cases.

The European Commission, one of the most vocal advocates of competition in the electricity sector, talks big on competition but its acts speak of a distrust of the market and belief in planning and private sector oligopolies. In 2003, it introduced a new Electricity Directive (EC/2003/54/EC) with much stronger requirements on competition. However, its proposed Directive (COM (2003) 740 final) on security of supply in electricity re-imposes many of the old planning functions for the electricity industry on government. It has also designated electricity as a ‘service of general economic interest’, placing requirements on governments about price, quality and accessibility that no genuinely free market can possibly guarantee to deliver.

Nevertheless, this apparent recognition that competition and electricity supply do not mix is not all it seems nor does it mean the clamour for reforms will disappear. There are many vested interests that will continue to promote the idea. Consultants will continue to advise governments to opt for a liberalised model. Coopers & Lybrand in its notorious ‘world tour’ of the mid-90s found that a model almost identical to the 1990 UK reforms was appropriate for a range of countries with as diverse needs as Brazil, Ukraine and Colombia. Commodity trading houses now have a new product, electricity futures, to play with, while oil companies have found secure new long-term markets for natural gas displacing national fuel supplies. Not last, the International Financial Institutions (IFIs) such as the International Monetary Fund (IMF) will be loath to give up one of their main tools for governments to generate income to repay loans to them.

The free trade lobby also has its sights on electricity through the General Agreement on Trade in Services (GATS). Developed countries or groups of countries such as the USA and the European Union are putting immense pressure on developing countries to open up their electricity industries to foreign investment. This is a commitment that once made cannot be withdrawn no matter how badly reforms go. Ironically, as argued above, the EU and US electricity companies have no current interest in taking up the opportunity to invest in developing countries at present, but it is an option for the future and if an industry cannot be closed, governments will not be able to take control of entry and exit and cannot ensure supply and demand balance.

Even if the IFIs were to stop placing conditionality clauses requiring privatisation on their loans, national governments will read the World Bank’s papers and see their contempt for publicly-owned monopoly companies and will believe that privatising utilities will ingratiate them with the banks that they depend on for financial support.

The power of the rhetoric of privatisation with the public should not be forgotten, such that even though the case against privatisation and liberalisation is so strong, the public may still be supportive. Who could be against ‘consumer choice’, ‘reforms’, ‘liberalisation’, ‘breaking monopolies’, ‘opening up markets’, ‘introducing the discipline of private sector competition’? And who would want ‘centralised planning’, ‘publicly owned monopolies’ and ‘government regulation’?

This raises at least three important questions:

- What is the World Bank’s current position?

² 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.

³ <http://www.southcentre.org/info/southbulletin/bulletin80/bulletin80-03.htm>

- Why does the liberalised competitive electricity model not work? and
- What policies should governments now follow towards their electricity industry?

3. The World Bank

3.1. The World Bank's current position⁴

The World Bank published a report in June 2004, authored by a member of staff and strongly endorsed by its senior management. This report shows that the Bank's position on electricity privatisation is now full of contradictions. It still recommends privatisation of public utilities stating;

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

It acknowledges that electricity and water are more 'problematic' than telecoms. It blames inadequate regulation for privatisation failures, the author being quoted as saying:

'Regulatory weaknesses explain most failed attempts at infrastructure reform and privatization in developing countries.'

The author 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:

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

On regulation it states;

"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 privatization is undertaken.

It acknowledges that establishing credible regulatory bodies is not easy;

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 ownership that full extent of its 'irrationality' becomes clear.

"Privatization 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. It only allows for the possibility, where a country cannot manage the regulatory burden, of public ownership for the natural monopoly parts of the utilities.

Much of the report is cloaked in concern for poverty reduction: 'privatization must address the needs of the poor, particularly by extending service coverage' and '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 must be the judges of how convincing this concern is.

