



Summer 2016

Whatever Happened to the Mexican Oil Bonanza? The Challenges of Mexico's New Oil Fund

Paul Alejandro Sánchez Campos

Recommended Citation

Paul A. Sánchez Campos, *Whatever Happened to the Mexican Oil Bonanza? The Challenges of Mexico's New Oil Fund*, 56 NAT. RES. J. 291 (2016).

Available at: <https://digitalrepository.unm.edu/nrj/vol56/iss2/5>

This Article is brought to you for free and open access by the Law Journals at UNM Digital Repository. It has been accepted for inclusion in Natural Resources Journal by an authorized editor of UNM Digital Repository. For more information, please contact disc@unm.edu.

Paul A. Sánchez Campos*

WHATEVER HAPPENED TO THE MEXICAN OIL BONANZA? THE CHALLENGES OF MEXICO'S NEW OIL FUND

ABSTRACT

From 2000 to 2014, Mexico exported around 9 billion barrels of oil equivalent—representing approximately \$562 billion dollars (USD) in revenues—yet in December 2014, the remnant sum in the Oil Revenues Stabilization Fund was just \$2.9 billion USD. This article analyzes the Mexican oil revenue management scheme used in this period, using evidence to analyze various explanations of how the Mexican oil revenues were used between 2000 and 2014 and to evaluate the institutional strength of the new Mexican Oil Fund for facing challenges in the near future.

I. INTRODUCTION

There is a recurring question in resource-driven growth literature: “are natural resources a blessing or a curse?”¹ The empirical evidence is not conclusive because it suggests that both outcomes are possible.² The theory that mineral resource endowments can become a curse for some countries is also known as the “paradox of plenty.”³ It is also suggested that some countries have overcome the paradox of plenty, turning their curse into a blessing through institutional arrangements designed to promote socio-economic development.⁴

* Paul Sanchez is currently the CEO at Ombudsman Energía México, an independent non-profit and non-governmental organization. The author thanks the editorial staff of the Natural Resources Journal for their suggestions and edits to the article, especially Natalie Zerwekh. In addition, the author expresses gratitude to his OEM colleagues Edgar Alvarado Dominguez and Abigail Bello Chavez for their insightful assistance and support. paul@ombudsmanenergia.org.mx.

1. Andrew Rosser, *The Political Economy of the Resource Curse: A Literature Survey* 3 (Inst. of Dev. Stud., Working Paper No. 268, 2006); Nuno Torres et al., *A Survey of Literature on the Resource Curse: Critical Analysis of the Main Explanations, Empirical Tests and Resource Proxies* 1 (Ctre. Economia e Financas da Uporto, Working Paper No. 2, 2013).

2. Frederick van der Ploeg, *Natural Resources: Curse or Blessing?*, 49 J. OF ECON. LITERATURE 366, 368 (2010); Ragnar Torvik, *Why do Some Resource-Abundant Countries Succeed While Others Do Not?*, 25 OXFORD REV. OF ECON. POL'Y, 241, 241–256 (2009).

3. TERRY L. KARL, THE PARADOX OF PLENTY: OIL BOOMS AND PETRO-STATES 24 (1997); Michael L. Ross, *The Political Economy of the Resource Curse*, 51 WORLD POLITICS 297, 297–322 (1999); MATTHIAS BASEDAU & WOLFRAM LACHER, *A Paradox of Plenty? Rent Distribution and Political Stability in Oil States* 5 (German Inst. of Global and Area Stud., Working Paper No. 21, 2006), http://edoc.vifapol.de/opus/volltexte/2009/1582/pdf/wp21_basedau_lacher.pdf.

4. Benn Eifert et al., *The Political Economy of Fiscal Policy and Economic Management in Oil Exporting Countries* 7–10 (World Bank, Working Paper No. 2899, 2002); Frederick van der Ploeg, *supra* note 2, at 368; see Ragnar Torvik, *supra* note 2, at 241–56; see also Halvor Mehlum et al., *Cursed by Resources or Institutions?*, 29 WORLD ECON., 1117, 1117–1131 (2006).

The literature places the case of the Mexican oil sector in the first category.⁵ In other words, its own oil bonanza has been a curse for Mexico, which is still bounded by the paradox of plenty. Once ranked as the world's fourth largest oil producer (in 2002), Mexico ranked as the tenth oil producer in 2014.⁶ The stylized facts of this phenomena are: a) Mexico's oil production is declining; b) Mexico's oil exports are decreasing; c) Mexico's oil derivatives imports are increasing; d) in the last 15 years, Mexico exported around 9 billion barrels of oil and other liquids and derivatives, representing a revenue of \$562 billion USD in 2010; and e) Mexico's former oil rent management scheme has only around \$2.9 billion USD.⁷

This article explores the three-way trade-off that oil exporting countries face between stabilizing, saving, or investing their oil rent in order to identify the institutional differences between those countries which have been trapped in the paradox of plenty and those which have overcome it. In addition, within the Mexican context, this article considers the challenges decision-makers face in allocating the rent and balance, presently, along with future needs, and the role that national oil funds play in turning the oil curse into a blessing.

This article discusses the hand-to-mouth policy pursued by the Mexican government using the former Mexican oil rent management scheme. In doing so, it uses the lens of resource-driven growth framework in order to understand why the Mexican case exemplifies a state trapped in the paradox of plenty. The main goal is to identify the challenges facing the new Mexican Oil Fund for Stabilization and Development, created in 2013.⁸

This article first focuses on the notion of the "paradox of plenty" in resource-rich countries, in order to give context to its causes and consequences. Then, the article reviews the literature on oil rent management. This is followed by a study on Mexico's oil dynamics during the 15-year period between 2000 and 2014. After that, the article focuses on the Mexican case of oil rent management using the framework from section three. Finally, the last section examines the new Mexican Oil Fund created by the recent Mexican Energy Reform, aiming to identify the challenges that this new oil revenue management mechanism will face.

II. THE PARADOX OF PLENTY

Some natural resources—those limited in supply, and mainly those with inelastic demand—generate economic rent.⁹ Unlike profit, which represents the returns for developing goods from natural resources, economic rent represents the

5. Mehlum, *supra* note 4, at 1121; Torvik, *supra* note 2, at 246; Ploeg, *supra* note 2, at 24; NAAZNEEN H. BARMA ET AL., RENTS TO RICHES? THE POLITICAL ECONOMY OF NATURAL RESOURCE-LED DEVELOPMENT 82 (The World Bank, 2012).

6. INT'L ENERGY DATA AND ANALYSIS [hereinafter INT'L ENERGY DATA], <http://www.eia.gov/beta/international/> (last visited May 24, 2016).

7. See *infra* Parts V.1–V.4.

8. Ley del Fondo Mexicano del Petróleo para la Estabilización y el Desarrollo [hereinafter LFMED], Diario Oficial de la Federación [DOF] 8 de noviembre, 2014 (Nov. 8, 2014) (Mex.).

9. Examples of this kind of resources include oil, gas, copper, silver, gold, coal, diamond, thorium, lead, and zinc, among others.

payment received by a resource owner that exceeds its opportunity costs.¹⁰ Since non-renewable resources cannot be recreated, competition is restricted, which means that economic rent in non-renewable resources is the product of an imperfect market caused by natural barriers to entry. Considering this, countries with abundant rent-generating natural resources should be wealthy, as they are able to seize rents without a significant factor of production investment.¹¹ Nevertheless, reality is more complex.

Evidence suggests that the economic performance of resource-rich countries is, in most cases, worse than their resource-poor counterparts.¹² The phenomenon of resource-rich countries with poor economic performance is known as the “paradox of plenty,”¹³ or the “resource curse.”¹⁴ The paradox of plenty explains how some economies with abundant natural resources have experienced slower growth rates than economies without significant natural resources.¹⁵ Though there is no consensus on what causes this paradox, there are three dominant hypotheses: the 1) structuralist; 2) behaviorist; and 3) institutionalist explanations.¹⁶

1. Structuralist Explanation: Dutch Disease

The structuralist explanation of the paradox of plenty relates to the Dutch Disease concept. The Dutch Disease concept explains the contrast between an externally growing yet internally troubled economy. Based in an empirical case in Netherlands, *The Economist* introduced the term in 1977 to refer to “the adverse effects on Dutch manufacturing of the natural gas discoveries of the nineteen sixties, essentially through the subsequent appreciation of the Dutch real exchange rate.”¹⁷ Sudden booms in natural resource sectors may result in a loss of competitiveness in other productive sectors, such as the manufacturing and agriculture sectors.¹⁸

The structuralist thesis proposes that a sudden boom in the natural resource sector is followed by an increase in the export of raw goods from that sector and a decrease of production and exports of non-boom productive sectors, resulting in appreciation of the real exchange rate. Capital and labor move from the non-booming

10. Robert D. Tollison, *Rent Seeking: A Survey*, 35 *KYKLOS*, 575, 578 (1982); Joseph T. Mahoney & Rajendran Pandian, *The Resource-Based View Within the Conversation of Strategic Management*, 13 *STRATEGIC MGMT. J.*, 363, 364–365 (1992).

