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Power Market reforms and Privatization of the electricity industry in the Iranian energy sector; an uphill struggle?

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ABSTRACT:

Following the successful experience of some developed countries in Power market restructuring and reforms, many developing countries have followed suit. Iran has for the last thirty years, since its Islamic revolution of 1979, had an economy dominated by the state, but has been pushed to take some legal steps towards private participation in the electricity sector so as to meet the rapidly rising electricity demand. This paper aims to appraise the successfulness of Power market restructuring and privatization of electricity industry in Iran. A few years from the commencement of the reforms, the program can be assessed as realistically successful. However, there are plentiful challenges which need to be addressed through legislation. In this study, challenges to competition and Pitfalls of the reforms in the Iranian restructured electricity market will be reviewed. as well as this, a number of recommendations will be offered.

Key words: Power market restructuring, privatization, Iran

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ABBREVIATIONS

BOO	-----Build, Operate, Own
BOT	-----Build, Operate, Transfer
IGMC	----- Iran Grid Management Company
IRIC	-----Islamic Republic Of Iran Constitution
IRPP	-----Iran Power Pool
IPP	-----Independent Power Producer
PPA	-----Power Purchase Agreement
PSO	-----Public Service Obligations
TAVANIR(Farsi Acronym)	----- Power Production, Transmission and Supply Company Of Iran

Introduction

Iran, located in the middle-east where power market restructuring is a relatively new concept, having had most of its big industries in state hands since its 1979 Islamic revolution, has had market reforms high on its agenda for more than 18 years now. However, the primary round of reforms did not pursue competition and privatization, due to a constitutional ban on private ownership of mother industries, but sought a more able mechanism for capacity expansion through government investment. A slight modification of the relevant constitutional provisions² enabled the government to initiate plans like those of developed countries almost ten years ago. It was then that market reforms commenced and a gradual ownership reforms, Privatization, became a priority. What makes Iran different, however, from many other countries is that Iran is privatizing not only its electricity industry but also most of its other major industries and state financial institutions at about the same time. It is in this background, that Iran is taking this giant ambitious and potentially hazardous leap. Additionally, upstream oil and gas generation can not be privatized according to the Iranian Constitution which vests the ownership of and the right to extract and market all mineral resources in the government. Given that most electricity is produced from either oil or gas in Iran, this virtually means there is little money to save since all generators will have to buy their primary energy from the government

² General Policies of Article 44 of the Islamic Republic of Iran Constitution, Exigency Council May 22, 2005

at the same price; In fact, the government guarantees provision of fuel to generators. However, generation privatization is still desirable since it can obviously lead to a boost in efficiency lowering the costs of production.

The government is faced with a rising demand curve (see graph 1) obliging it to make fresh investments, yet akin to many other developing countries, government money is tight and private investors have to come to the government's rescue.

There are substantial subsidies on electricity which at least in the short run are extremely difficult to remove³. Considering this, not much of the financial burden will fall off the government's shoulders once privatization is done since it will still have to spend large sums of money on subsidies and give burdensome guarantees to generators in order to encourage investment. However, the desire of the government to raise immediate revenues through selling the assets in the sector should not be overlooked⁴. In addition to this, the government appears neither very willing⁵ nor able to attract a great deal of foreign investment while, at best, few domestic companies or individuals can

³ Iran Ministry of Power, "Goals of Privatization" [in Farsi] <<http://www.moe.org.ir/DesktopModules/Articles/ArticlesView.aspx?TabID=0&Site=DouranPortal&Lang=fa-IR&ItemID=942&mid=20014>> (April 25, 2020)

⁴ . R., Bacon and J. Besant-Jones, "Global electric Power Reform, Privatization and Liberalization of The Electric Power Industry in Developing Countries", available in *Energy and Mining Sector Board Discussion Paper Series*, Paper No 2, June 2002 p. 1.

