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**VENEZUELA'S PDVSA
AND WORLD ENERGY MARKETS:
CORPORATE STRATEGIES AND POLITICAL FACTORS
DETERMINING ITS BEHAVIOR AND INFLUENCE**

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ABOUT THE POLICY REPORT

THE CHANGING ROLE OF NATIONAL OIL COMPANIES IN INTERNATIONAL ENERGY MARKETS

Of world proven oil reserves of 1,148 billion barrels, approximately 77% of these resources are under the control of national oil companies (NOCs) with no equity participation by foreign, international oil companies. The Western international oil companies now control less than 10% of the world's oil and gas resource base. In terms of current world oil production, NOCs also dominate. Of the top 20 oil producing companies in the world, 14 are NOCs or newly privatized NOCs. However, many of the Western major oil companies continue to achieve a dramatically higher return on capital than NOCs of similar size and operations.

Many NOCs are in the process of reevaluating and adjusting business strategies, with substantial consequences for international oil and gas markets. Several NOCs have increasingly been jockeying for strategic resources in the Middle East, Eurasia, and Africa, in some cases knocking the Western majors out of important resource development plays. Often these emerging NOCs have close and interlocking relationships with their national governments, with geopolitical and strategic aims factored into foreign investments rather than purely commercial considerations. At home, these emerging NOCs fulfill important social and economic functions that compete for capital budgets that might otherwise be spent on more commercial reserve replacement and production activities.

The Baker Institute Policy Report on NOCs focuses on the changing strategies and behavior of NOCs and the impact NOC activities will have on the future supply, security, and pricing of oil. The goals, strategies, and behaviors of NOCs have changed over time. Understanding this transformation is important to understanding the future organization and operation of the international energy industry.

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Petroleos de Venezuela S.A., or PDVSA, is the national oil company (NOC) that serves as the conduit of Venezuelan petroleum to world energy markets, especially to the U.S. market. The Latin American producer has the fifth largest petroleum reserves in the world, without consideration of its extra-heavy oil reserves). Created in 1976, PDVSA has represented polar opposites to critics and supporters over its short life. In the 1980s-90s, it was a shining example of how a state-owned enterprise could be run efficiently

and be a reliable partner for international oil companies (IOCs) and consumers. But, to critics it was also an example of how a market-oriented NOC could become increasingly wealthy even as the nation sank further into poverty and underdevelopment. After the 1998 presidential elections that first brought Hugo Chávez to power, PDVSA became the vehicle that could alleviate the problems of underdevelopment by generating huge revenues by way of frightening the energy markets and squeezing IOCs. For new critics, however, PDVSA illustrates the inevitable failure of radical state intervention as the company's output declines in response to a diversion of its investment capital towards political and social programs and its human resources are purged of professionals.

Whatever one's view of PDVSA, the company's performance and behavior are critical to understanding international energy markets and energy geopolitics. PDVSA's activities are fundamentally affected these days by Venezuelan President Hugo Chávez' "Bolivarian Revolution," at the same time that this revolution's lifeline is tethered to the revenues generated by the country's energy exports. This mutually dependent relationship creates new challenges and opportunities for international energy markets. In the short term, the characteristics of those challenges and opportunities are largely being determined within the context of Venezuelan domestic politics, though IOC negotiations with the Chávez government will have their impact as well.

This paper examines PDVSA's strengths and interests as they interact with Chávez' "Bolivarian Revolution", highlighting the factors that we believe will be key in determining PDVSA's future behavior. The analysis demonstrates that PDVSA has been weakened in its capacity to generate both oil and revenue by playing the role assigned to it in Chávez' "Bolivarian Revolution". But the company's impact on international energy

markets has not been written irretrievably in stone; the relationships between PDVSA and IOCs and other NOCs have yet to be played out and these partnerships will be fundamentally consequential for Venezuela and international energy markets. The paper thus concludes with three possible scenarios for the future and their implications for PDVSA's operational behavior, and for the IOCS, and global consumers.

I. OVERVIEW OF PDVSA:

Descriptive and Key Performance Measures

Any economic and financial evaluation of PDVSA's performance is extremely difficult to accomplish after 2003. That year is the last for which the firm reported financial statements to the U.S. Securities and Exchange Commission (SEC) in late 2005. It is also the breaking point between the 'old' and 'new' PDVSA for the Chávez administration. Since then, and after leaving the SEC regime in early 2006, the firm has only released a single page document entitled "PDVSA Gestión y Resultados 2005" in October 2006. This document is not directly comparable to the financial statements presented to SEC, and although it is of questionable validity, it is the best current financial data available for the firm. The Venezuelan Ministry of Energy and Petroleum published production data and other non-financial statistics for 2004 in the report, "Petróleo y Otros Datos Estadísticos",¹ which was released in October 2006. Again, the methodology and format of this information is different from SEC reports; for instance, PDVSA's refining capacity is not adjusted by ownership ratios as is done in SEC reports. So, to provide some degree of comparability, we created a financial and production database patterned on individual SEC reports for the period 1996-2003, the PODE figures

¹ PODE 2004.

for 2004, and updated some data to 2005 based on the one-page PDVSA financial statement, information culled from *Petroleum Intelligence Weekly* and other press news.² Type of exports, type of production, type of reserves or exports per country are variables that we could not update. Nevertheless, by 2003 some of the changes that are affecting PDVSA were already evident, and thus analysis up to that date is still valuable.

DESCRIPTIVE SIZE INDICATORS: *Production Level, Refining Capacity, Revenue Level, Employment, Assets, and Reserves*

PDVSA, is the 4th largest integrated oil firm in the world. It is 100 percent owned by the Venezuelan government, and the company operates upstream activities in Venezuela and downstream activities in Europe, the U.S. and the Caribbean. It exports between 67-72 percent of its domestic production. In terms of crude oil production, PDVSA is the 4th largest oil producer in the world with a production level between 2.5-2.8 million barrels a day (b/d).³ There is an ongoing debate as to whether this amount represents PDVSA's own production or Venezuela's total production levels. According to the Venezuelan Ministry of Mines and Energy, Venezuela and PDVSA produced 3.1 million b/d and 2.8 million b/d of oil in 2004, respectively (PODE 2004). However, the firm itself only produced 2.1 million b/d. The rest came from its minority shares in four Orinoco Belt projects and the output extracted by private operators for PDVSA under the operational contracts that migrated to mixed enterprises in 2006. However, international sources including the International Energy Agency (IEA) and the U.S. Department of Energy (DOE) claim that Venezuela's oil production level is just 2.6 million b/d. If we

² The summary of this database is in Tables A1-A3, D1-D2 (excel file) and Figures at the end of this document.

³ *PIW*, December 2006.

discount the 1 million b/d produced by private firms, PDVSA's own output would be as low as 1.6 million b/d. Given this discrepancy, *PIW*'s ranking of top oil firms seems to reflect more accurately the ranking of Venezuela's total oil production rather than PDVSA's itself.

As an integrated oil firm, PDVSA has refining capacity in Venezuela, the U.S., the Caribbean, Germany, Sweden and the U.K. Its total refining capacity of 3.1 million b/d positions PDVSA as the 4th largest refining firm in the world.⁴ PDVSA does not own the oil and natural gas reserves in Venezuela, as the nation holds title, but the state firm has the right to exploit them. In short, considering its vertical integration, world operations, the level of revenue, size of reserves, output level and refining capacity, PDVSA is one of the top-5 integrated oil firms in the world.⁵

PDVSA generated total revenue of \$85.7 billion in 2005. This amount is 151 percent higher than the company's revenue of 1996 in nominal terms, and 109 percent higher in real terms.⁶ Given that oil and gas output decreased 14 percent from 3.8 million barrels of oil equivalent per day (boe/d) in 1996 to 3.3 million boe/d in 2005, and Venezuelan oil prices went up 142 percent for the same period, PDVSA's revenue expansion is almost completely explained by price hike.⁷ Therefore, there is a consistent decline in the firm's production levels in the last 10 years that has not affected its growth of revenue because of substantial increases in international oil prices.

⁴ This refining capacity differs from Venezuelan official data (PODE 2003-2004), which reports total refining capacity greater than 4 million b/d because it is not adjusted by PDVSA's ownership share in the refineries abroad; this is consistent with its treatment in PDVSA's financial reports to the U.S. SEC.

⁵ *PIW*, December 2006.

⁶ Table A1: Income Statement Data, Figure A1.

⁷ Table A2: Production, Figure A3.

PDVSA is one of the largest employers in Venezuela, with 37,006 workers within the country and abroad by 2004.⁸ The company has been reducing the number of employees consistently since 1998 (Table A3: Employment and Figure A8), with the total falling 27.2 percent from 1998 to 2004 (from 50,821 to 37,006). Given our information up to 2003, the largest reduction occurred inside Venezuela through a combination of planned and unplanned labor policies. The planned reduction in the Venezuelan operations began in 1998 with 1,000 workers, then a layoff of 2,528 workers in 1999 followed by relatively minor reductions of 800 workers per year until 2002.⁹ However, a massive layoff occurred in 2003 in the wake of PDVSA's participation in the strikes against the Chávez Government. More than 18,000 workers were fired, and after some re-hiring, the labor force had been reduced by 11,000 workers in that year alone. This massive dismissal has no precedent in PDVSA's history, and there is no doubt it has disrupted PDVSA's normal operations for the long run. Total labor force went up again to 37,007 workers by 2004,¹⁰ but our own estimate is that the firm would need 5,795 more workers to reach the optimal level planned in 1997.¹¹ In addition to labor shortages, there is also the significant loss of technical and management staff within the company. Both problems have been partially compensated for with the hiring of temporary workers,

⁸ *PIW*, December 2005.

⁹ Perez Marquez, 57-58; Table A3: Employment.

¹⁰ *PIW*, December 2005.

¹¹ The 'Personnel Optimization Plan' that should support the transformation plan that PDVSA executives approved in July 1997 called for an optimum reduction of 7,000 workers, i.e. to employ only 37,795 workers (Perez Marquez, 58; Table A5). *PIW* states PDVSA has in total 37,006 workers by 2004 (*PIW*, December 2005). If we assume that 5,000 workers are located abroad that year, then the workers in Venezuela are 32,000. This payroll is short 5,795 workers in respect to the plan's efficient number of workers to achieve labor efficiency.

There is no measure for the human capital loss. We can only mention that 67 percent of executives, 67 percent of middle management, and 56 percent of professionals were fired. The offices of finance, planning, human resources and auditing lost 87, 80, 84 and 61 percent of their employees, respectively (Perez Marquez, 211).

full-time consultants or workers without formal employment status as we will discuss in Section D, but the capacity to operate at pre-2003 levels has not yet been recovered.¹²

Another indicator of the size of PDVSA is its value of total assets. Excluding the value of reserves that do not belong to PDVSA, assets, in 2000 prices, went up from \$49.2 billion in 1996 to \$62.21 billion in 2005 with an average increase of 2.8 percent per year.¹³ The 2005 value is the highest ever, and it comes after the real value decreased three consecutive years and prices went up in the last two years. The second highest asset value occurred in 2000, after PDVSA bought the remaining 50 percent of its subsidiary CITGO in the U.S. at the end of 1999. The real value of stockholders equity increased from \$34.2 billion in 1996 to \$41.8 billion in 2005 with an average annual increase of 2.4 percent (Table A1: Balance Sheet Data). Thus, PDVSA is a firm with considerable assets within Venezuela and abroad.

The volume of combined crude oil and natural gas proven reserves that PDVSA can exploit increased from 97.2 billion barrels in 1996 to 103 billion barrels in 2003. Natural gas reserves had increased 6.5 percent up to 152 trillion cubic feet (TCF) in 2005, while crude oil reserves rose 9.8 percent to 79.7 billion barrels during the same period (Table A2: Proved Reserves). PDVSA's total energy reserves are 75 percent crude oil and 25 percent natural gas, demonstrating that PDVSA is mainly an oil firm rather than a

¹² Francisco Monaldi comments that there are reports of significant increases in the number of persons employed as full-time consultants or laborers without formal employment status. When Nelson Altamirano visited PDVSA's headquarters in April 2006, there were many retired people hired as consultants. So, people working for PDVSA in 2004 would be more than 37,000 if we include consultants and non-formal employees. The questions are how much labor costs are compared with pre-2003 levels, and what is the current labor productivity as compared with productivity at the old PDVSA. Bernard Mommer, who as a PDVSA executive did not want to have a formal interview, but agreed to talk informally as an academic, stated that simple tasks like preparing for an executive presentation, which involved a process of cooperation, discussion, editing and PowerPoint practice, was impossible to do by 2006. Getting a statistical chart pulled together was difficult, he added.

¹³ Nominal values at Table A1: Balance Sheet Data.

natural gas firm. The focus on oil is even greater if we consider that 90 percent of the firm's natural gas reserves are associated gas, which is mainly used for re-injection in oil extraction. It is critical for PDVSA to increase reserves of non-associated gas through joint ventures in the offshore projects at Plataforma Deltana and Mariscal Sucre. PDVSA's oil reserve structures and the technological implications that arise from these structures differentiate PDVSA from other oil firms. Using the latest official data for 2003, extra heavy crude oil and heavy crude oil represent 45.6 and 22.8 percent of PDVSA's total reserves respectively. Medium and light crude oil reserves, the types that are common in the rest of the world, represent just 16 and 13.1 percent, respectively, of the company's total oil reserves. Venezuelan extra heavy crude oil is liquid underground but solidifies at the surface. Firms have to develop particular technologies to transport extra heavy oil, and employ complicated refining procedures that are more costly than normal technologies used for transporting and refining light and medium crude oil. Thus, Venezuelan extra heavy and heavy crude oil usually has sold at discounts that have fluctuated between 15 and 29 percent below the price of light crude oil since 1996.

Three alternative technologies exist for marketing Venezuela's heavier oil. PDVSA's research and development (R&D) unit, Intevep, developed a method to mix extra heavy oil with 25 percent water and a stabilizer based on ethylene oxide to create a fuel that can be used in power plants.¹⁴ "Orimulsion," or liquid coal, has competed with heavy fuel oil and coal in international markets since the 1990s. It had been PDVSA's flagship product until mid-2003 when it was discontinued and then finally eliminated in December 2006. There are at least two varying explanations for Orimulsion's elimination. The Chávez administration considered that the price of \$7 per barrel for

¹⁴ We thank the anonymous reviewer for providing precise details about the Orimulsion process.

Orimulsion in 2002 was too low compared to the prices of other alternatives, so it was deemed better to dedicate resources to the other options. However, some argue that the real reason is not the low product price but rather PDVSA's limited capital and human resources. The logic was it was better to commit those resources into a product that could guarantee a higher return. Either way, Orimulsion is not the best commercial alternative given the abundance of other profitable fuels PDVSA can offer.