11. RAYMOND J. LEARSY, *OVER A BARREL: BREAKING THE MIDDLE EAST OIL CARTEL* 57–61 (2005); GEOFFREY HEAL, *ESCAPING THE RESOURCE CURSE* 155–171 (2007).

12. Rosser, *supra* note 1, at 7–13; Torres, *supra* note 1, at 13.

13. Karl, *supra* note 3, at 242.

14. See RICHARD M. AUTY, *SUSTAINING DEVELOPMENT IN MINERAL ECONOMIES: THE RESOURCE CURSE THESIS* (1993).

15. See Jeffrey D. Sachs & Andrew M. Warner, *Natural Resource Abundance and Economic Growth* (Harv. Inst. for Int'l Dev., Working Paper, 1995), http://www.cid.harvard.edu/ciddata/warner_files/natresf5.pdf; see also Jeffrey D. Sachs & Andrew M. Warner, *Natural Resource Abundance and Economic Growth* (Nat'l Bureau of Econ. Research., Working Paper 5398, 1995), <http://www.nber.org/papers/w5398.pdf> (substantially revised).

16. Torres, *supra* note 1, at 3–7.

17. W. Max Corden, *Booming Sector and Dutch Disease Economics: Survey and Consolidation*, 36 *OXFORD ECON. PAPERS*, 359, 359 (1984).

18. See *id.*

sectors to the booming sector, producing a national de-industrialization.¹⁹ The long term consequences are “a fall in manufacturing output and employment, a worsening of the balance of trade in manufacturing, and a fall in the real return to factors specific to the manufacturing sector.”²⁰

According to the structuralist explanation, the paradox of plenty revolves around growing national income and the negative effects of de-industrialization on economic growth. On one hand, national income increases because there are higher revenues coming from the natural resource sector; hence, there is a rise in national demand for services and other goods. This rise in consumption is covered by an increase in imported goods, which is financed with the increase of national income. Thus, “the resource bonanza increases welfare.”²¹

On the other hand, the exchange rate appreciation makes it more difficult to export goods other than natural resource commodities, and cheaper to import goods from the international market than to buy them from local producers. In addition, labor and capital shift to the booming sector and service sector, and the non-booming productive sectors lag—resulting in de-industrialization.²² The literature proposes that, in the long term, de-industrialization has negative impacts on national savings, physical investment, entrepreneurship, and education and human capital formation, thus creating the paradox of plenty.²³

2. Behaviorist Explanation: Rent-Seeking

The second thesis, based on the behaviorist explanation, explains that the paradox of plenty is caused by the rent-seeking behavior of some key actors. This behavior takes root in the notion of egoistic rationality (or “rational egoism”). Public choice theory has created a body of work on the assumption of egoistic rationality: “the basic behavioral postulate of public choice, as for economics, is that man is an egoistic, rational, utility maximizer.”²⁴ From this framework, humans are self-interested beings who will rationally plan their actions in order to obtain the outcome that best maximizes utility, even if the outcome produces socially negative consequences. Hence, as natural resources produce rent, some key actors, with the aforementioned characteristics, engage in rent-seeking activities.

19. W. Max Corden & J. Peter Neary, *Booming Sector and De-Industrialization in a Small Open Economy*, 92 THE ECON. J., 825, 825–848 (1982); Ploeg, *supra* note 2, at 8–12.

20. *Id.* at 841. Note that the authors were using the manufacturing sector as an example; these consequences apply to all non-boom productive sectors.

21. Ploeg, *supra* note 2, at 10.

22. GEOFFREY HEAL, ESCAPING THE RESOURCE CURSE 3–6 (Macartan Humphreys et al eds., 2007).

23. See Sachs & Warner, *supra* note 15, at 5 (using Mexico, Nigeria and Venezuela as oil-rich countries that had gone bankrupt in the 1990 decade); Jeffrey D. Sachs & Andrew M. Warner, *The Curse of Natural Resources*, 45 EURO. ECON. REV. 827, 828 (2001) (trying to explain the curse using the Nigerian case); Thorvaldur Gylfason, *Natural Resources, Education and Economic Development*, 45 ECON. REV. 847, 848 (2001) (comparing the case of resource-rich countries such as Botswana, Indonesia, Malaysia and Thailand against countries with few raw materials such as Taiwan, Singapore, South Korea, and Hong Kong); see also Claudio Bravo-Ortega & José De Gregorio, *The Relative Richness of the Poor? Natural Resources, Human Capital and Economic Growth* 1, 2. (Central Bank of Chile, Working Paper No. 139, 2002) (comparing the economic performance of resource-rich countries from both Scandinavia and Latin America).

24. Dennis C. Mueller, *Public Choice: A Survey*, 14 J. OF ECON. LIT. 395, 395 (1976).

In sum, rent-seeking describes the “behavior in institutional settings where individual efforts to maximize value generate social waste rather than social surplus.”²⁵ Rent-seeking is mainly associated with actors trying to obtain an advantageous market position through government action; thus, the government actions or inactions “give rise to rents of a variety of forms, and people often compete for the rents.”²⁶

According to the behaviorist explanation, behavior from both rent-seekers and politicians causes the paradox. On one hand, as rational actors, rent-seekers focus their expenditures and efforts in order to obtain the advantage. On the other, government officials focus their efforts on obtaining the expenditures of the rent-seekers. This formula can result in bribery and corruption.²⁷ Knowing this, entrepreneurs, who rationally are risk-averse, compete to gain the favor of the political elite. Explaining the curse of abundant resources, Torvik concludes that “through rent seeking more natural resources generate a negative multiplier effect, and the net result is lower income.”²⁸

3. Institutional Explanation: Institutional Quality

The third thesis, based on institutionalism, stresses that the paradox of plenty is caused by poor-quality institutional arrangement, and, in contrast, a high-quality institutional arrangement can turn the resource curse into a blessing.²⁹ From this perspective, institutions matter in resource-driven growth. One of the best known definitions of institutions was proposed by Douglass North: “institutions are the rules of the game in a society.”³⁰ Institutions’ *raison d’être* is to constrain human behavior to reduce uncertainty and incentive social relations. Sharing this notion, a certain degree of consensus emerged from the New Institutional Economics (NIE) School, pointing to the importance of institutions in economic growth.³¹

The consensus of the NIE literature is that countries with high-quality institutions perform better than countries with poor-quality institutions. The institutional explanation of the paradox of plenty brings this framework to the

25. JAMES M. BUCHANAN, 40 YEARS OF RESEARCH ON RENT SEEKING I: THEORY OF RENT SEEKING 55–68 (Roger D. Congleton et al. eds., 2008).

26. Anne O. Krueger, *The Political Economy of the Rent-Seeking Society*, 64 THE AM. ECON. REV. 291, 291 (1974).

27. Rosser, *supra* note 1, at 15 (When political elites have the right to allocate natural resources, then they will take the opportunity to seize a share of the rent, often in the form of bribes).

28. Torvik, *supra* note 2, at 251. See also J.M. Baland & P. Francois, *Rent-seeking and Resource Booms*, J. OF DEVELOPMENT ECON., 61, 527–42 (2000); R. Hodler, *The Curse of Natural Resources in Fractionalized Countries*, EUROPEAN ECON. REV. 1367–86 (2006); K. Wick and E. Bulte, *Contesting Resources—Rent Seeking, Conflict and the Natural Resource Curse*, PUBLIC CHOICE, 128, 457–76 (2006).

29. Mehlum, *supra* note 4, at 1121; Rosser, *supra* note 1, at 21–23; Ploeg, *supra* note 2, at 15–18; Barma, *supra* note 5, at 3–4; Torres, *supra* note 1, at 4–7.

