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Successful Infrastructure Privatization - A Blue Print

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Infrastructure privatization has brought substantial benefits to governments, shareholders, and, most importantly, to consumers in many countries around the world. In Europe, the United Kingdom, Norway, Sweden, Hungary, and the Czech Republic have successfully privatized large parts of their electricity and water supply. In South America, Columbia, Chile, and Argentina have followed the same path with similar success. Several Asian countries have introduced private sector participation in their infrastructure sector, with varying success. Most recently, countries of the Middle East have begun to encourage private sector participation as well. Oman has introduced its first generation company under private ownership and operation. And, in probably the most aggressive program in the Middle East, the Emirate of Abu Dhabi has initiated an extensive campaign to privatize its water and electricity industry.

In addition to these very positive examples, there have also been less successful attempts at privatization. In this speech today, I will try to highlight the differences between successful and less successful privatizations, and distill the relevant learning for governments preparing for privatization. I will cover two broad areas:

- ¶ First, the benefits of privatization and its impact on stakeholders. I will outline several successful privatizations and some less successful ones, and then identify the common reasons why privatizations have failed or stalled.
- ¶ Second, a comprehensive approach towards privatization. I will draw on the lessons from the privatizations discussed previously and on McKinsey experience from about 150 privatizations and 50 major industry restructurings in electricity and water worldwide to illustrate a comprehensive approach towards privatization. This could provide the basis for several governments to embark on successful privatization projects of their own.

BENEFITS FROM PRIVATIZATION

Many countries have derived significant benefits from infrastructure privatization. I would like to talk a little about electricity privatization in Argentina and water privatization in Buenos Aires; they provide a good understanding of the benefits of privatization.

Argentina embarked on a comprehensive privatization of several industries, including its electricity and water supply industry. Its electricity privatization led to dramatic gains for the government, customers, and the shareholders of the privatized company (Exhibit 1).

- ¶ For the government, it provided a convenient method—private sector investment—to fund required capacity additions. In addition, the government raised more than US\$4 billion from the sale of existing

assets. These funds became available for other, more strategic, investments.

- ¶ For consumers, the privatization brought improved services, more flexibility to choose their supplier, and dramatic price reductions.
- ¶ Finally, shareholders saw a doubling of the profitability of the privatized companies, reflected in stable dividend payments and significant increases in stock prices.

Similar benefits were realized through the privatization of the water supply in Buenos Aires (Exhibit 2).

- ¶ The government no longer had to finance the ongoing operating losses of the company. It could also avoid regular cash-outflow for ongoing replacement investments.

- ¶ Customers gained a tariff reduction of an average of 17%. At the same time, they benefited from improved water quality and, best of all, no more water shortages during the summer.

Privatization offers substantial benefits to governments, investors and most importantly, consumers

- ¶ Once again, shareholders saw a dramatic increase in their investments, reflected in a quadrupling of the original investment within the first two years of the privatization.

Similar benefits can be captured in the Middle East, where Abu Dhabi is at the forefront of water and electricity privatization. Certainly, the starting-point here has been different from that of most other countries. The government is not cash-constrained and could certainly fund the operation of the water and electricity sector for quite some time. Abu Dhabi's privatization also differs from others in that the structure of its water and electricity industry is more complicated—water and electricity are produced in a cogeneration process and are therefore heavily dependent on one another. But again, the likely benefits are very much the same (Exhibit 3).

- ¶ For the government, privatization means reduced capital spending and operating losses. But, even more important, it leads to the development of an internationally competitive sector. It will also lead to the further development and deepening of the capital market, thereby supporting the overall development of the economy.
- ¶ For customers, it will imply improved service in the form of shorter waiting periods for new connections, or shorter periods for changing existing connections. Tariffs will essentially remain low and may even be reduced for some customer groups.

- ¶ For shareholders, Abu Dhabi will experience the same stable stream of dividends and increasing share price as seen in other countries.

In addition to these benefits, Abu Dhabi's privatization will bring substantial improvements for local employees. The restructuring will yield additional managerial opportunities, providing opportunities for substantial skill building and training.

