

Pemex in the New Environment—Will the Company be able to Rise Again?

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Abstract. This article elaborates on the issue of the ability of the Mexican national oil company - Pemex - undergoing a crisis to continue competing in the rapidly changing global hydrocarbons market. To do that, the article describes three spheres of significant changes: pricing, development and introduction of new technologies and change of location of the main sales markets, as well as peculiarities of national oil companies hindering their adaptation to new external conditions. After that, the authors analyzed parameters of Pemex as related to these peculiarities. In some cases, parameters of Pemex are compared to ExxonMobil and Petrobras for better understanding. The study demonstrated that Pemex does not have competitive advantages in any of the aforementioned spheres. The identified facts allowed concluding that Pemex is not capable of continuing to effectively compete.

1. Introduction

Pemex - the national oil company of the United Mexican States - is undergoing a crisis. The situation is caused not only by the crisis of 2014, which, being a reason of rapid changes in the global hydrocarbon market, affected national oil companies worse than international petroleum companies due to a range of peculiarities of the former, but also by the position of the Mexican government who continue seeing Pemex as an instrument of pumping the national budget up and fulfilling sociopolitical functions. Despite certain positive changes introduced by reforms in the middle of 2010s, this vertically integrated company continues to experience difficulties in all spheres of its activity.

Taking into account the fact that Pemex remain the largest Mexican company despite a significant reduction in the amount of business related to the key spheres of the operational activity, and that changes in the company's condition, especially significant ones, considerably affect the Mexican economy in whole, it appears relevant to determine whether the Mexican national oil company is capable of adapting to new external conditions.

The issues of national oil companies, their development, role in the global hydrocarbon market, and relations with home countries have been considered by numerous researchers, including Silvana Trodo, Brandon S. Tracy and Noora Arfaa (National Oil Companies Value of Creation), N.N. Pusenkova (New Stars of the Global Oil Scene: Success and Failure Stories of National Oil and Gas Companies), Robert Pirog (The Role of National Oil Companies in the International Oil Market), Richard Gordon and Thomas Stenvoll (Statoil: study in political entrepreneurship), and others.

This article was aimed at considering the peculiarities of national oil companies in whole, evaluate their effect on Pemex, and make a conclusion as to whether the company is capable of continuing to compete.

2. Development of the new reality of the global energy market

The global hydrocarbon market is currently undergoing significant changes not only characterized by high rate, but also covering three spheres. As a result of this transformation, the companies operating in the global hydrocarbon market, primarily the physical market companies, find themselves in completely new circumstances and are forced to adapt their strategies to external changes; this requires a considerable effort.

The first sphere of changes covers the hydrocarbon (primarily, crude oil) pricing process. The essence of these changes is as follows: the information factor, primarily, analytical forecasts and statements of the leading analytical companies, becomes the decisive one, not the actual market condition as reflected in statistical reports. This change serves as an extension to the previous transition of the pricing function from the physical market, i.e. from real hydrocarbon deliveries, to the so called "paper oil" market, which comes down to trading in crude oil and petrochemical derivatives, primarily, futures at commodities exchanges. Fluctuations of demand and supply, changes in the amount of stored petroleum reserves, and other statistical data reflecting condition of the physical market used to play the decisive role, whereas now the information factor has been affecting the global hydrocarbon market pricing increasingly more considerably. Significant changes in the physical market, such as the shale oil extraction increase in the USA that led to a considerable price decrease, or the situation in Venezuela and around Iran escalating the price, continue causing price fluctuations; however, their effect is no longer the decisive one.

Furthermore, the "paper oil" market itself has been recently undergoing increasing pressure by new technologies, i.e. by trading algorithms that have been becoming increasingly more used by large-scale financial institutions operating on the exchange. Some specialists note that use of trading algorithms worsens the misalignment of the "paper oil" market and the physical oil market and volatility of the former. It may be noted that despite the timing cycle of changes in this sphere being shorter than in the other sphere currently affecting the global hydrocarbon market it puts at least the same external pressure on the physical market represented both by manufacturers and consumers. Therefore, in order to adapt to external conditions, oil companies have to either allow for high volatility levels in their strategies or expand use of financial instruments.