30. DOUGLASS C. NORTH, INSTITUTIONS, INSTITUTIONAL CHANGE AND ECONOMIC PERFORMANCE 3 (1990).

31. Oliver E. Williamson, *The New Institutional Economics: Taking Stock, Looking Ahead*, 38 J. OF ECON. LITERATURE 595, 595–596 (2000); DARON ACEMOGLU, INTRODUCTION TO MODERN ECONOMIC GROWTH 119–121 (2009); DARON ACEMOGLU & JAMES A. ROBINSON, WHY NATIONS FAIL: THE ORIGINS OF POWER, PROSPERITY, AND POVERTY 7–11 (2012).

resource curse problem, concluding that high-quality institutions have performed better in investment and savings than their counterparts.³²

Mehlum proposes that countries with poor-quality institutions cannot benefit from growing income due to the proliferation of “wealth-grabbers”: “dysfunctional democracies invite political rent appropriation; low transparency invites bureaucratic corruption; weak protection of property rights invite shady dealings, unfair takeovers, and expropriation; weak protection of citizens’ rights invite fraud and venal practices; weak rule of law invites crime, extortions, and mafia activities; a weak state invites ‘warlordism.’”³³

From the institutionalist explanation, the paradox of plenty has its origins in poor-quality institutions, which foster wealth-grabbing and weaken redistribution mechanisms. In consequence, despite a nation’s having a higher income resulting from higher natural resource revenues, inefficient redistribution mechanisms cause aggregate income to decrease.

III. OIL REVENUES MANAGEMENT

Oil is a commodity, which has a set of characteristics that make it an interesting case study of the paradox of plenty. Oil is a non-renewable resource with virtually no substitutes; hence, its demand and supply are highly inelastic with respect to price. Considering these characteristics, the market price of oil is not aligned with its marginal cost, which means it generates scarcity rent: the less oil there is, the higher its present value, and the less value to future generations.³⁴

Oil is a rent-generating natural resource, which means that oil-producing countries are prone to negative effects of the resource curse. The literature has found empirical evidence of both countries that have been cursed by their oil richness and countries that have been blessed by it.³⁵ As a result, the challenge for resource-rich countries is how to best manage their oil revenues and overcome the paradox of plenty. Oil revenues can be used for: 1) stabilizing the present economy; 2) saving for the future; or 3) investing in living and future generations.³⁶ Therefore, oil-rich countries face a three-way trade-off between stabilizing, saving, or investing their oil rent.

32. Giles Atkinson & Kirk Hamilton, *Savings, Growth and the Resource Curse Hypothesis*, 31 *WORLD DEV.* 1793, 1794 (2003).

33. Mehlum, *supra* note 4, at 1121.

34. Bassam Fattouh, *The Drivers of Oil Prices: The Usefulness and Limitations of Non-Structural Model, the Demand-Supply Framework and Informal Approaches* 2 (Ctr. for Fin. and Mgmt. Stud., Working Paper No. 71, 2007).

35. Karl, *supra* note 3, at 8; Mehlum, *supra* note 4, at 1121; Anca Cotet & Kevin Tsui, *Resource Curse or Malthusian Trap? Evidence from Oil Discoveries and Extractions* 28 (Ball St. U., Dep’t of Econ., Working Paper No. 1, 2010); James L. Butkiewicz & Halit Yanikkaya, *Minerals, Institutions, Openness, and Growth: An Empirical Analysis*, 86 *LAND ECON.* 313, 317 (2010); Barma, *supra* note 5, at 3–4. While the Nigeria, Angola, and Venezuela have struggled to distribute the benefits of present revenue, Norway, Botswana, and Alaska have experienced greater success.

36. Eifert, *supra* note 4, at 3–5.

1. Stabilizing

Historically, oil prices have been characterized as being highly volatile—sometimes the price soars and other times it busts.³⁷ Thus, using part of the oil rent for stabilization could help protect the economy from unpredictable fluctuations. De Ferranti explains that stabilization is “a form of self-insurance that allows for a transfer of resources between price booms and busts.”³⁸

Countries establish Oil Stabilization Funds (OSFs) to cope with price fluctuations. OSFs are not created for long-term saving, but rather for short-term stabilization. Some authors stress that the horizon of OSFs should not be longer than three or five years.³⁹ Ahmad and Mottu point out that the drawback of the OSF mechanism is “[t]he possibility of establishing a parallel budget mechanism, often with less oversight than the regular budget.”⁴⁰ In order to overcome this, it is crucial to strengthen the OSF’s with transparency and accountability mechanisms.

2. Saving

Because oil is a non-renewable resource, there is a notion that oil revenues should have intergenerational benefits.⁴¹ In order to achieve this objective, countries establish saving funds. The aim of establishing these funds is “to set aside resource revenue for future consumption [since] saving funds can enable future generations to benefit from the extraction, by converting finite revenue into a long-term financial flow.”⁴²

There are two types of saving funds: National Based Funds and Sovereign Wealth Funds. National Based Funds (NBFs) are funds installed inside the country, enabling governments to borrow from them to stabilize their finances. As NBFs have no external oversight mechanism, they are frequently redesigned to respond to political and economic priorities; hence, they are vulnerable to misuse.⁴³ The Mexican Oil Revenue Stabilization Fund that operated from 2000 to 2015 is an example of this kind of fund and will be explored in the next section.

37. Oil Prices, BP.com, <http://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy/oil-review-by-energy-type/oil-prices.html> (last visited Dec. 10, 2015).

38. Barma, *supra* note 5, at 178.

39. See Naief Al-Mutairi, *Determining the Sources of Output Fluctuations in Kuwait*, 11 FIN. AND INDUSTRY 20, 20–78 (1993); Mohsen Mehrara & Karman N. Oskoui, *The Sources of Macroeconomic Fluctuations in Oil Exporting Countries: A Comparative Study*, 24 ECON. MODELLING 365, 372–373 (2007).

40. See, e.g., Eric Ahmad & Ehtisham Mottu, *Oil Revenue Assignments: Country Experiences and Issues* 11 (IMF, Working Paper No. 02/203, 2002) (using as an example the Kuwaiti Reserve Fund for Future Generations, which permitted the Kuwaiti government to borrow for the reconstruction of the country after the Iraqi occupation without the oversight that the regular budget would have. In contrast, the authors point that the Norwegian Fund has a good oversight mechanism as all resources coming into the Norwegian Fund are reported to the Parliament, which must authorize any transfer from the Fund to the budget).

41. Eifert, *supra* note 4, at 12; Barma, *supra* note 5, at 178–180.

42. Martin Gould, *Managing Manna from Below: Sovereign Wealth Funds and Extractive Industries in the Pacific* 1 ECON. ROUND-UP 63, 66–68 (2010).

43. Ahmad & Mottu, *supra* note 40, at 11; Udaibir S. Das et al., *Setting up a Sovereign Wealth Fund: Some Policy and Operational Considerations* 10 (IMF, Working Paper No. 09/179, 2009).

In contrast, Sovereign Wealth Funds (SWFs) are sovereign investment vehicles with foreign exposure and long-term horizons.⁴⁴ Oil-rich countries like Norway, the United Arab Emirates, Saudi Arabia, Kuwait, and China, among others, have established SWFs in order to save wealth for future generations and to assess the sustainability of the long-term expenditure path.⁴⁵ The most prominent example of an SWF is the Norwegian Oil Fund, which has a good oversight mechanism as all the resources coming into the Fund are reported to the Norwegian Parliament, which must authorize any transfer from the Fund to the budget. Comparing the performance of NBFs—e.g. Kuwait's⁴⁶ and Mexico's—with the performance of Norway's SWF, it can be said that SWFs are a more solid mechanism than are NBFs for achieving the desired long-term objectives.

3. Investing

Many oil-rich countries are highly dependent on oil revenues. With no present need to diversify, their progress in diversifying the economy is on hold. Because economic diversity is central to prosperity, the most important use of oil rent should be investing in capital formation to boost competitiveness and promote socio-economic development. Gylfason identifies different types of capital that are capable of growth, should these countries invest part of their oil revenue;⁴⁷ (a) real capital, including physical infrastructure such as roads, bridges, machinery and equipment; (b) human capital, including education, training, health care and social security that build up a more productive workforce; (c) social capital: formed by investing in institutional quality and open government mechanisms that limit corruption; and (d) financial capital, formed by investing in institutional quality and mechanisms that create economic certainty for other investors.

IV. MEXICAN OIL DYNAMICS FROM 2000 TO 2014

After low international oil prices during the 1980s and 1990s, the period from 2000 to 2014 presented new opportunities for oil exporting countries, including Mexico.⁴⁸ This was a key period for Mexican hydrocarbon production because it was marked by increased oil prices and, at least for the first half of the period, increased output. Nevertheless, the Mexican oil dynamics from 2000 to 2014 were marked by 1) a declining hydrocarbon production and reserves; 2) an increasing dependence of

44. Bernd Scherer, *A Note on Portfolio Choice for Sovereign Wealth Funds*, 23 FIN. MARKETS AND PORTFOLIO MGMT. 315, 324 (2009).

45. *Id.*; Barma, *supra* note 5, at 179; SOVEREIGN WEALTH FUND INST., FUND RANKINGS (Dec. 10, 2015). <http://www.swfinstitute.org/fund-rankings/>.