A second process mixes extra heavy oil with a chemical to produce synthetic medium and light oil in large upgrading plants that require investments between \$2 -4 billion each. Currently, there are four projects in Venezuela that upgrade oil of 8-9 API grades to higher levels, and these synthetic crudes were sold at an average of \$21 per barrel in 2002.¹⁵ The third alternative -- the oldest and simplest -- combines extra heavy and light crude to produce a heavy blend that PDVSA has sold at prices between the previous two alternatives. However, this last alternative has little long-term future because Venezuela lacks sufficient light crude oil to mix with its enormous deposits of extra heavy oil.

REVENUE CYCLES AND COSTS EVOLUTION

PDVSA's real total revenue shows a complete revenue cycle from 1998 to 2002 and the expansion phase of a new cycle from 2002 to 2005 (Figure A1). The first cycle started at \$26.6 billion in 1998, reached a peak at \$53.7 billion in 2000, and declined to \$40.9 billion two years later. In other words, PDVSA doubled its revenue in two years and then lost 24 percent of its peak in the following two years. In 2005, the firm's real

¹⁵ The four upgrading projects are: Cerro Negro (ExxonMobil, Veba Oel) upgrades up to 16 API, Sincor (Total, Statoil) upgrades to 27-29 API, Petrozuata (ConocoPhillips) upgrades to 19.5-25.4 API, Ameriven (ChevronTexaco, ConocoPhillips) upgrades to 16-22 API. PDVSA is a minority partner in all four 'mixed firms,' with 41.67, 38, 49.9 and 30 percent shares, respectively (Source: PODE 2004, p.52).

total revenue was \$76.2 billion, or 1.8 times that of 2002, a historical record.¹⁶ It seems that we would expect another record high for 2006, given that ExxonMobil and other major oil firms reported record profits in 2006.

A second important characteristic of PDVSA's revenue is its high volatility. The firm's average revenue from 1996 to 2005 was \$45.4 billion, but we expect the actual value to deviate from that figure by about \$14.4 billion. An expected deviation of 32 percent is not small for an energy firm that is the main source of revenue for the government. So, given that revenue is highly volatile and goes through big cycles, what factors determine revenue fluctuations? Does PDVSA have a strategy to increase revenue levels?

Without running a comprehensive regressive analysis, Figure A2 suggests that revenue levels have been following price fluctuations rather than production variations.¹⁷ In Figure A2, we can observe that production levels do not move too much but price and revenue changes follow the same large movements. Although it is in the interest of PDVSA and the Venezuelan government to compensate negative price fluctuations with higher production levels, the firm has not been able accomplish this between 1997 and 2005. Furthermore, PDVSA's production levels have been in a sustained decline since 1998 when the state oil firm produced 4.1 million b/d (Table A2, Total Production).¹⁸ By 2005, PDVSA's output fell 20.8 percent to only 3.3 million b/d, a level that more or less has remained the same since 2003 (Figure A3). Although, as we will see below,

¹⁶ Francisco Monaldi emphasizes this point to put PDVSA's performance and Chávez' use of the oil proceeds in Venezuelan historical perspective. Personal communication

¹⁷ The production level in Figure A2 includes crude oil, liquefied petroleum gas and natural gas. So, it is the last item in the Production section of Table A2.

¹⁸ This total production level includes the boe of crude oil, liquid petroleum gas, and natural gas (Table A2: Total Production). We don't use the crude oil production level that is usually referred to because we don't have a credible estimate of it for 2005.

Venezuela has been a price hawk in the Organization of Petroleum Exporting Countries (OPEC), PDVSA alone cannot determine international prices. Given its production problems, it has been lucky to benefit from a favorable price environment.

An analysis of the evolution of operating costs reconfirms the idea that PDVSA has not been able to increase production levels to compensate for lower prices, and when prices were higher it has not been able to reduce costs. Prices declined three times in our period of analysis. In 1997, prices went down 11 percent and output increased 9 percent. In 1998 and 2001, prices fell 32 and 31 percent, respectively, and in both cases output went up just 1 percent. This suggests that PDVSA does not compensate for low prices with higher output. The firm does not take advantage of higher prices either. On the contrary, when prices go up, production levels remain the same or even go down, as it has been the case since 2003 (Figure A12, Table A3: Price and Costs Ratios 1996-2005). However, the real business problem for PDVSA is that the firm is not able to reduce costs. Real production costs per barrel went up from \$1.64 per barrel in 1996 to \$3.85 in 2003 with no change of direction at all (Table A2: Average Production Costs).¹⁹ This trend has not changed since 2003 either. Taking all real costs and expenses per barrel, the cost in 2005 is 3.1 times the cost in 1998, and the costs per worker for 2004 -- the last year we have this information -- is 2.7 times its equivalent cost in 1998 (Table A3: Price and Costs 1998-2005; Figure A13). Certainly such inefficiencies can be paid with real prices that went up 3.7 times during the same period. However, prices have cycles, and this cost increase is not good for a firm that traditionally is not able to reduce costs when prices head the opposite direction.

¹⁹ The real production costs are the nominal production costs of boe of production reported in Form 20 at SEC from 1998 to 2003 evaluated at the year 2000 base.

Contributions to the Government and Debt Issues

PDVSA's inability to reduce costs is irrelevant to company management and government leaders if both can achieve their goals in an environment of increasing oil prices. As we will explain fully in section D, PDVSA's current management objective is to maximize revenue in the short-run. The indicators of real revenue per worker and real operating income per worker show that this goal has been achieved. Revenue per worker went up from \$523 in 1998 to \$1605 in 2004, and operating income per worker went up from \$50 to \$310 in the same years (Table A3: Revenue and Operating Income per Worker). All these increments occurred without reducing costs or increasing production per worker. Similarly, the payments to the government increased in real terms from \$6.4 billion in 1998 to \$15.7 billion in 2005. As we explain next, this increment is the result of tax reforms in a context of increasing prices, obviating the need for the government to press the firm to focus on efficiency and cost reduction.

PDVSA's total payments to the Venezuelan government include dividends, income tax and production tax (Table A1: Other Financial Data). Different tax norms (production tax, surface tax, income tax, consumption tax, and export tax returns) and accounting practices (transfer price, and asset valuation after exchange rate changes) determine effective tax payments. All these tax payments averaged \$8.8 billion per year between 1996 and 2005. If we add dividends to these taxes, then the average total payment to the state was \$10.8 billion per year.

There are three important characteristics of the evolution of PDVSA's payments to the government over the last 10 years. First, the average total real contribution in 1996-97 was \$12.2 billion. This amount was not surpassed until 2004-05 with an average

contribution of \$14.6 billion, or just 20 percent higher (Table A3: Contributions to the Government). In other words, Chávez' legal and tax reforms in 2001 were unable to increase the real value of PDVSA's contributions until the end of 2003. The combination of increasing the royalty fee from 16.6 to 30 percent and reducing the oil income tax from 67 to 50 percent, did not work as expected.²⁰ It was only after prices doubled that those reforms yielded 20 percent higher payments than before.

Second, there is a declining trend of contributions with respect to revenue levels. Total payments were 33 and 21 percent of total revenue at the beginning and at the end of our period of study, respectively, with constant decline over time (Table A3: Contributions to the Government). In relative terms, PDVSA is contributing less after the tax reform than before it, and this is not compensated by increasing oil prices. High oil prices cannot compensate because the share that depends on price levels (income tax) has been reduced from 67 to 50 percent.²¹

Finally, the third characteristic is that income and production taxes have switched places, and this is also the result of the type of tax reform introduced in 2001. In 1996-97, 62 percent of payments were from income tax, but by 2000, production tax, including royalties (Figure A6) had taken its place. Therefore, we can conclude that Chávez' policies prefer production tax instead of income tax, and that PDVSA's payments to the government had increased in real terms only by 20 percent after six years of legal changes. However, contributions are still lower with respect to total revenue.

²⁰ Oil Law, 2001.

²¹ We thank Francisco Monaldi for stressing this point. He estimates that at prices above \$15 per barrel, the old tax system would collect more than the new tax system. If the Chávez government wanted to increase the governmental stake, it failed to predict price hikes. However, if they expected higher prices, the tax reform was the 1st step to liberate resources for discretionary purposes.

The characteristics of PDVSA's payments to the government have to be understood within the way Chávez and his government run PDVSA and deliver social programs. The contributions that appear in financial statements are the payments that go to the treasury and then on to all governmental needs and ministerial programs. In this allocation process; state governments, the National Assembly, and the constituencies of each ministry will have some influence. Chávez, however, prefers a funding mechanism for his multiple social initiatives that is both the shortest route to the poor and more directly under his control. Making PDVSA subsidize domestic consumption²² and assume social programs within its own budget meets both of those criteria.

The first aspect of this funding mechanism is the direct subsidy that the firm provides to the domestic market. Previous presidents have also used this instrument before, and Chávez is not the exception. Unleaded gasoline was sold in 2006 at the same nominal price in Bolivars that it has been sold since 1999 at an equivalent of \$0.18 per gallon if we consider official exchange rates, or \$0.09 per gallon if we take the black-market exchange rate. Oil has been sold at \$8 per barrel domestically, when the total cost of production, refining, distribution and commercialization cost PDVSA about \$14-\$15 a barrel. So, Francisco Monaldi roughly calculates that the firm's accounting loss would be \$1.5 billion, and the opportunity cost of it easily being more than 10 times the accounting loss.²³

²² The domestic prices of leaded gasoline (91 oct) and unleaded gasoline (95 oct) were Bs.75.11 per liter and Bs.97 per liter, respectively in 2004. These prices had not changed since 1998 for leaded gasoline and since 1999 for unleaded gasoline when it was introduced in the domestic market. (PODE 2004). The equivalent in US \$ for the unleaded gasoline would be \$0.18 per gallon at an official rate of Bs.2150 per dollar, or \$0.09 at the black-market rate (Comment from Francisco Monaldi). In January 2007 Chávez announced a future increase in the price of gasoline.

²³ This estimate is based on Ramon Espinasa's calculation that oil is domestically sold at an average of \$8 per barrel, but the total cost of production, refining, distribution and commercialization adds up between

This contribution may increase even further if the domestic market recovers and there is greater demand for refined oil products, forcing the government to change their internal price policy. In fact, in February 2007, President Chávez announced that gasoline prices would be increased in the near future, but experts doubt it will compensate for the accounting losses of PDVSA. The consumption of gasoline and refined products increased 4.5 and 11 percent between 1999 and 2004, respectively (PODE 2004), but experts expect a big increase in consumption after 2005. If total consumption of refined products was 520,000 b/d in 2004, experts expect this consumption to be 700,000 b/d in 2006, or a jump of 35 percent in just 2 years. There is no doubt the Venezuelan economy has enjoyed a boom in consumption since 2005, and the subsidy bill for a program that cannot specifically target the poor, seems to be too big even by Chávez standards.

In terms of the direct route preferred by Chávez to support social programs, Fondespa is a social fund to promote infrastructure and other large projects coordinated by PDVSA's Lagoven and the Ministry of Energy and Petroleum. The firm committed \$2.3 billion to it in 2005 (Table D3). There are also eight 'Misiones Sociales' with an approximate budget of \$987 million in 2005 (ibid). In addition, PDVSA runs an employment program for temporary workers called the "Democratic System of Employment." So, although PDVSA was contributing less in real dollars to government coffers up until 2003, the firm was actually providing more economic resources to the Venezuelan people. Since 2004, it has been providing more to both the treasury and the Venezuelan public. As we explain in the political section of this study, these direct contributions probably feed corruption and favoritism to those who support Chávez.

\$14 and \$15 per barrel. The accounting loss, then, Francisco Monaldi affirms, would be close to \$1.5 billion. The opportunity cost of it (selling the products in international markets), rises above \$10 billion.

Nevertheless, PDVSA is involved in a process (perhaps unsustainable as early as 2007), to use the oil wealth to benefit poor Venezuelans.

In general, PDVSA is a firm that has been well able to honor its total debt during the years of 1996 to 2005. The debt equity ratio averages 18.8 percent, ranging between 26.8 and 7.3 percent (Table A3: Debt), with the highest values in 1998-1999 and the lowest in 2004-2005. Current debt levels and composition are not factors that will constrain PDVSA in the absence of an unforeseen dramatic fall in oil prices. Combined short- and long-term debt ranged between \$7 and \$8 billion during the years of 1998 to 2003. This combined debt fell to almost \$3.5 billion in the following two years. In the process, short-term debt went up from 10 percent of total debt in 1999 to 27 and 21 percent in 2004 and 2005, respectively (Table A3: Debt, Figure A7). These last percentages are significantly above the average from 1996 to 2003 (14.5 %). The question is whether PDVSA can repay its short-term debt with cash and cash receivables today and in the near future. During the last two years, the company required only 14 and 7 percent of cash and receivables, respectively, to service that debt, but in 1998 and 2002, the figures were 49 and 35 percent, respectively. In 1998, the debt service burden was high due to PDVSA's international expansion and low oil prices, while the 2002 burden developed from the fall in oil exports due to labor strikes. The composition of debt is of concern only if Chávez' international agenda forces the firm to invest heavily in building refineries and ports abroad, funding allies' energy/social welfare programs in Bolivia and Ecuador and building a South American gas pipeline.²⁴

The Venezuelan economy, although experiencing an overvalued exchange rate and increasing inflation in 2006, is unlikely to develop problems in the near future that

²⁴ See Section D.

would lead the government to convert PDVSA into an instrument to support public debt, and consequently place the firm in a problematic financial situation. First, the level of public debt for our entire period of study fluctuated between \$2.8 billion and \$4.4 billion, and falls to low levels by 2006 (Table D4). Second, PDVSA has enough reserves to cover one year of imports or 12 times the current debt level (Ibid). Third, in the extreme case that reserves are not enough, the company has increased net exports since 2000 (ibid). A fourth and final reason is that Standards & Poor's improved its Venezuelan credit rating from "selective default" in January 2005 to "positive and stable" in October 2006.²⁵ The rating, however, is still B due to Venezuela's dependence on unstable oil revenues and PDVSA's performance. If we take all four reasons together, the state company's ability to service its public debt is not the variable to be concerned with in the near future.²⁶

PDVSA'S IMPORTANCE TO ENERGY MARKET TRENDS

PIW ranked PDVSA as the 2nd largest integrated oil firm in 2001, but it had fallen to 4th place by December 2004 in the industry newsletter's ranking, recovered to 3rd place in 2005, and returned to 4th place in 2006. This decline is not due to changes in its world production levels, reserves or refining capacity. In fact, PDVSA's rating for world production and reserves has moved up from 6th to 5th place, and its refining ranking

²⁵ The rating in January 2005 came after the government missed a payment of \$35 million of oil-indexed obligations. The government said it was not a money issue but its inability to calculate the obligation due to the layoff of 18,000 PDVSA workers in 2003 (*Business Week*, January 2005). Strikes and missing deadlines are instances of Venezuelan dependence on unstable oil revenues and PDVSA. *Business Week* and *El Universal*.