The next sphere of profound changes in the global hydrocarbon market and, therefore, in the external environment for the hydrocarbon market companies is associated with development and introduction of new technologies. The essence of these changes consists in the fact that invention and especially introduction of new technologies into power generation processes close hydrocarbon sales markets. Technological process has by no means ever stood still, and new technologies have been appearing in the hydrocarbon industry all the time, but the current changes are dramatic.

First of all, we are referring to renewable energy sources. Explosive development of solar and wind power in the past 10 years clearly demonstrates that the time of hydrocarbon power generation is gone. Despite the fact that the amount of hydrocarbons consumed for power generation is increasing and, according to forecasts, will continue doing so for 10-15 years, the shift is already clear. In the future, power generation will completely shift to renewable sources, and this hydrocarbon sales market will be closed. This shift is confirmed by the fact that a few years ago, renewable power generation sources required legal and financial help to enter the market, whereas now, thanks to the development of technologies, in some regions of the world, the power generated by renewable energy sources, i.e. solar and wind power, is capable of competing with the main primary power sources, such as coal and natural gas, as equals, and the number of such regions is increasing year after year. Furthermore, this sphere is being developed not only in the developed countries, such as the USA and European countries, but also in China, where 100 GW of solar power capacity were annually brought into operation in 2017-2018.

The fuel and engine oil market - the primary sales market for crude oil manufacturers - is also undergoing dramatic changes due to the appearance of new technologies. In this case, we are referring to electric cars. Nowadays, most large-scale analytical agencies around the world predict rapid increase in the percentage of cars with different types of electric engines, and also note that the substitution of internal combustion engine-based cars for electric engine-based cars will only gain speed. According to BloombergNEF's 2019 forecast, by 2040, 57% of sales and 30% of the utilized light motor vehicles will be covered by electric cars. Some countries, primarily, the developed ones, are considering complete departure from production or sales of internal combustion engine-based cars in their territories within 15-20 years. This will undoubtedly result in significant shrinkage of the primary crude oil sales market. The oil gets back to the situation observed in the end of the XIX century when the primary sales market had been rapidly shrinking due to scientific progress achievements, such as invention of incandescent light bulbs; it was only the invention of internal combustion engines and appearance of a huge fuel and engine oil market that led to this fossil fuel's flourishing in the XX century. As a result of the dramatic changes introduced by new technologies, one of the primary objectives of oil companies around the world now is to look for new development paths, such as a shift of the paradigm from the hydrocarbon one to the energy one or a discovery of a new sales market, which is why companies are increasing efforts on oil and chemical utilization of natural gas.

Another sphere of transformation of the global hydrocarbon market concerns geographical changes. The essence of these changes consists in the change of geographical location of the main hydrocarbon sales markets.

In the XXI century, the shale revolution in the USA is one of the main reasons of geographical changes (although it may also be referred to as the effect of new technologies); in less than 10 years, by 2018, it transformed the USA from a net importer with permanent dependence on external deliveries to one of the largest crude oil producers in the world. This change affected both prices in the global market and hydrocarbon-exporting countries due to a significant shrinkage of the previously largest sales market.

The second reason is related to the explosive increase in hydrocarbon demand and import to the People's Republic of China caused primarily by rapid economic development of the country that started after a policy change in the 1990s. Despite considerable successes of its national oil companies, China remains a net importer and is unlikely to change this situation in the foreseeable future. India's entering the economic race in recent years has also intensified rapid increase in demand for hydrocarbons, primarily for oil and natural gas, in the Asia-Pacific. That is why the companies operating in the physical hydrocarbon market have to correct their strategies to include the Asia-Pacific market as a primary one and shift their activities from developed countries, such as the USA and European countries, to this region, which will continue demonstrating the highest increase in hydrocarbon demand until the consumption peak is reached.