⁵ However, the power ministry does have the legal consent to enter contracts with prospective foreign investors for generation based on article 122 of the Third Five year economic, cultural and social development plan Act (Wednesday, April 5, 2000).

qualify as investors capable of contributing to the electricity sector given the capital intensive nature of the industry.

In this study, initially, a short review of literature on restructuring and competition will be provided. Second, a clear picture of the electricity market in the country will be painted elaborating on attempts thus far made along with providing a brief history of its power industry. Relevant regulatory and monitoring organs will be expounded and reference will be made to how the system functions. An assessment of the extent of the effectiveness of the plan in creating workable competition will be provided along with recommendations as to how the efficacy can be enhanced. Considering the scope of this study, much detail of the system was thought of as superfluous and, in turn, not included. It should be acknowledged that government reports and statistical data relevant to the Iranian electricity sector are not very easily accessible specially after the year 2006 and, therefore, there might exist minor inaccuracies in the figures provided.

Literature (Market Reforms/Competition/prices)

As far as electricity privatization and market reform are concerned, a vast body of literature has thus far built up around the experiences of developed countries

as instructive examples that can be followed by developing countries⁶. The experience of developed countries have been assessed as generally successful⁷. Electric power prices are usually used as a benchmark against which the successfulness of a structural reform in the electricity sectors is gauged. However, experiences in most countries show privatization and market reform, however effective in dragging wholesale⁸ and industrial electricity prices down, do not often result in any significant reduction of prices for residential electricity, with UK being one of the only exceptions.⁹

As to developing countries, Nagayama (2007) suggests that neither unbundling nor introduction of a wholesale pool market alone necessarily reduces the electric power price. Contrary to expectations, there is a tendency for the price to rise¹⁰. It is usually only when competition exists that market reforms and privatization become truly effective at least as far as prices are concerned.¹¹ In

⁶ . See for example J. Surrey(ed), *The British electricity experiment; the record, the issue and the lessons*, Earthscan publication limited, 1997

⁷ D. Newbery., "Privatisation, restructuring, and regulation of network utilities", The MIT Press, Cambridge MA & London, England, 1999, 466pp

⁸ P. Joskow, "Electricity Sector Restructuring and Competition: Lessons Learned", *40(121) Cuadernos de Economía*, Año 548(december 2003)

⁹ A., Fateh, "Privatization in Iranian Electricity Industry"(2003) (In Farsi)
<http://mepc.moe.org.ir/_ippi/Documents/%D8%AE%D8%B5%D9%88%D8%B5%D9%8A%20%D8%B3%D8%A7%D8%B2%D9%8A%20%D8%B5%D9%86%D8%B9%D8%AA%20%D8%A8%D8%B1%D9%82%20%D8%AF%D8%B1%20%D8%A7%D9%8A%D8%B1%D8%A7%D9%86_20090125_150820.pdf> (January 15, 2010).

¹⁰H. Nagayama, "Effects of regulatory reforms in the electricity supply industry on electricity prices in developing countries", *35(6) Energy policy* 3440(2007).

¹¹Y., Zhang, C., Kirkpatrick, D., Parker, "Electricity sector reform in developing countries: an econometric assessment of the effects of privatization, competition and regulation, centre on regulation and competition". Working Paper Series, no. 31, October(2002).

fact, most developing countries reform their market structure to encourage private participation, enhance performance and most importantly create further generation capacity without necessarily meaning to create competition. However, Yin-Fang Zhang, David Parker, Colin Kirkpatrick (2007) demonstrate that in developing countries privatization and regulation do not necessarily result in any enhancement of performance without competition¹². Thus, privatization is not usually considered as a desirable goal in itself unless it leads to competition. There is not a single prescription for market reforms, but the importance of competition has been frequently stressed (Bortolotti and Perotti 2007¹³, Newberry 2004¹⁴).

It should be born in mind that by competition in energy sectors, more often than not, perfect competition is not meant since even in the most competitive markets, such as the UK, market segmentations made in favour of strategically preferable fuels serving government strategies go against free market and competition. Dagdeviren(2009) shows that even in developed markets ‘competition remains highly imperfect even in market segments where it has been considered feasible’¹⁵.

