1. INTRODUCTION

This paper asks three questions: Why privatise? Why has infrastructure privatisation failed? What drives infrastructure privatisation? It argues that infrastructure privatisation has not been able to finance capital investment or improve efficiency in developing countries because of a fundamental mismatch between privatisation theory and the main characteristics of infrastructure privatisation. The natural monopoly features of public infrastructure, social requirements of merit goods and high capital costs will discourage private sector investment, necessitating continued state subsidies and guarantees. State interventions in turn dilute private incentives and potential efficiency gains associated with risk bearing. Efficiency gains will then depend on the quality of regulation which will usually be poor in developing countries. Under these circumstances, PPI will be selective and restricted to higher income regions and countries and/or to more profitable sectors and segments. This is reflected in global trends where private investment has focussed on telecoms, energy and transport, and in higher income regions and countries, and where the public provision and financing of infrastructure continues to be important. The evidence on efficiency is less clear cut but is at best selective and inconclusive, especially in the case of water and sanitation services (WSS).

The paper begins by investigating the theoretical problems of infrastructure privatisation in relation to the broader evidence, namely the failure of private participation in infrastructure
(PPI) to finance capital investment and improve efficiency. This provides the framework to then examine the evidence and emerging themes on a country level, focusing on the case of water services in Malaysia. This section investigates the performance of the water sector under three different ownership structures (public, private and public-private) in relation to capital investment, efficiency and financial performance. This provides the basis to then examine the financial failure of private water operators in the state of Selangor and Malaysia’s water sector reforms. The evidence suggests that infrastructure privatisation has been driven by domestic classes and their preference for non-tradable, rentier sectors. This is reinforced by the interests of international capital (in this case multinational water companies), financial institutions and consultants, and supported by multilateral organisations and international development agencies.

The global move towards PPI and its continued promotion is also part of an overall shift away from manufacturing towards services that needs to be understood as part of the dynamics of capitalist accumulation. This in turn has implications for the form of national accumulation and development trajectory of a developing country. The continued promotion of PPI globally does not necessarily improve capital investment or efficiency for the theoretical reasons outlined. More critically, PPI also facilitates the shift in developing countries away from productive sectors with longer-term implications for development, particularly in the context of globalisation and the challenges of late industrialisation.
2. WHY PRIVATISE?

The case for privatisation rests on principal–agent, property rights and public choice theories. According to principal–agent theory, clearly designated property rights reduces the chain of command between principal and agent and also provide owners with incentives to monitor the performance of managers. The issue of incentives lies at the heart of privatisation and is the main focus of property rights theory. By transferring residual control (decision rights) and thus residual returns (profit) to the private owner, clearly designated property rights provide incentives because the decision maker bears the full risks of his or her choices, and receives the residual (profit). Here, privatisation also addresses the problems of soft budget constraints and the absence of bankruptcy as a credible threat under public ownership by transferring risks to the private owner. The benefits of privatisation here centre on competition which is the major driver for improved efficiency (although competition is conceptually distinct from ownership).

Public choice theory highlights the problems of political interventions in economic decisions that characterise public ownership. Privatisation is seen to drive a wedge between politicians and managers, thereby depoliticising firms and making it too costly for politicians to subsidise them (Boycko et al 1996). This is not to say that governments do not intervene to bail out private firms. Rather, privatisation is said to make more credible the promise not to use public funds to subsidise losses by placing some distance between the government and producer, and substantially increasing the transaction costs of such interventions (Sappington and Stiglitz 1987; Stiglitz 1996).
Privatisation emerged as a policy agenda in the early 1980s following elections of conservative governments in the UK and US, and was in part a reaction to the inefficiencies associated with state-led development under Keynesian economic policies. The performance of state-owned enterprises (SOEs) – many created to spearhead the industrialisation process – were seen to exacerbate balance of payments and debt problems in developing countries, and became the main targets of the first wave of privatisations that followed. Despite this, it was generally accepted that the provision of essential services such as water, electricity and transport networks should remain in the public sector because they were natural monopolies and merit goods.

The expansion of privatisation into public services and in particular infrastructure in the 1990s was driven by the private sector and developments in privatisation theory (see e.g. Kessides 2005). Multinational (utility) companies stood to profit from PPI in developed and developing countries while large scale infrastructure privatisation involving complex financing arrangements offered new business opportunities for financial institutions and consultants. This was in turn supported by multilateral organisations and international development agencies such as the International Monetary Fund, World Bank and Asian Development Bank (see e.g. World Bank 1997). This development also coincided with the overall shift in advanced countries away from manufacturing towards finance and services that has been associated with the processes of deindustrialisation and financialisation. At the same time, infrastructure privatisation has been supported by domestic groups where this coincided with their abilities and preference for easy rents, particularly in construction where costs are easily inflated. In this case, the continued promotion of PPI facilitates and reinforces any such tendencies of domestic capitalists at the expense of investment in more
productive sectors such as manufacturing, in turn affecting national accumulation strategies.

The theoretical case for infrastructure privatisation or more specifically PPI was based on the ‘increasing recognition that network utilities are not monolithic natural monopolies’ and when properly reorganised and restructured can be subject to substantial competition for many activities (Kessides 2005: 84). The poor performance of state-owned infrastructure monopolies in many developing countries (low labour productivity, poor service quality and inadequate investment to keep up with the needs of growing populations) and state budget deficits necessitated new ways of financing infrastructure development. Poor public sector performance was attributed to losses as a result of inefficiency and mispricing that compounded underinvestment. Inefficient (non-cost reflective) pricing structures and poorly-targeted subsidies are seen to have benefitted the middle classes, rather than the poor, and distorted prices, imposing significant costs (Velez 1996, cited in Estache 2005; World Bank 1994; Kessides 2004). This undermined the financial viability of utilities, leading to chronic underinvestment and deterioration in service quality (World Bank 1994).