3. Hindrances for adaptation of national oil companies

External changes are a challenge for any company, and oil companies are no exception, while, as mentioned above, changes in the global hydrocarbon market currently cover three different spheres, and, furthermore, are characterized by high rate. National oil companies, such as Pemex, have a range of peculiarities that make them more vulnerable in this situation.

The first peculiarity concerns dependence on the decisions made by governmental structures. Its essence is that the decisions made by national oil companies must be approved by governmental bodies, be it the government or the relevant industry-regulating structure, if they lead to significant changes. As such companies are tightly interconnected with the home country's economy, sociopolitical consequences play the decisive role in the decisions made by governmental bodies, and these decisions are difficult to come to.

The need in approving decisions of national oil companies with external organizations reduce their adaptability to new external conditions, as discussion of decisions on an additional decision-making

level makes the company lose precious time. Furthermore, regulatory bodies and top managers (most of them are public officials) of national oil companies aspire to minimize risks of a decision, which is why opportunities may be missed, because the company's suggestion may be considerably reviewed or refused altogether.

The significant advantage of private international oil companies consists in the fact that, unlike in national oil companies, decisions are made directly by company's top managers on the basis of the information on the possibility to increase profits and the risk-benefit ratio, and do not require additional discussion and external approval. This allows these companies to take actions in response to external changes as soon as possible.

The next peculiarity is inability to manage profits to the fullest extent. The essence of this peculiarity consists in the fact that companies have to transfer a part of or all the profits gained throughout their activities to budgets of home countries. Thus, national oil companies face restrictions as regards own funds and are sometimes completely deprived of them. To gain access to the financial assets required for development, a company must submit a plan to be reviewed by the parliament or the regulatory body. Such a plan competes for financial assets with many other budget items, including popular social programs. As a result, such companies are often permanently underfinanced.

Shortage of own financial assets also results in the lower ability of national oil companies to adequately react to external changes. Due to the lack of savings made in the years of successful activity, these companies do not have a safety cushion to maneuver through sudden changes. Even if a national oil company does not have to transfer all the profits to the budget and has some savings to counteract possible negative influences, these funds are kept in special funds that are usually regulated by the state, so a company has to obtain an approval to gain access to them in case of a crisis, and thus loses precious time. It is evident that inability to mitigate effect of rapid external changes by timely expenditures of additional financial assets results in more future expenses.

Unlike national oil companies, international oil companies are private, can manage profits in the fullest extent, and do not need an approval of any external organizations to access their savings. That is why these companies can direct financial assets at any trouble area caused by external changes as soon as possible.

Another peculiarity is insufficient technological and engineering expertise in some cases. The essence of this peculiarity consists in the fact that national oil companies are both not motivated if the amount of proven reserves recoverable using the available technologies is sufficient, because they usually operate as monopolists in their countries, and often unable to ensure such expertise being permanently underfinanced and thus forced to invest in development of new technologies only residually to make capital expenditures in development of new technologies. That is why when a need in introducing new technologies arises, it is easier for these companies to procure them from international oil or service companies.

Insufficient engineering and technological expertise in some national oil companies makes them more vulnerable to external changes, as they are not capable of diversifying their activities, and, therefore, have low adaptability to new circumstances.

In their turn, international oil companies, especially the majors, feature a high level of engineering and technological expertise, as they both have to compete with each other in the global hydrocarbon market, which is free, and hold funds for continuous investments into research, including expensive research, to obtain competitive advantages in one field or another. It ought to be noted that another reason why reaction of the majors to external changes is efficient is because these changes are often caused by themselves. For instance, it is the sufficient technological expertise that allowed the majors, unlike national oil companies, to transit to development of renewable energy sources.

Finally, the need in performing noncommercial functions is another peculiarity hindering both efficient activity and adequate reaction to external changes of national oil companies. Let us consider two noncommercial functions causing the worst effect: petrochemical price control and participation in local population employment programs.

The essence of petrochemical price control as a noncommercial function consists in the fact that national oil companies have to inhibit changes of prices of petrochemicals, primarily of gasoline and diesel fuel, in the country. Such a strategy undermines an already low potential of companies to gain profit, because at least one of the production chain links (in this case it is refining) operates at a loss.

