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Mexico’s energy dilemma: resource nationalism vs market liberalisation

by Rolando Fuentes [1], [2]

Introduction:

In a recent paper published by the Oxford Institute for Energy Studies, Michelle Michot Foss raises an issue that deserves further discussion. She says:

“Pipeline exports of natural gas from US to Mexico reached nearly 400 Bcf for 2004(…). Given its presumably rich resource base, Mexico should be able not only to meet its own needs but also to earn export revenues through sales to the US. Instead, for the past few years, the southbound flow of natural gas to Mexico has been roughly equivalent to NG volumes received by the US”.[3]

This example illustrates the problematic nature of the Mexican energy sector and raises the question of what may lie behind this apparently irrational behaviour.

Mexico has been endowed with an abundant energy resource base[4]. If managed properly, these resources could serve to meet the country’s energy requirements and fund other social demands. However, this potential has not been fulfilled. Mexico’s new government will face a key challenge in the development and restructuring of the energy sector, and it will not be an easy task. As suggested by Foss, “there is an array of social and political issues that encumber Mexico’s energy sector”; these issues go to the heart of Mexican identity.

Brief Background:

Mexico’s new government is aiming to reform the energy sector[5], which faces one of the most restrictive regimes in the world. The Mexican Constitution constrains private investment in the hydrocarbon sector; Articles 27 and 28 specifically establish the monopoly control of the State. There are main three state-owned companies:

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[2] Thanks to Malcolm Keay for useful comments
[3] Foss, Michelle. (2007). United States Natural Gas Prices to 2015. Oxford Institute for Energy Studies (http://www.oxfordenergy.org/pdfs/NG18.pdf)
[4] Approximately 16.5 thousand million barrels of proven oil reserves,
[5] Thompson, Adam. (2007, January 23). “Calderón clears way forassault on monopolies”. *Financial Times*. Retrieved March 7, 2007, from http://www.ft.com and “Sugiere FCH bursatilizacion de Pemex” (2007, January 23). *Reforma*. Retrieved March 7, 2007, from http://www.reforma.com

Petroleos Mexicanos (Pemex) which is in charge of running the hydrocarbons (oil and gas); *Comision Federal de Electricidad* (CFE) and *Luz y Fuerza del Centro* are in charge of the electricity sector, although only CFE has national presence.

The core issue

The key to understanding the energy sector in Mexico is the role of Pemex, whose central position in the energy industry has far-reaching implications. Decisions relating to the company affect not only the oil industry but also the electricity and gas markets, the environment, and indeed the whole economy.

Pemex affects the whole economy via fiscal receipts. The government has reduced the role of Pemex to one which is seen exclusively in terms of supporting public finances. The company's contribution to the government's income has been enormous. During the Fox administration (2000-2006) the company generated accumulated fiscal revenues of 250 billion US dollars, which represent 5.6% of GDP in the same period. In 2006 alone, its fiscal contribution was 70 billion US dollars[6].

Pemex's huge contribution to government revenues has created two problems. The first is fiscal. Government income from oil revenues reduces the need (and in practice, the ability) to collect other taxes – the hallmark of a so-called "rentier state". Today, oil revenues provide close to 40% of the government's budget. As a consequence, fiscal collection in Mexico is 15% of GDP – low when compared with the OECD average of 28%[7]. On the expenditure side, the fact that nobody (or more properly everybody) owns the oil has made it easier for the government to use the revenue for "white elephant" projects or to dissipate them in inefficient policies, without having to respond directly to the electorate[8].

The second problem is related to the oil industry itself. The government's hunger for oil revenues has dried up Pemex's coffers and has seriously threatened the future of the company itself. Taxes imposed upon the company are not logically designed to optimize the exploitation of Mexico's hydrocarbons reserves. The policy of maximising production (and hence government revenues) has led to declining reserves. The supergiant oil field Canterell- whose exploitation represents about 60% of total Mexican production - is now in decline. The best case scenario for Canterell is 1.4 MMBD for 2008, compared to 2.2 MMBD in 2004[9]. It will be very difficult to compensate for this decline with production from other fields, because of Pemex's lack of resources for investment. It is estimated that around 18 billion US dollars per year would need to be invested to put Pemex back on track – which would reduce government income from the company by at least 25% in the short to medium term.

Pemex also influences the development of gas markets, with the result noted by Foss. In Mexico, demand for gas has increased, driven in part by the introduction of gas-

[6] Marcos, Ernesto. (2006). Energy sector modernization tasks 2006-2012. Center for Energy Economics. U. Texas, Austin (http://www.beg.utexas.edu/energyecon/documents/emarcos_mexicoenergy_r.pdf)

[7] Gomez, Pedro. (2007). Forthcoming

[8] Elizondo-Mayer Serra, Carlos. (2007). Equilibrios perversos: instituciones inadecuadas, pero duraderas". CIDE

[9] Marcos, Ernesto. (2006). Op cit.

fired electricity generation and by the limited liberalization of gas transport and distribution, which is now carried out by independent regional companies. Although Mexico has sufficient gas reserves to supply these domestic needs, the country is a net gas importer. At present production is largely associated gas, but the real opportunities are in the substantial reserves of non-associated gas. Pemex has the exclusive franchise for the exploration and production of natural gas. However, the company has consistently neglected this area because oil development and production have been given higher priority within its limited investment funds[10]. Hence, the increase in demand, together with the modest investment spending on increasing supply, has led to a rise in imports from the United States.