The main argument for PPI is that incentives to maximise profits will drive down costs through improvements in efficiency. This will translate into improved service delivery and/or lower costs for all consumers, and enable the private owner/operator to invest in further improvements and expansion of services. Central to the incentive argument is the realignment of prices with underlying costs. Cost-covering tariffs are necessary for the private owner to capture the benefits from cost reductions in order to earn a return on capital and finance capital investment. If the private owner/operator cannot charge a user
fee that reflects operating and capital costs plus a reasonable rate of return, there will be no 
incentive to improve or to invest. PPI thus rests on the introduction of cost-covering tariffs 
and promises to address the financing of public infrastructure through efficiency gains.

3. WHY HAS PRIVATISATION FAILED?

There are several reasons why infrastructure privatisation may fail. First, the monopoly 
features of public infrastructure associated with WSS, transport and energy undermines 
arguments for private ownership because the incentives to innovate and improve efficiency 
to maximise profits depend on competition and not ownership structures. A key feature of 
infrastructure privatisation has thus been the introduction of competition for the market 
through unbundling different (vertical) segments of the network, e.g. by separating water 
storage from treatment and distribution; fixed assets (tracks, signals, etc) from 
operations/maintenance (rolling stock); and generation from electricity transmission and 
distribution (see e.g. Estache 2001; Kessides 2005). However, competition for the market 
through auctions is limited by the number of bidders and market size in many developing 
countries, and the auction process is complex and demanding, with the government never 
really knowing the minimum possible project cost (see e.g. Benitez and Estache 2005; 
Estache and Iimi 2008; Estache 2001; Ouedraogo 2004, cited in Briceno-Garmendia et al 

Unbundling will also be at the expense of vertical integration in terms of the loss of 
coordination and scope economies, and increased transaction costs. This can lead to system 
fragmentation and “cherry picking” (or “cream skimming”), where more profitable utilities, 
sectors (e.g. telecoms) or lucrative parts of a network are privatised, leaving less profitable
companies, sectors and segments under public ownership (see e.g. Estache and Fay 2007).

In the absence of competition, regulation – rather than ownership structure – is central to successful privatisation. However, regulation will be constrained by imperfect and asymmetric information and compounded by the weak institutional and technical capacities that characterise developing countries (see e.g. Estache 2001, Laffont 2005). Here, the focus on strengthening institutions is sequentially problematic given that strong institutions are the outcome and not drivers of development.

The second problem with infrastructure privatisation is that it is usually associated with merit goods, which means that their provision, particularly in the case of water and sanitation services (WSS), cannot be to the exclusion of those who cannot afford to pay because of equity or public health considerations. As a result, tariffs will not be able to cover costs if affordability and universal access are to be assured, with 42 per cent of high-income countries estimated to subsidise operations and maintenance costs of water provision for residential users (see e.g. Komives et al 2005, cited in Annez 2006; Foster and Yepes 2006, cited in Estache and Fay 2007). Subsidies are hard to avoid because this would increase prices paid for water and electricity by poor households especially as the ‘average tariff necessary to generate the minimum required rate of return in the poorest developing countries has to be higher than elsewhere and is increasing, because it needs to cover a higher and increasing cost of capital’ (Estache and Fay 2007: 24).

The third problem is that infrastructure development is characterised by very high sunk costs, long gestation periods and uncertainty, with low turnover and long lead times. The higher risks, uncertain revenues and possibilities of default raise the cost of capital
(Sappington and Stiglitz 1987; Payson and Steckler 1996; Daniels and Trebilcock 2000; Estache and Pinglo 2004; Estache and Fay 2007) and necessitates higher average tariffs (or subsidies), making poor countries even less attractive for private investors who are faced with the option of low bids being financially unfeasible or high bids being politically untenable. As a result, the private sector has faced great difficulties in financing such high-cost, long-gestation projects without government guarantees (to secure long-term loans) and tax breaks (see e.g. Windsor 1996; Fayard 1999; Dunn 2000).

The state will also need to reduce the private sector’s share of the cost, or its risk, by absorbing demand risk through subsidies or government guarantees to ensure the project is viable for private sector participation (Heilman and Johnson 1992; Norton Rose 2006). Government guarantees are needed for a wide range of reasons to deal with unexpected events and to ensure that an acceptable financial return can be generated (see e.g. Irwin 2007). These can cover financing/debt and the government assuming some form of contingent liability or guaranteed returns (e.g. minimum traffic/revenue and exchange rates) to lower the operational risk profile of PPI projects (Annez 2006; Estache et al 2007; Irwin 2007). The private sector now expects the public sharing of risks through government subsidies and views the ‘general perception that all PPP [public–private partnerships] should transfer demand risk to the private sector’ as ‘altogether flawed’ (Norton Rose 2006).