¹² Zhang, Y., Parker, D., Kirkpatrick, C., “Competition, regulation and privatisation of electricity generation in developing countries: does the sequencing of the reforms matter?” 33 *J Regul Econ* 159 (2008).

¹³ B., Bortolotti, E., Perotti, “From government to regulatory governance: Privatisation and the residual role of the state” 22(1) *The World Bank Research Observer* 53 (2007) .

¹⁴ Newberry, D M., “Regulation and competition policy: longer-term boundaries” *Utilities Polic* 12 (2004): 93.

¹⁵ H., Dagdeviren, 2009. “Limits to Competition And Regulation In Privatized Electricity Markets,” 80 *Annals of Public and Cooperative Economics* 4 (2009): 641.

Hass and Auer (2006) suggests that liberalization, privatization and deregulation do not on their own create workable competition and enumerates the following six prerequisites for competition.

- ‘A. Separation of the grid from generation and supply
- B. Wholesale price deregulation
- C. Sufficient transmission capacity
- D. Excess generation capacity
- E. Short-term spot markets and financial instruments
- F. No excessive post-reform government intervention’¹⁶

Iran Electricity Industry

Facts and figures

As of the year 2000, before Iran started its market reforms, Iran had the biggest electricity Network in the region and the 19th biggest in the world¹⁷. In 2005, it was the 17th according to the IEA reports.¹⁸

Electricity sector was the biggest public utility sector in the country with more than 17 million subscribers. Fixed assets of the industry was estimated to be approximately 150 thousand billion Rials¹⁹. The industry faced critical

¹⁶ R. Haas and H. Auer, “The prerequisites for effective competition in restructured wholesale electricity markets”, **31** (6–7) *Energy*857 (2006).

¹⁷ . A report on current conditions of Iran Power Industry; Recommended Policies to Tavanir Co.(In Farsi) at : http://regulatory.moe.org.ir/_DouranPortal/Documents/pres002.ppt (*Last visited on 16/01/2010*)

¹⁸ Kaveh Aflaki Khorashani, Shahram Jadid, Mohammad Shahidpour “Electric Power Restructuring in Iran : Achievements and Challenge”s, 2009

¹⁹ An equivalent of approximately 15.7 Billion dollars.

financial restrictions and had a debt of at least 20000 billion Rials²⁰ to a number of leading Iranian Banks²¹.