²⁶ Debt is not a problem, but there are still risks of macroeconomic stability. Other variables, like inflation or a sharp drop in oil prices, or a significant increase in social expenditures, can destabilize the economy. In this case, the Central Bank and the government would not be able to stabilize the economy because the fund for macroeconomic stabilization (FEM) is practically depleted if we consider it had \$6 billion in 2001 and only \$700 million by 2006 (Table D4). The big question is: Why doesn't the government accumulate funds when oil prices are high?

remained at 4th place from 2001 to 2004. The item that has really hurt PDVSA is its volume of sales, which declined from 4th to 8th in *PIW*'s ranking during the same period.

The volume of PDVSA's exports declined 31 percent from 3.12 million b/d in 1998 to 2.3 million b/d in 2005 (Table A2: Exports). This reduction includes crude oil and refined oil, and poses the question as to whether this volume reduction follows OPEC's quota reduction policies or an internal incapacity to increase production levels. Empirical evidence shows that OPEC's quotas were below PDVSA's actual export volume levels from 1998 to 2002, and that those quota levels were above export levels after 2002.²⁷ OPEC's quota levels have increased since 2002, but PDVSA's volume exports have continued declining. This is a sign that PDVSA has not been able to benefit entirely from the increase in prices since 2000. Whether PDVSA will be able to increase sales volumes in the near future depends, as we shall see below, on political decisions taken outside of the company.

PDVSA's international relevance comes from its key role in the U.S. market and its association with foreign multinationals. We will describe the trends and characteristics associated with the first point, and leave the second to Sections B and D.

PDVSA's main export destinations are the U.S.-Canada, and the Caribbean-Central America markets. The state company's exports to South American and Asian markets have surpassed those to the European market since 2005, but the Chinese and the

²⁷ For instance, Venezuela's OPEC's quota reductions for 2001 totaled 407,000b/d, but PDVSA's total production level went up 15,000 b/d in respect to the previous year. In 2002, Venezuela's OPEC's quota was 2.5 million b/d but PDVSA's output was higher than that at 2.8 million b/d. However, the opposite happened in 2003, where Venezuela's OPEC quota was 2.632 million b/d and PDVSA's production levels reached just 2.598 million b/d (PDVSA SEC Report, 2004). Venezuela's OPEC quotas have increased to 3.107 million b/d and 3.223 million b/d for 2004 and 2005, respectively. PDVSA's output reached a little bit higher levels than those quotas at 3.148 million b/d and 3.274 million b/d, respectively. However, these numbers include the production from the Orinoco Belt that was not counted before and OPEC does not recognize it as oil (<http://www.voltairenet.org/article139141.html>).

South American markets both still have great potential. The firm sold an average of 1.2 million b/d to the North American market and 524,000 b/d to the Caribbean-Central America markets during 1998-2003 (Table A3: Volume Exports by Destination). Minor markets up to 2004 were Europe (Germany, the U.K., Sweden, and France), and South America and Others (basically Asian), with average volume exports of just 132,000 b/d and 107,000 b/d, respectively. We can assume that the European regional figure is still valid for 2004-2005 but not for exports to South America and Others. This volume should be at least 280,000 b/d in 2005 if we include the current 160,000b/d to China and 33,000 b/d to Uruguay, two out of three countries where PDVSA opened subsidiaries in the last two years.²⁸ However, the potential to the Chinese and South American markets can go up to 300,000 b/d and 250,000 b/d, respectively.

If the Chinese and South American volume potentials are achieved by 2012, China would be PDVSA's 3rd largest single market after the U.S. and Canada, and South America would be much more important than Europe. The Chinese potential has not yet been met, because two years of negotiations has produced only short-term sales contracts. Exports to China were just 12,300 b/d in 2004 and 65,500 in 2005. The 2005 volume included a one-year contract to provide 30,000b/d of fuel oil. The firm signed two two-year contracts with the China National Petroleum Corp. (CNPC) in October 2005 to sell a total of 160,000 b/d.²⁹ So, only half of the Chinese market potential has been secured by

²⁸ PDVSA Uruguay was opened in December 2005 and PDVSA China in November 2005. BANDES, the Venezuelan Development Bank, also opened in Uruguay its first agency abroad (El Universal, 10-1-05 and PDVSA online news 11-14-05, 10-1-05) The third subsidiary is PDVSA Cuba, which was opened in 2004.

²⁹ PDVSA's press release, 11-14-06: "Petróleos de Venezuela, S.A. (PDVSA) y la empresa China National Petroleum Corporation (CNPC) firmaron este viernes dos contratos para el suministro de 100 mil barriles diarios de una cesta de crudo y 60 mil barriles diarios de fuel oil, desde Venezuela hacia la nación asiática. La negociación comprende el abastecimiento de una cesta de crudos pesados venezolanos de las calidades Maralago, Cerro Negro, Boscán, Merey 16 y BCF 17, por un lapso de un año. En relación con el fuel oil,

contracts until 2007, and future negotiations will depend on the involvement of CNPC in the Orinoco Belt.³⁰ In the case of South America, the expansion of export potential to Mercosur is much more advanced than that to the Andes. PDVSA's exports to Uruguay were 30,000 b/d of gasoil in 2005, but may more than double after 2007. PDVSA bought the La Teja refinery in Uruguay and plans to modernize and expand it to send 50,000 b/d of heavy oil from the joint development project between ANCAP and PDVSA in the Orinoco Belt.³¹ In the northeast of Brazil, Petrobras and PDVSA will build a refinery in Pernambuco to process 200,000 b/d that will come from their joint venture in the Orinoco Belt by 2011. The export expansion to the Andes is less advanced because it depends on building an oil pipeline to Cartagena, Colombia, as well as a refinery there and possible refineries in Peru and Chile.³² So far, there is an agreement with CNPC to build the pipeline, but we suspect that the political tensions between Chávez and the presidents of Colombia and Peru may postpone this route.³³ In conclusion, China, Brazil and Uruguay will likely become important markets for PDVSA by 2010-2012.³⁴ Until this happens, North and Central America remain as the most important markets for the firm with 1

PDVSA suplirá dos calidades: IFO 380 e IFO 180, durante dos años, basados en una fórmula de precios para cada uno de los tipos de fuel oil mencionados.”

³⁰ China is interested in cheap fuel oil and Orimulsion but Venezuela has decided to stop Orimulsion and it is interested in increasing the price of its heavy oil products. This conflict of interest may explain why both parts only signed short-term contracts. The long-term relationship will depend on how China's involvement in the Orinoco Belt mitigates the current conflicting interests.

³¹ PDVSA on-line news, 10-1-05; 12-9-05.

³² The CNPC involvement in the Maracaibo-Cartagena oil pipeline was part of the “Memorando de Entendimiento para Mayor Cooperación en el Sector Energía, signed in 12-23-04.” (PDVSA online news, 8-22-06). The possible refineries in Peru and Chile are included in the document “PDVSA Planes Estratégicos: Comercio, Suministro y Transporte,” p. 27.

³³ The initial use of the pipeline to Colombia will be to import natural gas from Colombia to the western part of Venezuela, in part to re-inject it into oil fields. It is in the longer term that the pipeline would be used to export natural gas to Colombia and Panama (Observation of Francisco Monaldi).

³⁴ PDVSA and ENARSA bought a small 7-8,000 b/d refinery, Campana, and 150 gas outlets in Argentina. PDVSA also bought 163 gas outlets, and Repsol-YPF signed a contract to give crude oil to Campana. For this reason, we don't expect Venezuelan exports to increase with this deal (PDVSA online news, 10-1-05).

million b/d and 600,000 b/d of exports, respectively. PDVSA is currently the 4th largest supplier for the U.S. market and the largest supplier for the Central America market, as well as the Caribbean market.

Most exports to these markets are in the form of crude oil rather than refined products, and medium and heavy grades rather than light crude oil. On average, 73 percent of PDVSA's total exports were crude oil exports, and for this product, 60 percent were medium and heavy crude grades (Table A3: Volume Exports by Type of Product). These averages were more or less stable during the entire period of study. However, the distribution of oil exports among these markets has clearly changed.

In general, PDVSA's crude oil export volumes decreased 27.1 percent from 1998 to 2003. However, the volumes that go to the U.S.-Canada, Europe and South America have dropped 39.1, 39.1 and 58 percent, respectively (Table A3: Volume Export by Destination, Figure A10). At the same time, the export volumes to the Caribbean-Central America increased 30.3 percent. As a consequence, the North American market dipped from 67 percent of total exports in 1998 to 56 percent five years later, and the Caribbean market went up from 19 to 35 percent (Figure A11).

This change of export structure does reflect a strategy of market diversification to reduce dependence on one single market. However, it is not a commercially-driven search for new markets to increase the return of export value. PDVSA's export volumes to the U.S. have decreased in spite of the huge refining expansion there between 1996 and 1999. A similar phenomenon occurred in Europe. At the same time, exports have been diverted to Central America and the Caribbean, markets where the firm used to have

its largest profit margins.³⁵ However, these margins are now gone because of the current preferential contracts with low prices and generous credit conditions.³⁶ Therefore, PDVSA has diverted its exports from a market that pays high market prices to a market that buys with a significant price discount, which is hurting the firm's profitability. In addition, potential new markets like China, Italy, Korea, Brazil, and Argentina have limited refining capacity to process Venezuela's heavy crude oil, and would like to receive more Orimulsion. But the Ministry of Energy and Petroleum decided to discontinue that product in 2003, and stop its production completely by December 31, 2006.³⁷ In conclusion, contrary to what the export structure alone would suggest and the government of Venezuela would like, PDVSA's financial health has become more dependent on the North American market than six years ago.

II. PDVSA'S HISTORICAL EVOLUTION, GOVERNMENT RELATIONSHIP AND ORGANIZATIONAL CHANGES

Historical background

Venezuela was governed by the dictator, Juan Vicente Gomez, from 1908 to 1935, despite figureheads being placed in the presidency at times. Petroleum exports boomed in the 1920s, encouraged by minimal regulations and favorable fiscal policies, bringing unprecedented wealth to the country.³⁸ As the country began its long path towards democratic governments in the 1930s and 1940s, the need to capture more rent to

³⁵ We thank Francisco Monaldi for this important observation.

³⁶ Preferential treatment includes the option of payment in products, and 10-year credit at 1percent interest rate.

³⁷ *El Universal*, 10-3-2006.

³⁸ Jorge Salazar-Carrillo and Bernadette West, *Oil and Development in Venezuela during the 20th Century* Westport, CT: Praeger, 36-38, 56-57.

distribute private and public goods among a broader range of political supporters became important.

Venezuela has been in the forefront of national strategies to wrest more benefits from the IOCs that developed the global petroleum market. Unlike some of the other Latin American countries that nationalized petroleum holdings (e.g., Mexico in 1938) or created national oil companies (e.g., Argentina in 1927), Venezuela took a more prudent path designed to keep its oil flowing to world markets but increasing the country's take at the same time. The U.S. government, stung by the Mexican oil nationalization that resulted from conflict between that the Mexican government and IOCs, mediated the relationship between Caracas and IOCs.

The governments of Generals Eléazar López Contreras (1935-1941) and Isaías Medina Angarita (1941-1945) drew up new petroleum laws to increase the government's revenues, to which the IOCs objected. Rather than fight the IOCs, the Venezuelan government accepted U.S. mediation, tabled the legislation and over the next five years developed a new, but still very far-reaching law. The Venezuelan government argued that the oil in the ground belonged to the nation; hence, the IOCs should not gain more than the country from the exploitation of that resource. Venezuela was the first country to achieve a fifty-fifty split on profits with the IOCs. The new law also made it possible for new taxes to apply to all existing concessions; prior to 1943, taxes could not be increased on contracts that had been signed under distinct tax regimes.³⁹ But the government also recognized that they could not simply extort such a relatively high tax rate from the companies; so, in return, the 1943 Hydrocarbon Law provided IOCs with forty-year contracts and compelled the government to provide new fields for lease at a faster rate.

³⁹ Francisco Monaldi, personal communication, February 2007.

The 1943 Law also severely limited participation of private national companies in the petroleum sector because government officials feared the political power of an alliance of international and national capital.⁴⁰

A 1945 coup created a civilian/military government known as the *trienio* (because it was overthrown in 1948). We can consider it a precursor of the democratic system developed in 1958; its make-up and petroleum policies (domestic and international) are particularly relevant to contemporary discussions. The Acción Democrática party (AD, of Social Democratic ideology) played a major role in the *trienio* government; one of its founders, Rómulo Betancourt, presided over the Revolutionary Junta (1945-47) and another founder, Rómulo Gallegos, was elected president in the first free Venezuelan election in December 1947. The 1947 constitution created a state that would be active and interventionist in the economy and politics, and petroleum export revenues were the cornerstone for development and political patronage. Minister of Development Juan Pablo Pérez Alfonzo took a hard line with the IOCs, and when they looked to the Middle East as an alternative, the minister successfully encouraged Kuwait, Iraq and Saudi Arabia to also adopt the principle of a fifty-fifty split in profits.⁴¹ This was the beginning of a long relationship between Venezuela and Middle Eastern oil producers, which were engaged in their own struggles with IOCs over which countries would produce oil, how much, where it would sell and how the revenues would be distributed.⁴²

⁴⁰ Mona Verma Makhija, "The Determinants of Government Intervention: Political Risk in the Venezuelan Petroleum Industry" PhD Dissertation, University of Wisconsin-Madison, 1989, 72-76; Boué, Venezuela: The Political Economy of Oil Oxford: Oxford University Press, 1993, 11-12.

⁴¹ Boué, Venezuela: The Political Economy of Oil Oxford: Oxford University Press, 1993; Karl, The Paradox of Plenty Berkeley: University of California Press, 1997.

⁴² Daniel Yergin, *The Prize: The Epic Quest for Oil, Money & Power*. New York: Free Press, 1993.

The dictatorship of Colonel Marcos Pérez Jiménez (1948-1957) modified the implementation of the Venezuelan petroleum laws in favor of the IOCs, in particular allocating new concessions to the IOCs.⁴³ But the provisional military junta that overthrew Pérez Jiménez put the country back on the path of gaining more control over, and more rent from, the petroleum sector.

At the end of 1958, when Venezuela became democratic, the government stopped granting oil concessions, and rejected the 50-50 split, increasing its share of the profits to close to 65 percent.⁴⁴ The IOCs unilaterally lowered international crude oil prices in 1959 and again in 1960; the Venezuelan government disputed the need for lower prices and looked for international allies to strengthen its position *vis-à-vis* the private oil companies and powerful consumer nations. Arab oil producers were also responding to IOC control of international markets. Venezuela was an observer at the First Arab Petroleum Congress in 1959, which adopted a strategy of creating national oil companies to work alongside the internationals; Venezuela created its *Corporación Venezolana de Petróleo (CVP)*, the following year. Venezuelan Oil Minister Pérez Alfonzo was a major intellectual and political force behind the founding of OPEC, that same year.⁴⁵

Venezuela embarked on a gradual process of developing a national capability and expertise in the oil sector in order to negotiate better with the foreign oil firms, a strategy similar to that adopted by Chile's Christian Democratic government in the copper sector

⁴³ Makhija, 77-78.