46. Ahmad & Mottu, *supra* note 40.

47. Thorvaldur Gylfason, *Natural Resource Endowment: A Mixed Blessing?*, in BEYOND THE CURSE: POLICIES TO HARNESS THE POWER OF NATURAL RESOURCES 10, 7–34 (Rabah Arezki et al. eds., 2011).

48. The period from 2000–2014 was marked by high oil prices, enabling the exploitation of more expensive oil resources such as oil sands in Canada, shale gas and tight oil in United States, Ultra Deep Waters in Brazil, Extra Heavy Oil in Venezuela, among others. These countries were benefited by the oil price increase and took the opportunity. See Steven Levine et al., *Understanding Crude Oil and Product Markets*, AMERICAN PETROLEUM INST. (2014), <http://www.api.org/~media/Files/Oil-and-Natural-Gas/Crude-Oil-Product-Markets/Crude-Oil-Primer/Understanding-Crude-Oil-and-Product-Markets-Primer-High.pdf>.

oil derivatives imports; and 3) spending of almost all the extraordinary oil revenues obtained.

1. Declining Hydrocarbon Production

Mexican hydrocarbon production reached its peak in 2007, when Mexico was the world's sixth-largest oil producer, behind only Saudi Arabia, Russia, the United States, Iran, and China.⁴⁹ But beginning in 2008, Mexican hydrocarbon production experienced an accelerated decline.⁵⁰

In the seven years between 2007 and 2014, Mexican hydrocarbon production decreased at an annual rate of 2.4%.⁵¹ Contextually, Mexico produced around 4 million barrels of oil equivalent per day (MMBOE/d) in 2000;⁵² the production increased until 2007, when the country produced approximately 4.4 MMBOE/d.⁵³ In contrast with the 2007 yield, the national production in 2014 was roughly 3.6 MMBOE/d—a decrease of 17% (*see* Figure 1).

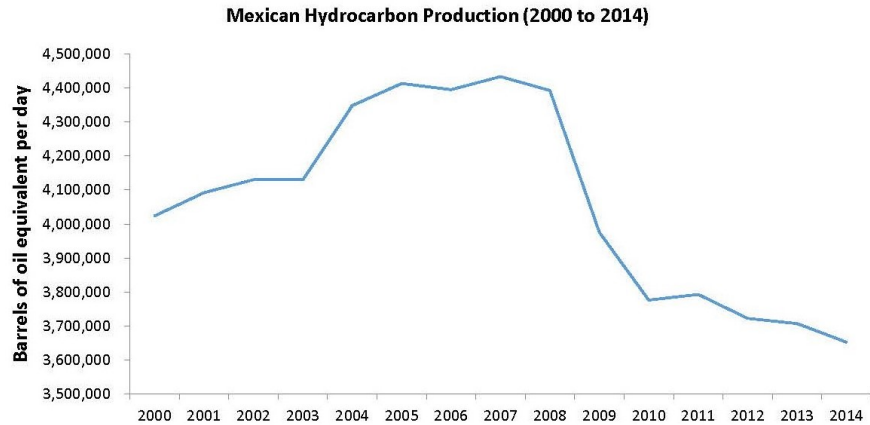


Fig. 1: Self-elaboration with data from PEMEX.⁵⁴

Figure 1 shows Mexican hydrocarbon production over the last 15 years, which can be divided into three stages. The first stage shows an increase of production from 2000 to 2004; the second stage illustrates the maximum production plateau from 2004 to 2008; and the third stage shows a pronounced fall in hydrocarbon production from 2008 to 2014.

49. INT'L ENERGY DATA, *supra* note 6.

50. *See infra* Fig. 1.

51. Author's calculation based on PEMEX data. BASE DE DATOS INSTITUCIONAL DE PETRÓLEOS MEXICANOS [hereinafter PEMEX], <http://ebdi.pemex.com/bdi/bdiController.do?action=temas> (last visited May 24, 2016).

52. *Id.*

53. *Id.*

54. *Id.*

Not only did production decline in this period, but proved reserve restitution rates⁵⁵ were poor as well. Mexico's hydrocarbon reserves fell 46% in those 15 years (see Figure 2). Although restitution rates have stabilized in the last five years, the decline in proved reserves had a negative impact on the Mexican hydrocarbon production.

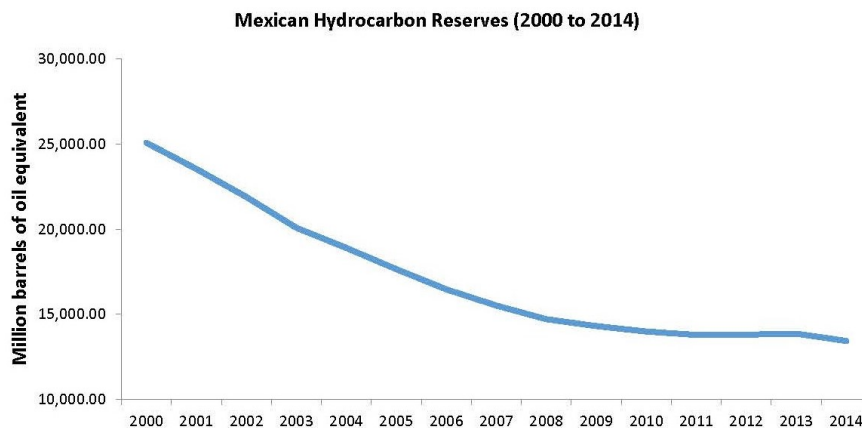


Fig. 2: Self-elaboration with data from PEMEX.⁵⁶

2. Hydrocarbon Trade Balance

In addition to the declining hydrocarbon production occurred in the 2000-2014 period, Mexico's domestic demand for oil derivatives increased and is still.⁵⁷ Hence, there are two direct impacts on Mexican hydrocarbon trade balance: first, Mexico's crude oil exports are decreasing; and second, the country's oil derivatives and natural gas imports are increasing.

These trends are evident in trade values:⁵⁸ since 2012, Mexican imports of oil derivatives and natural gas are higher than its crude oil exports; measured as barrels of oil equivalent (BOE), Mexico exported almost three BOE for every one imported in 2000. In contrast, Mexico imported 1.7 BOE for every one exported in 2014 (see Figure 3).

55. Proved Reserves are one of the most important concepts in the oil and gas industry. Proved reserves are the quantity of oil and gas that, under a set of economic and technical conditions, can be recovered for commercial purposes and can be certified through geological and engineering data. See REBECCA GALLUN, *FUNDAMENTALS OF OIL & GAS ACCOUNTING* 607–08 (4th ed. 2001). The restitution rate, or replacement rate, is a metric used by countries, companies and investors to measure the quantity of proved reserves added relative to the quantity of oil and gas produced. *Id.* It is desirable for a country to add a barrel of oil of proved reserves for each barrel of oil produced. That means that the restitution rate should be higher than, or at least, 100%. *Id.*

56. PEMEX, *supra* note 51.

57. SECRETARÍA DE ENERGÍA DE MÉXICO, SISTEMA DE INFORMACIÓN ENERGÉTICA [hereinafter SENER], <http://sie.energia.gob.mx> (last visited, Dec. 10, 2015) (Secretary of Energy of Mexico, System of Energy-Related Information).

58. *Id.*

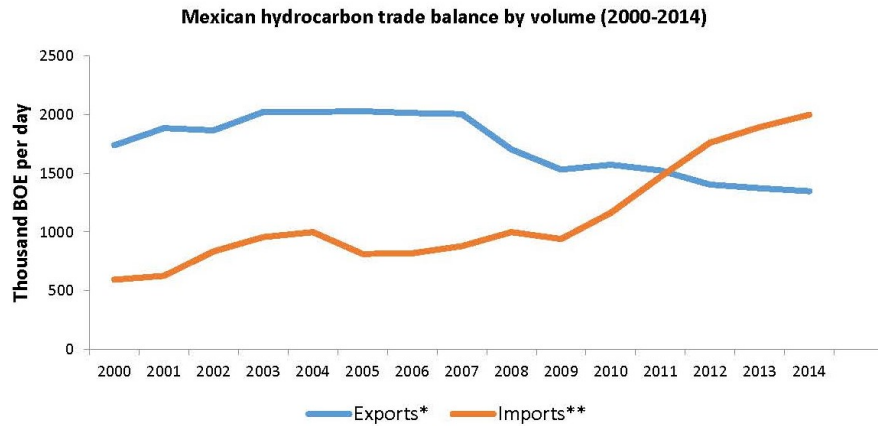


Fig. 3: Self-elaboration with data from SENER.⁵⁹
 *Crude oil and other liquids, natural gas and oil derivatives
 **Natural gas and oil derivatives.