PPI is expected to deliver better results where commercial risks are shifted to the private sector (see e.g. Harris 2003) but necessary (and expected) subsidies mean that there are risk-incentive trade-offs as private incentives are reduced where the risk is transferred back to the state (Heilman and Johnson 1992; Daniels and Trebilcock 2000). These risk-mitigating
measures dampen the incentives to private operators to achieve efficiency gains. Furthermore, where government subsidies finance the project, the government may be unwilling to let the project fail or to terminate concessions given the “essential” nature of public services and political repercussions of interruptions in their provision. As risks have been largely borne by the public sector, there can be no clear designation of property rights as the owner ‘cannot capture the whole social and economic benefits generated’ nor would such a designation ensure efficiency and high levels of investment (Fayard 1999: 12–13). This means that the owner’s residual returns (profit) depends just as much on government decisions as on the owner’s residual control of the work process, and this can significantly dilute the incentives to monitor in the absence of adequate institutional arrangements and regulation in developing countries.

4. HOW HAS PRIVATISATION FAILED?

The theoretical problems of infrastructure privatisation discussed above can help explain the broad evidence, in particular the failure of PPI to significantly finance investments and improve efficiency. The global evidence of capital investment across regions and infrastructure sectors is drawn from the World Bank PPI Database between 1990 and 2008. This is the most widely cited data source but ‘has a number of omissions, some inaccuracies, and some built-in limitations’ and is often used to ‘generate greatly overstated estimates of investment by the private sector’ (Hall and Lobina 2006: 16). In particular, the PPI Database records investment commitments (not planned or executed investments) expected during the lifetime of the project, and includes both private and public investments.
These shortcomings aside, several themes emerge that are consistent with issues raised in the theoretical critique of PPI, namely: a) the continued importance of public investments in spite of privatisation and in order to attract PPI; and b) a tendency of private investments to focus on richer countries and sectors where costs and risks are lower. Cumulative private sector investment commitments in 1990–2008 have been selective and illustrate a clear preference for specific sectors (telecoms and energy) (Figure 1) and regions (middle income) with Sub-Saharan Africa attracting very little investment (Figure 2). In comparison, investment commitments in WSS are significantly lower, declining (Figure 3) and non-existent in South Asia and Sub-Saharan Africa.

*Figure 1 Investment commitments to infrastructure projects with private participation in developing countries, by sector, 1990–2008*

*Source: World Bank PPI Database.*
Assessment of efficiency gains is more problematic, being affected by methodological and data problems. These methodological problems have largely coloured the way in which the evidence (or otherwise) of efficiency gains has been presented and partly explain why the results are mixed and inconclusive. Methodological problems arise from attempts to measure performance, in particular key variables (e.g. allocative efficiency), the use of criteria which mostly favours the private sector (e.g. profitability), interpreting financial
profitability and the absence of common agreement on what constitutes successful performance given the often multiple objectives and different goals of public enterprises (see e.g. Hemming and Mansoor 1988; Cook and Kirkpatrick 1995; Parker and Kirkpatrick 2003). In particular, it is often unclear whether improved efficiency is due to a change in ownership or structural changes which accompany privatisation, especially increased competition. Evidence of improved performance has also been limited to certain sectors with industry-specific conditions, telecommunications being one of the few such instances, and it is unclear whether these can be replicated in other sectors.

Evidence in support of efficiency gains can suffer from selection bias because: 1) the better performing public utilities are more likely to have been privatised, leaving less efficient enterprises in the public sector; and 2) successful (or “well designed”) privatisations are usually used as examples. As a result, evidence has been generally limited to a few sectors and the same small selection of successful case studies and countries, and drawn mainly from research by the World Bank which continues to promote infrastructure and water privatisation. Two prominent papers in support of PPI rely almost entirely on World Bank research for evidence of investment and efficiency gains in infrastructure privatisation. Seventeen out of 23 sources used by Harris (2003) are World Bank publications while 12 out of 15 sources cited for evidence by Kessides (2005) are either published by the World Bank or by a World Bank consultant. With these caveats in mind, it is not surprising that the global evidence of efficiency gains has been largely inconclusive, with ‘no statistically significant difference between the efficiency performance of public and private operators’ in the water sector (Estache et al 2005: 11; see also Kirkpatrick et al 2006; Corral 2007; Bela and Warner 2008).
5. INFRASTRUCTURE PRIVATISATION IN MALAYSIA

The theoretical critique above can help explain the performance of Malaysia’s infrastructure privatisation. The evidence here is largely consistent with the wider empirical evidence. In general, PPI has not been able to finance infrastructure investment or improve efficiency. There are several recurring themes: a) the continued role of the public sector and public financing; b) selective private investments across and within sectors (i.e. “cherry picking”); c) inconclusive efficiency gains; and d) financial loss.

5.1 Public sector investment

Malaysia’s programme was introduced in the early 1980s and was characterised from the onset by private sector participation (PSP) through various concessions (e.g. build-operate-transfer, BOT) and management contracts rather than actual divestiture (change of ownership). PSP has in turn invariably centred on infrastructure (construction, government services and utilities) (Figure 4) and in particular transport (Figure 5). The bulk of private investment commitments have focused on transport (namely road construction) and energy, consistent with the broader global evidence. The dramatic increase in private investment commitments for WSS in 2000 and 2004 appear to be related to capital expenditure by private water companies that were facilitated by government grants and soft loans and which the World Bank PPI Database does not reveal. (This is discussed in the Selangor case study.) The federal government spent RM29 billion on WSS between 1976 and 2010 despite PPI, with the increasing expenditure occurring since the introduction of privatisation in the 1980s. Infrastructure privatisation has thus been characterised by the
ongoing role of public financing, primarily in road construction but increasingly too on WSS despite PPI (Figure 6).