⁴ Ioannis N. Kessides (2004) 'Reforming Infrastructure Privatization, Regulation, and Competition' A co-publication of the World Bank and Oxford University Press

It claims credit for poverty reduction in the 1990s, with the clear implication that the public sector's efforts were ineffective:

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

It does acknowledge that the private sector is not interested in investing in developing country utility industries. It shows that foreign investment in 2001 was less than half the level of 1997 but ascribes this to: 'falling stock markets worldwide, financial crises in emerging markets, and hesitancy caused by public opposition to privatization'. In fact the level of foreign investment now is probably far below 2001 levels. It only suggests that 'pricing must provide investors with an incentive' as a way to re-awaken interest in privatisation. In an earlier report, it dismisses (probably correctly) the option of using private domestic finance. Bacon and Besant-Jones (2002) argue 'domestic capital markets are too undeveloped to replace foreign finance'.⁵

3.2. The collapse of foreign investment

The World Bank seems to attribute 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. 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.
- 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, government's should not arbitrarily interfere in utility industries, in the real world, governments cannot stand by if its citizens are faced with electricity prices that do not allow them to meet their basic needs. For example, if there is a currency devaluation and a foreign company has its profits set in dollars, prices to consumers may rise steeply causing great hardship; 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 can be overcome 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. Investors and investment analysts (it is they who ultimately decide, 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 most 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 R. W. Bacon and J. Besant-Jones (2002) 'Global Electric Power Reform, Privatization and Liberalization of the Electric Power Industry in Developing Countries' Energy and Mining Sector Board Discussion Paper Series no 2, World Bank, Washington. <http://www.worldbank.org/html/fpd/energy/pdfs/globalreform.pdf>

3.3. Analysis

So how does a developing country, dependent on IFIs such as the World Bank and the IMF, disentangle this mass of seeming contradictions? Clearly public ownership is anathema to the IFIs and in their obligatory Poverty Reduction Strategy Papers, developing country governments would be well advised to continue to offer privatisation. Public ownership can only be used as a last resort in infrastructure. Yet 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 message is that privatisation will not lead to lower prices ('don't oversell the benefits') because investors need bigger incentives to go back into foreign markets. Countries will have to continue to ratchet up the allowed profits and government underwriting until private investors are tempted back.

Regulation must be strong and in place although clearly regulation must not be too strong or else investors will not be interested. It 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? It stresses the importance of regulation but acknowledges that most developing countries will have difficulty establishing effective organisations.

4. Why does the liberalised competitive electricity model not work?

4.1. Private companies cannot deal with the risks without a 'regulatory bargain'

One of the most attractive promises of liberalisation was that investment risk would be taken away from consumers and would fall on the private sector. So if a company chose the wrong technology or fuel for a power station, or it failed to complete the plant to time and budget, the extra cost would be borne by the shareholders. This would act as a discipline on companies to ensure costs were minimised.

There was a brief era of commercial madness when old-style electric utilities believed they had the skills to wheel and deal on the market with 'merchant' plants arbitraging between markets with no contracts. This encouraged authorities to believe companies would build new plant unprompted, with no planning procedures. However, the demise of this dream can be summarised in two words: Enron and California.

The reality is that in a sector like electricity, dominated by capital costs and long lead-times, companies do not now knowingly take any risk. Nobody is going to invest, or more accurately, no bank will finance the investment of a billion dollars in a power station without very strong, probably contractual, assurances on the volume and price of the power they sell. In Britain, the government caved in to this reality by allowing integration of generation and retail supply. So Britain is dominated by a handful of companies generating for their own consumers, bypassing the wholesale market, which is left as a façade with minimal liquidity.

Even apparently risk-free investments in generation have proved economically disastrous when it became clear that the companies involved had not understood the risks they were actually taking. Currency risk, demand risk (demand can go down as well as up), and political risk (a government cannot stand by and allow electricity consumers to be priced out of the market) have all derailed apparently safe investments and power purchase contracts have turned out to be not worth the paper they were written on when the buyer went bankrupt. While shareholders of the companies have often paid through the ruin of these companies, consumers have also paid dearly for these mistakes. And workers pay with their jobs.

The old 'regulatory bargain', that a company will be allowed to make a reasonable and guaranteed level of profit in return for a promise to deliver affordable and reliable power offers the only way round this issue.

4.2. Competition is not a free lunch

Much of policy seems to be driven by a belief that competition is the economists' mythical 'free lunch'. For many products, the costs of competition may indeed be low compared to the benefits of having a field of suppliers competing to survive to supply a product, but for electricity the balance is very different. Costs of competition are various and often very high.