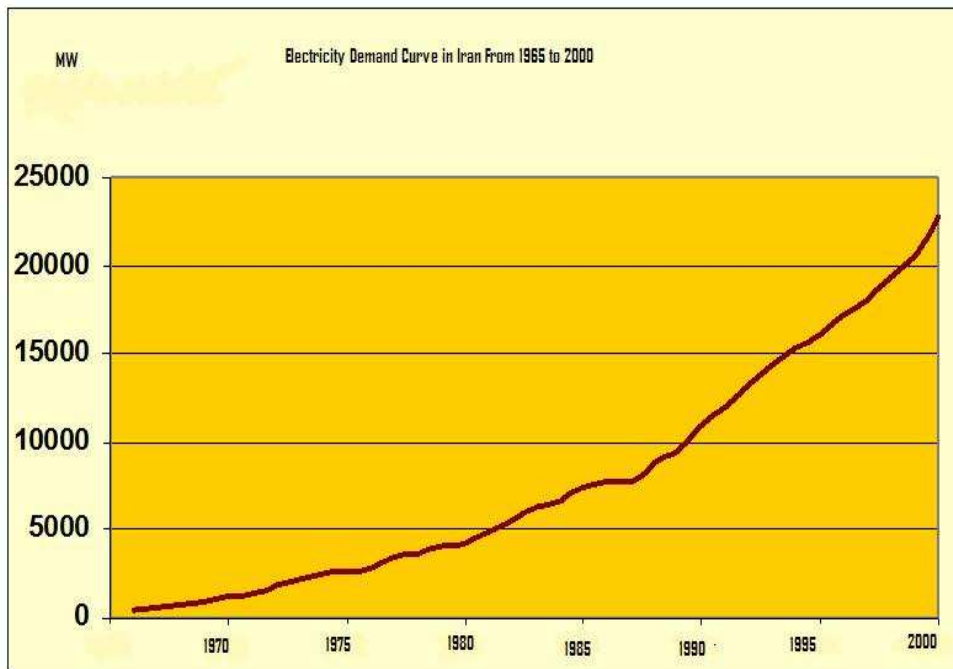
According to IEA reports in 2006(Annex1), 73.5 per cent of the total production, is produced from gas. Oil accounts for as much as about 17.5 percent of total production and the rest, about 9 percent, is produced from Hydro-generators, the only viable renewable energy source in Iran. The country has slightly more exports than imports. Nearly 35 percent is used for industrial purposes , 32 percent for residential purposes and 18 percent for commercial and public sectors and the rest for agriculture and others. regarding consumption, a comparison of these figures with those of a developed country like UK reveals only insignificant differences in proportions .However, as to production there is obviously more diversity of supply in UK with nuclear, wind, coal, biomass and waste being other sources of production(IEA reports 2006). The differences in production patterns can easily be justified by taking strategic reasons into consideration. Iran, holding the second largest gas and oil reserves in the world, sees little sense in the rationale behind diversification which usually comes at an extra cost; nevertheless the market reforms do pursue diversity of production as a goal. Also, as it is often the case, developing countries are less concerned with environmental issues and obviously less financially capable of sparing money on promoting more environmentally friendly modes of electricity production. Given these figures

²⁰ An equivalent of approximately 2.10 Billion Dollars.

²¹ Fateh. *Supra* note 11 at 7.

the country is not particularly capacity short, but does inevitably seem to have to create additional generation capacity for at least two reasons. First, like most developing countries, given the country's rising population along with the need to electrify remote villages and newly built areas of rapidly expanding cities, generation capacity should be increased at a rapid pace. In fact, electricity demand has increased seven times from 1979 to 1999 and was estimated to double between 2000 and 2010²². Second, as a developing country undergoing massive industrialization, Iran is likely to face a larger electricity demand for industries in the not too distant future.

Graph 1: Electricity demand curve from 1965 to 2000
Source: Iran Power Ministry Website



²² *Supra* note 19 at 8.

History: A history of the Iranian electricity industry

Iranian Power Industry started as a private service. In fact, the first private electricity company in Iran was granted a license for establishing commercial electric lighting in 1906 with a capacity of 400 KW adequate merely to keep four thousand lights on. From 1906 until 1937 the light office of the city hall in the Capital was responsible for supervising private electricity supply facilities²³ used mainly for street illuminations, more of a public utility, which was replaced by Tehran electricity institute In 1937²⁴. After 1940, government involvement increased in electrification. In the years which followed, electricity demand rose significantly necessitating an independent institution for electricity which was formed in 1963. Two years later, electricity and water Ministry was established nationalizing electricity in 1967 due to the fact that private companies could not afford to pay for their running expenses and the government was considered more capable of managing it efficiently²⁵; an administrative feature of this period is that electricity prices began to be highly subsidized²⁶. In 1968 TAVANIR (Management of Generation, Supply and Transmission Co plc) was established as a vertically integrated state Power Company holding a monopoly right working under the auspices of the Power Ministry which has managed water and electricity of the country for many years. TAVANIR Company had Public service Obligations (PSO) and the

²³ Kaveh Aflaki Khorashani, Shahram Jadid, Mohammad Shahidpour “Electric Power Restructuring in Iran : Achievements and Challenges,” 2009

²⁴ *Supra* note 19 at 9.