**Figure 4 Malaysia: share of privatised projects by sector, 1991–2000 (%)**


**Figure 5 Malaysia: public and private infrastructure investment commitments (RM million)**

Source: World Bank PPI Database.
5.2 Evaluating the performance of water privatisation

Historically, Malaysia’s water sector has been decentralised and fragmented, with the 13 state governments having control of, and responsibility for, water resources while the federal government provided funding. Water privatisation began in 1987 and was seen as a solution for state governments to meet growing demand and deal with escalating costs, poor efficiency and low tariffs. The evaluation of privatisation performance is usually based on the dichotomy between public and private (including corporatised) water utilities. However, this does not distinguish between actual ownership structures in the different water segments that differ from state to state. Corporatised water entities (in the states of Pulau Pinang, Terengganu and Kelantan) and states with privatised segments (water production and treatment) (e.g. Selangor, including Kuala Lumpur) are generally classified as “private”. This is misleading because all corporatised water utilities remain under (majority) public ownership while states with private participation (Kedah, Negeri Sembilan, Sabah,
Perak and Selangor) continue to have public water distribution. Only one state (Johor) has completely privatised its water services, from production and treatment to distribution.

Classifying water utilities according to actual ownership structures provides a more accurate assessment of performance. This needs to distinguish between public and private sector water responsibilities by state for the period under consideration in order to correctly determine the impact of PPI on capital investment and efficiency. Based on this, we can identify four categories of water operators: “public”, “corporatised”, “public-private” and “private” (Table 1). The government’s economic index (EI) helps explain the pattern of private participation that is consistent with the private sector preference for higher income states (Table 1). With the exception of Melaka (public) and Kedah and Sabah (public-private), the poorest states (Sarawak, Perlis, Terengganu, Kelantan) remain in the public sector while private participation and privatisation has occurred in the richer states (Negeri Sembilan, Perak, Selangor, including Kuala Lumpur, and Johor). This is consistent with the broader themes identified, namely: a) the continued role of public financing; and b) selective private sector participation across states and water service segments.

*Table 1 Malaysia: water responsibilities by ownership structure, 2000–2008*

<table>
<thead>
<tr>
<th>Public (EI)</th>
<th>Corporatised (EI)</th>
<th>Public-private (EI)</th>
<th>Private (EI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sarawak (94.8)</td>
<td>P. Pinang (109.0)</td>
<td>Kedah (95.5)</td>
<td>Johor (102.9)</td>
</tr>
<tr>
<td>Perlis (95.0)</td>
<td>Terengganu (91.5)</td>
<td>N. Sembilan (101.8)</td>
<td></td>
</tr>
<tr>
<td>Pahang (96.3)</td>
<td>Kelantan (91.9)</td>
<td>Sabah (82.8)</td>
<td></td>
</tr>
<tr>
<td>Melaka (106.4)</td>
<td></td>
<td>Perak (99.7)</td>
<td>Selangor* (111.4)</td>
</tr>
</tbody>
</table>

*Notes: Economic Index (EI) from Malaysia 2006.*
5.2 Capital investment

Evidence of capital investment in this paper is based on three indicators: a) water production; b) production capacity; and c) length of pipes. Given that PPI has mainly been in water production and treatment, this naturally skews the data for the production of water towards the private sector which is responsible for 70 per cent of water production in 2001–2006. The division of water utilities by state and ownership also reveals a greater private share of responsibility in the public-private states (which exhibit the largest amount of private water production) and the only fully private state (Johor) (Figure 7). However, this breakdown by ownership structure also indicates a larger share of public sector responsibility in water production especially after public allocations for water are included. The government continues to play major a role in water production in the public, corporatised and public-private states directly and indirectly (through public expenditure allocations).

Figure 7 Malaysia: water production by ownership structure, 2001–2006 (million litres/day)

Source: Various Malaysia Plans; Malaysia Water Association.
A breakdown of federal government allocation for water supply in 2001–2010 reveals an increasing public allocation for all states (except Melaka and Terengganu) including Johor (private) and especially for public-private states (Figure 8). The combination of private capital investment and federal government allocation can explain the increase in national water production capacity and length of pipes (Figures 9 and 10). This growth has been driven by increases in Selangor (public-private) and Johor (private). However, the actual contribution of the public and private sector in each state will require individual company data.

Figure 8 Malaysia: federal govt allocation for water supply, 2001–2010 (RM million)

Source: Malaysia Water Association.
Figure 9 Malaysia: production capacity, 1980–2010 (MLD)

Source: Malaysia Water Association.

Figure 10 Malaysia: length of pipes, 1999–2008 (km)

Source: Malaysia Water Association.
5.3 Efficiency

This paper focuses on two measures of efficiency: non-revenue water (NRW) and unit costs. NRW measures the difference between water production (quantity of water that leaves treatment plants) and revenue (quantity of water billed to consumers). The difference (water loss) represents NRW, with a higher figure indicating poorer efficiency. The main causes of NRW are leaks (usually from aging pipes) and pilferage. In the case of Malaysia, NRW typically comprises leakages (16–30 per cent), meter under registration (3–7 per cent) and pilferages (1–8 per cent) (MWA 2003: 76). As NRW is related to the problem of ageing pipes, it is also a good proxy for capital investment.