Perhaps the most clear is the risk premium on investment. In Britain, the monopoly parts of the electricity industry survive very happily on a real regulated rate of return of about 6 per cent. However, even for a power plant with an apparently iron-clad long-term power purchase agreement, the required real rate of return on capital is at least 15 per cent. The dismal record of most investments in power stations in Britain since 1990 suggests this risk perception is far from being misguided. It takes little imagination to see that for power stations, where repaying the capital is one of the largest costs, if the cost of capital more than doubles, competition will have to work some extraordinary magic to repay those extra costs, which, of course, fall on consumers and on workers.

Other costs include the software needed to set up and operate markets and perhaps the biggest winners from British electricity privatisation have been the software development houses. Designing wholesale markets is a huge job. The new British wholesale electricity market, NETA, described as the most complex suite of computer programmes built in the UK, took five years to design and implement (it ended up late and far over budget) and cost in the region of US\$2bn. Despite this huge expenditure (borne by consumers), there are still major problems and major expenditure taking place on NETA. Similarly the software to allow retail competition cost more than \$1.2bn (paid by consumers) to install and operate and has also been highly problematic.

Competing for retail consumers is expensive. In 1990 before retail competition for small consumers was allowed in Britain, about 5 per cent of domestic consumers' bills went to meet the costs (billing, meter reading etc) of the retail supplier. Now those costs include marketing, cost of switching, incentives for switching etc, and suppliers' costs now represent about 30 per cent of domestic consumers' bills.

4.3 Electricity is different from other commodities

The special qualities of electricity have always been known but the neo-liberals sold liberalisation on the promise that electricity could become just another product to be bought and sold in a market just like any other. It is now clear that this was an illusion, but it is worth re-iterating those special qualities and why they are incompatible with a market driven service.

4.3.1 Inability to store power

Almost all other products can be stored. This allows consumers and producers to smooth out peaks in demand and prices by drawing down stores when prices are high and building stores when prices are low. Without the ability to store, a free market will inevitably expose consumers to huge volatility in prices and will give ample opportunity for market manipulation by generators who can withhold power to force up prices.

4.3.2 Need for supply and demand to match at all times

In an electricity network, supply and demand must match at all times if the whole system is not to collapse. Without this level of 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.

4.3.3 Lack of substitutes

For most products, there are ready substitutes that can be used if supplies are not available or prices are too high. The threat of switching to substitutes acts as a price and availability discipline

on producers. For many uses, electricity has no ready substitutes and even where substitution is possible, consumers are generally locked in by the equipment they use.

4.3.4 Vital role in modern society

Modern society is now totally 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. For most products, a market failure can be tolerated by use of substitutes and stores but governments cannot incur the risk of electricity industry failure.

4.3.5 Electricity is a standard product

In an interconnected network, electricity is an entirely 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.

4.3.6 Environmental impacts

The environmental impact of electricity generation must be added to the traditional list of special features. Electricity generation plays a key role in greenhouse gas emissions and attempts to deal with climate change have to focus on the electricity sector (and transport). The market will not deliver the necessary emissions reductions and market mechanisms are no more than one of many tools that will have to be used, not the complete answer.

5. What policies should governments now follow?

The policies that governments must follow will depend on the extent of the reforms already carried out.

5.1. Countries with old structure largely intact

There are now relatively few countries that have largely retained their previous structure. South Africa and Sri Lanka have begun preparations for reform but no final model has yet been settled on and the old companies and capabilities are largely intact. For this set of countries, the problem is most easily solved: they simply need to abandon liberalisation measures and set about building on their existing companies not breaking them up. Even this will require some courage for governments that have come to power promising reforms and which now have to acknowledge their error and the waste of funds already spent.

5.2. Countries where reforms have been halted

An increasing number of countries have set off down the road of liberalisation and have appeared to abandon it in the face of problems or opposition. Such countries include Korea, Mexico, Brazil, (and parts of Canada, Australia and USA). Here the situation is more varied.

In some cases, such as Brazil, Ontario, Alberta and California, the reforms have failed. In the case of Brazil, the new Lula government is clearly committed to public control of the sector. It was fortunate that privatisation had been restricted mainly to electricity distribution and generation was almost entirely still in public hands. It has also gained an important concession from the IFIs on public finance. It argued successfully that public investment in profitable new assets should not be restricted in the same way as the running cost of public services. This allowed Eletrobras to almost double its investment in electricity infrastructure, releasing about 4bn Reais (about US\$1.4bn) per year for investment. 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.

