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Challenges of Designing an Optimal Petroleum Fiscal Model in Latin America

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Energy Challenges in the Americas

Hemisphere

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Cover Image:

Ribeirao das Lajes dike with its forest bordering the reservoir, an example of Light S.A.'s reforestation program. Light, a subsidiary in Brazil of the French company EDF (Électricité de France), distributes electricity to 80% of the State of Rio de Janeiro and implements environmental protection programs. ANTONIO SCORZA/AFP/Getty Images.

Challenges of Designing an Optimal Petroleum Fiscal Model in Latin America

By Roger Tissot

The ability to replace hydrocarbon reserves is influenced by the level of investment in exploration activities.

Governments have two options for conducting exploration activity: 1) investing in exploration activities directly; or 2) asking private companies to make the investments.

In the first case, the ability of the entity – usually the National Oil Company (NOC) – to make investments depends on the skill level of the country’s workforce, the government’s financial capabilities, its aversion to risk, and the level of financial and strategic independence of the NOC from other government authorities.

Political authorities tend to be risk averse and would prefer to use scarce financial resources for projects aimed at improving social conditions or economic development. Their investment preferences are also influenced by political ideology and the preferences of their constituencies.

The NOC has to compete with other government authorities for the funding to make its investments. The more dependent on NOC revenues the government is, the less independence will be granted to the NOC. In this case, the NOC is more likely to be risk averse, focus most investments on sustaining production from existing wells, and implement

only modest exploration activities in the most prospective areas.

Sometimes NOCs manage to achieve a high level of independence from the government despite being their main source of cash. The sustainability of NOC “independence” depends upon three factors: 1) its ability to meet the government’s financial needs; 2) its capacity to produce and replace reserves efficiently; and 3) endorsement of NOC strategic activities by top-level political authorities. If these conditions are not met, the result is often a cash-starved and risk-averse NOC unable to carry out exploration alone.

The other option is for governments to offer the rights for developing the resource via concessions to international oil companies (IOCs), or to partner with them in exchange for a share of production or profits. The option selected depends on the government’s choice of petroleum fiscal models.

The different “families” of models represent legal contracts or agreements covering rights granted over a period of time and for an agreed level of activity. The difference between these systems mostly involves the mechanics of risk and reward sharing between the contractor and the government. Fiscal models can be more or less progressive depending on when

the rents are captured: the later the payment is required, the more progressive the system is.

The main challenge in the design of optimal fiscal system is to achieve alignment of different and sometimes diverging objectives between the government and the IOC. The government’s primary objective is to maximize the value of its petroleum resources while attracting sufficient interest from IOCs to invest in E&P activities. IOCs in turn seek to ensure that the rate of return on the capital employed is consistent with the project’s risk and with the strategic objectives of the corporation.

Latin American Experience

Latin America has been a fertile ground for petroleum fiscal models. Whether the region’s policies are open or closed usually obeys shifts in the political pendulum from populism to economic orthodoxy. In the 1990s, therefore, Latin America adopted market-oriented models, reduced government take, ended NOC monopolies and, in some cases, privatized them. The private sector response was positive, resulting in rapid growth of reserves and production. Most of the fiscal models, however, failed to respond to the steep price increases. That failure coincided with the rise of new populist regimes that relied on resource nationalism as

a key component of their political platforms.