But not all privatizations have been so successful. Some have failed or stalled at various stages throughout the process. Privatizations can run into difficulties at three stages: in the preparation phase, during the development of an industry vision, or during the implementation of that vision. Let's look what could go wrong at each stage (Exhibit 4).

Preparation phase

In the preparation phase, privatization programs usually fail for two reasons. First, the need for change or the need for privatization is not accepted by all or at least by the most significant parties. Second, the various parties to the privatization cannot agree on a common set of objectives. Often, financial objectives conflict with political or social ones, thereby creating unclear understanding of the overall goal.

- ¶ One example of unaccepted need is the case of a major German government owned service company, which was thinking about privatizing its electricity division. On the policy making level, i.e. within the Ministry, there was a general desire to push forward with this privatization. But the concern's electricity subsidiary, and even the management of the concern itself, were not really convinced that major change was needed, let alone something as dramatic as privatization. While the leadership group, together with external consultants, developed a powerful vision for a privatized entity, the management and employees never really bought into the concept. As a result, the privatization process has been dragging on for over three years without major progress.
- ¶ When Malaysia embarked on its electricity privatization program, the objectives were not clarified sufficiently. In particular, Malaysia did not explicitly consider or include the objective of enhanced economic efficiency/competition when developing its blue-print for privatization. As a result, privatization resulted in a vertically integrated industry structure with only a few Independent Power Providers providing very little increase in economic efficiency.

Industry vision

There are three main areas in which failures can occur when developing an industry vision. First, there have been cases in which the government did not pay sufficient attention to the industry structure desired after privatization. Second, there are cases where the regulatory framework required for successful implementation and operation did not receive the required attention. Third, in some cases, the ownership structure of the privatized entity or entities was not sufficiently thought through.

- ¶ Malaysia and the UK are two countries which did not sufficiently map out the industry structure required after privatization.
 - When introducing private sector participation in its electricity industry, the Malaysian government decided to introduce private sector participation in generation through IPPs for new capacity without any restructuring of the existing integrated utility. As a result, private investors undertook several independent power-projects, but with no demonstrated commitment to competitive fairness of the market, required very long-term and, for the government, very expensive off-take arrangements.
 - In the United Kingdom, the government broke the electricity industry into several generation, transmission, and regional distribution companies, but failed to break the generation segment down into a sufficient number of competing players. Consequently, two private players with substantial generation capacity are almost always in a position to dictate prices to the market. Thus, the industry has certainly improved its operational efficiency, but none or only very little of the efficiency improvements have been passed on to consumers, who have gained only marginal price reductions.
- ¶ The failure to set up an adequate regulatory structure can severely undermine a privatization program. In several cases, the government has not addressed the regulatory issues in sufficient detail, leading to sub-optimal or even stalled privatization. Malaysia and Turkey offer valuable insights.
 - In Malaysia, the government has developed only a very basic regulatory framework, focusing on enabling the private sector to build the required capacity quickly. It has not placed enough emphasis on allowing competition or establishing regulation ensuring efficiency improvements. Today, Malaysia has maneuvered itself into a situation where the government is at times obliged to purchase expensive private power when less expensive government owned stations are running idle or with partially utilized capacity.

- In Turkey, the entire electricity privatization has stalled because of the lack of a valid regulatory framework providing enough stability for private investment.
- ¶ The ownership of the new entities is usually in the center of attention. Nevertheless, in some cases, the ownership options chosen have prevented the privatization program from realizing its full benefits.

Let's take the example of Chile. While it has conducted one of the most successful privatizations overall, there have been some problems with the desired ownership structure after privatization. In order to retain investments locally, the government initially did not take on board a strong foreign strategic investor. Eventually, this prevented the privatized entities from acquiring the required private management expertise, leading to substantial delays in realizing the economic benefits hoped for through the privatization. Chile also allowed the same company to own both a generation and transmission company. This led to non-competitive market power and a reduction in the competitiveness of the sector.

Implementation process

There are two key reasons why privatization programs could slow down or fail during the implementation process. First, the government may fail to set up processes that are transparent enough to gain the trust of investors. Second, the decision making processes could be unclear.