However, in the case of Ontario, the commitment to publicly controlled power seems shallow and new proposals are just a new version of the old proposals that failed in 2002 within six months of

their introduction. The private sector is expected to build the new capacity and the existing public sector generator will be restricted to a passive role in providing finance and a cheap base of power that will water down the impact of much more expensive new private sector power. These proposals seem misguided and, if implemented, are likely to lead to a second failure.⁶

In the case of California, Governor Schwarzenegger is trying to re-introduce an electricity market despite the hopeless failure of the earlier market in 2001 that left consumers with huge bills and almost ruined the state's utilities. The Governor is also threatening to veto a state legislature bill to re-regulate the industry.

In the case of Mexico and Korea, reforms were halted mainly due to opposition. As with Ontario, it is not clear how real the reversal of policy is and the public companies may just be consigned to a slow death as private unregulated companies are allowed to carry out all the new investment with the public company providing a cheap generation base that the new companies can profit from. In Mexico, the Fox government, while promising to protect and strengthen the public utilities CFE and LFC, has tried to implement a system that would allow private investors to build the new capacity.

In Korea, determined union opposition finally led to a commitment by the new President in 2003 to appoint a research team under the auspices of the Tripartite Commission to review experience of electricity reforms at first hand, carrying out a wide-spread, fact-finding mission to countries such as Brazil, USA, Canada, UK and France rather than relying on partial, second-hand reports. The team found against privatisation but the national utility had already been split, into six generation companies, and a network and retail company (none of these have been privatised). It remains to be seen what steps the government will now take to ensure public control of the industry.

In the case of New South Wales, the new proposal is to retain public ownership of the assets but to hand over control to traders. It was claimed this would reduce financial risk to the public because traders would sign agreements (perhaps of five years) with generators that would guarantee the generators' cost would be covered. If the traders could sell the power to the market for more than they paid, they would make a profit, if they could not, they would bear the loss. The reality is that any trader taking on this role would essentially be a 'shell' company with minimal assets. If it made a profit, it would keep the money and if it lost money, it would be bankrupt and have to be replaced by another trader, inevitably paying a lower price to the publicly owned generators. For the public, this would be a 'heads you win, tails I lose' arrangement with all of the risk, but none of the profit.⁷

5.3. Countries where reforms are complete or seem irreversible

Countries where reforms are complete and appear irreversible include Argentina, Colombia and Chile (the pioneer of electricity reforms 20 years ago). These countries have the biggest problems because most of the old companies have been destroyed and the industry is in the hands of foreign companies with little appetite or commitment to maintaining investment. Companies like AES are now withdrawing from commitments. For example, in Uganda, AES withdrew from the Bujagali hydro-electric scheme in 2003, two years after World Bank loans were granted. The merits of this project are disputed but Uganda has wasted three years on a project that may not now be built.

For such countries, the IFIs, which often gave governments little option but to pursue privatisation and liberalisation, bear a particular responsibility. The IFIs have a duty now to show the same level of commitment in the form of loans, capacity building etc., in bringing the electricity industries back under public control as they did in encouraging privatisation.

⁶ S Thomas (2004) 'The Ontario Government's proposals on electricity restructuring: Comments by Public Service International Research Unit' Report to the Society of Energy Professionals, Toronto.

⁷ S Thomas (2004) 'A risk management proposal for New South Wales' electricity businesses: Comments by Public Service International Research Unit' Report to the ASU.

5.4. The EU countries

The EU is a particularly difficult case as the member states do not have autonomy in this area and are bound by the Electricity Directive. The Commission's relentless pursuit of reforms in this area does not seem to be driven by a belief in the market. The motivation seems more about taking control of electricity from national governments, creating large European electricity companies that can compete strongly in world market and destroying nationally owned monopoly companies like EDF and ENEL. Few countries have had the will to overtly oppose these proposals and countries like the Netherlands and Italy have largely destroyed the old industry structure. In other countries, such as France, Greece and Ireland, governments are stretching timetables for reform to the limit and nationally-owned companies (EDF, PPC and ESB respectively) are still intact, but sanctions against these countries will soon be imposed if they do not act soon. In a third set of countries, the priority seems to be to follow the letter of the Directive but not its spirit, with the aim of creating a strong home market for national champions to underwrite their international ventures. In some cases, national private or part-private monopolies remain effectively intact (Belgium with Electrabel (Suez) and Portugal with EDP), in others privately-owned duopolies have actually strengthened their market hold (Germany with RWE and E.ON, and Spain, with Endesa and Iberdrola) and in others new national champions have been created (Austria, the Verbund).