²⁵ *Ibid.*

²⁶ 25

prices were set based on expenses of production. The same system remained in operation until market reforms, the focus of this study, in 2002 kicked off.

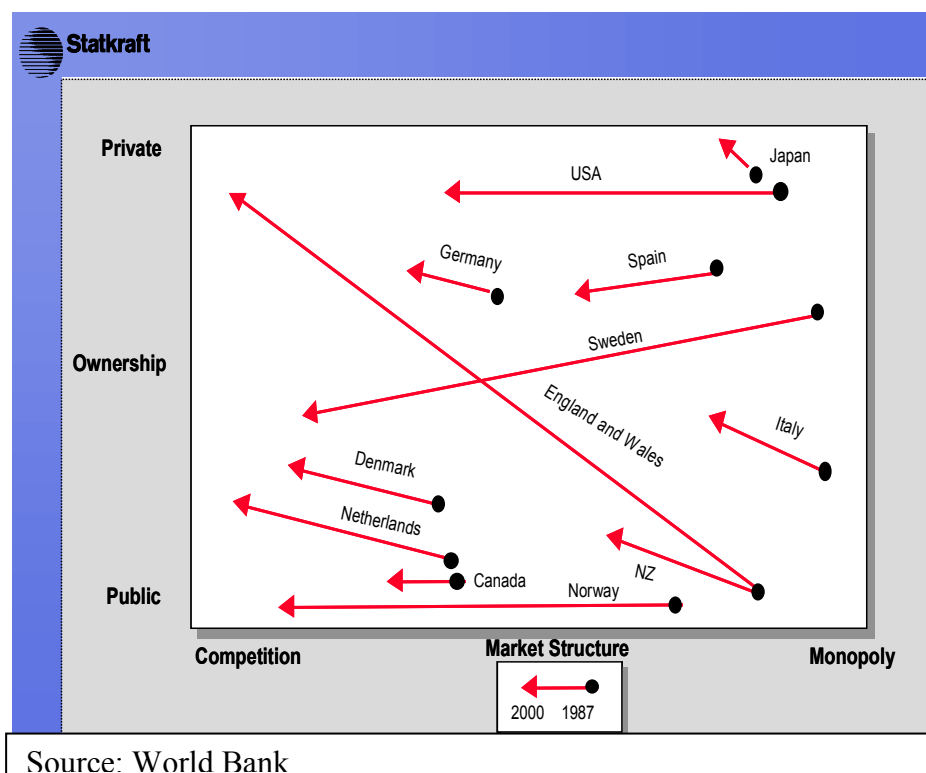
Market Reforms:

When electricity market reforms started in Iran, privatization of electricity sector was technically not advisable and legally impossible as a result of a constitutional prohibition. Prior to privatization, reforms had to be carried out in the electricity market structure of the country to enable competition giving the country ample opportunity to ensure a smooth transition to a private market. Three major reasons are often cited for market reforms in Iran A: creating competition in power generation and supply. B: attracting financial resources through the participation of non-government companies in investment. C: Improving economic efficiency²⁷. Official steps for restructuring were taken only as late as the early months of 2001 due to the need for investment in capacity expansion because of the insurmountable demand rises. The first step was unbundling the electricity sector into Generation, Transmission, distribution and supply. Based on the initial plans, Creation of a competitive atmosphere through corporatization of the regional

²⁷ M. Ghazi Zade Jamal Ariyayi, H. Javidi, "Iranian Power Market: History, Reasons and Particulars" (In Farsi):
<http://209.85.229.132/search?q=cache:2f7vMXtqokJ:regulatory.moe.org.ir/_DouranPortal/Documents/Iran_Power_Market.ppt+iran_power_market+filetype:ppt&cd=1&hl=en&ct=clnk&gl=uk&client=firefox-a> (January 25, 2010)

electricity companies was given premium over privatization²⁸, until privatization of electricity could be made legally feasible. In fact, ownership reforms were procrastinated until after structural reforms and creation of a market. It has been proved that ‘introducing competition before privatisation is correlated with higher electricity generation, higher generation capacity and, in the case of the sequence of competition before privatisation, improved capital utilisation’²⁹. Besides, creation of competition and privatization do not necessarily have to happen together. As graph 2 indicates, In many countries one has been done without much of the other.