The evidence on NRW reveals no overall improvement nationally and no correlation between ownership/privatisation and efficiency (or capital investment). Despite PPI, the national average NRW has slightly worsened from 36 per cent in 1997 to 37 per cent in 2008 compared to the worldwide average of 33 per cent. Only four states had noticeable improvements in NRW: Pulau Pinang (corporatised and privatised but with state majority ownership); Perak and Kedah (public-private); and Perlis (public) (Figure 11). Some privatised/corporatised states have not improved (Johor) or have deteriorated (Kelantan, Terengganu). Given that the state remains responsible for water distribution in all public, corporatised and public-private partnerships, and given the mixed performance across states in each of these categories, no conclusions can be drawn about the efficiency of the public or private sectors.
The national average unit production cost declined from 60 per cent in 1998 to 52.6 per cent in 2008, suggesting some improvements in efficiency. However, a breakdown of unit production costs by state and ownership reveals: a) improvements in some public utilities and in the private sector; b) increasing costs in the corporatised and some public-private sectors; and c) above average costs in some public-private and in the private sectors (Figure 12). Based on these two preliminary indicators, PPI does not appear to have improved efficiency in water services.
5.4 Financial performance

A key challenge for water privatisation is to increase efficiency and profitability in order to improve and expand services. This means that tariffs need to reflect underlying costs to ensure profitability and financial viability. However, determining actual costs (including operations and capital expenditure) and hence appropriate tariff rates will always be difficult, even without the problems of asymmetric information. Tariff rates in Malaysia vary according to ownership structure and consumer group and remain politically sensitive, with state governments unwilling to increase rates. To keep residential tariffs low and politically acceptable, residential consumers are heavily subsidised by 7–49 per cent (Lee 2008: 161) and a dual tariff structure means that commercial/industrial are higher. Both residential and commercial/industrial tariff rates are lowest (and below the national average) in the public and corporatised sectors and highest in the private sector (Figure 13).
A key feature of Malaysia’s water privatisation is the rapid growth of operating expenditure relative to revenue (Figure 14) and increasing deficits for the water sector as a whole, particularly from 1998 (Figure 15). However, there does not appear to be a correlation between low tariff rates and operating deficits. The states with the lowest (Pulau Pinang) and highest (Johor) residential tariffs both recorded the highest operating surplus while Selangor with the third highest residential tariffs had the largest deficit that also accounts the overall deficit of the water sector (Figure 16). There is also no correlation between NRW and operating surplus or deficits (Figure 17).
Figure 14 Malaysia: revenue and operating expenditure, 1981–2007 (RM million)

Source: Malaysia Water Association.

Figure 15 Malaysia: operating surplus/deficit, 1981–2007 (RM million)

Source: Malaysia Water Association.
Figure 16 Malaysia: residential tariff rates and operational surplus/deficit, 2001–2008 (RM million)

Source: Malaysia Water Association.
Notes: Green: low tariffs; blue: low/medium tariff; red: medium/high tariff; yellow: high tariff.

Figure 17 Malaysia: NRW (%) and operating surplus/deficits, 2001–2008 (RM million)

Source: Malaysia Water Association.

A breakdown of financial performance by ownership reveals a deterioration in financial performance in most public and corporatised states, a significant deterioration in the private state of Johor, and most strikingly, ongoing large-scale deficits in the state of Selangor which almost exactly mirrors the overall amount and pattern of deficit nationally.
Half of the 13 states experienced financial deficits in water operations and by 2008, the water sector as a whole had a RM1 billion operating deficit. Total debts related to WSS owed to the federal government by state governments amounted to RM7.6 billion in 2006 (PAAB 2008).

**Figure 18 Malaysia: operating surplus/deficit, 2001–2008 (RM m)**

Source: Malaysia Water Association.

**6. WHY DID MALAYSIA’S WATER PRIVATISATION FAIL?**

The global evidence is largely mirrored in Malaysia’s water privatisation where PPI has been selective in terms of regions, sectors and segments. This has necessitated continued public provision of infrastructure services in less profitable regions, sectors and segments, as well as the public financing of infrastructure as a whole. The unbundling of water services through privatisation led to the concentration of private sector participation in the more lucrative water treatment segment and higher income (urbanised) states, leaving the unprofitable water distribution segment and water services in lower income (more rural)
states mainly to the public sector. Outsourcing treatment did not promote efficiency in the value chain as it did not adequately address the challenges of funding and efficiency (Chin 2008: 55). The evidence here is consistent with the broader global themes identified earlier, namely: a) the continued role of the public sector in the provision of water services; and b) selective private investments in more lucrative segments of infrastructure provision, financed by public subsidies.

The segregation of water treatment from water distribution and consumer service facilities resulted in ‘an artificial division in which a part prospers, at the expense of the other parts’; this “cherry picking” of more profitable segments increased costs and reduced the financial viability for the water sector as a whole (Chin 2008: 61–62). At the same time, under the terms of the water concessions capacity charges were disbursed to water concessionaires regardless of the quantity of water supplied with no clearly stated operational requirements that had to be met to receive full capacity charges. State governments also tended to accede to the private sector’s terms of returns assurance in the form of a guaranteed internal rate of return (IRR) and/or guaranteed tariff increases (Chin 2008: 51). The expected 14–18 per cent IRR was seen as socially unaffordable and unwarranted, and the concentration of PSP in water treatment led to a proliferation of privatised bulk water BOTs that placed a huge financial burden on the (public sector) distribution companies (see Hall et al 2004; Chin 2008). An underlying tension was the disconnect between private sector interests (returns on investment) and state government interests (low tariffs) with state governments having to subsidise the shortfall where tariffs could not sustain concession rates (Chin 2008: 25).
The evidence indicates that capital investment has increased in Malaysia as a whole in terms of total production capacity and length of pipes (Figures 9 and 10) but not in terms of NRW (i.e. the replacement of old pipes) (Figure 11). However, necessary capital expenditure came at a huge financial cost for water distributors and the federal government which financed capital expenditure anyway. Further research will be needed to breakdown capital investment by individual public and private utilities for a more complete picture. Nonetheless, the existing dichotomy between increases in total production capacity and length of new pipes on the one hand, and high and deteriorating NRW on the other, suggest selective capital investments that appear to be publically financed or subsidised. This was encouraged by the lack of clarity between what constituted the “replacement of water infrastructure assets” and “repairs and maintenance” (see Chin 2008: 108). In short, capital investments were undertaken directly by, or with the financial support of, the federal government. This appears to have created a perverse incentive for (private) utilities to invest in selective capital expenditure at inflated costs in the knowledge that they will be subsidised or at worse, bailed out.