- ¶ The early electricity privatization through the introduction of Independent Power Producers in India and China were negotiated back-room deals with no transparency in decision-making or selection. This decreased investor confidence and therefore their appetite for these investments. As a consequence, the governments could not generate sufficient competitive pressure and for several years no projects could be implemented. Later on, when the first projects materialized, they were often poorly negotiated so that the two countries did not reap the full economic benefits of privatization.
- ¶ In Italy, unclear decision making processes slowed down privatization. During the second half of the eighties, unclear responsibilities and, at times, conflicting signals from the government, the ministry of state enterprises, the divestiture committee, and other political parties, brought about a *de-facto* stand-still of the privatization program.

We have taken a close look at the benefits of privatization and why some privatizations have been unsuccessful. I would now like to turn to the next question: How can the experience from privatizations all over the world be combined to develop a comprehensive approach to successful privatization?

COMPREHENSIVE PRIVATIZATION APPROACH

A comprehensive privatization approach maximizes the chances for success. It involves three essential steps (Exhibit 5). In Step 1, parties to the privatization must establish the need for change and develop and prioritize the specific objectives. In Step 2, they must develop a clear sector vision, one that addresses the elements of competitive structure, regulation, and ownership. Finally, in Step 3, that is, implementation, they must establish a structured overall process with clear, transparent decision making and sufficient operational support.

A three step privatization process allows governments to succeed: Prioritize objectives, develop sector vision and provide sufficient implementation support.

Step One: Establish need for Change and Prioritize Objectives

During the preparatory phase the government must demonstrate that a clear need for change exists. It must also clearly agree on prioritized objectives.

- ¶ To establish the need for change, conclusive benchmarks of all relevant elements of the business system together with detailed studies of privatization cases around the world can be used. Particularly if the main objective of privatization is increasing economic efficiency, a conclusive benchmark of as many areas as possible can be used to demonstrate efficiency gaps with world class systems or even to industry average (Exhibit 6). The resulting quantification of the economic benefits from privatization also creates a platform for pushing privatization.
- ¶ The next step is to establish and clearly prioritize the economic and non-economic objectives of privatization (Exhibit 7). In Argentina, for example, the government, with the high-level support of President Menem, established clear consensus on the overriding importance of economic objectives. Argentina wanted to establish a competitive industry structure, achieve major efficiency improvements, attract private capital, and improve service to the customer. Oman, on the other hand, had a much more balanced set of objectives when they

embarked on their privatization of the electricity sector. Under the powerful leadership of Sultan Qaboos and the council of ministers, the government clearly spelled out a balanced set of political and economic objectives. On the economic side, they were striving for cost transparency, attracting private capital, and deepening the capital markets. At the same time, they had non-economic objectives such as skill-building and training for nationals, and maintaining social standards through sufficient subsidies, for example, to locals.

Step Two: Develop a Sector Vision

To achieve the stated objectives, the government must develop a clear vision for the sector it wishes to privatize. This vision must incorporate structural, regulatory, and ownership issues (Exhibit 8). With regard to industry structure, the government needs a clear understanding of the extent to which the business system will be divided into different segments, and, to what extent it wants to split the various segments to create several entities, thus enabling competition, within them.

A solid sector vision covers three dimensions: industry structure, regulatory framework and ownership.

With regard to regulation, the government must agree on the areas it wishes to regulate, on the specific types of regulation it wants to apply, and on the regulatory body it wishes to install to oversee the overall process.

Regarding ownership, the government must decide which degree of private sector participation in existing and new assets it wants to establish.

Let's take a closer look at each of these elements.

Industry structure

To understand how industry structure can be decided, let's take an example from the electricity industry. The electricity industry consists of generation, transmission, distribution, and sales and services. Within this business system, generation, and, to some extent, sales and services, are open for competition. But transmission and distribution, or the wires businesses, are considered natural monopolies. This gives a government four generic industry models to choose from (Exhibit 9).

- ¶ One, an integrated monopoly, as in France. Here, one integrated utility owns and operates almost all elements of the business system. This provides all the advantages of scale and scope. But it does not allow for competition and, therefore, often fails to deliver the highest cost efficiency or the highest service quality.