Graph 2



²⁸ *Ibid.*

²⁹ *Supra* note 14 at 8.

Only generation and supply were selected to be made competitive while transmission and distribution, being natural monopolies, remained in public ownership³⁰ functioning as regulated monopolies. A new state-owned company was founded called the IGMC. Besides, Regional electricity companies remained responsible for both generation and supply.

Power Grid:

Tavanir Co., previously holding a vertical monopoly in all electricity sectors, based on its constitution had the duty of promoting competition and creating and operating a market.³¹ In fulfilment of this duty the Budget ACT OF 2004 gave it the permission to buy all the shares of one of its subsidiaries from its budgetary resources and confer the management of Grid and creation of a market to it³². The Constitution of the new company had to be proposed by the Power Ministry. IGMC, Iran Grid Management Company, was established as a state company responsible for operating the Grid and the market.

Based on its Constitution, some of its most important goals are

A. Running and Control of the grid ensuring security of grid and security of supply. B. Offering access to grid to all applicants regardless of their

³⁰ Chapter 2, Article 2 Act of amendment of some provisions of the Fourth Economic, cultural and social Development Plan and application of The General Policies of Article 44 of The Constitution, June 14, 2008, Iran Islamic Parliament

³¹ 2003/2004 Budget Act March 14, 2004, Iran Islamic Parliament.

³²Tavanir Company Articles of Association, Power ministry (January 18, 2003) at: <<http://www.tavanir.org.ir/farsi/nashrieh/mali/82/3509.pdf>> (January 25, 2010).

ownership. C. Creating conditions for competitive electricity sales through operating a market and creating an electricity Stock market which has not yet been created. D. Taking all necessary measures to ensure Power supply and promote private participation and competition in Electricity production and supply within the set frameworks of the Power Ministry³³.

Wholesale Market:

IGMC was also responsible for creating and running the wholesale market. Ministerial Directives dictated a Power Pool. IRPP, Iran Power Pool, operates on a daily basis taking the lowest bids based on the assumptions received from buyers. On the one side, power sellers include Regional electricity companies and Private generators, which are parties to a contract with the power Ministry. On the other side of the pool, Regional electricity companies, having been corporatized, are the only buyers. There have been attempts to include big industries on the Buyers side, as well. However, because of regulatory deficiencies, as of now, they cannot participate in the pool in a transparent atmosphere yet. The Operator announces estimations of the required amount, based on offers received from buyers, and electricity sellers bid for every 24 hours on a confidential basis. A dispatching centre, State owned and also controlled by the IGMC³⁴, is responsible for running the technical facets of the

³³ *Ibid.*

³⁴ IGMC Articles of association, Power Ministry, <<http://sabainfo.ir/content/media/law/633201092825025000.pdf>> (25 January, 2010)

market and remains in touch with electricity sellers and buyers all through. Winners are announced to the dispatching centre which interacts with the market for any necessary modifications in the amounts; electricity is bought from generators at a uniform price called the Pool Price. The final outcomes are announced at 4 pm one day earlier.

Regulator:

A regulatory committee consisting of five members was created in 2003 based on a Ministerial directive. The members are appointed directly by the Minister of Power who also selects the head of the committee. Members, who appoint a secretary, count as employees of the ministry. They are responsible for supervising over the pool and providing regulation required for running the pool in any unforeseen circumstances; Regulation generally lies with the Power Ministry itself.

The Concept of regulator's independence in decision making depends, more than anything, on three issues. First: legal protection i.e. commissioners may not be dismissed without due cause. Second: institutional and managerial independence: i.e. being based outside the Ministry and having complete control over the appointment and management of their staff and third: financial

independence³⁵. The commission obviously does not meet any of these standards and, therefore, does not qualify as an independent regulator.