Though the Mexican trade balance has been getting worse in the last 15 years, it maintained a slight surplus in 2014 (*see* Figure 4). In 2000, Mexico exported almost \$3.50 USD for every \$1.00 USD imported. By 2014, in contrast, Mexico exported roughly \$1.50 USD for \$1.00 USD imported. At the rate the trade value ratio is decreasing, Mexico will face a challenge maintaining the trade value surplus in coming years.

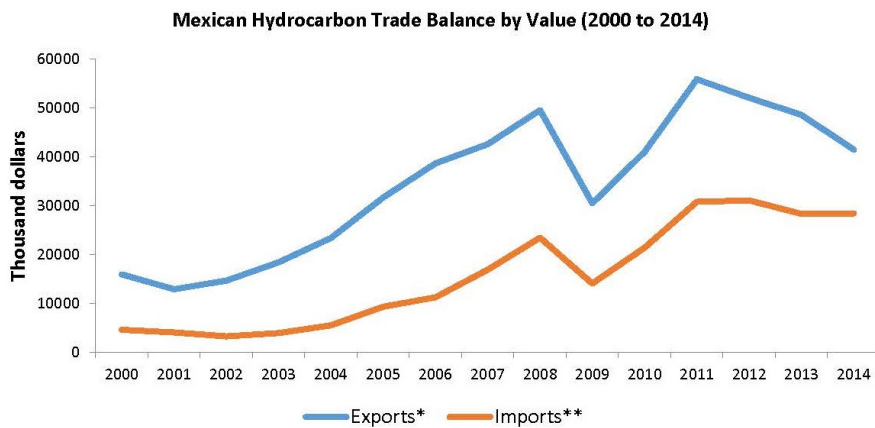


Fig. 4: Self-elaboration with data from SENER.⁶⁰

59. *Id.*

60. *Id.* *Crude oil and other liquids, natural gas and oil derivatives **Natural gas and oil derivatives.

3. Oil Revenues

After 15 years of high oil prices, the Mexican federal budget became highly dependent on oil revenues. In those years, Mexico exported more than 9,500 MMBOE of crude oil and other liquids and derivatives, such as fuel oil.⁶¹ The revenue for those exports accounted for around \$562 billion of real 2010 dollars.⁶² For the same period, those revenues represented on average 33% of the federal expenditure budget,⁶³ meaning that Mexican finances have been highly dependent on oil revenues. In contrast, during the period of low international oil prices from 1989 to 1999, Mexican oil revenues represented, on average, 25% of the federal expenditure budget.⁶⁴ Thus, the dependence on oil revenue growth was around 8% between 2000 and 2014.

On the other hand, bearing in mind that Mexican hydrocarbon production started its decline in 2007 (*see* Figure 1), Mexico has managed to avoid financial shocks. This is because the decline coincided with a rise in international oil prices. Although Mexican oil exports were decreasing (*see* Figure 3), the revenues from oil exports were still high enough to cover a third of the federal expenditure budget (*see* Figure 4).

V. MEXICAN OIL RENT MANAGEMENT

Though Mexico has exported oil since the beginning of the twentieth century, it has rarely attained the best external and internal conditions for rent maximization and management. From 1907 to 1925, Mexico produced 1.3 billion barrels of oil; and in 1921, Mexico was the second largest oil producing country, producing 202 million barrels of oil (also the year production peaked).⁶⁵ Despite the production peak, the international oil companies that operated in the country obtained most of the revenues. From 1917 to 1927, three Mexican presidents—Venustiano Carranza, Álvaro Obregón and Plutarco E. Calles—tried to address the

61. *Id.*

62. *Id.*

63. BANCO DE MÉXICO, FINANZAS PÚBLICAS, <http://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?accion=consultarDirectorioCuadros§or=9§orDescripcion=Finanzas> (last visited, Dec. 10, 2015).

64. *Id.*

65. *See* LORENZO MEYER & ISIDRO MORALES, PETRÓLEO Y NACIÓN. LA POLÍTICA PETROLERA DE MÉXICO (1900–1987) 32–33 (Petróleos Mexicanos et al. 1990). Mexican President Venustiano Carranza (1917–1920) tried to enforce a nationalization—allowed by Article 27 of the Mexican Constitution—but faced pressure from the United States government, which demanded recognition of American companies' interests in exchange of credit and loans. President Álvaro Obregón (1920–1924) tried to raise taxes on oil companies but desisted in exchange for the United States's recognition of his government, which was tainted by a revolt led by Obregón and ultimately resulted in the deposing and assassination of President Carranza. President Plutarco E. Calles (1924–1928) tried to restrict property rights of foreign oil companies in Mexico and exchange them for 50-years leases. Instead, Calles signed an agreement with United States Ambassador Dwight Morrow where Mexico agreed to respect the property rights before 1917 and the United States promised that future oil issues between Mexico and American companies would be settled in Mexican courts.

legal and economic situation of the foreign oil companies in Mexico. But, they all desisted after U.S. government intervention.⁶⁶

From 1935 to 1938, Mexican oil production recovered, giving the country a second period of splendor; but it was rapidly eclipsed by the Mexican Oil Expropriation event in 1938. After three failed attempts by Presidents Carranza, Obregón and Calles, President Lázaro Cárdenas tried to regulate the Mexican oil industry and faced continued opposition from U.S. companies and the U.S. Government. Finally, Cárdenas decided to nationalize all foreign oil companies in Mexico, ultimately resulting in the seven-decade foreign investment ban in the Mexican oil sector.⁶⁷

Despite the expropriation event, Mexico lacked the working force, knowledge, expertise technology and capital required for keeping the production. Consequently, from 1940 to 1970, the national oil production was just enough to cover the increasing domestic demand; and even in the first half the 1970s, Mexico was a net oil importer country.⁶⁸ Hence, for around 35 years there was not much oil rent to manage.

It was not until the second half of the 1970s that Mexican oil production increased again to become a net oil exporting country. The increasing production and rising oil prices shed light on the Mexican economy, and there were increasing oil revenues from 1973 to 1980.⁶⁹ The so-called petro-dollars were flowing to Mexico, but, once again, it was eclipsed by the country's crisis in 1982.⁷⁰ When the crisis struck, it became evident that Mexico did not create any stabilization mechanism to counter the negative effects of the crisis. Although Mexican output was high from 1980 to 1999, the international oil prices were low, making the oil revenues modest.

In comparison, the last 15 years were marked by increasing oil prices and a significant national hydrocarbon production, creating a notable flow of oil revenues to Mexico; hence the evidence points to this 15-year period as the one with the best conditions for rent maximization and management for Mexico.

The next section will explore how the Mexican government faced the three-way trade-off on oil rent management. The key findings are: 1) while Mexico had a stabilization mechanism used it at crucial points, the largest part oil revenues was not directed toward stabilization; 2) they were not destined for long-term savings; 3) there is not conclusive evidence for demonstrating that oil revenues were effectively used as public investment; and iv) it seems that Mexican government followed a "hand-to-mouth" policy, using a good amount of oil revenues for current expenditures.

66. *See id.* *See also* Owen L. Anderson & J. Jay Park, *South of the Border Down Mexico Way: The Past, Present, and Future of Oil Production in Mexico*, 56.2 NAT. RESOURCES J. 257 (Summer 2016).

67. *See id.*

68. ÁNGEL DE LA VEGA, *LA EVOLUCIÓN EL COMPONENTE PETROLERO EN EL DESARROLLO Y LA TRANSICIÓN DE MÉXICO* 106 (1999).

69. MIGUEL BASÁÑEZ, *La Lucha por la Hegemonía en México, 1968–1990*, at 225–29. (1990).

70. *Id.*

1. Stabilization Function

One of the purposes of the oil rent is to function as a stabilizing mechanism in case of price busts or production shortages.⁷¹ The planning horizon for stabilization is short, and mainly used to recover from temporary price drops or unexpected production shocks. Stabilization mechanisms give governments time to prepare their financial system and smooth the transition should oil prices fall for an extended period of time, or the oil reserves are depleting beyond recovery.

Mexico has had a stabilization fund since the year 2000. In April, 1999, the Organization for Economic Co-operation and Development (OECD) recommended the creation of a stabilization fund to Mexico.⁷² The federal budget for the 2000 fiscal year included an instruction for the creation of the Oil Revenue Stabilization Fund (ORSF) creation, and from then until 2014, the ORSF received approximately \$14.6 billion USD, representing around 2.6% of the oil revenues from the same period.⁷³

The ORSF was first used to stabilize the federal budget in 2001 and 2002, when international oil prices had a slight decrease. The stabilization was accomplished despite the fact that by the end of 2002, the balance of the ORSF was approximately \$7 million USD (*see* Figure 5). From 2003 to 2008, the output increase and rising international oil prices made it possible for the ORSF to reach the sum of \$6.2 Billion USD, the highest figure the ORSF ever held.