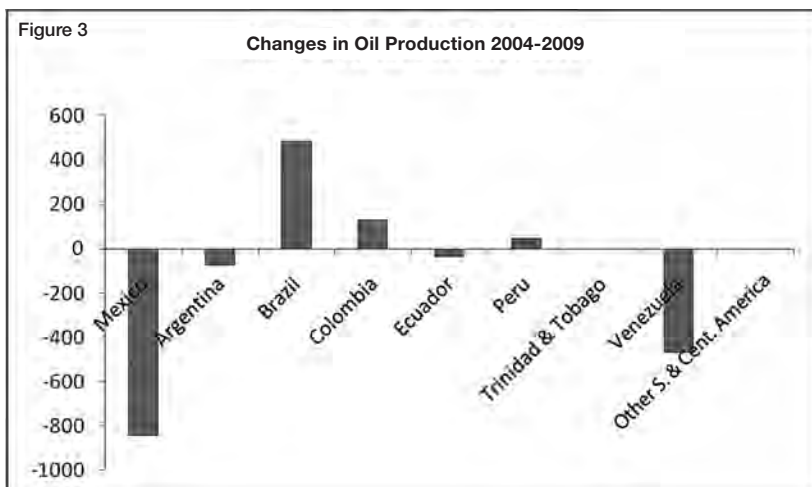
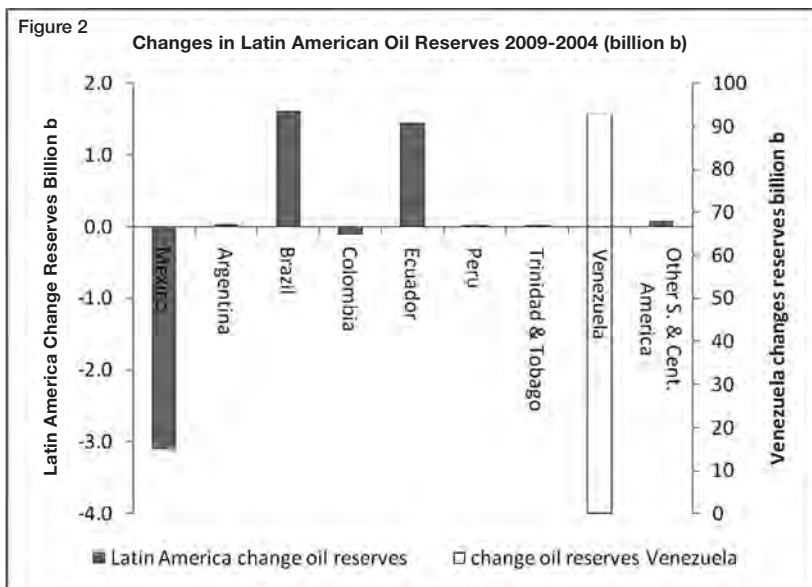
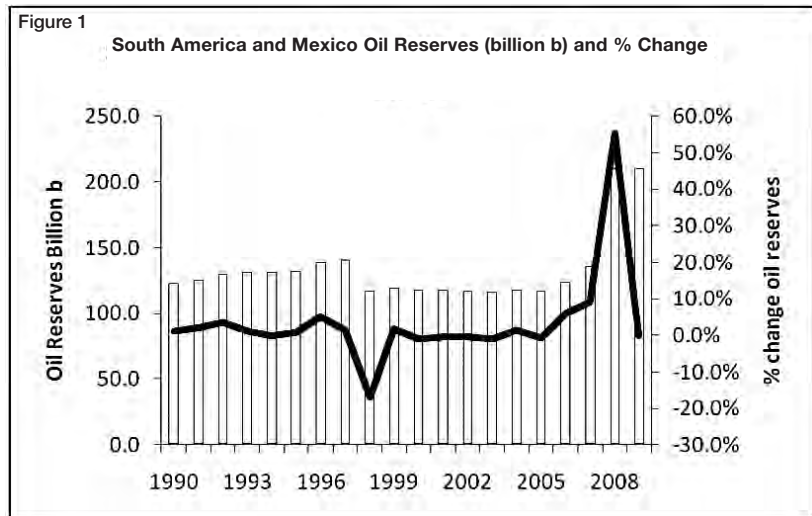
Since this most recent “turn to the left,” Latin America has faced two very different paths with regard to oil policy. The first favors state corporatism and maximization of rents even at the cost of investments and additional reserves. This is the case of Venezuela, Bolivia, Ecuador and, to a certain degree, Brazil and Argentina. The second path advocates strengthening market-oriented models, resulting in a boom in investments in Colombia, Peru and, to a lesser extent, Trinidad & Tobago.

Oil Reserves and Production

Figure 1 shows the evolution of petroleum reserves in Latin America from the 1990s through 2009. Reserves increased modestly (0.7% on average) from 1990 to 2005, followed by a drastic jump since then.

Figure 2 shows the change in oil reserves in the main oil-producing countries of Latin America between 2004 and 2009. Venezuela explains most of the jump in reserves over the last few years. This is not “new oil” but rather a change in the definition of already recorded reserves from the heavy crude oil Orinoco fields. Brazil has increased its reserves almost constantly in the last two decades, due in part to more active exploration efforts by Petrobras, the Brazilian NOC, and IOCs since the opening of the sector a decade ago. Brazil has also captured international headlines since 2008 due to huge discoveries of pre-salt oil, described as a “game changer” for Brazil’s petroleum outlook. The country is expected to become an important oil exporter in the next decade.

Latin America’s oil production peaked at 10.65 million b/d in 2005. Since then, production has





slowly declined to less than 10 million b/d. Average production changes since 2005 on a country basis show Mexico with the biggest decline, followed by Venezuela, Argentina and Ecuador. Gains were made in Brazil, Colombia and Peru.

Petroleum Policy Outlook

According to a recent report by the Fitch Rating agency, capital expenditures by the largest five Latin American NOCs could reach US\$550 bn in the next five years. Coinciding with the ambitious expansion plans is a deterioration of fiscal balances in the region due to increased spending caused by the fiscal stimulus in 2009 and natural disasters during the 2010 rainy season.

Countries that were seen as “business friendly” have become victims of their own success. Access to land is becoming more expensive

and governments have imposed higher taxes and royalties and/or stricter qualifying requirements for IOCs. Resource-nationalist countries have experienced a drastic decline in production and, in some cases, reserves. The economic sustainability of these countries is tied to new investments. There is uncertainty about local NOCs’ abilities to meet the investment challenge, while foreign investors would expect a reward attractive enough to compensate for political and fiscal risks.

In the last decade, some countries have successfully increased their hydrocarbon reserves, with high rents for governments, increased investment and attractive rates of return for investors. It would be tempting to “copy” the fiscal models of successful countries, but a successful fiscal model must reflect

the political, social and economic characteristics of the host country. In some countries, allowing concessions to IOCs may be seen as highly offensive, for historical reasons. In others, the need to secure new reserves to postpone the need to import oil is a sufficient incentive to grant IOCs attractive fiscal conditions.

The main challenge in Latin America is to design petroleum fiscal models that are flexible enough to incorporate price volatility and political change and stable enough to allow private investors to focus on long-term development. ■

Roger Tissot is an economist and independent consultant focusing on Latin American energy policy, markets and strategy, advising mostly Canadian and international oil and gas companies.