The negative effect of this noncommercial function on effectiveness of a company's adaptation to external changes consists in the fact that the petrochemical prices established by governmental structures are fixed and usually remain unchanged for a long time, throughout which the company is forced to maintain prices at one level; in its turn, this impedes the ability of national oil companies to adequately react to rapid changes in this sphere. Furthermore, artificially low prices often resulting from petrochemical price control stimulate demand increase in the internal market, corruption and inefficient use of fuel; this leads to higher consumption in the internal market and lower potential amount of exported petrochemicals. As a result, national oil companies lose their shares in the external market; this leads to an inability to diversify deliveries, at least as quickly as needed; this also limits companies' room for maneuver.

The petrochemical pricing policy used by international oil companies is based primarily on the possibility to gain profit. These companies mostly use market pricing mechanisms, but because international oil companies operate in many countries, they can also undercharge. Unlike national oil companies, international oil companies undercharge not because they are forced to, but to obtain competitive advantages in a specific market. Furthermore, extensive international networks of these companies offer broad opportunities for diversifying deliveries. The flexibility towards pricing and markets considerably increases effectiveness of reaction of these companies to external changes.

The essence of the noncommercial function of employment generation consists in its name. National oil companies are forced to generate additional employment for population of the home country under pressure of the state performing its sociopolitical functions. Besides employment generation, companies are often forced to maintain unreasonably high salaries and broad social packages. The decisive criterion of additional employment generation is not effectiveness, but amount of employed population.

Participation in employment programs also reduces effectiveness of reaction of national oil companies to external changes, because companies face considerable resistance and require in external approval to downsize as needed; this results in an increased time to react and negative consequences.

Unlike national oil companies, international ones, being private, are both able to control the number of personnel themselves and do not need to maintain an excessive level of salaries. Obviously, this results in a more efficient reaction of international oil companies to external changes as regards personnel than of national oil companies.

4. Pemex's case

Let us analyze the aforementioned peculiarities of national oil companies as related to Pemex, as well as their effect on the company's effectiveness and adequacy of reaction to external changes. In most cases it will be necessary to compare Pemex with other industry players for better understanding of the situation. To do that, the article includes information about ExxonMobil as one of the most successful international oil companies in the world, and PetroBras as the currently leading national oil company in Latin America.

According to the Pemex Act, the Board of Directors consists of five representatives of the state, including the Secretary of Energy (SENER) - the chairman, the Secretary of Finance and Public Credit (SHCP), and three assigned councilors from the federal government, as well as of five independent directors assigned by the federal government and approved by the Senate of the Republic. In 2019, the Pemex's board of directors included the Secretary of Economy (SE), the Secretary of Environment and Natural Resources (SEMARNAT) and the chief executive officer of the Federal Electricity Commission (CFE).

Despite the fact that Pemex is entitled to draw its budget itself according to the Pemex Act, it must still be approved by the Secretariat of Finance and Public Credit (SHCP). Furthermore, approval of the

Secretariat of Finance and Public Credit is also required if the budgetary framework is not followed or if the allocated expenses are exceeded after the budget for the respective year has been approved.

Such a way to elect members of the Board of Directors and the need to approve changes to the budget with external organizations clearly demonstrate that the Mexican national oil company continues to be closely connected with the Mexican government. In the decision-making process, secretaries and independent directors elected primarily for political reasons are likely guided by sociopolitical needs of their respective Secretariats; this does not increase Pemex's ability to adapt.

The oil industry nationalized by the Mexican government in distant 1938 has always been one of the main sources of pumping the national budget up. That is why the Mexican national oil company has to its unfortune always lain under an overwhelming burden of taxes and fees, while the national government has always seen the company only as means to achieve its sociopolitical objectives.