Privatization of electricity in Iran

The economy of Iran is and has been heavily dominated by the state in the last 30 years after the 1979 revolution. According to article 44 of The Iranian Constitution, the economy consists of three sectors i.e., the state, the cooperative and the private. Based on the second paragraph of the mentioned article ‘The state sector is to include all large-scale and mother industries, foreign trade, major minerals, banking, insurance, power generation, dams, and large-scale irrigation networks, radio and television, post, telegraph and telephone services, aviation, shipping, roads, railroads and the like; all these will be publicly owned and administered by the State.’³⁶ This article leaves virtually all major parts of the economy in state hands. The private sector is in fact restricted to ‘agriculture, animal husbandry, industry, trade, and services that supplement the economic activities of the state and cooperative sectors’³⁷ based on paragraph four of the same article. This is a huge obstacle on the path to privatization. However, in 2005, The exigency council³⁸ allowed for some derogation from this articles by drafting an eight-article Act based on which many major industries could be privatized. ‘The general Policies of article 44’

³⁵ A. Eberhard, “the Independence and Accountability of Africa’s Infrastructure Regulators: Reassessing Design and Performance”, 4th AFUR ANNUAL CONFERENCE, 25 Apr 2007, Livingston, Zambia.

³⁶ Paragraph 2, Article 44, Islamic Republic of Iran Constitution, (Constitutional Council of wise experts)1979.

³⁷ Paragraph 3, *Ibid.*.

³⁸ General Policies of Article 44 of the Islamic Republic of Iran Constitution, Exigency Council May 22, 2005.

as the act is called calls for a minimum 20 percent of privatization on an annual basis. However, as mentioned earlier, oil and gas upstream activities remain exceptions.

Based on the third and fourth Development plan Acts³⁹, the state is obliged to transfer parts of the electricity sector to the private or public companies. Power Ministry privatization committee was formed consisting of 16 official members to facilitate privatization in electricity and water. Private investors are called to invest in building new power plants via BOT(Build, Operate, Transfer) and BOO (Build ,Operate ,Own) contracts. Once an investor is a successful bidder the purchase of power is guaranteed through a PPA(Power Purchase Agreement). The shares of regional electricity companies have started, only very recently, to be transferred to private parties via the stock market and other government generators are being sold off to private investors, as well. The money raised through these sales is invested by the government for building generators in regions unattractive to private investors.

Pitfalls of reforms and Challenges to Competition

Monopolies in Upstream oil and gas:

³⁹ Fourth Five year economic, cultural and social development plan Act , Iran Islamic Parliament, September 1, 2004, Fourth Act.

A significant proportion of electricity (90 Percent) is produced from gas or oil in Iran. Oil and gas in the upstream remain state monopolies implying that generators will all have to buy them from the government at the same price which in itself limits the room for competition. Studies show, considering the conditions of Iranian electricity sector, the only way the efficiency of private generators can be improved compared to state ownership is through keeping down labour expenses⁴⁰. This, however, is not particularly appealing especially in a country suffering from two digit unemployment rates⁴¹.

Unattractiveness of investment:

The electricity sector is a capital intensive sector for private investors and at the same time is laden with risks. The government has expressed willingness to harbour the risks through power purchase agreements. In developing countries, there are potentially very few domestic truly private parties that are prepared to make investments on such a scale. Closer inspection of the privatization experience of Iran not only in electricity but also in other sectors signify a peculiar phenomenon being the involvement of public companies, most owned, at least partly, by the state, as prospective investors. The problem is worse when these semi-private companies even if not entirely state owned are closely related to the government and enjoy significant leverage endangering the market and competition. Banks as well as groups related to army are examples of such institutions in Today Iranian Economy.

⁴⁰ Fateh. *Supra* note 11 at 7.

⁴¹ Unemployment Rate in Iran is currently 12.5 (CIA Fact book 2009) and is likely to grow.