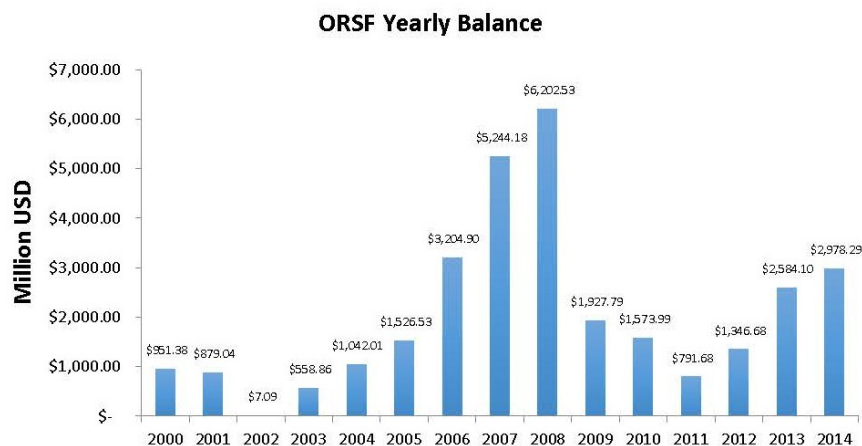


Fig. 5: Self-elaboration with data from INEGI,⁷⁴ ASF⁷⁵ & CEFP.⁷⁶

71. See discussion in *supra* Part III.

72. JUAN C. QUIROZ & JORGE ROMERO, *Recursos Naturales e Ingresos Fiscales en México* 48 (2004).

73. *Economía*, INST. NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA (INEGI) [hereinafter INEGI], <http://www3.inegi.org.mx/sistemas/temas/default.aspx?s=est&c=23824> (last visited May 24, 2016); *Informes y Publicaciones*, AUDITORÍA SUPERIOR DE LA FEDERACIÓN (ASF) [hereinafter ASF], http://www.asf.gob.mx/Section/46_Informes_y_publicaciones (last visited Dec. 10, 2015); *Indicadores y Estadísticas*, CENT. DE ESTUDIOS DE LAS FINANZAS PÚBLICAS [hereinafter CEFP], http://www.cefp.gob.mx/Pub_Gasto_Estadisticas.htm (last visited Dec. 10, 2015).

74. INEGI, *supra* note 73.

75. ASF, *supra* note 73.

76. CEFP, *supra* note 73.

The first major stabilization occurred in 2009, when the most significant international oil price shock occurred, lasting for two years. In 2009 and 2010, Mexican oil revenues were around \$20 and \$10 billion dollars less than in 2008, respectively;⁷⁷ yet the Federal Budget went unchanged due to stabilization.⁷⁸ Figure 5 indicates that the Fund decreased by at least 30% during this time.

It would be mistaken, however, to assert that Mexico directed its oil revenues toward stabilizing. The 2014 balance of the ORSF was around \$2.9 Billion USD, representing only 0.2% of the oil revenues from 2000 to 2014; only 2.6% of those revenues went to the ORSF, and barely 0.2% of those remained in it until 2014. While Mexico had a stabilization mechanism and used it at crucial points, the largest part of the 2000–2014 oil revenues was not directed toward stabilization.

2. Saving Function

The saving function of oil revenues differs from the stabilization function in that savings has intergenerational and long-term components. The main objective of the saving function is to assure that a share of the revenues could benefit future generations by extending the living standards of the current generation through the years.

In the 2000–2014 period, Mexico's only saving mechanism was the ORSF, which operated more like a National Based Fund than a Sovereign Wealth Fund, as its function was limited to stabilizing the country's financial system. Therefore, Mexican oil revenues from 2000 to 2014 were not destined for long-term savings; meaning that Mexican governments from that period did not consider the saving function of the oil revenues.

3. Investing Function

Considering that oil is a depletable, non-renewable resource, prone to price volatility, the literature recommends that a reasonable amount of oil revenues be used for investment purposes.⁷⁹ The aim is to set in motion a transition from an oil-dependent economy to a diversified industrial economy for promoting socio-economic development. Thus, a third function of oil revenues is to be used in investment.

In the last 15 years, the Mexican government increased public investment through the federal expenditure budget.⁸⁰ The compound annual growth rate for capital expenditure in that period was 13%.⁸¹ The public investment has been oriented in developing physical, health and energy infrastructures.⁸² On average, the public investment represented 14.4% of the federal expenditure budget outputs during those 15 years.⁸³ Bearing in mind that, for the same period, the oil revenues

77. SENER, *supra* note 57.

78. BANCO DE MÉXICO, *supra* note 63.

79. Eifert, *supra* note 4, at 7–10.

80. CEFPE, *supra* note 73.

81. *Id.*

82. See Secretaría de Hacienda y Crédito Público (Ministry of Treasury and Public Credit), *Clasificación Económica del Gasto Público* (2014).

83. BANCO DE MÉXICO, *supra* note 63.

represented 33% of the expenditure budget inputs, it could be said that oil revenues sustained almost half of public investment. But there is not conclusive evidence that supports that assertion.

On the contrary, empirical studies suggest that Mexican public investment has not been done effectively.⁸⁴ As oil revenues were consolidated into a federation account along with federal taxes and other revenues, it is quite difficult to determine: (1) the weight of oil revenues in public capital expenditures; and (2) if oil revenues are efficiently used in capital expenditures.

4. Current Expenditures

For the years 2000 to 2014, Mexico did not have an oil revenue saving scheme, and around 50% of the oil export revenue went to covering federal capital expenditures and transfers to the ORSF. This raises the question: where did the other half of the oil exporting revenue go?

A review of historical national accounts suggests that it went to current federal expenditures (*see* Figure 6).

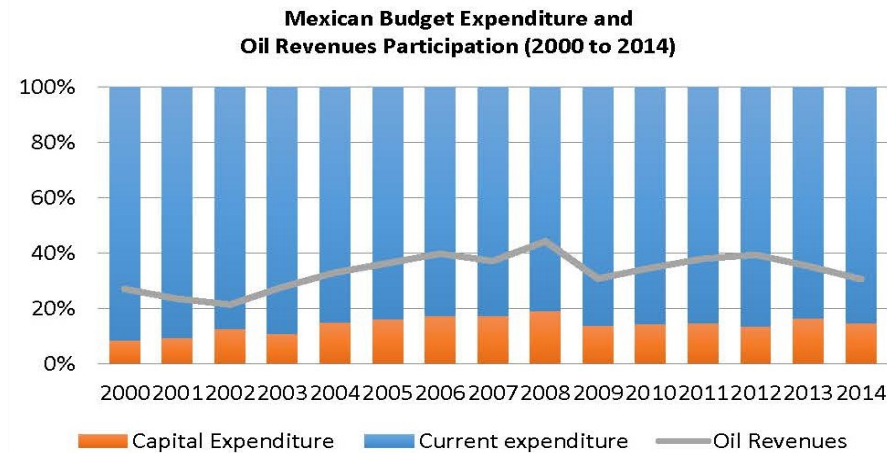


Fig. 6: Self-elaboration with data from Banco de Mexico⁸⁵

Current expenditures are not considered as part of the Eifert *et al.* three-way trade-off that oil exporting countries face in oil rent management.⁸⁶ The reason may be that the authors assume that the governments of oil-rich countries understand and consider oil to be a wealth-producing asset rather than a trading commodity; and seek

84. Joan Costa-i-Font, Eduardo Rodriguez-Oreggia & Dario Luna, *Political Competition and Pork Barrel Politics in the Allocation of Public Investment in Mexico*. (Ctr. of Border Econ. Stud., Working Paper No. 10, 2002); Joan Costa-i-Font & Eduardo Rodriguez-Oreggia, *Path Dependency and the Allocation of Public Investment in Mexico* 24 ENVTL. AND PLAN. C: GOV'T AND POL'Y 297, 297–311 (2006); Eduardo Rodriguez-Oreggia & Andrés Rodriguez-Pose, *The Regional Returns of Public Investment Policies in Mexico* 32 WORLD DEV. 1545, 1545–1562 (2004).

85. BANCO DE MÉXICO, *supra* note 63.

86. Eifert, *supra* note 4, at 3–5.

to use revenues produced by that asset for 1) stabilizing the present economy; 2) saving for the future; or 3) investing in living and future generations.