As a result of the reform that started in 2014, the tax burden of Pemex decreased considerably: the amount of taxes transferred by the national oil company to the budget decreased 2.16 times from 2014 to 2018, while the share of taxes and fees in the company's income decreased from 47% to 28%. However, Pemex continues to transfer tens of billions of dollars to the budget annually, at the same time suffering billions of dollars of losses year to year (except for 2018). The Mexican government seems blinded to Pemex's problems and to what such an attitude to the national oil company may lead to in the long term by the desire to fulfill short-term sociopolitical promises.

That is why Pemex is unable to accumulate a sufficient amount of own funds; this undermines the company's ability to develop, as the amount of taxes and fees paid by the company in 2018 exceeded the investment scheduled for 2019 by 75%, let alone the ability to accumulate funds to mitigate consequences of sudden external changes.

The situation with limited own funds described above and lack of motivation due to almost 80 years of monopoly in the internal Mexican market resulted in the fact that Pemex has never paid sufficient attention to the improvement of its technological and engineering expertise even in the best of times.

A mere fact that the depth of water where the petroleum had been extracted in the Mexican part of the Mexican Gulf before the industry was opened to other companies in 2015 was ca. 200 meters, whereas in the part developed by the United States of America it exceeded 2 km, at a time when the national oil company was struggling to restore the level of hydrocarbon extraction at that, clearly demonstrates how backward the company is in this sphere.

While ExxonMobil invests ca. 1 bn dollars into R&D annually (the total amount of investment since 2000 - 16.5 bn dollars), and Petrobras's investments into R&D even after the crisis of 2014, when the company was forced to dramatically cut expenses, amounted to 560 mn dollars in 2016, 626 mn. dollars in 2017, and 706 mn. dollars in 2017, Pemex does not disclose information on investments into R&D and it is likely that it does not invest into R&D at all. As a result, it is not likely that the Mexican national oil company has any active patents, although it collaborates with Instituto Mexicano del Petroleo (IMP) - the leading Mexican research center for applied technologies in the oil and gas industry, which boasted 376 patents as of the end of 2018. However, this figure pales into insignificance in comparison with ExxonMobil, who obtained around 10 thousand patents only in 2009-2018, and even with PetroBras who had 433 active patents on the national level and 1,047 patents on the international level by the end of 2018. Most patents held by ExxonMobil and PetroBras belong to the spheres of exploration and development; however, both companies already have packages of patents in the sphere of renewable energy sources.

Pemex is also far behind the leading companies in terms of the level of education and training of the personnel. By the end of 2018, ExxonMobil employed 2.2 thousand PhDs and more than 16 thousand engineers; PetroBras (excluding subsidiaries) employed more than 28 thousand specialists with higher education, 951 of whom were PhDs. At the same time, social orientation characteristic of the Pemex's human resources policy makes it clear that the level of education of the company's specialists is far lower than in the companies cited above. Furthermore, ExxonMobil invests ca. 100 mn dollars annually into further training of its employees; PetroBras invested into further training 23

mn dollars in 2016, 11 mn dollars in 2017, and 34 mn dollars in 2018. Pemex does not report statistical data as regards expenditures on further training of the personnel in its statements.

As we can see, the Mexican national oil company invests little into development of technologies and personnel training, which is why its ability to adapt external technological changes is minimal at best.

Apart from the high tax rate, the effect whereof on Pemex's effectiveness and ability to adapt has been described above, there is another sphere of redistribution of the income gained in the hydrocarbon market - gasoline and diesel fuel price control. From the beginning of the 1990s until December 2015, this redistribution was fulfilled by means of the IEPS - a special indirect tax levied of gasoline and diesel fuel aimed at mitigating the effect of price fluctuations in the external market on the price for the end consumer in Mexico. By January 01, 2018, prices for end consumers in Mexico have become deregulated as a result of a reform. However, it did not help Pemex much, as the company is obliged to dampen wholesale (so called "first-hand") gasoline and diesel fuel prices until its share in the internal national market or, to be more exact, in the market of a given state drops below 70%.