⁴⁴ Bernard Mommer, "The Political Role of National Oil Companies in Exporting Countries: The Venezuelan Case." Oxford Institute for Energy Studies, WPM 18, September, 7-8.

⁴⁵ Boué.

in the same era.⁴⁶ From the government's perspective, CVP represented a mechanism through which Venezuela could gain inside knowledge of the petroleum industry, rather than a company that would compete with the IOCs in the production of oil. From CVP management's perspective, it should have been given the task of competing directly with the IOCs in exploiting the oil fields. As in 1943, the government specifically excluded participation by the Venezuelan private sector in CVP in order to limit the company's ability to develop its own political influence and increase its autonomy from the executive branch. Without a political base of its own, CVP was dependent upon the minister of mines, and through him to the president.⁴⁷

The managers of CVP, nevertheless, had worked for the IOCs and saw themselves as competitors with the foreign firms.. Company desire for growth and increased operational autonomy were viewed as key for CVP to contribute effectively to national goals. Management sought to gain control over the oil fields that, by the terms of the 1943 petroleum regulations, would revert to Venezuelan control in 1983, as well as develop new fields. Thus, CVP quickly developed an organizational interest that competed with the political interest of the ruling president. But, lacking a domestic political base, CVP clashed ineffectively with the minister of Mines and Energy.

Venezuelan energy politics in the early 1970s were dominated by three issues: declining oil reserves, declining investment by IOCs which were attracted by lower cost Middle Eastern oil, and the expiration of the 40-year leases in 1983. The big question in answering these challenges for Venezuela revolved around the exploitation of the oil

⁴⁶ Theodore H. Moran, "Multinational Corporations and the Politics of Dependence: Copper in Chile." Princeton, N.J: Princeton University Press, 1974.

⁴⁷ Mommer, "The Political Role...".

fields: would it be carried out under a new arrangement with international companies, by private national companies or by a wholly state-owned corporation? During Rafael Caldera's first presidential term (1969-1974), the government initially favored service contracts between the IOCs and CVP as a means to increase investment, but the political attraction of quickly gaining more revenue by increasing taxes overwhelmed this longer-term strategy.⁴⁸

The legislation that addressed these issues was widely supported by the political parties and the citizenry. The 1971 *Reversion Law* passed in Congress with only five dissenting voices. It reserved future exploitation for a wholly-owned state corporation and subjected the contracts to immediate reversion if the leaseholders did not exploit them efficiently.

The first administration of Carlos Andrés Pérez (aka CAP, 1974-1979) coincided with the dramatic increase in oil prices after the 1973 Arab oil embargo. The boom in revenues created a complex situation for Venezuela. The country was not prepared to administer the windfall and President Pérez had little incentive to move cautiously, given the country's underdevelopment and the expectations that the oil boom was here to stay but that Venezuela had declining oil reserves.

Using powers granted to the executive in the 1961 constitution and a popular approval rating of 75 percent, CAP began his administration with a slew of decrees, resolutions and draft laws to deal with the economic dislocations and rising expectations generated by the oil boom. Although the opposition party COPEI feared a power grab by the president, congress granted him "extraordinary executive authority" to reform the tax laws, reorganize public financial institutions and raise salaries and wages. CAP targeted

⁴⁸ Mondaldi, personal communication.

the iron ore industry for nationalization and formed a commission to examine how the petroleum sector could be nationalized.⁴⁹

Gross domestic product (GDP) grew at a real average annual rate of more than 6 percent between 1973 and 1978, but CAP's inability to restrain public sector spending or private consumption created psychological expectations among Venezuelans that the country was rich and yet, at the same time, economic conditions that would plunge the country into a severe economic crisis down the road. Despite the influx of petroleum revenues, the country moved from a current account surplus of \$7.8 billion in 1974 to a deficit of \$5.8 billion in 1978.⁵⁰ During the first oil boom of 1973-74, Venezuela's public expenditures tripled (in the second boom of 1979-1981, they doubled again).⁵¹

The nationalization of the Venezuelan energy sector was carried out in 1975. Instead of turning CVP into the national oil company, PDVSA was created as a holding company, with CVP becoming one of its subsidiaries; within two years, CVP's influence was further diminished when it was subsumed into the operating unit Corpoven (see the discussion of PDVSA's organization in section B.4). Once again, private national investment was excluded; the government preferred to deal with the IOCs with its national credentials unchallenged by disagreement with Venezuelan private firms in the sector.

The excessive investments, economic largesse, political patronage and general corruption became a problem in PDVSA even in the context of high oil prices. When

⁴⁹ Karl, 127-129.

⁵⁰ Humberto García Sarralde, "Limitaciones de la Política Económica Actual: la ideología económica en el deterioro del bienestar del venezolano." *Revista Venezolana. de Economía. y Ciencias Sociales*, vol. 6 no. 1 (ene.-abr.),83-143.

⁵¹ . Karl, 164.

those prices collapsed (the value of oil exports dropped 52 percent in real terms between 1980 and 1988⁵²), however, Venezuelans could not adjust and the economy fell into a deep economic crisis.

By 1982, the government was in severe financial straits. Luís Herrera Campins' COPEI administration (1979-1984) focused on PDVSA's overseas investments and in September of that year forced the company to convert \$5 billion in overseas accounts into Bolívars at the central bank; unfortunately, the currency devaluation that year significantly decreased the value of those accounts. The economic crisis continued under the Administration of Jaime Lusinchi (1984-1989), who was granted decree powers similar to those enjoyed earlier by CAP. PDVSA was forced to pay taxes in advance and purchase government bonds; multiple exchange rates also permitted the government to manipulate PDVSA's balance sheets and maximize transfers to the national treasury. These various transfer mechanisms eliminated PDVSA's ability to self-finance projects.⁵³ OPEC quotas, shrinking in a futile effort to slow the fall in international oil prices, were also limiting PDVSA's ability to offset domestic demands on its revenues by pumping more oil.⁵⁴

In light of the difficult international and domestic scenarios PDVSA was facing at the time, management decided to promote an "internationalization" strategy. The main vehicle for this strategy was the joint ventures with refiners in its major markets. The program was a success for the company in terms of increasing its refining capacity outside of the country (perceived as a means to ensure markets for Venezuela's heavy

⁵² . Karl, 162.

⁵³ Mommer, "The Political Role..." p. 18. Boué, p. 25, reports \$18 billion repatriated, but multiple sources agree on \$5 billion.

⁵⁴ Monaldi, personal communication.

crude) and the acquisition of assets that were harder for the national government to seize or control. But such successes also raised the concern of nationalists, whose view of PDVSA has always been as a rent-generating mechanism to fuel economic growth and welfare at home.

Carlos Andrés Pérez, elected for a second term (1989-1993), understood the structural weakness of Venezuela's petroleum-based development model and moved quickly to reform it. With a cabinet staffed by technocrats and few party politicians, CAP imposed a package of fiscal discipline and structural economic change, called "El Gran Viraje" (The Great Turnaround"). Although the reforms significantly improved economic performance over the next few years, the unequal distribution of its costs and the continued high levels of corruption generated strong opposition from the very beginning: riots in multiple cities in 1989, known as the Caracazo, killed hundreds and forced CAP to declare a state of emergency.⁵⁵

In the midst of the economic crisis and increasing social discontent (there were 900 major protests in a seven-month period during 1991-92), CAP turned again to petroleum and attempted to gain greater control over PDVSA and its resources. CAP ordered energy minister Celestino Armas to require that PDVSA submit a variety of actions to the ministry for approval before embarking on them: the creation of new affiliates or to change the bylaws of its existing affiliates; acquisition of new assets through mergers, liquidations, or restructuring; contracting new bank loans, domestic or foreign; and issuing bonds or other financial instruments. Even the company's ability to

⁵⁵ Moises Naim, *Paper Tigers & Minotaurs: The Politics of Venezuela's Economic Reforms*. New York: Carnegie Endowment, 1993; Juan Carlos Rey, "Corruption and Political Illegitimacy in Venezuelan Democracy." Damarys Canache and Michael R. Kulisheck, eds, *Reinventing Legitimacy: Democracy and Political Change in Venezuela*, Westport, CT: Greenwood, 1998, 113-135; Karl, 179-183;

adjust salaries and benefits or appoint members to the boards of directors of its subsidiary companies now required ministry approval. When PDVSA's board protested the change in the relationship between the company and the ministry, with board members threatening to resign en masse, CAP backtracked and turned the prior approvals into just a requirement to "inform" the ministry of these actions. Still, the following year, CAP's budget slashed over one billion dollars from PDVSA and froze expansion plans.⁵⁶

Two military coups in 1992 failed (the first led by Colonel Hugo Chávez) and CAP was impeached for corruption in 1993. These events revealed significant discontent among the populace, particularly the poor, not only with the economic reform package but also with the AD-COPEI two-party dominated political system. In this context, PDVSA became an even more important player because of its symbol as a national resource and its ability to generate revenue.

The second administration of Rafael Caldera (1994-1999), who, despite his COPEI party past, ran as a political outsider, confronted the nation's deep political and economic crisis by rejecting some high-profile economic reforms of the *Gran Viraje*. The policy shift, however, produced another economic collapse in 1994 and Caldera moved back towards an orthodox stabilization program.⁵⁷ Getting the government out of the economy was a strategy adopted by the majority of Latin American countries at the time, initially producing spectacular results across the region.

Caldera's *Agenda Venezuela* program, introduced in 1996, depended heavily upon an increase in petroleum revenues and under the "Plan Apertura," the company was now explicitly supported in its strategy to become a major competitive international oil

⁵⁶ Boué, 25-26.

⁵⁷ Miriam Kornbluth, "Legitimacy and Reform Agenda in Venezuela" in Canache and Kulisheck, eds., *Reinventing Legitimacy*, 3-20.

company. Among the decisive changes adopted was the decision to focus on producing and exporting as much crude oil as possible rather than attempting to increase revenue by withholding supply. New policies to increase investment in the petroleum sector allowed foreign investment upstream through operating contracts. Although this internationalization strategy decreased a president's influence over the company, Caldera needed the additional revenues expected under the new plan. But as oil prices fell in 1998 and the Venezuelan economic crisis continued, the opposition to this supply strategy, and the partnerships with IOCs that it entailed, increased dramatically.⁵⁸ Chávez' campaign for the presidency that year explicitly targeted the "Plan Apertura" and he won with more votes than any candidate in history.

The first two years of the Chávez government were largely spent developing the new institutional structure that would permit the implementation of the president's radical reforms, rather than on implementing new macroeconomic policies. A constituent assembly was elected, which wrote a new constitution that increased executive power and was quickly ratified by more than 70 percent in a plebiscite. New legislation was adopted in 1999 to regulate the underdeveloped natural gas sector (Ley Orgánica de Hidrocarburos Gaseosos) in a manner very favorable to private investors,⁵⁹ probably in recognition of PDVSA's lack of experience in the gas industry. As late as January 2000,

⁵⁸ García Larralde, 99.

⁵⁹ . "In 1999, the country adopted the Gas Hydrocarbons Law, which opened all aspects of the sector to private investment. The goals of the law included the development of natural gas resources, especially non-associated fields; expansion of domestic natural gas transport network and creation of a general distribution system; promotion of natural gas export projects; and increased consumption of natural gas by the power and petrochemical industries. The Gas Hydrocarbons Law also allowed private operators to own 100 percent of non-associated projects, a sharp contrast to the ownership rules in the oil sector. Furthermore, royalty and income tax rates on non-associated natural gas projects, 20 percent and 30 percent, respectively are much lower than corresponding rates for oil projects." DOE, p. 9

it was still possible for astute observers to perceive that Chávez would continue the neo-liberal economic policies that he had strongly criticized during his campaign.⁶⁰

PDVSA-

GOVERNMENT RELATIONS IN HISTORICAL PERSPECTIVE

Between 1934 and the present, every government of Venezuela except for the brief period of the *Política Apertura*, democratic or not, has had the same short-term interest in using petroleum revenues to finance the government's national development strategy, as well as for very specific social and political purposes. Congress and the constitution provided CAP with extraordinary powers to access and redirect petroleum revenues. Herrera Campins and Lusinchi used a variety of transfer mechanisms to access PDVSA finances. During his second administration, CAP even presaged Chávez by becoming involved directly in not only PDVSA appointments below the directorate, but even in its compensation to PDVSA workers. These economic, social and political interests make the energy sector (petroleum, natural gas and hydroelectric) captive to the Venezuelan executive branch. Yet since the company's creation in 1976, PDVSA's own leaders attempted to run it as a legitimate firm, believing that a strong and profitable oil company benefited the nation.

Nevertheless, PDVSA could only implement management's preferred policies if they coincided with the interests of the president. The acquisitions of refineries in the U.S. and Europe in the mid-1980s could be carried out using crude oil as payment rather than cash and those deals were developed in a context in which market access for

⁶⁰ García Larralde, 97-98; 126-127. There are recent precedents for candidates who ran against neo-liberal policies to adopt them once they assumed the presidencies of their countries; e.g., CAP's second term in Venezuela, Alberto Fujimori in Peru; Carlos Menem in Argentina.

Venezuela's heavier oil was becoming an issue of concern. Herrera Campins' and Lusinchi's efforts to deal with the economic crisis without implementing dramatic domestic policy changes proved ideal for PDVSA's implementation of an internationalization strategy that had been decided upon five years earlier.⁶¹ This favorable political context was repeated in the 1990s when the Pérez and Caldera administrations adopted the liberalization policies promoted by the U.S. government and international financial institutions, thereby facilitating an opening up of new opportunities for private investors in partnership with PDVSA. The company had a slightly better record minimizing efforts by the ministry and the president to exert full control over its strategies, such as when the PDVSA managed to water down reporting requirements, and efforts by CAP and the ministry to convince PDVSA to sell CITGO in the early 1990s.⁶²

Unfortunately for PDVSA managers, those favorable contexts were linked to periods of economic crisis and presidents who represented a political system repudiated by the vast majority of Venezuelan voters in 1998.

PDVSA management was slow to understand the shift in the political winds against its company-oriented goals and the internal disunity created by its organizational reforms (see subsection on Organizational Structure), when Chávez came into office. Although the Chávez administration worked to rejuvenate OPEC and limit the group's as well as PDVSA's oil supplies, senior management perceived that the successes generated by the firm's internationalization strategy (increased size, foreign assets and deposits, and international recognition of PDVSA's corporate successes) would enable company

⁶¹ . Boué, 151-153.