- ¶ Two, coordinated competition, as in Malaysia. Here, all the downstream elements of transmission, distribution, and sales and services have remained integrated within one utility, but the generation sector has been split into several generators. A certain amount of competition has been established between these generators.
- ¶ The third model would drive competition one step further: competition would be introduced not only in generation, but also in sales and services. This would lead to a model of coordinated overall competition, as we see in Thailand.
- ¶ Finally, a fully competitive system is also possible, as Norway, Argentina, and the UK have shown. In these countries, the monopoly segments of transmission and distribution are regulated in order to ensure maximum efficiency and equal access for everybody. Most other segments are left to the free market.

The choice of industry models, as well as the variation which might be most suitable for a country, depends entirely on the specific objectives and constraints of each country. When the UK and Malaysia decided to increase private sector participation in their electricity sectors, they designed two radically different industry structures, each reflecting their specific situation (Exhibit 10).

The UK started with a stable, slow growing industry and substantial regulatory experience. The electricity privatization was part of a much broader privatization effort and aimed primarily at increasing efficiency. Consequently, the UK adopted a relatively complex competitive structure, maximizing private ownership and thereby efficiency. The UK decided to unbundle the industry into generation, transmission, and distribution and to break up generation into a state owned nuclear power company, two private fossil generating companies and several smaller privately owned IPPs. All entities bid prices daily into a common power pool. Price-cap regulated transmission and distribution companies with guaranteed third-party access source energy from this pool, providing it to another competitive retail segment which sells it to the customer.

Malaysia, on the other hand, started with a fast growing system with continuous power shortages and frequent black-outs. Regulatory experience was limited and the overriding objective was to add privately funded new capacity as quickly as possible. The resulting system reflected this: TNB, the state owned utility, remained an integrated monopoly, regulation did not provide for any ongoing competition, and complexity was kept to the minimum. Today, privately owned IPPs are selling their power through long-term take-or-pay contracts to TNB and everything else remains essentially unchanged.

Regulatory Structure

To design a regulatory structure, the government must identify the areas it wants to regulate and decide on the type of regulation it wants to introduce in

each of these areas. Again taking the example of the electricity industry, at least five areas should be regulated (Exhibit 11).

- ¶ For generation, regulation should stipulate the specific means of capacity addition. It should also determine how various tariffs are set, how dispatch should be operated, where and to what extent by-pass should be introduced. Regulation should also lay down the desired performance standards for various players.
- ¶ For transmission, regulation should address capacity additions, the setting of tariffs, and required performance standard. It should also ensure equal access where required.
- ¶ For distribution, the same areas need regulation, but there should be a much stronger emphasis on performance standards, and on the issue of where and to what extent by-pass should be introduced.
- ¶ A fourth area for regulation is central functions which govern the overall industry. The bodies to be regulated include, at the very minimum, the regulatory institutions themselves, and the central dispatch entity. Depending on the chosen industry structure, regulation could also cover centrally coordinating functions such as power procurement.
- ¶ Finally, certain market and other issues might need to be regulated. Examples are limits on market concentration, restrictions on cross-ownership, the general right to disconnect or to stop services to certain customers, and certain environmental considerations.

Again, the choice of regulatory system and measures depends very much on the country's specific situation. To understand this, let's look at the tariff system, comparing the electricity system in Argentina and the proposed regulation for Abu Dhabi (Exhibit 12).

Argentina has undertaken a comprehensive privatization program covering several areas of industry and started its privatization program with substantial regulatory experience. Against this background and the overriding objective of achieving maximum efficiency gains, the government designed a tariff system built on three interrelated market segments. The backbone of the system is the regulated market, where generators sell to distributors who then sell to various customers. This is very much a reflection of the traditional utility market, although it allows for some competition among various generators.

Argentina has also established an unregulated contractual market, where generators can sell directly to large customers, bypassing the distribution and sales organizations of the other entities. This market is unregulated and prices are entirely based on contract negotiations among the various parties. No cost recovery or minimal profit is guaranteed.

Thirdly, there is a spot market among different generators, in which generators can buy and sell their electricity on short-term notice to other generators.

Such a complex system could only be established given the already existing regulatory experience within the industry. It has been driven largely by Argentina's focus on purely economic objectives.