As a result of this governmental policy, Pemex's refining activities generated only losses in the period under consideration (2014-2018), although the absolute loss decreased from 7.74 bn dollars to 2.9 bn dollars, i.e. 2.5 times. However, this achievement cannot be attributed to the reform, because this indicator was primarily affected by dollar's exchange rate fluctuations (losses of the national oil company's refining activities decreased only 2 times in Mexican pesos) and a drop in production output by half, which happened due to a slump of available capacity utilization; therefore, the refining expenses decreased.

At the same time, it is becoming ever more difficult for Pemex to control petrochemical prices, because the capacity utilization rate has dived down since 2013, so the company is forced to procure an ever-increasing amount of petrochemicals required to satisfy the internal demand on the external market at market prices (Figure 1).

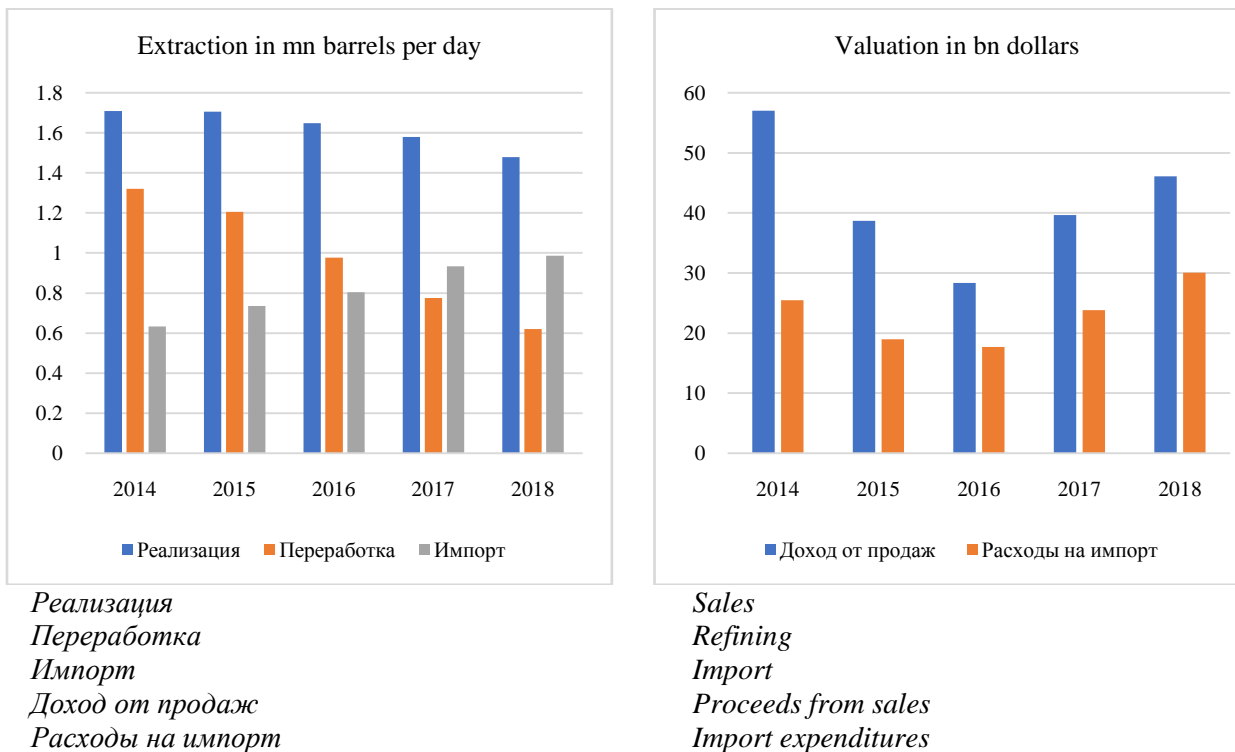


Figure 1. Main characteristics of import and sales of petrochemicals by Pemex in 2014-2018.

Participation in petrochemical price control is the reason why the national oil company currently has only few competitive advantages in terms of sales in the new conditions of the free internal national market, and will have lost the remaining advantages when the company's share hits 70%; this will reduce the company's resistance to the outside pressure even worse.