6.1 Case study: Selangor

The case of Selangor is illustrative of Malaysia’s failed water privatisation not least because this is the state with the highest and fastest growth in production capacity and length of pipes, a significant increase in federal government allocation for water supply, and the highest operating deficits. The Selangor state government under Lembaga Urus Air Selangor (LUAS) owns full rights to raw water with water treatment split among four water concessionaires and the state government.
Syarikat Pengeluar Air Selangor Sdn Bhd (SPLASH) was awarded a 30-year SSP3 concession by the (previous) state government in January 2000 to build, operate and maintain the Sungai Selangor Water Supply Scheme Phase 3 (SSP3). The agreement included taking over the operation and maintenance of the Sungai Selangor Water Supply Scheme Phase 1 (SSP1). SPLASH is currently owned by Gamuda Bhd (40 per cent), The Sweet Water Alliance (30 per cent) and Kumpulan Perangsang Selangor Berhad (KPS) the Selangor government’s investment holding company (30 per cent).

Konsortium ABASS Sdn Bhd (ABASS) was awarded a 30 year concession to operate and maintain the Sungai Semenyih Scheme in 2001. ABASS is a wholly owned subsidiary of Titisan Modal (M) Sdn Bhd. Titisan is 55 per cent owned by Kumpulan Perangsang Selangor (KPS), a state government body that is in turn 60 per cent owned by KDEB, the Selangor government’s investment arm, and 45 per cent-owned by Operasi Murni Sdn Bhd (a company said to be affiliated to the ruling Malay party UMNO) (The Edge, 30 June 2009).

Puncak Niaga (M) Sdn Bhd was awarded a 25-year concession in 1994 for the operation of 26 water treatment plants (WTPs). This was followed by another 25-year build-operate-transfer (BOT) concession in 1995 to design, finance, construct, operate, maintain and manage a WTP for the Sungai Selangor Water Supply Scheme Phase 2 (SSP2). The company currently holds five water treatment concessions and operates 29 WTPs and is wholly owned by the public-listed Puncak Niaga Holdings Bhd which also owns a 70 per cent share of SYABAS. Puncak Niaga’s equity is held by Central Plus Sdn Bhd (33.9 per cent) and Corporate Line Sdn Bhd (2.9 per cent), the original investors in Puncak Niaga. In 2005,
Puncak Niaga took over from multinational Veolia as the operator of the water treatment works.

Syarikat Bekalan Air Selangor (SYABAS) was awarded a 30-year concession in 2005 to distribute water in Selangor, Kuala Lumpur and Putrajaya. It was previously Jabatan Bekalan Air Selangor (JBAS, Selangor Water Supply Department) before being incorporated as Perbadanan Urus Air Selangor Bhd (PUAS) on 15 March 2002 and then privatised on 1 January 2005 as SYABAS. The company is owned by Puncak Niaga (70 per cent) and Selangor state bodies (30 per cent).

Prior to privatisation, PUAS was a profitable state water utility and was able to cross-subsidise water treatment with distribution and provide revenue to the state government. The unbundling of JBAS and privatisation of water treatment left PUAS with the loss-making segment of the water network. The concession agreements also stipulated the sale of treated water at a set price to PUAS. As a result, while the private companies made annual profits between US$10 million and US$47 million in 2001, PUAS faced annual deficits of around US$100 million (Hall et al 2004). With the privatisation of PUAS and its name change to SYABAS, the company faced the same problem and was subsequently taken to court by ABBAS (in 2006) for RM73 million and SPLASH (in 2009) for RM196 million in outstanding amounts for the purchase of water under the concession agreement (Puncak Niaga 2009).

Revenue shortfalls and capital investment related to NRW were in turn financed and subsidised by federal and state governments. In 2009, SYABAS received a federal government loan of RM320.8 million as payment for water purchased from Puncak Niaga,
ABASS and SPLASH, in addition to soft loans for capital works. SYABAS also received a government grant of RM250 million in 2009 ‘in consideration of SYABAS performing its obligations under the Concession Agreement ... solely for the purpose of financing the costs and expenditure of the [sic] NRW’ (Puncak Niaga 2009: 284). As at 31 December 2009, SYABAS had submitted RM434.2 million to the state government as compensation for the loss of revenue as a result of the (new) state government’s decision to defer the concessionaire’s request for a tariff review. Under the concession agreement, water tariffs were to be increased by 31 per cent (in 2009), 25 per cent (2015), 10 per cent (2019), and 5 per cent (in 2021, 2024, 2027 and 2030) (Government of Selangor 2009). In 2010 the company sued the Selangor state government for RM472 million for blocking an increase in water tariffs.