The Abu Dhabi situation, on the other hand, is quite different. Here, the move to electricity privatization is the first major privatization for the industry and regulatory experience is only developing. Furthermore, Abu Dhabi is trying to achieve a balanced mix of economic and non-economic objectives. As a result, in the beginning, the only market in Abu Dhabi will be a regulated market where generators sell to a central power procurer who acts as an overall coordinator, paying for transmission and selling the energy to a distribution company which passes it on to consumers.

This system is certainly much simpler than the one established in Argentina. It is much less vulnerable to instability, and it makes price behavior over the next years much more predictable.

Ownership

With regard to ownership options, or private sector participation options, the government can decide to have new and/or existing assets owned privately or by the government (Exhibit 13). If government ownership is preferred, it can decide against all forms of private sector participation or it can allow some form of private sector participation. This participation could take the form of service contracts, more comprehensive O&M contracts, long-term lease contracts, or finally ten or twenty year concession contracts, or build own operate and transfer models.

If the government decides to encourage private sector ownership, it has to find the right balance between local and foreign ownership. Under each of these options, it must decide whether to have a broadly spread investor group or to look for at least one strategic investor, who would also contribute significant management and operational know-how.

Again, the final ownership choice will be determined by the specific objectives and constraints of a given country (Exhibit 14). If increased efficiency is the primary objective, strategic investors with substantial operating experience will most likely be the preferred choice. To develop local capital markets, it will most often be desirable to spread ownership broadly among local shareholders. And a desire to maintain strategic control might lead to ongoing state ownership of assets.

Once all three elements of a sector vision have been determined, this overall sector vision should be reviewed in light of the country specific situation. To illustrate this, let's take a look at the vision developed for Argentina (Exhibit 15). Argentina faced severe electricity supply shortages and a deteriorating electricity infrastructure in the early nineties and chose to ease these shortages and improve economic efficiency through privatization.

Argentina privatized its electricity sector systematically over a two-year period. A competitive structure was established, allowing for competition in the generation and sales/supply segments. To support the envisioned competitive structure, the existing vertically integrated companies were split into 30 generation companies, one transmission company and three distribution companies. A clear regulatory framework was implemented by passing the energy law and setting up the required regulatory authorities. The tariff structure was rationalized with the provision of direct and explicit subsidies from the Government. Customers with above 0.1 MW peak demand were given complete freedom in negotiating rates with a generator or distributor. A central dispatch based on marginal cost was introduced for all generation companies. The monopoly segments of transmission and distribution were regulated using a price-cap methodology.

Only after completion of these steps, which took approximately two years, was ownership of these companies transferred to private parties. Today, the privatization of Argentina's electricity sector is considered one of the most successful ones, providing many benefits to all stakeholders.

Abu Dhabi, on the other hand, started with a small but rapidly growing system. Water and electricity co-generation, very uneven load-curves over the year and limited regulatory experience called for a less complex and centrally coordinated system. Consequently, the resulting sector vision was quite different (Exhibit 16).

Step Three: Implement the privatization program

To turn the tailored sector vision into reality, i.e., to implement the privatization program, governments must outline the program in some detail. In general, such a program must satisfy three criteria (Exhibit 17). First, it must be based on a well-structured overall program. Second, all processes should be fair and transparent to all involved parties. And, third, governments must ensure sufficient implementation support on both the decision making and the operational level.

Successful implementation requires a well structured program with clear commitment from the top, a fair and transparent process and sufficient operational support

Well-structured program

A well structured program should be comprehensive and take place through a well-defined sequence of events. For example, regulatory laws and the required institutions should be in place before asset sales take place. Or in some—although rare—cases it might be advisable to restructure some companies before ownership is transferred. Such a restructuring might involve cost cutting, minor or major investments for upgrading facilities or dividing and selling some assets. In any case, this decision needs to be taken on a case by case basis.

Consider the water privatization in Buenos Aires, Argentina (Exhibit 18). In a first step, lasting approximately one year, the Government provided the basis for the privatization by setting up a Privatization Committee, retaining the required consultants, and deciding on the general privatization model. In a second step, lasting again almost one year, the Government developed a clear sector vision and began to establish the required institutions. Specifically, the water supply system was kept together instead of being broken into smaller parts. Regulatory principles, and law and authority institutions (ETOSS) were set-up before private sector involvement was envisioned. For this, the Government chose a concession model in which operations and investments are transferred to private parties for a substantial period of time, e.g., 30 years, while retaining asset ownership with the government. Only then did the Government start the third step, the bidding process itself.