The major problem will be reversing the Commission's Directive, or perhaps more realistically, since the Commission will never admit its mistake, neutralising its provisions. The blackouts of 2003 sensitised the public to the risks and forced the Commission to act on security of supply issues through its proposed Directive on security of supply. It is to be hoped it will not take too serious a failure for the Commission to neutralise the Directive's provisions sufficiently to allow national governments to take control of the electricity industry again.

5.5. The success stories

The UK and the Nordic countries are still the flagships of the reforms boasting lower prices, and maintained supply security and service standards. In these countries, political parties of all complexions have committed themselves to the liberal model and they will not easily give up the dream. But the seeds of the ultimate failure of even these apparent successes are already in view.

The Nordic countries (Norway, Sweden, Finland and Denmark) have merged their electricity markets building on the systems created in Norway in 1991. The Nordic market has many advantages: national systems are nicely complementary in resource terms (Norway is hydro based while Denmark is fossil-fuel based with Sweden and Finland using a mix); they all had very strong mature networks that did not require major investment; public ownership dominates (this shelters them from the excesses of corporate profiteering in wholesale markets and cost-cutting); and demand growth is low (also minimising new investment need). Nevertheless, the surplus capacity that existed when the systems were merged is being eroded and there is no sign that the market will autonomously build new capacity. The nuclear plant recently ordered in Finland is outside the market and its capacity may disguise this weakness for a little longer, but ultimately, if new generation is not built and supply security is compromised, the reforms will have to be abandoned.

The UK also profited from a strong network and surplus generating capacity. Price reductions were possible because the industry was sold for only a fraction of its accounting value, effectively writing off much of the cost of the network and of the power plants. A surplus of gas from the North Sea available on long-term contracts at fixed prices encouraged a large amount of new gas-fired generation. The removal, arguably premature, of a nuclear subsidy, also helped, but large reductions in fossil fuel prices were not passed on. The industry is now dominated by a handful of mainly foreign integrated generator/retailers with no incentive to compete against each other. Liquidity in the transparent part of the wholesale market is negligible (less than one per cent) while small retail consumers have subsidised the competition enjoyed by large consumers. With major investment now needed in the network, fossil fuel prices rising sharply and North Sea gas production declining, electricity prices have already begun to rise sharply and consumers will begin to ask the questions about prices, market structure and equity between consumer classes that the era of falling prices did not encourage.

6. Conclusions

For some people the case against the liberalised electricity model will never be proven. There will always be a market design error that can be fixed to solve the problems, while any problems with a publicly-owned monopoly are inevitably insoluble. The array and influence of institutions and people with an interest in keeping the liberalised model going should not be ignored and the 'dogs' of the free trade lobby need to be called off the electricity sector. But when supply security can no longer be guaranteed, politicians will be forced to act, although, as the cases of Ontario and New South Wales show, the allure of the market is still strong.

For developed countries, the problems will be significant. Prices may have to rise to pay for a backlog of investment, skills lost because of short-term cost-cutting will have to be recreated and governments will have to abandon their denigration of publicly owned companies and get on with their job of managing them properly. However, developed countries, by and large, willingly opted for liberalisation and they have the financial resources to deal with these problems, so sympathy must be limited.

By contrast, developing countries have seen national companies that were a centre for skills and good employment practices destroyed at the command of the IFIs. Their industries have often suffered serious under-investment in the privatised market. Public spending restrictions imposed by the IFI reduce the scope they have to retake control of the industries, although the Brazilian example is one that other countries can follow. It is these countries that the developed world has a duty to help. And the IFIs must urgently re-assess their policies, and widely acknowledge their mistakes. They must take the necessary steps to undo their mistakes, which, after all, impact not so much the IFIs as the countries that they are supposed to help.