On its part, the then-newly elected (and opposition party controlled) Selangor state government did not accept the terms of the concessions that guaranteed profits (regardless of performance), unfair terms of payments to concession companies, and scheduled tariff increases. The state government accused SYABAS of breaching key terms of its concession and wrote to the Ministry of Energy, Water and Communications to revoke the concessionaire’s 30-year water supply concession. The Selangor state government provided evidence of numerous irregularities, financial discrepancies and breaches of the terms of agreement that included the concessionaire:

- Breaching the ceiling for capital expenditure and operating expenditure;
- Awarding 72 per cent of contracts worth RM600 million (US$180m) through direct negotiations;
- Spending RM51.2 million (US$15m) to renovate SYABAS headquarters despite Selangor Water Regulatory Department (JKAS) approving only RM23.3 million for the exercise;
- Sourcing RM325 (US$97.5m) worth of pipes from Indonesia instead of locally in 2005, in breach of finance ministry instructions, and from a company owned by Puncak Niaga’s chairman Rozali Ismail;
- Paying RM5.1 million (US$1.5m) in allowances to its chairman Rozali Ismail (the 32nd richest man in Malaysia); and
- Paying its parent company Puncak Niaga management fees amounting to RM8.4 million (US$2.5m) annually and RM32 million (US$9.6m) since 2005.

The state government’s refusal to allow for a 37 per cent tariff increase led to payment problems between SYABAS and the water treatment concessionaires Puncak Niaga, SPLASH and ABASS. As a result, all four term concessionaires were in technical default following their inability to maintain sufficient reserves to pay bondholders (Malaysian Insider, 8 Dec 2010). Underlying this problem was the mismatch between cost-covering tariffs necessary for commercial viability and incentives, and the political sensitivities of high tariffs. However, as noted, there is little correlation between tariff levels and financial performance. Instead, the evidence here suggests that privatisation led to bloated capital expenditure that was financed by the federal government, and which has provided water concessionaires with easy rents. Privatisation contracts thus created perverse incentives for private operators to increase capital expenditure selectively without necessarily improving network coverage or performance.
6.2 Malaysia water sector reforms

Malaysia’s water sector reforms reaffirm the fundamental problems of water privatisation raised in the theoretical critique of PPI, namely that: a) the private sector will not be able to finance investments due to high capital costs and low tariffs and revenues; and b) the state will continue to play a central role in financing capital investment. The federal government sought to restructure the water sector from 2003 following increasing industry-wide deficits. In 2006, it streamlined and centralised regulation and coordination through:

1) The transfer of water services to the joint control of the federal and state governments;
2) The introduction of new legislation (Water Services Industry Act, Suruhanjaya Perkhidmatan Air Negara [SPAN] Act);
3) The creation of SPAN (the National Water Services Commission) and Pengurusan Aset Air Bhd (PAAB, the state water asset management company).

Central to these reforms was the federal government’s takeover (i.e. renationalisation) of all water assets which would then be leased back to private operators. Water assets were to be transferred to PAAB which would also finance capital expenditure at a reduced cost by raising sovereign rated bonds with the backing of the federal government (see Chin 2008: 109). The reforms aimed to reduce capital expenditure and convert infrastructure costs into affordable operating expenditure spread over an appropriate timescale. Under this “asset light” model, PAAB was responsible for the development of water assets, namely the construction, refurbishment improvement, upgrading, maintenance and repair of water infrastructure systems. The federal government would spend a total of RM52 billion over 50 years under the proposed National Water Policy and the National Resources Master Plan
(2000–2050). Capital expenditure would be approved by the national regulator SPAN and be contracted out through open tender.

Water operators would be responsible for the operations of water assets (treatment and supply of water) and were expected to pay for the lease rental of water assets from PAAB, invest in operating systems to monitor performance, and maintenance and operating costs. By reducing the financial burden of capital expenditure for private water operators, this licensing arrangement aimed to reduce entry barriers and increase competition, thereby improving efficiency and lowering costs (Chin 2008: 81). With the state assuming formal responsibility for capital expenditure, the primary focus of PPI was now on service improvement and not capital investments (Chin 2008: 63). In short, PPI was no longer expected to finance capital investment.

However, Malaysia’s water sector reforms were flawed in design and compromised in implementation. Despite relieving private operators of the burden of capital expenditure, PAAB would also provide working capital to fund operating expenditure for companies operating at a deficit and charge below market rates for the rental of water assets (Chin 2008: 107, 109). In addition, the federal government was to provide a ‘temporary subsidy for lease rentals for the less efficient operator for the period expected to be taken to improve efficiency’ (Chin 2008: 110–111). The federal government was also unwilling to enforce performance standards and was instead prepared to renew leases to private operators that breached key terms of their concessions as in the case of Selangor. There thus appeared to be little incentives for improving efficiency in design and practice. Instead,
the regulation of performance crucial for efficiency gains was undermined by the political realities that constrain policy and institutional reform in developing countries in general.

Under the WSIA 2006, the federal government, through PAAB, was to purchase water assets from the state governments which in turn had to purchase these from private operators. However, the disposal of privatised assets was at the discretion of private operators and the federal government exercised the right to appoint a licensee to manage the water supply in each state. This was not a problem when WSIA 2006 was passed because the federal government and most state governments were under the control of the ruling Malay political party UMNO. Under this scenario, the state government would offer a high enough price to reacquire privatised water assets in return for an operating licence from the federal government which was expected to be awarded to existing water companies. This was the case in when PAAB bought water assets in Melaka in 2008 for RM899 million and in Johor for RM1.21 billion in 2009.