Nonetheless, oil revenues represent not only an asset but also a window of opportunity for governments to increase the quantity or quality of public and quasi-public goods without raising the fiscal burden through new or higher taxes.⁸⁷ Therefore, before facing the three-way trade-off, political elites face an allocation trade-off on how much money should go to current expenditures. The remnants face the aforementioned three-way trade-off.

Using oil revenues for current expenditures and to maintain fiscal balance each year is considered a “hand-to-mouth” policy.⁸⁸ Considering how most of Mexico’s oil exporting revenues were consolidated into a federal account each year and used for current and capital expenditures from 2000 to 2014, Mexico could be said to have followed a “hand-to-mouth” policy. In other words, during this period, the other half of the Mexican oil exporting revenues were used to cover the current expenditure deficits.⁸⁹ This fact suggests that, at least for the last 15 years, Mexico treated its oil endowments as trading commodities rather than long-term, wealth-producing assets.

VI. MEXICO’S NEW OIL FUND

In December of 2013, Mexico’s Congress amended three articles of the Mexican Constitution—25th, 27th, and 28th—and introduced 21 transitory articles. This legislative product is better known as the Mexican Energy Reform of 2013. The Energy Reform creates a new legal framework for the Mexican Energy Sector and aims to solve a set of structural challenges, including the oil rent management scheme. This section will explore: 1) the creation of the Mexican Oil Fund for the Stabilization and Development (the Fund); 2) its structure and functions; and 3) the challenges that the Fund will face in the near future.

1. Creation of the Mexican Oil Fund

Perhaps the most important change introduced by the Energy Reform is that private oil companies are now allowed to participate in hydrocarbon upstream activities.⁹⁰ The Mexican Congress decided that an oil sector opening required a new rent management mechanism; hence, on December 2013, the Energy Reform introduced the following text to Article 28, paragraph 6, of the Mexican Constitution:⁹¹

87. Barma, *supra* note 5, at 29.

88. Hajime Takizawa, Edward H. Gardner & Kenichi Ueda, *Are Developing Countries Better Off Spending Their Oil Wealth Upfront?* 3–4 (IMF, Working Paper No. 141, 2004).

89. BANCO DE MÉXICO, *supra* note 63.

90. See CONSTITUCIÓN POLÍTICA DE LOS ESTADOS UNIDOS MEXICANOS [C.P.] (Const. of Mexico), art. 25, 27, 28, Diario Oficial de la Federación [DO] (Official Journal of the Federation), 5 de febrero, 1917 (Feb. 5, 1917) (reformada 10 de julio, 2015) (amended July 10, 2015).

91. C.P., art. 28, DO, 5 de noviembre, 1917 (Nov. 5, 1917) (reformada 20 de diciembre de 2013) (amended Dec. 20, 2013) (“El Estado contará con un fideicomiso público denominado Fondo Mexicano del Petróleo para la Estabilización y el Desarrollo, cuya Institución Fiduciaria será el banco central y tendrá por objeto, en los términos que establezca la ley, recibir, administrar y distribuir los ingresos

The State will have a public trust called the Mexican Oil Fund for Stabilization and Development, whose Fiduciary will be the Central Bank and which shall have as its purpose, pursuant to the law, the receipt, management and distribution of income derived from the allocations and contracts referred to in paragraph seven of article 27 of this Constitution, except for the taxes.

The next step in the Fund's creation was made on August 2014, when Congress passed the Mexican Oil Fund Law, which provides the specific normative framework.⁹² Then, on September 30, the Finance Ministry and the Bank of Mexico signed the Fund's Constitution Contract,⁹³ allowing the Fund to manage the oil revenues starting January 1, 2015.

2. Characteristics of the Mexican Oil Fund

Transitory Article 14 of the Constitutional Energy Reform⁹⁴ indicates that the Fund's main function is to transfer resources to: (1) companies with oil production contracts granted by the State;⁹⁵ (2) the Oil Revenue Stabilization Fund and States Income Stabilization Fund;⁹⁶ (3) the Hydrocarbon Extraction Fund and energy research funds;⁹⁷ (4) the Federal Treasury for budgeting purposes;⁹⁸ (5) long-term saving vehicles; and (6) investment and productive spending⁹⁹ (see Figure 7).

derivados de las asignaciones y contratos a que se refiere el párrafo séptimo del artículo 27 de esta Constitución, con excepción de los impuestos”).

92. LFMED (Mex.).

93. Fondo Mexicano del Petroleo, *Normatividad*, FMP (Dec. 10, 2015) <http://www.fmped.org.mx/normas/>.

94. Transitory Article 14, DO, 8 de agosto, 2014 (Aug. 11, 2014).

95. *Id.* (“El Fondo Mexicano del Petróleo para la Estabilización y el Desarrollo será el encargado de recibir todos los ingresos, con excepción de los impuestos, que correspondan al Estado Mexicano derivados de las asignaciones y contratos a que se refiere el párrafo séptimo del artículo 27 de esta Constitución. Los ingresos se administrarán y distribuirán conforme a la siguiente prelación y conforme se establezca en la ley para:

1. Realizar los pagos establecidos en dichas asignaciones y contratos.”).

96. *Id.* (“2. Realizar las transferencias a los Fondos de Estabilización de los Ingresos Petroleros y de Estabilización de los Ingresos de las Entidades Federativas”).

97. *Id.* (“3. Realizar las transferencias al Fondo de Extracción de Hidrocarburos; a los fondos de investigación en materia de hidrocarburos y Dirección General de Servicios de Documentación, Información y Análisis Dirección de Servicios de Investigación y Análisis Subdirección de Análisis de Política Interior 45 sustentabilidad energética, y en materia de fiscalización petrolera.”).

98. *Id.* (“4. Transferir a la Tesorería de la Federación los recursos necesarios para que los ingresos petroleros del Gobierno Federal que se destinan a cubrir el Presupuesto de Egresos de la Federación de cada año”).

99. Transitory Article 14, DO, 8 de agosto, 2014 (Aug. 11, 2014) (“5. Destinar recursos al ahorro de largo plazo, incluyendo inversión en activos financieros.”).

Fig. 7. Mexican Oil Fund transfers

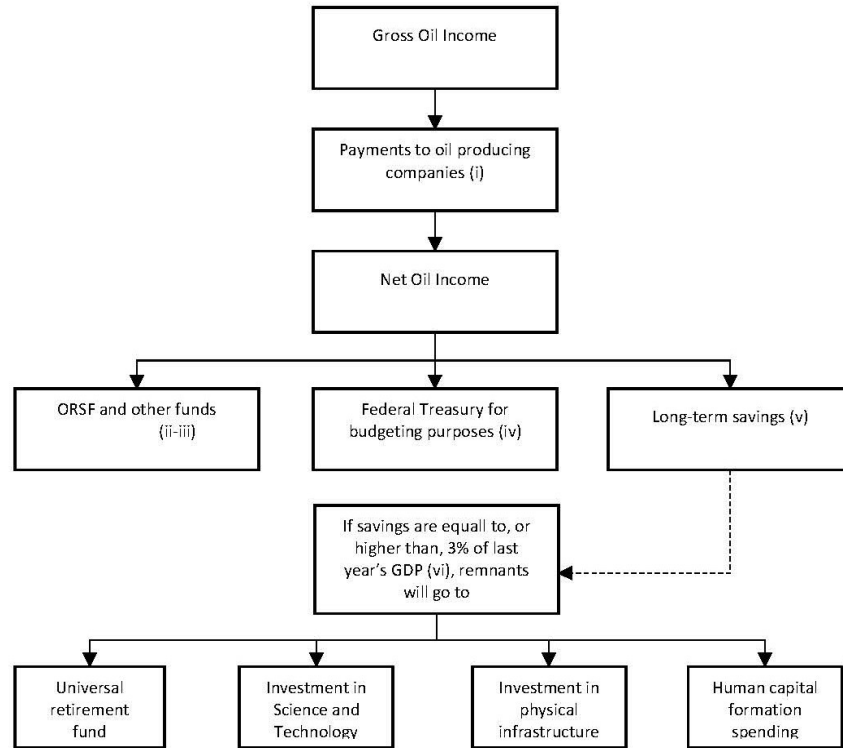


Fig. 7: Self-elaboration with data from FMP¹⁰⁰

Despite these priorities, Transitory Article 15 of the Constitutional Energy Reform states that the Fund shall have a Technical Committee composed by three state representatives and four independent members.¹⁰¹ Transitory Article 15 also defines that the state representatives are the Governor of the Bank of Mexico, the head of the Energy Ministry and the head of the Finance Ministry, which is also the President of the Committee. The Committee has three main duties: (1) design the investment guidelines for long-term savings; (2) instruct the trustee institution to transfer to the Federal Treasury; and (3) when the Fund’s account balance is equal to, or higher than, 3% of the last year’s GDP, make recommendations to the Chamber

100. Fondo Mexicano del Petróleo, *¿Qué es el Fondo Mexicano del Petróleo?*, FMP (2015), <http://www.fmped.org.mx/acerca/tutorial/%7BCAE7E36E-0B15-1875-E35F-86C03FA49E4B%7D.pdf>.