Transparent process

The more transparent the privatization process is perceived to be, the more investors will become interested and the resulting competition will help to maximize the economic benefits. I would like to remind you again of how the privatizations in India and China were bogged down because of the lack of transparency in their programs. Three elements can help to create transparency.

- ¶ First, the privatization team should be assembled in the most professional way. The chosen strategic, legal, financial and technical advisors should be of the highest professional reputation with substantial privatization experience. The selection of these advisers should follow clear and transparent rules.
- ¶ Second, the bidding process should be fair and transparent. Bidding documents and rules should be very clear, bid evaluation criteria should be spelled out in as much detail as possible, and the bidding process should be open to everybody fulfilling published criteria.
- ¶ Finally, the privatization should be supported by open and consistent communication to all stakeholders. These will include potential investors, the government, employees and the community at large. A consistent message about the objectives, the process and the end-state

needs to be communicated to curtail rumors and increase confidence in the process.

How would this look in the real world? Thailand, for example, ran a very transparent and competitive process for the introduction of Independent Power Producers (Exhibit 19). It included an open, well-publicized invitation to bid, a tender with all the relevant information such as the power purchase agreement and bid evaluation criteria. Following this, Thailand held an open pre-bid meeting and ensured that all clarifications were sent to all bidders. As a result, more than 50 tenders were submitted for the first phase of the bids. The list of winning bidders along with their offered bids was published. A strong oversight from the National Energy Policy Office (NEPO) was maintained throughout the process. Overall, the process was considered very successful, with 20-30% lower electricity prices compared to the avoided costs.

Sufficient implementation support

Sufficient implementation support includes an empowered decision-making authority, a qualified executive team, and substantial operational support.

- ¶ An empowered decision-making authority backed by high political leaders is a must. A number of privatization programs do not move forward because of lack of delegation. Once the sector vision has been finalized and the right sequence and process designed, the implementation should be entrusted to a sufficiently empowered decision-making authority. Such an authority should be able to make all the decisions regarding consultant selection, bidder pre-qualification/selection and negotiation of the final contracts.
- ¶ A qualified executive team should run the day-to-day implementation of the process. These executives should ideally have previous privatization experience and clear knowledge of the objectives/constraints and the sector vision. Such an executive team ensures professionalism at all levels of implementation.
- ¶ Finally, substantial operational support will be needed especially during the later stages of the implementation program. Since the number of people involved will usually increase dramatically, a well equipped project organization becomes essential. This includes basics such as office space and equipment, but also qualified support staff with legal, financial, and often technical background. Often it will also be helpful to have several members of the management team of the to be privatized company involved. All this should be budgeted for early on.

In its privatization program, Malaysia demonstrated what such an organization should be (Exhibit 20). Despite several shortcomings in the sector vision, Malaysia ran a well-supported privatization process and created a powerful

implementation support engine. An empowered privatization committee directly reported to the Malaysian cabinet. The privatization committee met daily and was well-supported by the Privatization Task Force which worked on the individual proposals and which coordinated the work of internal and external technical or sectorial support groups. For the actual implementation of the proposals, Malaysia employed specific Implementation Task Forces. The process ran smoothly and privatization in various sectors such as power, water and telecommunication was achieved in the short span of 2-3 years.

The three step approach towards privatization I have delineated at length is an almost failure-proof approach to privatization. It is based on the substantial privatization and restructuring experience McKinsey has developed over the years (Exhibit 21). Although the framework itself is very robust and works in many industries, it needs to be stressed that each solution must be tailored to the specific needs and constraints of each country. Substantial customization will always be required and is the key to success or failure.

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The authors have substantial experience in industry restructuring and deregulation as well as in infrastructure privatization in the Middle East and other countries. Mr. Asif Adil is a partner, Dr. Dirk Schneider a Senior Engagement Manager, and Dr. Shirish Sankhe an Associate with McKinsey & Company.