Pemex is an important player in the electricity sector too. Pemex takes advantage of the special relationship with CFE to maximize its profits from the sale of hydrocarbons. CFE, as Pemex's main domestic client, is uniquely able to help it manage its residual fuel oil and gas supply. Swings from fuel oil to gas in CFE's CCGT plants are a highly convenient way to balance out supply fluctuations. The possibility of fuel switching also helps to respond to variations in demand and to changing prices for crude and residual fuel oil. Although this is clearly beneficial to Pemex, it adversely affects the overall efficiency of the electricity sector.

The Pemex-CFE ties constrain fuel choice for electricity generation and as a consequence the choice of technology[11]. Because around 50% of total generation cost is attributable to capital costs, 40% to fuel costs and just 10% to labour costs, the ability CFE has to reduce costs –under such a rigid supply chain - is very limited. These constraints on fuel choice also hinder prospects for future liberalisation of electricity markets. All industrialised nations have access to the same generation, transmission, and distribution technologies, and can freely access international markets for generation fuels[12]. However, if the government favours the use of monopolized indigenous energy sources over imported fuels for electricity supplies, true competition will be very difficult to establish, as companies would be constrained by fuel choices over which they have no control.

Finally, the present role of Pemex also adversely affects the environment in two ways.

- Indirectly via "imposing" dirty fuels- such as fuel oil - in electricity generation
- Due to poor maintenance related to lack of funds. For example, oil spills have recently occurred in the Gulf coast of Mexico[13]

Mexico's dilemma:

What alternatives does the Mexican government have for Pemex? The obvious alternative would be to borrow money from abroad. Borrowing however is ruled out. Not only is the company already over borrowed, but also, given the government's past

[10] Halpern, Jonathan, et.al. (2000). "Energy" in Mexico: A comprehensive development agenda. World Bank.
[11] Around 60% of total generation comes from fossil fuel sources
[12] Bower, John. (2001). Agent-based analysis of the sources of market power in deregulated electricity markets. PhD Thesis. London Business School.
[13] Mari, Carlos. (2006, February 13th). "Causa Pemex derrame en campo de Tabasco". *Reforma*. Retrieved March 7, 2007, from http://www.reforma.com

experience with debt and the current commitment to macroeconomic discipline, it is very improbable that the government itself would be willing to contract *enough* debt to finance energy sector growth[14].

Another obvious alternative would be to liberalise the energy sector. Although this solution, if properly designed, would promote efficiency in the sector and would probably guarantee income for the government for a longer time than under the present arrangements, liberalisation seems unlikely too. Even putting aside the political difficulties involved in amending the Constitution, resource nationalism – or, more accurately, oil nationalism - is deeply embedded in the Mexican identity, for historical reasons, going back to the aftermath of the Mexican revolution. Oil was implicated in the three events that helped end the conflict: the writing of a new Constitution, in which the demands for land – and hence subsoil – that triggered the revolution were incorporated; the birth of the official party *Partido Revolucionario Institucional* (PRI), which ruled uninterruptedly for 71 years; and the expropriation of the oil industry, which helped finance the construction of the country. The creed that oil belonged to all Mexicans was a constant theme in the discourse of the previous regime.

These ideas of oil nationalism are unlikely to change soon. Unequal income distribution is fertile ground for resource nationalism. Market oriented policies, in contrast, are seen to be the cause of disparities. Today, Mexico is the 13th largest economy in the world, with a GDP of $768 billion US dollars in 2005, and has the highest per capita income in Latin America at $6,790 US dollars. The country is also a member of the OECD[15]. However, it is an unequal country. Its wealthiest regions enjoy living standards similar to those in Portugal, but its poorest regions compare to countries like Vietnam[16]. Hence, current conditions do not play in favour of liberalisation.

A good illustration of the tension between resource nationalism and market oriented policies is what happened with the signing of NAFTA[17]. Despite Mexico's enthusiasm for trade liberalisation and other pro-market policies, it was significant that the energy sector was left out of the agreement. Also, other minor attempts have been made to liberalise parts of the energy sector in the past with little success. For example, the Zedillo Administration (1994-2000) tried to privatize the petrochemical branch of Pemex. However, this failed, among other reasons because of fierce popular opposition, even within Zedillo's own party.

Mexico's ambivalent position is evident in other matters too. For example, historically and culturally, Mexico belongs to Latin America. However, geographically and economically the country is attached to North America. Also, Mexico, as with the UK in Europe, has acted as a bridge between the USA and the

[14] Gomez, Pedro and Fuentes, Rolando. (2007). "Mexico: Challenges and Opportunities in the Oil and Electricity sector for the New Administration". Submitted to the World Energy Conference. Available from the authors.
[15] In fact, the general secretary of the organization is Mexican.
[16] Elizondo Mayer-Serra, Carlos. (2007). "Equilibrios perversos: Instituciones inadecuadas, pero duraderas". Paper presented at London School of Economics, March 1st, 2007.
[17] North American Trade Agreement

rest of Latin America. Given the current trends in the region where other countries have adopted or are adopting resource nationalist policies, the position Mexico takes on this matter could set an important precedent for the future of the region.

Conclusions

Reforming the energy sector and resolving the tensions between oil nationalism and liberalisation has proved a major challenge for Mexican governments over the years. While the new administration wants to continue the momentum of liberalisation, resolving this complex array of issues will not be easy. Whether the administration succeeds in doing so will affect not just energy policy in Mexico but Mexico's future more widely, as well as having significant implications for global energy markets. But it would be unrealistic to expect rapid reform. Although the present situation may look irrational to some outside observers and lead to under-performance in Mexico's energy sector, that does not mean it cannot continue. The problems are deep-seated; they arise from the fundamental political, social and economic dynamics which have for many decades determined the direction of Mexico's development. A country which has given birth to the Party of Institutionalised Revolution has the capacity to sustain almost indefinitely what to outsiders might appear like inherent contradictions.