⁶² . Boué, 170-171; Mommer, 22.

leadership to insulate the state firm from Chávez' populist programs, despite his campaign promises to force the company to serve national needs as he defined them. This strategy failed to protect corporate interests, as evidenced in the November 2001 Organic Hydrocarbon Law.⁶³ Presumably encouraged by its past ability to limit CAP's efforts to control the company in the early 1990s, PDVSA management decided to fight Chávez' efforts to exert executive domination, and thereby, run the company as merely a rent-generating tool rather than as a profit-maximizing company.

Chávez' plans to transform the political, economic and social life of Venezuela with his "Bolivarian Revolution" generated widespread fear and discontent among the political parties, elites, organized unions and the middle class, as well as in Washington. PDVSA's opposition to Chávez did not initially put management in league with the political opposition to him and produced some early victories, including turning General Lameda into an advocate of the company's professionalism during his tenure as PDVSA president. Instead, company management pursued its own plan to modify Chávez' petroleum policies, and it was instead the political opposition that adopted the PDVSA opposition movement. The state company's strategy was to cripple the government by limiting revenues through a strike that was initiated in April 2002. More than three quarters of export revenues, half of government revenues and one third of Venezuela's GDP depends directly and indirectly on the oil sector. The expectation was that Chávez would give in because he needed the petroleum revenues to maintain his popularity at

⁶³ .For a discussion see the special edition of *Revista Venezolana de Economía y Ciencias Sociales*, 2002, vol. 8 no. 2 (May-August), dedicated to the petroleum reforms.

home;⁶⁴ the president seemed vulnerable, as his support was below 30 percent in polls generally deemed reliable.⁶⁵

Chávez fought the alliance of PDVSA officials and the old political elites. He withstood the challenge even as the economy collapsed. The first general strike produced the failed April 2002 coup, in which Chávez was overthrown for just two days; upon returning to power, his support jumped ten points in the polls.⁶⁶ In December 2002, after Chávez had 49 laws approved via fast-track mechanisms, the opposition began a 69-day strike in which PDVSA joined; national oil production dropped from 3.3 million b/d in November 2002 to 700,000 b/d in January 2003 and produced losses to the Venezuelan economy of up to \$7.5 billion.⁶⁷

Chávez was able to outwit the PDVSA/opposition strategy because he had purged the military of most opponents, installing officers loyal to him personally, and because his constituency was that large segment of the population that had been excluded from the benefits of political and economic development by both the military government of 1948-58 and the AD/COPEI dominated democratic polity of 1958-1998. The Venezuelan lower class wouldn't abandon Chávez lightly or quickly. Because company officials opposed Chávez' Bolivarian Revolution and became identified with the discredited political opposition to Chávez, it was easy for the president to replace them with new management who would put the government's national development policy ahead of the company's development strategy.

⁶⁴ Energy Information Administration, U.S. Department of Energy, Country Analysis Briefs: Venezuela file:///v:/PRJ/NewCABs/V6/Venezuela/Full.html Last Updated: September 2005

⁶⁵ Monaldi, personal communication.

⁶⁶ Monaldi, personal communication.

⁶⁷ Reuters AlertNet, "Factiva." <http://www.alertnet.org/printable.htm?URL=/db/cp/venezuela.htm> (accessed 2/14/06). U.S. Department of Energy, 3.

Feeling more in control after the failed April 2002 coup and the ineffective December 2002-January 2003 strike, Chávez has made increasing use of his authority under the petroleum legislation --even the 1971 Reversion Law gave the government the authority to immediately revise contracts with the IOCs if it determined that they were not being exploited “efficiently”-- and his new constitution to alter the terms with foreign investors in all sectors of the economy. With oil prices booming, his social programs under way and the opposition discredited, Chávez was able to win 59 percent of the vote in the August 2005 plebiscite that kept the controversial leader in office. The opposition was sufficiently demoralized not to run any candidates in the December 2005 elections for the national assembly, thereby giving Chávez’ ruling coalition total control over it. Although the opposition ran a candidate in the December 2006 presidential elections, Chávez trounced him, in large part because he ran on a platform to accelerate the “Bolivarian Revolution” and seek constitutional reforms to eliminate restrictions on presidential re-election.

ORGANIZATIONAL STRUCTURE

There have been some legal changes since 1999 that altered the structure of PDVSA and restricted its business autonomy. The legal framework that defines PDVSA’s operations includes the Nationalization Law (1975), the Commercial Code (1955), the constitution (1999), the Organic Hydrocarbon Law (2001), the Organic Gaseous Hydrocarbon Law (1999), and the Act of Constitution and Statutes of PDVSA (2002).⁶⁸

⁶⁸ The respective original names are: Ley Organica que reserva al Estado la Industria y el Comercio de los Hidrocarburos (1975); Ley de Comercio (1955); Constitucion de la Republica Bolivariana de Venezuela (1999); Ley Organica de Hidrocarburos Gaseosos (1999); Ley Organica de Hidrocarburos (2001); and Acta

The Oil Law of 2001, and the Nationalization Law before it, reserves all activities related to hydrocarbons from exploration to domestic and foreign sales, to the government of Venezuela. Thus, the government delegates these activities to state-owned agencies and private firms at will. Furthermore, the constitution establishes that all oil and hydrocarbon reserves within Venezuela are owned by Venezuela, not by the firms that discovered them. Therefore, PDVSA and private firms do not own the reserves they find after investing in exploration.

The Venezuelan government executes its monopoly rights over hydrocarbon activities through the ministry of energy and petroleum (MEP) and PDVSA. The MEP supervises the state of the industry, trade and operations, and designs the governmental energy policy. PDVSA is the operator. It coordinates, monitors, and controls all hydrocarbon operations. The MEP establishes and approves PDVSA's general policies, production levels, capital expenditures and operating annual budgets. Although the MEP and PDVSA respond to the same principal, their different roles make them follow separate, and sometimes, opposite paths. This was clear before 2000, when the MEP wanted to limit PDVSA's production levels to comply with OPEC's production quotes, and PDVSA had embarked on an international investment plan to expand its oil output. In general, MEP and PDVSA conflicts about production levels, pricing policies, market expansions, long-term investments, and technological developments reflect the clashes between the political and business objectives.

PDVSA's formal independence from the MEP is established by the commercial code. PDVSA and its Venezuelan subsidiaries can develop and execute their

de Constitucion y Estatutos de PDVSA (2002). A complete review of the regulatory framework should include complementary laws about income tax, foreign investment and environment.

shareholders' objectives as corporate entities rather than as governmental agencies. Given its commercial and financial autonomy, the Venezuelan government is not legally liable for PDVSA's business obligations. But PDVSA cannot be privatized. As stipulated by the constitution, the government must retain exclusive ownership of PDVSA's shares. But, the government is not required to retain ownership of the shares of PDVSA's subsidiaries or of its interests in joint ventures. Therefore, although the constitution closed the doors to any plans to privatize PDVSA in the near future, at the same time, it gave some degree of freedom to PDVSA and the government to sell or buy foreign assets and enter into joint ventures.

Given the legal framework, how are PDVSA's policies actually implemented and what is the effective degree of control exercised by the government? The president of Venezuela appoints the minister of petroleum, the president of PDVSA and the company's board of directors. The board of directors implements the policies established by the MEP in the name of the government. This appointment structure creates a direct relationship between the president of Venezuela and PDVSA, a relationship that often served to bypass the control of MEP. This was the case, for instance, when PDVSA got approval from the president to buy CITGO in 1986. Since 2004, when he appointed Rafael Ramirez to head both the MEP and PDVSA, Chávez has virtually complete control over PDVSA. This measure has no precedent in Venezuelan history, and we will expand on the political implications of this move under Section C of this paper.

The relationship between the executive and PDVSA's directory in practice is determined by the firm's internal business organization. From the time of nationalization up until January 1998, operating units were independent and autonomous from the

holding company, and the latter mostly coordinated business affairs. The holding company was also supposed to monitor, plan strategically and benefit from economies of scale. However, these functions were not really accomplished because of lack of shared information. The three operating units, Maraven, Lagoven and Corpoven, which were formed around the pre-nationalization units of Shell, Standard Oil of New Jersey and other small IOCs and CVP, respectively, competed as if they were business rivals. They competed not only for internal power, but also resources, parts and markets outside the holding company. For instance, all three had their own brand name and searched for deals separately, all three negotiated machinery from Solar Turbines in San Diego individually, and all three had separate buildings in Caracas with separate ID systems so a Maraven employee could not enter the Lagoven building, or vice-versa. The independence and autonomy of these productive units clearly duplicated costs and the holding company was not taking advantage of economies of scale.⁶⁹ Employees were identified by their own operating units rather than PDVSA, there were at least three different business cultures and the process of internationalization required a more simple and functional holding company (Perez Marquez, p.35-60).

At the time of nationalization, it was thought that competition among these few operating units would bring efficiency, and that the mix of different business cultures would benefit the holding company of PDVSA. Rivalry, however, led the units to hide key information from the holding company and its directory, because an honest and open behavior would reveal sensitive data to rival units. Consequently, the holding company

⁶⁹ In the words of Luis Giusti, former PDVSA president, "The decision to put an end to the identical integrated affiliates [...] was based on the scandalous duplication and triplication of activities and the unbelievable competition among them, with large and monstrous inefficiencies. "(February, 2007) PDVSA's top 130 executives, after a congress of executives meeting in July 1997 decided to change the structure. This change was already suggested by McKynse and was one of the focuses at PDVSA's CIED.

was not in a position to monitor, plan strategically or promote economies of scale. This model created unnecessary inefficiencies, as recognized by the PDVSA's first congress of executives in July 1997, which approved a plan for a new operating structure based on the functions of exploration, production and refining processes, and to be implemented on the first day of 1998 (Perez Marquez, p.47). However, the same structure that created economic inefficiencies was great for avoiding political interference in oil business operations since presidents could appoint their loyalists into the PDVSA directory, but could not really know what was going on or influence business decisions that depended on what was actually happening at the unit productive level.

PDVSA's executives sought to break this protective shield against political interference in January 1998 when they began the process of consolidating PDVSA's operating units into one firm. However, this consolidation never fully materialized. Then company president Luis Giusti and all top 130 executives believed that the firm needed to merge its three operating units into just one single company in order for PDVSA to focus on strategic planning and economies of scale, and to put the firm at the same operating level as the international oil majors in the 21st century. The key two components of the consolidation process were to absorb Maraven, Lagoven and Corpoven into a single Oil and Gas Production unit, and give the company directorate operating responsibilities. The explicit goal was to create a firm that would be more integrated and more transparent. However, for both external and internal reasons, the plan's objective was never fully achieved.

From January 1998 to January 1999, when Chávez first took office, PDVSA could not complete its internal transformation. Luis Vielma, the then PDVSA planning

coordinator, explains that 1998 started with people's anxieties of being in new offices and a lot of uncertainties because they were now working together with people who had been their competitors just weeks before. People at all levels were trying to find their bearings. Many were still working based on their prior identities as Maraven, Lagoven and Corpoven employees. It was evident, Vielma concludes, that the integration into one single business culture would not be accomplished overnight. These issues were discussed in the second congress of executives meeting held in July 1998, with senior management calling for the human resources office to accelerate the process of consolidating one unique corporate identity around PDVSA (Perez Marquez, pp.50-56).

We cannot deny the influence of previous business practices and cultures, as Vielma points out. However, the real challenges to PDVSA's executives were to present a new set of business values and practices that would replace the old ones, and to convince the workers about the new rules of the game because increasing efficiency would be beneficial for them. Both goals were not achieved before Chávez took office, so the firm's executives had to continue with the transformation process while facing ongoing interference from Chávez.

In terms of the new set of values, these came out in a document called. It took three years for the top PDVSA executives to produce and approve the seminal document, "Somos Energía" in February 2001, which states the vision, mission, values and working practices of the transformed firm. The vision for the new PDVSA was to become the energy firm of world reference for excellence, and the state company's mission to satisfy the energy needs of society and create the maximum value for Venezuela. The firm's values were integrity, respect for people, equity, social responsibility and security.

PDVSA's working practices were to include responsibility, initiative, determination, excellence orientation, cooperation, cost efficiency, discipline and interpersonal effectiveness. By December 2002, these principles were presented in workshops to 29 percent of the 350 young executives in the firm and 25 percent of the company's 1,200 supervisors, while some 5,000 workers participated in one-day seminars about the new business culture (Perez Marquez, pp.102-106). All these principles were changed after the Chávez government created the "new" PDVSA in 2003, and a new set of principles written in the MEP was imposed upon the company. The mission of this "new" PDVSA is to contribute to national development, security and defense of sovereignty. The guiding principles are: commitment to the people of Venezuela; subordination to the state; high consciousness of national sovereignty; valuing of natural resources; structural simplification; financial transparency; new relationship of worker-firm-state; decentralization; and governance.⁷⁰ Given the strong ideological orientation of these principles and yet poor business focus, we don't think these principles will survive a change of regime. At this stage, PDVSA is still a firm searching for a company identity and culture.

We mentioned that the second key element to completing the transformation of the company that was initiated in 1998 was to convince workers about the new rules of the game. Labor stability, promotion criteria and wage compensations were key issues that created uncertainty among PDVSA workers in 1998. The transformation plan wanted to eliminate cost duplications and create economies of scale to produce asavings of \$12 billion between 1998-2007. This transformation process implied the gradual elimination

⁷⁰ PDVSA web site, downloaded 12-18-06 <http://www.pdvsa.com/>

of 7,000 of the 39,000 workers (Perez Marquez, p.58). For the first time since 1976, PDVSA workers were confronting a labor environment that could lead to early retirement or involuntary dismissal. In December 1998, some 1,000 workers opted for voluntary retirement, and the early retirement program continued after Chávez took power. In November 1999, Héctor Ciavaldini, PDVSA's president at that time, declared to "El Universal" newspaper, that this program would even continue after the end of 2000 if the optimization of human resources was not achieved by that time ("El Universal", 10-11-1999). Indeed, workers' uncertainty created by the reduction of personnel had been a concern within the company since Chávez took power and was exacerbated by governmental decrees that changed the rules of social contributions in 1998 and the public employee status of PDVSA workers in 1999.⁷¹

The transformation process that began in 1998 also altered the incentives employees faced in pursuing promotions within the state firm. People were traditionally hired to cultivate their entire professional career within PDVSA under a system based on merit and different levels of evaluation. This system guaranteed in practice, but not officially, a job-for-life if the worker met average standards of efficiency. The career and professional development of each worker was evaluated by his immediate supervisor and a commission based on his current performance and potential. The careers of members of top management were determined by RYDE (Comite de Remuneracion y Desarrollo Ejecutivo). Although, it was not a transparent system because the model involved extremely confidentiality, it was accepted and the standards of efficiency were more or

⁷¹ Even before Chávez took power, the transformation process was altered by governmental policies. During President Caldera's regime, the government eliminated the retroactivity of social contributions. PDVSA changed its remuneration policy to compensate for it. Once Chávez took office, he signed a law in 1999 that declared PDVSA's workers as public employees, in contrast to their status since 1976, when PDVSA was created (Perez Marquez, p.57).

less clear.⁷² The new model was designed to increase efficiency based on individual value creation, and the alignment of individual worker objectives with the strategic objectives of the firm. The more value an individual created for the firm, the higher his compensation and better his career prospects. This model was precisely the model that the top executives asked human resources to develop in order to accelerate the transformation process in July 1998. Human resources implemented the “Gerencia de los Aportes” model in 1999, but given that the firm’s objectives were not approved until 2001, we assume the new value creation model became another aspect of increased uncertainty and confusion within PDVSA.