Trade unions in the Mexican hydrocarbon industry are at least ones of the strongest in the world because of low standard of living in Mexico and high support of socialist concepts among the population and, therefore, in governmental structures. That is why such a noncommercial function as employment generation for the local population has always been a heavy burden for Pemex.

It is reasonable to take a look at the number of personnel of the Mexican national oil company first thing. By the end of 2018, the company employed 128,021 people, which is 80% more than in ExxonMobil (71,000) and two times more than in PetroBras, including all its subsidiaries (63,361). Pemex's income in 2018 was almost 3.5 times lower than ExxonMobil's and 23% lower than PetroBras's. Therefore, ExxonMobil's dollar income per capita is 6.3 times higher, PetroBras's - almost 2.5 times higher than Pemex's (Figure 2).

In terms of the amount of extracted barrels of oil equivalent per capita Pemex looks slightly better; however, it is still far worse than more efficient oil companies. In 2018, the amount of extracted barrels of oil equivalent per capita in the Mexican national oil company was 2.71 times lower than in ExxonMobil and 2.09 times lower than in PetroBras (Figure 2).

Despite the negative trend in the company's development that appeared as early as in the second half of the 2000s, Pemex had continued to hire new employees until 2013, when the company's personnel amounted to 154,774 people. But even after the national oil company managed to work out a deal with trade unions and the government and lay off more than 26 thousand people in recent years, it remains heavily overstaffed.

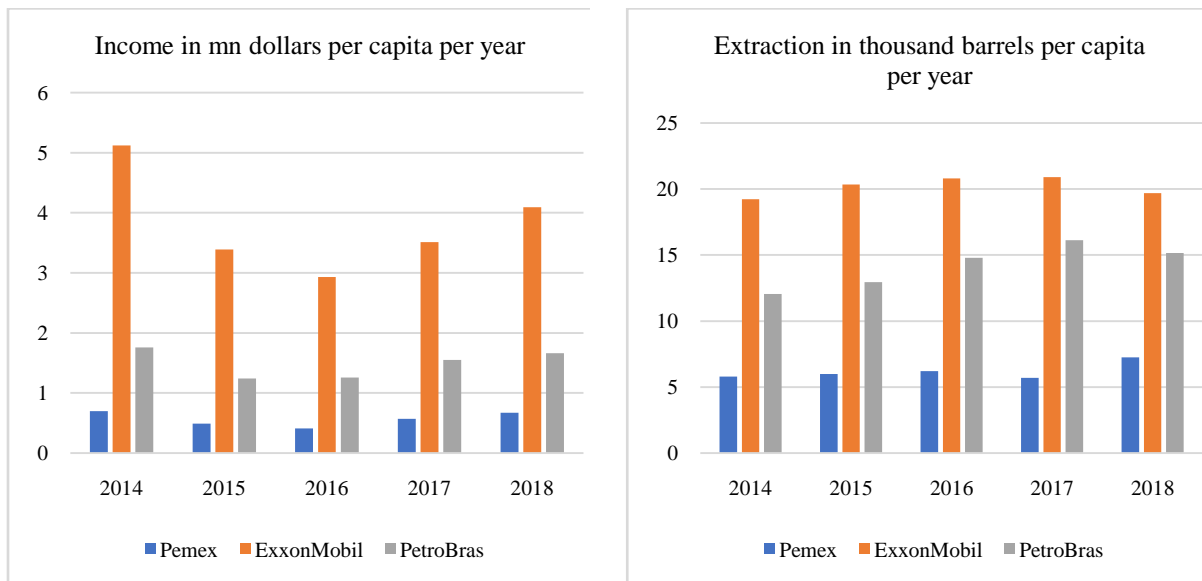


Figure 2. Income and extraction rate of oil companies per capita in 201-2018.