Another problem discouraging investors is the prospect of earning high interest rates if money is deposited in banks reaching a staggering 17% while based on realistic calculations, such returns are not likely in the Iranian electricity sector⁴².

As to foreign investment, Iran, despite having made some legislative efforts recently⁴³, has not been a successful country in attracting FDI, reasons of which transcend the scope of this study.

Subsidies and non payment:

Electricity in Iran has always been heavily subsidized as a public utility. The whole amount of subsidies paid in the electricity sector in the year 2006 was 57246798 million Rials which equals approximately 5500 dollars; The cost of electricity is about five times as much as its price, the difference being paid as subsidies by the state. It has been suggested that a private generator is economically viable and more efficient than government as long as it is able to recover only 31 percent of its running costs from electricity sales⁴⁴. The government will have to pay the discrepancy between the cost and the price to

⁴² Fateh. *Supra* note 11 at 7.

⁴³ Law of Protection and encouragement of Foreign Investors, Iran Islamic Parliament, March 10, 2002.

⁴⁴ Fateh. *Supra* note 11 at 7..

the consumers as subsidies. This in itself can in the long run decrease the incentive of the private sector for efficiency enhancements⁴⁵.

Another significant predicament is non payment. As discussed before, the Iranian economy is dominated by statist policies and state intervention leaving most industries in state hands. Most state and public companies do not tend to pay the price of their consumed electricity in a timely manner creating a serious non-payment of electricity crisis in Iran. In the year 1999 state and public sectors had an unpaid debt of 3152891 million Rials⁴⁶ to the Power industry; This figure accounted for almost 24 percent of the electricity sector total gross income⁴⁷. However, as privatization is high on the government's agenda, this problem is expected to be less of an issue in a few years time.

Competition and culture:

For competition to start and continue in a market, there needs to exist the infrastructure, culture and necessary regulations. In many developed countries there have been competition laws for as long as one hundred years turning competition into a familiar and tangible concept. Sherman act in the United States, for example, was passed in 1890. What makes competition extremely difficult to arise on itself out of privatization and market reform in Iran is that it

⁴⁵ Fateh. *Supra* note 11 at 7.

⁴⁶ An Equivalent of 331.8 Million dollars.

⁴⁷ *Supra* note 19 at 9.

is an alien concept that has never played any part in the country's economy because of the role of the state in the economy. There has never existed a single competition law in Iran and the first ever independent committee entrusted with the task of drafting one has formed only very recently. Besides, the electricity market can not be made completely competitive because of its natural monopoly sectors, Distribution and transmission, further complicating it. Therefore, it is unrealistic to expect competition in the electricity sector to easily result from market reforms to the extent observed in developed countries and it, obviously, requires more time and energy in Iran.

Iran did in fact take the initiative to start a regulation committee for electricity, but it does not live up to international standards and fails to qualify as an independent regulatory committee. Necessary legislative measures should be taken immediately to address this problem.

Conclusion:

Iran has obviously started an ambitious program implementing dramatic changes to its traditional state-owned monopolistic electricity sector and quite expectedly faces many challenges.

However, it has got to a wise start with the right sequencing putting the legal and regulatory framework in place before privatizing its restructured electricity

sector. This, however, had, more than anything else, to do with its constitutional ban on privatization of main industries that is now dissolved. The regulatory committee does not satisfy standards of independence intimidating private investors. Electricity prices can not be reflective of the level of success of the reforms simply because of huge subsidies paid by the government which pose a serious challenge which the country is not expected to be able to rise above, at least, in close future. There have been problems with investment, as well, which permeate the electricity sector and need to be addressed through political and macro-economic policy reforms. There should be attempts to attract foreign investment in this field which requires extra legislative instruments as well as a stable political and legal atmosphere.

All in all, Given the short period of time passed since restructuring and more importantly the fact that privatization has just very recently commenced, any impartial qualitative judgment will be inexorably immature.

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