Labor resisted changing perceptions about their roles in the company as well as old business practices, and fought more eagerly than before for internal power and benefits that were threatened by the internal restructuring and by external decisions from the government. These firm-related issues were mixed with national politics, and their conjunction created the unstable period of 2002 that ended with the firing of 18,000 workers in 2003, and the creation of the “new” PDVSA.

ORGANIZATIONAL STRUCTURE AND THE NEW PDVSA

The transformation process lead by PDVSA’s top executives was far from complete when Chávez took office in January 1999, and as we explained before, he received a state firm with a business structure potentially open to political interference at the level of operations with which other presidents could not interfere. Having denounced PDVSA as “a state inside the state” that has not contributed to the well-being of the poor during his presidential campaign, Chávez decided to take action.

⁷² For a complete description of this system we recommend ‘Implosion Corporativa’ by Antonio Perez Marquez, and ‘La Forja de un gerente petrolero’ by Hector Riquezes.

The most fundamental change that the Chávez government imposed on PDVSA was the social role the firm must play. The Hydrocarbon Law and the constitution mandate that PDVSA contribute to social programs developed and administered by the government. The Chávez government has directly imposed social responsibilities on PDVSA beyond its own operations. It is not that PDVSA did not have any previous social responsibilities. Palmaven was the subsidiary that supported agro-industrial, social and cultural programs beyond their core oil operations, and for 1997 the firm spent \$77.4 million on these programs. The general comptroller of the republic in 1999 had reported that PDVSA was excessively involved in non-essential activities to the firm, citing automobile registration and agro industry contributions (Perez Marquez, p.82). Chávez dismissed this report. In fact, he embedded his entire governmental social program into PDVSA's operations. By 2005, the company's social expenditures had reached \$6.9 billion (Table A1: Sales of Crude Oil). PDVSA, through its local subsidiaries Palmaven and CVP, now contributes management as well as financial resources to support social programs related to education, healthcare, job creation, and subsidized food distribution (SEC 2005, p.16, Table D3). Thus, PDVSA is no longer funding its own small-budget social programs, but the entire plan of a populist government.

The Venezuelan government has also redefined the scope of PDVSA's business activities and its technological scope. The firm is a holding company with domestic subsidiaries dedicated mainly to upstream operations, and foreign operations exclusively for downstream operations. The range of activities performed by local subsidiaries was reduced in June 2005. Before this date, the scope included the petroleum, gas, coal, Orimulsion and petrochemical industries. However, the MEP decided to transfer all

petrochemical industries to the MEP itself, including all plant assets, and ultimately terminated Orimulsion production in December 2006. As explained in section A, the objective of the firm is to develop joint ventures with state-owned firms in the Orinoco Belt and produce synthetic oil.

In addition to changes in the scope of PDVSA activities, the new government decided to re-organize the company's subsidiaries geographically rather than functionally. Ironically, the firm returned to a productive structure that had been identified as inefficient by the team that guided the processes of internationalization and domestic openness in the 1990s. The Chávez government has reorganized PDVSA into three vertically-integrated geographic divisions called Eastern, Southern and Western (Figure B1). Each division performs exploration, production and upgrading as was previously done by Maraven, Lagoven and Corpoven. It is not clear how the new upstream structure will reduce costs and increase efficiency, given that the old model clearly did not benefit from economies of scale. Other units within PDVSA are Deltaven (domestic retail sales), Intevep (R&D) and CIED (training and education). The financial coordination for foreign operations and the office that is responsible for all accounts receivable and payable have come under the jurisdiction of PDVSA's Finance department since 1998.

Under the new structure, the gas business is divided into four subsidiaries. Upstream activities of associated gas are performed by the Eastern and Western divisions. Upstream activities of non-associated gas are left to the private sector through joint-ventures administered by CVP, the division for third-party operations. PDVSA Gas is responsible for downstream and LNG activities (Figure B1).

Foreign operations include refineries and the sale of oil products in the U.S., the Caribbean and Europe. PDVSA has four subsidiaries in the U.S.: PDV America, PDV Chalmette, PDV Sweeny and PDVSA-Virgin Islands (Figure B2). These four subsidiaries operate three refineries and a coker/distillation unit. PDV America owns 100 percent of CITGO, and CITGO owns 100 percent of CITGO Asphalt Refining Co. and PDV Midwest. The Lyondell-CITGO Refinery LP (41.25 percent) was sold to Lyondell in October 2005. PDV Chalmette owns 50 percent of Chalmette Refinery LLC (ExxonMobil owns the other 50 percent). PDV Sweeny owns 50 percent of a coker/distillation complex called Merey Sweeny LP (ConocoPhillips owns the other 50 percent). Hovensa, a huge refinery, is a 50-50 joint venture with Amerada Hess in the U.S. Virgin Islands. In Europe, PDVSA operates through its PDV Europa subsidiary two joint ventures called Ruhr (a 50 percent stake with British Petroleum holding the other 50 percent) and Nynas (a 50 percent stake with Neste Oil and Fortune Oil & Gas holding the remaining percentage). These two joint ventures operate eight refineries.⁷³ In addition to the refineries in the U.S. and Europe, PDVSA leases Isla Refinery in Curacao for its Caribbean operations. It has also storage terminals in Bonaire and the Bahamas.

The changes in the refining structure abroad are marked by the desire of the Venezuelan government to increase the contributions of these operations to the government's coffers, with Chávez pushing PDVSA to expand the number of refineries

⁷³ PDVSA rents Isla refinery in Curacao, but offered to buy 50 percent to the Curacao government in November 2006. It offered \$1.5 billion for Isla, \$1 billion for technological improvements and \$500 million for environmental prevention ("El Universal", 11-15-06). Both parts were still negotiating the deal by December 2006. PDVSA also owns a refinery in Uruguay, Campana, where it plans to send 50,000b/d of heavy oil beginning in 2007, and a small refinery in Argentina. This is a 50 percent venture with Enarsa, and the refinery capacity is just 7,000 b/d. The joint venture with Enarsa includes 300 gas stations.

in Central and South America. In terms of contributions, the government claims that profit remittances were insignificant and transfer prices to refineries abroad were too low.

There is no disagreement about the low level of remittances before 1999 and the explicit effort of PDVSA to minimize these payments. The discussion is whether this was beneficial to the interests of the state. The ones in favor argue that it was not sound to remit dividends from CITGO given a 50 percent withholding tax in the U.S. and no double taxation treaty between Venezuela and the U.S. It was sound, under these conditions, to re-invest dividends in CITGO. The Caldera government worked hard to negotiate this treaty until the end of his tenure, and the treaty was finally signed in mid-1999, when Chávez was already in office. It was then that dividend remittances became a sound practice.

The government, in turn, argues that the “old” PDVSA created a system to hide dividends to avoid governmental control. Refineries did have profits but sent those to their respective holdings and these, in turn, directed these profits to two financial holdings, Venedu Holding in Curazao and Propernyn B.V in Netherlands. They were in charge of concentrating and distributing resources for investment and expenditures within all foreign operations until the end of 2000 to benefit from double taxation treaties.⁷⁴ These two units would re-inject those proceeds into the internationalization program to support further expansion. So, when CITGO declared dividends of \$468 million in 1998,

⁷⁴ The Netherlands had tax treaties with the U.S. and Netherlands Antilles, and Venezuela had a tax treaty with Netherlands Antilles. So, the financial engineering ensured that any income and profit transferred to Venezuela would not incur withholding tax. For instance, a CITGO profit would be sent to its immediate parent PDV America, then to PDV Holding Inc, then to Propernyn B.V. in Netherlands, then to Venedu Holding in Curazao, and finally to Venezuela (Boué, p.6).

these funds were transferred to its immediate holding company, PDV America.⁷⁵ PDV America declared dividends of only \$268 million, and those were transferred to its holding company, PDV Holding Inc. Then, PDV Holding Inc. transferred its own dividends to Propernyn in Netherlands, and this in turn to Venedu in Curacao. At the end, Venedu transferred to PDVSA in Venezuela. Boué, who studied this process for the MEP, claims that “No one appears to know what proportion of the dividend originally declared by CITGO finally reached Venezuela.” (Boué, p.7) To prevent this cycle from continuing, the government transferred Venedu and Propernyn shares to PDVSA in December 2000, and PDV America took on the functions of these firms (Boué, p.3). Unfortunately, we don’t have data on remittances from foreign operations to verify that the new design works better than the previous model. In addition, former PDVSA executives would argue that because the double tax treaty was not in place in 1998, it was not sound to remit high dividends.

The second complaint against foreign operations has been low transfer pricing, not only because it is an unnecessary subsidy, but also because it is the reference price for paying export taxes. Consequently, PDVSA was paying lower taxes than it should have been. The first part of the argument is based on a comparison between the prices paid by affiliated clients (PDVSA’s own refineries abroad) and non-affiliated clients during 1998 and 2002. It turns out that arm’s-length prices exceeded transfer prices by \$2.1 per barrel

⁷⁵ President Chávez had ordered PDVSA to make its subsidiaries abroad contribute to fiscal coffers given the low oil price in 1998. As a result, CITGO declared \$468 million in dividends. This amount was \$401 million higher than the accumulated dividends declared in the last eight years. CITGO’s dividends averaged \$40 million per year from 1986 to 1990, and then only \$13 million per year for the following five years. We should notice that profits dropped when PDVSA became the exclusive owner of CITGO, and the government claims this reduction was caused by PDVSA’s management (Boué, p.6).

(Boué, p.9).⁷⁶ This explanation, however, is not entirely convincing given the different type (API degree) of oil transacted, the nature of sales between oligopolistic firms, and the role of the U.S. Internal Revenue Service (IRS) monitoring these transactions. It is reasonable to expect that arm's-length prices would be higher than long-term contract prices, more if these are transfer prices are within the same holding. The second part of the argument is not PDVSA's fault but the state's. The Venezuelan state has no proper institutions to monitor, evaluate and audit oil operations. Tax exports were calculated at prices "declared" by PDVSA and not market prices. PDVSA would declare the transfer prices and the government was not able to verify them. The MEP is now controlling all PDVSA's activities, but it is not evaluating its businesses practices and results. There are no independent governmental agencies in place to monitor the oil industry.

As a result of both low profit transfers and low transfer prices, Chávez repeatedly declared in 2004 and 2005 that he was ready to sell PDVSA's foreign refineries because it was bad business for Venezuela. However, the only sale that took place was the 42.1 percent in the Lyondell-CITGO refinery in August 2006 that reduced PDVSA's refining capacity abroad by 109,300 b/d(PODE 2004).⁷⁷ This appears to have been a good deal given that PDVSA bought the refinery at \$5,665 per barrel of capacity in 1993, and sold it at \$20,000 per barrel of capacity 13 years later. In real terms, the deal was 2.7 times the

⁷⁶ PDVSA had three types of contract prices: accounting mechanisms for Ruhr Oel and Refineria Isla (the price is sales done by refinery minus costs incurred by refinery/volume received in the first place); netbacks for Nynas, CITGO, CITGO Asphalt, PDV Midwest, Lyondell (price is determined by a basket of refined products minus costs); and price formulae referenced to market crudes for Hovensa, Merey-Sweeny and PDV Midwest after 1997 (the price of Mexican Maya crude minus a competitive allowance of \$0.20 per barrel). Boué finds that netback prices give the most generous discounts respect to arm's-length sales, and price referenced to market crudes the lowest (Boué, p.8).

⁷⁷ This is the 41.25 percent of Lyondell's full capacity. It seems a small refinery was sold two years before in Europe. If we compare the refineries abroad included in PODE 2003 and 2004, the refinery in Antwerp, Belgium that belongs to Nynas is not incorporated in 2004. This refinery had a 14,000 b/d capacity, but given the 50 percent share of PDVSA, the firm only reduced capacity by 7,000 b/d.

original price.⁷⁸ The sale also considers a new five-year contract for crude oil that replaces the previous netback contract that would last 27 more years, but we cannot evaluate the changes in prices because these have not been released. This transaction, however, has to be also evaluated in terms of the use of the proceeds and the long-term business strategy.

Contrary to some short-term benefits, the sale of the Lyondell-CITGO refinery may have not been a good long-term strategic move. Oil Minister Ramirez declared that the net \$2.3 billion of the sales would probably go to the government's developmental fund,⁷⁹ rather than to build new refineries in Venezuela or abroad. It may also be a strategic error if we consider that of all CITGO's refineries, excluding the two asphalt units, Lyondell was the only refinery receiving heavy crude oil. It was receiving 95 percent of heavy crude oil compared to 47 percent of non-affiliates in the U.S. and 0 percent of the other CITGO refineries because they only receive 83 percent of medium crude oil (Table D5). We think that the current government focuses too much on prices and misses the point that in the long run and strategically, the oil business is much more than just prices.⁸⁰

The refining structure abroad depends also on the political alliances Chávez develops in Central and South America. Petrobras and PDVSA have agreed to build a 200,000 b/d heavy oil refining facility in Pernambuco, Brazil. This 50/50 joint venture

⁷⁸ These numbers consider the U.S. GDP deflator (base 2000)

⁷⁹ Venezuelaanalysis.com, 8-16-2006.

⁸⁰ PDVSA tried to buy the rest of Lyondell's shares in 2000 and 2001 but the MEP did not authorize the deals. The ministry of energy and mines, at that time, argued that having a partial shareholding in a business that generates losses is better than being the entire owner (Boué, p.37). A buyer would argue that if it is generating losses, then it the best time to buy it and change the price contract about which the government was complaining.

requires a total investment of \$2.8 billion and it is expected to start refining crude oil with 16-19 API by 2011. The heavy oil will come from the first phase of an 800,000 b/d extra heavy oil upgrading complex in the Orinoco Belt. The first phase requires a \$2 billion investment from Petrobras and PDVSA between 2007-2008, and it is expected to be in production by 2008-2009 (Energy Intelligence Group, December 2006). There is also a new agreement between Petroecuador and PDVSA to refine Ecuadorian oil in Venezuela, and in the future expand and modernize the Las Esmeraldas refining complex in Ecuador. If negotiations go well, PDVSA will invest in a new refining complex in Ecuador within the auspices of the Petroandina project of energy integration. It is interesting to notice that by the time the new Natural Gas Law was introduced to favor private investment in 1999, Chávez decided to alter the way PDVSA was expanding in Latin America. CITGO-Latin America replaced Deltaven, which had been selling the PDV brand. But after Chávez actively started proposing regional energy integration, he returned to the original plan. Again in 2005, all CITGO-South America's assets and projects were restored to Deltaven, the retail arm of PDVSA in Venezuela.