The difference in effectiveness described above is enough to understand that this noncommercial function is a considerable hindrance for Pemex's ability to adapt to external conditions; however, the national oil company is under overwhelming obligations for annuity life and medical insurance both as a result of and in addition to overstaffing. Even after the share of "Annuity life and medical insurance" in long-term obligations of the company decreased from 51% in 2014 to 31% in 2018, it remains excessively high in comparison with other industry players; for instance, the share of such obligations of ExxonMobil in 2018 amounted to around 14%, in PetroBras - to around 17%. It ought to be mentioned that the absolute value of this item is so high that in 2014 it ranked first among all the long-

term obligations, including such an item as "Long-term debt", which contributes to the larger share of the Pemex's debt, while the company became the most debt-loaded oil company in the world in 2019.

Significant overstaffing of Pemex as a result of performance of this noncommercial function leads to both low effectiveness of the personnel and dilution of already poor results of the national oil company's activity, while fierce resistance of trade unions to the attempts to downsize personnel as reasonable makes it almost completely unable to adapt to new external conditions.

5. Hopeless struggle

Having analyzed Pemex as regards the peculiarities inherent to national oil companies, it became clear that the company is completely unable to compete efficiently. Despite the reforms, the Mexican national oil company continues to be closely connected with the Mexican government, who prefers using Pemex to achieve its short-term sociopolitical objectives even after the company has lost a considerable amount of operational activity in such leading spheres as extraction and refining. The company has neither the financial capability, as it is undermined by the amount of imposed taxes and feed, and the need to dampen petrochemical price fluctuations in the internal market, nor sufficient technological and engineering expertise due to lacking motivation to develop new technologies caused by decades of monopoly in the country along with insufficient own funds that could be invested into development of technologies. Furthermore, Pemex is loaded with a burden of noncommercial functions heavy even for a national oil company. Therefore, the company is not able to efficiently compete even in the relatively stable external conditions, and rapid changes in the global hydrocarbon market make the company's struggle for survival even more hopeless.

In the context of pricing changes, we may recall the possibility of annual hedging of exported oil. It could become a good instrument for Pemex to adapt to external changes in this sphere if the company could perform this financial operation itself using own funds and was entitled to use them in the fullest degree; however, such hedging is performed by the Mexican government to ensure a stable flow to the budget of the financial assets gained through crude oil export. Since the second half of the 2010s, Pemex has been attempting to perform hedging itself; however, lack of financial assets results in the fact that it stands no comparison with the state hedging amount; furthermore, both these hedging strategies are becoming less reasonable in the background of dropping oil extraction.

Pemex is unable to respond to external changes in the global hydrocarbon market or, to be more exact, in the energy market in the future, and as regards new technologies. The company does not even have sufficient technological expertise, while to transit to renewable energy sources it requires a high level thereof; therefore, the company does not prepare for diversification in this sphere in any way. As for the other sphere of possible adaptation of the company, i.e. petrochemistry, the national oil company does have a certain capacity; however, the production output has been dropping in recent years.

Finally, geography. Unfortunately for Pemex, in view of the external changes, Mexico is located very unfavorably. The shale revolution that took place in the USA, transformed a huge logistical capacity connecting the two countries from an advantage into a drawback. Even though the USA remain the highest volume importer of crude oil from Mexico, they need these deliveries less day to day, and even if Pemex could recover the extraction rate, the most favorable sales market will be closed. At the same time, as a result of the reforms adopted in 2014, international oil companies, which are US residents and have more than 100 years of experience each, are actively penetrating internal Mexican markets, especially the petrochemicals market for end consumers, and Pemex is not capable of resisting such a competition.

Even if (though unlikely) the Mexican government and Pemex immediately start implementing significant changes to improve the company's effectiveness, such as tax cut, considerable personnel downsizing, recall of petrochemical price control, increased investments into R&D and other spheres, the company will be able to recover and come to an adequate competitive level only in about 10 years given production and economic cycles in the hydrocarbon industry. By that time, the oil demand will have peaked, and Pemex, too slow to hop in the last oil demand increase freight, will have to deal with

fierce competition of the companies it is not capable of resisting now and unlikely to become such in the future. Given the aforementioned, we may conclude that Pemex has already passed the point of no return and is unlikely to recover as a large and successful oil and, in the future, energy company.

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