101. Transitory Article 15, DO, 8 de agosto, 2014 (Aug. 11, 2014).

of Deputies, the lower house of the Congress of the Union, for allocation of the exceeding amount.

3. Challenges of the Mexican Oil Fund

Despite the Energy Reform constituting a step in the right direction, there are four glaring weaknesses in the Mexican Oil Fund presented by Transitory Article 14:¹⁰² 1) the Fund transfers a fixed rate of oil revenues to cover the federal budget, including non-productive current expenditures, which must be equivalent to 4.7% of the last year's GDP;¹⁰³ 2) the Fund has an annual cap on its savings function equivalent to 3% of the last year's GDP;¹⁰⁴ 3) the Fund has an overall cap on saving function equivalent to 10% of the last year's GDP;¹⁰⁵ and 4) a special stabilization function which can be used by the Chamber of Deputies.¹⁰⁶

102. Transitory Article 14, DO, 8 de agosto, 2014 (Aug. 11, 2014).

103. *Id.* ("Los ingresos se administrarán y distribuirán conforme a la siguiente prelación y conforme se establezca en la ley para: . . . 4. Transferir a la Tesorería de la Federación los recursos necesarios para que los ingresos petroleros del Gobierno Federal que se destinan a cubrir el Presupuesto de Egresos de la Federación de cada año, se mantengan en el cuatro punto siete por ciento del Producto Interno Bruto, que corresponde a la razón equivalente a la observada para los ingresos petroleros del año 2013.") ("Revenues will be managed and distributed in accordance with the following priorities and according to what is stated in the law: . . . 4. Transfer to the Treasury of the Federation the necessary resources so that oil revenues of the Federal Government to cover the budget of expenditure of the Federation each year remain in the four point seven percent of gross domestic product, corresponding to the ratio equivalent to that observed for the oil revenues of the year 2013.").

104. *Id.* ("Únicamente cuando el saldo de las inversiones en ahorro público de largo plazo, sea igual o mayor al tres por ciento del Producto Interno Bruto del año previo al que se trate, el Comité Técnico del Fondo podrá destinar recursos del saldo acumulado del Fondo para lo siguiente") ("Only when the balance of investments in long-term public savings is equal to or greater than three percent of the gross domestic product in the year prior can the Technical Committee of the Fund allocate resources of the cumulative balance of the Fund for the following [purposes] . . .").

105. *Id.* ("Una vez que el saldo acumulado del ahorro público de largo plazo sea equivalente o superior al diez por ciento del Producto Interno Bruto del año previo al que se trate, los rendimientos financieros reales anuales asociados a los recursos del Fondo Mexicano del Petróleo para la Estabilización y el Desarrollo destinados a ahorro de largo plazo serán transferidos a la Tesorería de la Federación.") (Once the cumulative balance of long term public savings is equivalent or superior to ten percent of the Gross Domestic Product of the year prior, annual actual financial returns associated with resources of the Mexican Petroleum Fund for stabilization and development for long-term savings will be transferred to the Treasury of the Federation.).

106. *Id.* ("En caso de una reducción significativa en los ingresos públicos, asociada a una caída en el Producto Interno Bruto, a una disminución pronunciada en el precio del petróleo o a una caída en la plataforma de producción de petróleo, y una vez que se hayan agotado los recursos en el Fondo de Estabilización de los Ingresos Petroleros o su equivalente, la Cámara de Diputados podrá aprobar, mediante votación de las dos terceras partes de sus miembros presentes, la integración de recursos de ahorro público de largo plazo . . . aún cuando el saldo de ahorro de largo plazo se redujera por debajo de tres por ciento del Producto Interno Bruto del año anterior.") (In the event of a significant reduction in government revenues associated with a fall in the Gross Domestic Product, a pronounced decrease in the price of oil, or a drop in the oil production platform, and once resources in the oil income stabilization fund or its equivalent have been exhausted, the Chamber of Deputies may by a vote of two-thirds of its present members approve the integration of resources of public savings for long term budget expenditures . . . even should the balance of long-term savings be reduced to below three percent of the Gross Domestic Product from the previous year.).

The first weakness of the Fund is the transfer to the federal treasury for budgeting purposes, which must be equivalent to the 4.7% of the last year's GDP.¹⁰⁷ For the last 15 years, the Mexican oil revenues have represented around 7% of the GDP,¹⁰⁸ which suggests the Fund would have a positive balance. But unlike the previous scheme, which consolidated all oil revenues in the same account, the Fund will only have royalty-related income. Consequently, most of the Fund income will go to cover the federal budget, including non-productive current expenditures. Due to transfer to the federal budget, the Fund's saving function will be limited to the 2% annual rate. In contrast, in the last 15 years, Norway's oil savings have oscillated between 10% and 20% of its GDP.¹⁰⁹

Two caps imposed on the Fund's saving function constitute a second and third weakness. The second limit is the first of two caps imposed onto the Fund's saving function: an annual cap equivalent to 3% of the last year's GDP.¹¹⁰ This means that not only will budgetary transfer make savings difficult, but also that the Fund will not be able to collect extraordinary returns. Compared to Norway's fund, the Fund's saving limit is suboptimal.

The second cap on the Fund's saving function creates a third weakness: the overall cap equivalent to 10% of the last year's GDP.¹¹¹ When the Fund reaches that sum, the exceeding amount will go mainly to the Federal Treasury for financing the federal budget.¹¹² Again, the Norwegian Fund has no such limit; in fact, Norway's savings are almost 200% of Norway's GDP.¹¹³

The fourth weakness of the Fund is its special stabilization function. The Transitory Article 14 establishes that in the case of a significant reduction of public income due to shocks on GDP, oil prices, or oil production, the Chamber of Deputies can vote to use the Fund resources for stabilization.¹¹⁴ This means the Fund will ultimately become a medium-term stabilizing fund rather than a long-term saving fund.

In sum, the greatest challenge for the Mexican Oil Fund will not come from oil prices or production shocks, but from flawed institutional design. The flawed design aligns incentives for stabilization and transfers for budgetary purposes, rather than independent long-term savings and investment.

VII. CONCLUSION

Three main conclusions can be extracted from this paper. First, from a behaviorist perspective, political elites consider their oil endowments as trading commodities rather than long-term wealth-producing assets. In consequence, the three-way trade-off between stabilizing, saving and investing takes place after the

107. *Id.*

108. CEF, *supra* note 71.

109. See ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT, OECD ECONOMIC SURVEYS: NORWAY (2014).

110. Transitory Article 14, DO, 8 de agosto, 2014 (Aug. 11, 2014).

111. *Id.*

112. *Id.*

113. Gylfason, *supra* note 47, at 20–22.

114. Transitory Article 14, DO, 8 de agosto, 2014 (Aug. 11, 2014)

political elites decide how much money will be used for current expenditures and how much will be used for other oil revenues management mechanisms.

Second, 2000 to 2014 was the period when the best conditions for oil rent maximization and management. During that period, (1) the international oil prices experienced a sustained increase; (2) Mexico produced a significant share of the world oil supply; and (3) in early 2000s, the creation of the Oil Revenue Stabilization Fund (ORSF) opened an institutional window of opportunity.¹¹⁵ Despite these ideal conditions, the ORSF's account balance for 2014 was just \$2.9 billion USD, 0.2% of the total oil revenues since 2000.

Third, although the Energy Reform constitutes a step in the right direction, the Mexican Oil Fund is weakened by flawed institutional design. The Fund has limited savings potential due to caps and transfer to the national budget. The challenges make it seemingly impossible for the Fund to create real long-term and independent savings for future generations.

Though the mid-2014 oil price shock is affecting Mexico's finances in what seems to be an extended period of low oil prices, complicating the transitions, Mexico has a window of opportunity for reducing its dependence on oil revenues, beginning to treat its oil resources as wealth-producing assets rather than a trading commodities, and undertaking the task to evaluate, reconsider, and redesign the institutional structure of the Mexican Oil Fund. In doing so, Mexico can best manage its oil revenues by balancing the pursuits of stabilizing the present economy, saving for the future, and investing in living and future generations.

115. Notably, the fund was created during the "democratic bonus" caused by Vicente Fox's triumph in the 2000 Presidential Elections, which marked a transition away from the seven-decade government by the Revolutionary Institutional Party (PRI) to the National Action Party (PAN).