III. RELATIONSHIP TO GOVERNMENT AND OTHER DOMESTIC POLITICAL ACTORS

PDVSA Leadership Instability

The president of Venezuela has the authority to name the president of PDVSA and it is formally under the ministry; as noted, this gives the executive branch potentially great influence over the company. But the pull of the needs of the company are very powerful, even within this institutional context. Prior to Chávez, there was an unwritten rule that the PDVSA leader would be selected from among the managerial elite of the

company.⁸¹ Herrera Campins violated this arrangement at the tail end of his tenure, naming a leader (Humberto Calderon-Berti) of his political party to the PDVSA presidency. But when Lusinchi assumed the nation's presidency, he appointed the head of Lagoven, Brigido R. Natera, to lead PDVSA.. When Natera retired as a result of conflicts with the ministry and congress, another PDVSA veteran was appointed, Juan Chacín Guzmán, who also happened to be the president's cousin. Although CAP violated this norm for his entire second term (first with Andrés Sosa-Pietri, a private entrepreneur, and then Gustavo Rossen, a lawyer and private sector manager), Caldera selected Luis Giusti, a career PDVSA engineer and manager, who served during the entire Caldera administration.⁸²

Chávez and his team rejected the entire notion that PDVSA should enjoy autonomy but his handpicked management team for PDVSA was not as easy for him to subordinate as he thought. In addition, because PDVSA generates such a huge percentage of government revenues, it appears that Chávez has been reluctant to allow its leadership to fall into the hands of minor partners in his political coalition or potential competitors.⁸³ The initial result was leadership instability in PDVSA from 1999 until 2002 (PDVSA had seven presidents between 1999-2005; by comparison, there have been only three ministers of energy and mines in the same period). Chávez' first appointment, Roberto Mandini, lasted only six months and was replaced by his chief rival, Hector Ciavaldini, who was on the PDVSA board of directors. Ciavaldini was replaced after a year by an old military school classmate of Chávez, General Guaicaipuro Lameda. The general was

⁸¹ Monaldi, personal communication.

⁸² Rafael Quiroz Serrano, *Meritocracia Petrolera: ¿mito o realidad?* Caracas: Panapo, 2003, 106-115; Business Week, "Manager: Luis Giusti" <http://www.businessweek.com/1998/43/b3601030.htm> accessed 2/14/07

⁸³ . This is Mares' hypothesis to explain leadership instability in PDVSA.

progressively won over by PDVSA management's opposition to the new strategy for the company. Chávez relieved his old friend after a year and a half, replacing him with Gaston Parra Luzardo, whose moves to implement the new strategy along with Chávez' appointment of political allies within management⁸⁴, provoked a strike by management that culminated in the April 2002 coup against Chávez. Acting President Pedro Carmona Estanga reappointed General Lameda to head PDVSA.

The coup against Chávez collapsed within 48 hours. Within two weeks of returning to office, Chávez brought in his chief petroleum strategist and former head of MEP, Alí Rodríguez Araque, who was serving as OPEC secretary general at the time, to take over PDVSA. The company's leadership has stabilized, but under conditions that suggest that such stability may not have deep roots. Rodríguez is a member of the PPT, a minor party that emphasizes professional and technical qualifications among its members, not the need for a mass following. He was elected to congress prior to Chávez' ascent to the presidency, where he sat on the committee overseeing the energy sector and opposed the liberalization strategy of PDVSA. Chávez sent him to OPEC to advocate for more restrictive policies and he subsequently became secretary general of the organization. As an OPEC leader, Rodríguez was seen as a "calming influence" on international markets, rejecting efforts by Arab hardliners to use oil as a political weapon.⁸⁵ Upon returning to Venezuela and taking the reins of a politicized and demoralized PDVSA, Rodríguez was able to bring some stability to the company. The

⁸⁴ Marc Lifsher, "Tension 'already down' at PDVSA: Rodriguez: Former OPEC chief sworn in as head of Venezuela's state oil firm: Chávez names new board." *National Post* (Canada), April 24, 2002; *Petroleum Economist*, "Focus: Trouble at Mill." April 17, 2002; both accessed via Lexis/Nexis January 3, 2007

⁸⁵ *Agence France-Presse* – English "OPEC to name new Venezuelan chief after Caracas coup." June 26, 2002, accessed via Lexis/Nexis January 3, 2007

political opposition also supported his appointment to PDVSA.⁸⁶ But after the massive strikes of December 2003, Rodríguez oversaw the firing of thousands of employees. Rodríguez served from April 2002 to December 2004, when he became foreign minister, and in September 2006, he was named ambassador to Cuba.⁸⁷

Minister of energy and mines Rafaél Ramírez became president of PDVSA (December 2004 to present) in what was initially seen as a short-term dual appointment. With Ramírez, Chávez brought in a personal ally. Ramírez attended college with Hugo Chávez' brother, went on to become a mechanical engineer, and a member of the PPT political party.⁸⁸ In addition, he was inseparable from Chávez during the April 2002 crisis, earning the president's complete confidence.⁸⁹ From our perspective, the anomaly of the minister serving as PDVSA president, suggests that Chávez is holding the PDVSA card very close to his chest, even relative to those political forces in his ruling coalition. Chávez asked for the resignation of his entire Cabinet after re-election in December 2006, but Ramírez kept his PDVSA presidency and subsequently was re-appointed minister).

NON-COMMERCIAL ACTIVITIES

NOCs are specialized firms whose areas of expertise lie in various segments of the petroleum industry and market; they are not firms with expertise in providing social services and economic development projects. The most efficient mechanism by which a NOC can contribute to social services would be through fiscal policies that transfer some proportion of NOC profits to the national treasury whereupon they are then redistributed

⁸⁶ Latin America Regional Reports: Andean Group, "Venezuela's Chávez appoints PDVSA saviour." May 14, 2002, (accessed via Lexis/Nexis), January 3, 2007.

⁸⁷ Mares interview, Javier Pereira, Venezuelan journalist, Washington, D.C. January 26, 2006.

⁸⁸ Interview, Javier Pereira.

⁸⁹ Altamirano interview, Francisco Monaldi, Professor IESAS, Caracas.

to the social welfare and economic development agencies of the state or used to subsidize private social welfare agencies. But where the transfer process is rent with political competition, inefficiencies and corruption, a government that seeks to deliver social welfare goods to its constituencies will be tempted to short-cut that transfer process by giving the NOC social welfare functions directly.

Venezuela's poorly developed state bureaucracy led CAP to mandate that PDVSA take on social welfare responsibilities from the beginning.⁹⁰ Chávez campaigned in 1998 on a platform to make PDVSA play a dramatically more active role in national development. Upon assuming office, he directed PDVSA to create and administer social, educational, health and development programs. One can understand the considerably increased political demands placed upon PDVSA by both the population and the government by examining a data concerning Venezuela after the oil boom of the 1970s. This information also helps us understand why the AD-COPEI dominated political system has been repeatedly repudiated by the electorate in elections since 1998.

- GDP average annual growth rate of 1 percent 1985–2003
- 1998 real wages were less than 40 percent of 1980 level
- Purchasing power of the 1994 minimum wage is one third that of 1978
- Percentage of the population below poverty line: 36 percent in 1984; 66 percent in 1995
- Percentage of the population in extreme poverty: 11 percent in 1984; 36 percent in 1995 Per capita social spending in 1993 is 60 percent of what was spent in 1980

⁹⁰ Interview, Javier Pereira.

In 2004, when Chávez was forced to hold a national referendum on his right to stay in office, two-thirds of PDVSA's budget was dedicated to social welfare, not petroleum-related activities. Chávez' 59 percent win in that plebiscite may have bolstered the idea that PDVSA should serve the Venezuelan society's needs over everything else, but clearly, PDVSA cannot sustain such a diversion of resources without serious damage to its productive capacity.

In mid-2004, the Chávez administration created "Fondespa" (The Fund for Social and Economic Development within the Country) to channel financial support directly from PDVSA to social and economic programs approved by the government. PDVSA also contributes the technical and administrative skills of its personnel and even some of its buildings for specific community projects. The most well known of PDVSA's contributions are carried out with other government ministries and agencies in supporting the following seven "Social Missions."⁹¹

- Ribas Mission – Education; high school
- Sucre Mission – Education: college; UBV in former PDVSA building
- Barrio Adentro Mission – Health; low cost medical services
- Mercal Mission – Food; low cost purchases and production stimuli
- Identity Mission – Citizenship; identity cards to nationals and resident foreigners (articulated as a necessary step to enjoy benefits of citizenship or begin process of gaining citizenship, though its use for stifling dissent is a concern to the opposition)
- Vuelvan Caras Mission – Employment; youth job training

⁹¹ . <http://www.pdvsa.com/> (accessed 12/20/03).

- Guaicaipuro Mission – Indigenous rights

PDVSA's role is in constant flux as the Chávez government deepens its control over the bureaucracy and as the social programs grow, get established and institutionalized. Although the management of the Barrio Adentro Mission, initially housed in PDVSA, are being transferred to other agencies, PDVSA will still be funding the program. The new educational programs for non-traditional students (older people who never learned to read, adults who never finished primary or secondary school, etc.) were allocated to PDVSA not only because it had resources (an educated personnel as well as money) but also because the education ministry was limited to participating in formal education and the PDVSA-supported primary, secondary and college programs are bare-to-the-bones extension programs.⁹²

DOMESTIC POLITICAL ROLE

PDVSA's political role has shifted dramatically with Hugo Chávez' ascension to power. To understand that role we need to place it within the context of Chávez' strategy for running the country. Three pillars underlie Chávez' domination of Venezuelan politics: the leader as caudillo, with support by the army and the people (largely conceived of as the poor and the left wing of the political spectrum).

As caudillo, Chávez rejects political parties and traditional democratic politics because both entail a degree of institutionalization that would limit his freedom of action. To maximize that freedom, Chávez wants his cabinet to have personal links to himself that are direct and not mediated by political parties. Such minimal constraints means that policy can change whenever the caudillo believes a change is desirable; critics would call

⁹² Interview, Javier Pereira.

this policy instability, though supporters merely see it as the leader responding to challenges to the “Bolivarian Revolution”.

The army and the people have to be “cleansed” of counter-revolutionary elements. Hence the army is purged and politicized to see itself as the defender not of the nation per se, but of the “Bolivarian Revolution”. In this capacity, Chávez makes use of the army’s intelligence capabilities and has also assigned an army officer to function as a sort of political overseer within each government ministry. In return, the military is gaining not only political influence but also increased budgets and modern weaponry (e.g., arms purchases from Russia). The people play an important role as supporters and as beneficiaries, who thereby justify the means to implement the “Bolivarian Revolution”. The people themselves are purged and politicized (the labeling of the political opposition as ‘traitors,’ etc.) as well as kept in a constant state of mobilization. This mobilization to vote and demonstrate in the streets represents “Direct Democracy,” which is Chávez’ alternative to the traditional forms of democracy that depend upon political parties to mediate between leaders and the electorate. This direct link between Caudillo and the people is built through ideological and material benefits provided through the high profile and consistent efforts of Chávez and is attributed to the “Bolivarian Revolution”.

The political weight of PDVSA has increased as the national development strategy and the continued existence of the “Bolivarian Revolution” depend upon the state energy firm’s ability to generate revenues to reward the army and the people. These are expensive rewards, given the great levels of poverty and the moderate levels of military professionalization in Venezuela. They become even more expensive as a result of the inefficiencies in which PDVSA is run and the benefits are generated and

distributed. Control of PDVSA is thus the *sine non qua* of the “Bolivarian Revolution” and Chávez’ consolidation as Caudillo.

Consequently, the independence of PDVSA has been trimmed dramatically. The company is simply too important to be allowed to set its own goals or to ally with the opposition. As Minister Ramírez insisted just before the December 2006 elections, to the applause of a special meeting of middle and upper management of PDVSA,

“Our pulse does not tremble, we took out nineteen thousand five hundred enemies of the country from this firm and we are ready to keep doing it, to guarantee that this company is aligned and corresponds to the love that our people have expressed for our President.”⁹³

PDVSA is perhaps too important to allow competition within Chávez’ own ruling coalition to affect its operations or the manner in which its resources are distributed nationally; this may be why Ali Rodríguez and Rafael Ramírez have led PDVSA since the crisis of 2002.

FOREIGN POLICY ROLE

PDVSA’s political role is not limited to the domestic agenda of the “Bolivarian Revolution”. Chávez recognizes that the international political context of increased globalization and the promotion of liberal democracies, as well as the foreign policy activism of the Bush administration in the U.S., pose a risk for the consolidation of the “Bolivarian Revolution” at home. Therefore, he has adopted an aggressive foreign policy of his own to create countervailing pressures against globalization and U.S. pressure on

⁹³ <http://lubrio.blogspot.com/2006/11/el-discurso-de-rafael-ramrez-pdvs-s.html>-, Mares’ translation, accessed January 3, 2007; see also, BBC News, “Storm over Venezuela oil speech.” <http://news.bbc.co.uk/2/hi/americas/6114682.stm> accessed 2/14/07.

his regime. This foreign policy activism, in Latin America, the Caribbean, the Middle East and Asia, is based on both promises of economic aid and joint energy projects. In both, PDVSA plays a fundamental role.

Foreign policy affects PDVSA business decisions because Chávez uses PDVSA and the energy business for his foreign policy goals at great losses to potential and current revenues. These revenues siphoned off for foreign policy reasons leave less for investment in the firm. In addition, using the company to build inefficient projects, provide skilled consultancies for high-cost ventures by foreign partners, and supply allies with subsidized oil and gas increase demands on its already significantly diminished resources.

Examples of Chávez' expensive foreign policy abound. Deals with the Morales government in Bolivia include the petroleum, mining and fertilizer industries.⁹⁴ Recently-elected Ecuadorian President Rafael Correa is looking for aid from Chávez to deal with a severe debt and economic crisis, perhaps in a fashion similar to Venezuela's purchase of Argentine bonds to help that country out of its financial crisis.⁹⁵ Chávez also recently promised aid to Daniel Ortega's government in Nicaragua that could amount to billions of dollars.⁹⁶ In January 2007, Chávez nationalized some U.S. companies that he perceived as obstacles to consolidation of his rule and increased distribution to his constituencies. But to keep international investors and regional governments from

⁹⁴ BBC NEWS: "Chávez and Morales in trade deals."
<http://news.bbc.co.uk/go/pr/fr/-/2/hi/americas/5021064.stm> accessed 2/15/07.