In 2008 the federal government directed the (then UMNO-controlled) Selangor state government, through KDEB, to lead negotiations with the four water concessionaires to take over privatised water assets in the state. However, the election of an opposition political party to the state government in Selangor later that year resulted in a dispute over how much privatised water assets were worth, with the federal government (through SPAN) intervening to negotiate directly with the concessionaires. All four water companies subsequently rejected the state government’s offer of RM5.7 billion on the basis that this did not include the loss of future revenue and assumption of debts totalling RM6.4 billion (Puncak Niaga RM1.3 billion; SYABAS RM2.9 billion; SPLASH RM1.6 billion; ABAAS RM640
million). The expectations of the concessionaires was for PAAB to offer a price higher than RM5.7 billion, underwrite their debts, and renew their concessions as indicated by the Energy, Water and Communications minister (Malaysian Insider, 13 Feb 2009). For its part, the Selangor government was offered RM1.1 billion by PAAB despite already owning 80 per cent of water assets in the state.

This dispute illustrates the financial problems of water privatisation and the problems of rent-seeking associated with PPI. At the heart of Malaysia’s water restructuring process was the continued belief in PPI that reflects the ruling Malay political party’s commitment to privatisation as the main vehicle for Malay capital accumulation and the creation of a Malay capitalist class. This policy was consistent with the interests and abilities of the Malay petite bourgeoisie that emerged and expanded on the back of state handouts under the New Economic Policy (NEP) and which failed to progress beyond a rentier class (see e.g. Tan 2008). In other words, rather than a dynamic capitalist class engaged in manufacturing, the Malay capitalist class remained in non-tradable, rentier sectors, with the petite bourgeoisie centred on a narrow band of professions that includes (civil) engineers and contractors engaged in water services who dominated membership of the Malaysia water Association (Figure 19).
Examining the social composition of this class, and the country’s patron–client networks, allows us to identify the drivers of infrastructure privatisation, and explain the continued promotion of PPI despite the failure of water privatisation and the private sector, not to mention the continued support for inefficient and failing private water operators. The inherent flaws of WSIA 2006 reflect the political dimensions and realities of water privatisation in Malaysia that are part and parcel of ongoing struggles over resources in all developing countries. The ongoing promotion of PPI in the context of these political realities and institutional weaknesses further undermines the viability of water services and reinforces unsustainable forms of national accumulation centred on rent capture in unproductive sectors.

This form of national accumulation in turn needs to be situated within the broader dynamics of capital accumulation, where declining profit opportunities in productive sectors helps explain the emergence of financialisation and shift away from manufacturing towards finance and services globally. Financialisation and globalisation impact national
accumulation processes in two distinct ways. First, the nature of global production networks and increasing global competition within manufacturing forces domestic firms to innovate in order to remain competitive and to remain part of global value chains but also poses substantial challenges for technology upgrading. Second, financialisation offers higher returns in the face of increasing competition and declining profit opportunities in manufacturing. The combination of these factors can help explain the continued promotion of PPI globally and nationally, particularly where domestic capital remains uncompetitive.

7. CONCLUSION

This paper has argued that PPI is inherently flawed because of underlying theoretical problems. The natural monopoly features of infrastructure, limited competition associated with unbundling, social access required of merit goods such as water, and high capital costs have all necessitated public subsidies and financing. These factors have restricted PPI to more profitable sectors, segments and regions, and undermined incentives for efficiency by socialising risks. This is borne out by the global evidence of PPI which has been highly selective in terms of sector and regions, with WSS by far attracting the least amount of private sector investment commitments, particularly in poorer regions. The theoretical critique of PPI can also explain the performance and financial failure of Malaysia’s water privatisation, with the country evidence wholly consistent with the global observations. Malaysia’s attempts to address this problem through its water sector reforms illustrate the problems of institutional reform and regulation in developing countries which will be invariably compromised in design and implementation by political contests over resources. In other words, the process of privatisation is itself highly politicised and associated institutions (and institutional reforms) will similarly reflect these political realities.
This helps us answer one of the more perplexing questions to emerge in the privatisation debate: Why is privatisation still promoted despite its failure to improve capital investment and efficiency? In other words, what drives privatisation? Malaysia’s continued promotion of PPI reflects the ongoing commitment to privatisation as the main vehicle for Malay capital accumulation, regardless of the performance and financial failure of existing private water operators, and the sustainability of this process. The ongoing promotion of PPI cannot be understood without taking into account the political factors related to class configurations and patron–client networks. The Malaysian case study is helpful in identifying the Malay capitalists and the petite bourgeoisie who have emerged and rapidly expanded as a result of state rents, and who have been the domestic drivers of infrastructure privatisation.

The preference for captive rents in non-tradable sectors is greatly facilitated by infrastructure privatisation and helps explain the outcome of Malaysia’s PPI as well as main features of the water sector reforms that have failed to address the underlying problems of PPI, instead protecting and rewarding failed water operators. The domestic preference for infrastructure privatisation must in turn be situated within the broader dynamic of capitalist accumulation, specifically the challenges associated with industrial upgrading on the one hand, and (short-term) opportunities provided by financialisation. The outcome of this form of accumulation is unlikely to be sustainable and this has long-term consequences for developing countries attempting to industrialise. In this context, the promotion of PPI is misguided at best and irresponsible at worse.
References