⁹⁵ Matthew Walter and Patrick Harrington, "Ecuador, Pondering Debt Default, Turns to Chávez for Funding." Bloomberg.com (accessed 2/15/07.)
http://www.bloomberg.com/apps/news?pid=20601086&sid=a2GXAsbmgAcA&refer=latin_america#.

⁹⁶ Adam Thomson, "Venezuela aid to cement Ortega ties." Financial Times, FT.com. accessed 2/15/07
<http://www.ft.com/cms/s/655d888c-9e7f-11db-ac03-0000779e2340.html>.

deciding that Chávez has clearly become an unreliable partner, he paid \$1.4 billion for those assets.⁹⁷

IV. STRATEGIES AND BEHAVIORS UNDER CHÁVEZ

Performance, Corporate Strategy and Goals

The shift of strategy was not clear until April 2003 when the “new” PDVSA was distinguished from the “old” PDVSA, but it has only been implemented since the beginning of 2004, with an ostensibly final refinement in 2006. PDVSA’s general strategy until April 2003 had been to maximize shareholder value and ensure financial strength.⁹⁸ Since then, the objective has been to maximize the value of oil and gas resources.⁹⁹ In other words, while the old strategy focused on costs, net income and profits, the new strategy cares about revenue and the two variables that determine this level -- prices and quantities. Given that PDVSA alone cannot determine international oil prices, the government complies with OPEC’s quotas and its recent cuts in production levels to guarantee high prices. Minister Ramirez declared that quotas and reduced quantities ensure the maximum value of Venezuelan oil.¹⁰⁰

The implications of this statement are that PDVSA can do nothing directly to achieve its goal of maximum value, because it cannot go beyond OPEC’s quota and cannot determine international prices. Attainment of the firm’s goal depends on MEP’s negotiations with OPEC and the fluctuations of the international market. To complement the new business goal, the firm’s strategy was officially aligned to the government’s

⁹⁷ Brian Ellsworth, “Canny Chávez tactics lead “revolution.” <http://news.scotsman.com/latest.cfm?id=243712007> accessed 2/15/07.

⁹⁸ PDVSA’s ‘US Securities and Exchange Commission, Form 20-F, 2001,’ June 14, 2002.

⁹⁹ PDVSA’s ‘US Securities and Exchange Commission, Form 20-F, 2003,’ October 7, 2005.

¹⁰⁰ “El Universal”, 12-14-06.

national development plan in 2006.¹⁰¹ As a result, the firm's *de facto* short-term strategy has become to maximize transfers to social programs.

The combination of strategic objectives, maximization of revenue and transfers to social programs, is creating inefficiencies that so far have not been of economic or political concern because of high oil prices. The firm does not need to focus on cost reduction or efficient operations in order to maximize revenue, and in fact, the highest value depends on MEP's influence on OPEC. This objective makes the firm focus just on prices, and this criterion has guided the decisions about Orimulsion and the sale of the CITGO-Lyondell refinery. Nothing has been done to improve efficiency in the operating units that were going through a consolidation process when Chávez took office, and costs today take 80 percent of revenue (Table A1). But, these business problems are not of concern to politicians experiencing high prices and electoral challenges.

Similarly, the financial transfers to social programs in Venezuela or abroad are done in such a way that increases favoritism and corruption, and decreases transparency. For instance, the temporary employment program is directly linked to participants in the Social Missions, thereby making its role in promoting the "Bolivarian Revolution" and Chávez clear to everyone. Nor has there been a public accounting of the commodities PDVSA receives from its barter agreements with Argentina, nor the value of the services provided by Cuba.¹⁰² Although we couldn't quantify these inefficiencies, it seems that costs should be more than the reported 77.4 percent of revenue for 2005 if some oil

¹⁰¹ PDVSA's strategy in the firm website, www.pdvsa.com, (accessed 12-18-06).

¹⁰² Altamirano interviews with Francisco Monaldi and Bernard Mommer, May 2006. Monaldi mentioned the specific instance of cows coming from Argentina. Mommer recognized that inefficiency is not of concern given high prices and the fact that 2006 was an electoral year. Efficiency will reportedly be on the agenda after December 2006.

payments are lost in the process.¹⁰³ If there were opportunities to improve efficiency in 1998, there were even more by 2006.

Given that PDVSA's business objectives cannot be achieved by the firm's own actions but depend instead on the MEP and OPEC, the big difference between the previous and new strategic plans lies not so much in the oil operations itself nor in the effort to re-orient the extra heavy crude exploitation from Orimulsion to medium-mix crude oil. The big difference appears in the explicit social and political role of PDVSA domestically and internationally. This conclusion is well illustrated through a comparison of the strategic plans of the "old" PDVSA (2002-2007) and the "new" PDVSA (2005-2010), included in the financial reports submitted to the SEC. There is a recent 2006-2012 plan that should be the first step of the long-term vision, Siembra Petrolera 2006-2030. Lamentably, only parts of the 2006-2012 plan have been presented in PowerPoint files, and we can use it only to update the investment plans for the Orinoco Belt, maritime fleet investment and output targets.

The 2002-2007 plan reserved oil exploration, production, refining and marketing activities for PDVSA, while the new 2005-2010 plan refocuses PDVSA into oil and reduces the scope of its activities. PDVSA's oil exploration efforts are now restricted to backyard areas, leaving other regions for third party participation. The earlier plan sought to promote private investment in gas, petrochemicals, refining, Orimulsion and coal through joint ventures (associations) with private multinationals. The new plan increases PDVSA's role in the production and marketing of heavy and extra heavy crude oil, including the Orinoco Belt. But the new plan discontinues Orimulsion because of its

¹⁰³ These are 'Total Costs and Expenses' and 'Total Revenue' values as they appear in the financial statements presented at SEC and that are presented in Table A.1. The average ratio is 82.4% from 1999 to 2005.

low price, high costs and low tax proceeds, and relies on a simpler and older technology of mixing extra heavy and light crude oil to produce a heavy blend. This new strategy should ensure a better market value and higher tax proceeds than before.¹⁰⁴ However, this strategy is viable only in the short run because there is insufficient light crude oil to be mixed with extra heavy oil. For this reason, PDVSA is making an effort to find more light crude oil. In the long run, PDVSA has to decide between the technology controlled by private multinationals today (synthetic oil) or Intevep's Orimulsion technology. In sum, the new PDVSA refocuses on extra heavy crude oil with a technological option that only works in the short run, and exploration activities are minimized in the short term, presumably to be increased once the "Bolivarian Revolution" has stabilized and consolidated.

The new strategy to increase the role of PDVSA in extra heavy oil production depends on the success of developing the Orinoco Belt in associations with other NOCs. The recuperation ratio per well has increased from 100-200 barrels per well in the early 1980s to 2,000-3,500 barrels per well by 2005, and this ratio is expected to increase even further with the introduction of new thermal recovery processes.¹⁰⁵ The production cost per barrel has decreased from \$3 in 1991 to \$0.95 in 2004 (Planes Estratégicos PDVSA: Faja del Orinoco, p.6). Given these favorable technological and cost perspectives, PDVSA wants to get 236 billion barrels of reserves certified, making Venezuela the

¹⁰⁴ Bernard Mommer, "El mito de la Orimulsion." Serie Petrolera, Caracas: Ministerio de Energia y Minas, 2004.

¹⁰⁵ Technological improvements went up by stages determined by type of wells and type of fluids that are used in the extraction process. The first wells used in the 1980s were vertical and the recovery ratio was increased by perfecting the pumping process and solvent injection. Wells became horizontal by 1994 and multilateral by 2000, and the process perfected the fluids used in perforation. Today there are thermal recovery processes that are expected to increase recovery volumes above 3,500 barrels per well, for instance. SADG, Thai-Capri, Combustion in situ (Planes Estratégicos PDVSA: Faja del Orinoco, August 2005, p.5)

largest holder of liquid oil reserves in the world. The “Orinoco Magna Reserva” project divides the Orinoco belt into four regions -- Carabobo, Junin, Ayacucho and Boyaca -- and subdivides them into 27 blocks. PDVSA will develop 14 blocks on its own, and the rest through joint ventures with other NOCs that will have at most 49 percent ownership. Seven NOCs -- Petrobras (Brazil); Petropars (Iran); CNPC (China); ONGC (India); Repsol (Spain); Gazprom and Lukoil (both Russia) -- were in the Orinoco Belt by December 2005.¹⁰⁶ Enarsa (Argentina), Belarusneft (Belarous) and Petrovietnam (Vietnam) also agreed to participate in 2006, and Chávez invited ANCAP (Uruguay), YPFB (Bolivia), and Petroecuador (Ecuador) to join the group.¹⁰⁷ PDVSA plans to finish certification by 2009 and production should start by 2011. The firm expects a production level of 1.2 million b/d by 2012, with more or less half of it coming from these new ventures.¹⁰⁸ The estimated level of investment for 2006-2007 is just \$15 million per year, but \$3.4 billion per year during 2008-2012.¹⁰⁹ Given that 49 percent should come from NOCs, it is still too early to evaluate the success of such a program. So far, only the Petrobras-PDVSA venture has been successful. It increased reserves in its block from 8 billion barrels to 45.5 billion barrels in November 2006, and will start exporting 200,000 b/d in 2011.¹¹⁰

¹⁰⁶ Repsol-YPF received approval to participate in the Orinoco Belt in exchange for 10 percent of its Argentine operations to be transferred to PDVSA. Minister Ramirez announced this deal in Argentina when PDVSA bought 163 gas stations from ANCAP (Uruguay) and formed a joint venture with ENARSA (Argentina) to buy a small 7-8,000 b/d refinery and 150 gas stations valued at \$100 million. Repsol-YPF signed a contract to provide crude oil to Campana (PDVSA online news 10-1-05, “El Universal,” 9-30-05).

¹⁰⁷ “El Universal”, 11-14-06.

¹⁰⁸ There are four old “associations” with ExxonMobil, PhillipsConoco, Chevron, Statoil, Total and BP, that are currently producing 622,000 b/d, and PDVSA states that this volume will remain stable until 2012 (Planes Estratégicos PDVSA: “Faja del Orinoco,” August 2005, p.23).

¹⁰⁹ Ibid, 24.

¹¹⁰ “El Universal”, 11-14-06.

As noted above, the new plan reduces PDVSA's scope of activities. It excludes the firm from petrochemical development and limits its involvement in non-associated gas. Development of the petrochemical sector was passed to MEP and non-associated gas is left to third party associations.

There are no major changes in investment targets between the "old" and "new" plans. The new plan sets a total of \$49 billion distributed from 2005 to 2010 (Table D1). It turns out that the \$5.0 billion investment for 2004 under the old plan is equivalent to \$5.8 billion in 2005 under the new plan if the discount rate was 16 percent, thereby implying no net increase in investment. Using this rate to discount the investment targets, we find that only the targets for 2006 and 2007 are higher than the investment for 2004 (Table D1). If the rate of return for PDVSA is higher than 16 percent, all investment targets would be lower than the 2004 level under the old plan. Thus, the new plan does not emphasize investment to a greater degree than had the prior plan.

Table D1 demonstrates that natural gas investment is not a priority in the new plan. Planned oil production investment is more than 40 percent of total investment in 2005, but decreases continuously to 25 percent by 2008. Refining investment, on the other hand, increases its share from 5 percent in 2005 to 31 percent in 2007 and 41 percent in 2009-2010. Natural gas investment never gets any investment share close to 40 percent. Its highest shares are 28 and 21.5 percent for 2006 and 2007, respectively. Therefore, PDVSA's investment plan focuses mainly on oil production during 2005-2006, then on refining from 2007 to 2010. Natural gas is not a priority although there is a window of opportunity for it in 2006 and 2007.

The new plan has an ambitious production target of 5.1 million b/d by 2010 and 5.8 million b/d by 2012 that unfortunately lacks credibility. The 2005-2010 plan estimates that PDVSA should drill 91 exploratory wells, 3,751 production wells and maintain 7,663 wells.¹¹¹ In other words, PDVSA is planning to drill an average of 18 exploratory wells and 750 production wells per year. Past exploration performance for oil and extra heavy crude oil had been 19 wells per year from 1997 to 2003. Therefore, an 18-well target only requires overcoming the “2003 technical limitation” and drilling at pre-2003 levels. However, when compared to the 132 exploratory wells per year that PDVSA drilled from 1979 to 1983 in the Orinoco Belt to determine its potential reserves, this target confirms that exploration is not PDVSA’s priority for the near future.¹¹² In terms of production wells, the planned average of 750 wells per year is higher than its previous record of 703 wells per year from 1997 to 2003. While this number is a reasonable target, to achieve it PDVSA will need to recover its drilling efficiency after the disruptions that have occurred since 2002.

In summary, in terms of production levels it is not clear how PDVSA will produce 5.8 million b/d by 2012 with levels of investment similar or lower than those in the previous plan. The most PDVSA has produced to date was 3.4 million b/d in 1998 and 1999. Notice that the total operating wells in 2005 were just 13,500 compared to 19,583 in 2001, and there is no significant effort to bring new wells into operation (Table D2, last column). PDVSA is betting that it does not need to drill as much as before because it has become much more successful in exploration and has significantly reduced

¹¹¹ The 2006-2012 plan just mentions that PDVSA will drill 186 E&P wells to add 8.6 billion barrels of reserves from 2005 to 2012 (PDVSA Strategic Plans 2006-2012). Certainly the number 186 is too low to be compared with previous levels. We assume that there is a confusion of numbers in this PowerPoint file.

¹¹² The number of wells done by PDVSA in the Orinoco belt comes from Mommer, 2004, p.12.

exploration risk. Venezuela had a success exploration ratio of 40 percent compared to just 12 percent for the rest of the world from 1997 to 2002. But, what would separate the old PDVSA from the new one is that this success ratio went up to 70 percent for 2003-2004, and the firm expects this increment to be permanent until 2012 (PDVSA's Strategic Plans, E&P plan, p. 21). In addition, the firm is betting that discovery costs will continue its downward trend. The discovery costs per barrel fell continuously from \$1.70 to \$1.04 from 1993 to 2003 (ibid). Consequently, the strategic plan for the next years does not increase investments in E&P but expects a considerable increase in production levels based on the assumptions noted.

Yet these assumptions lack credibility and are quite risky. The success ratio was only up in the last year reported. More importantly, the PDVSA Strategic Plan of 2006-2012 does not explain how the firm's exploration success ratio went up from 42 percent to 70 percent nor was this information incorporated in any financial document audited by a non-Venezuelan government agency. It was not included in the PDVSA Strategic Plan of 2005-2010, a plan that was presented within the last PDVSA's Form 20F to the U.S. SEC in October 2005. In addition, some industry experts observe that the natural field decline rates in PDVSA's areas are as high as 25 percent compared to 2-8 percent in Saudi Aramco's fields. This huge decline is due to lack of investment. Consequently, we have doubts the reported performance improvements will become the norm for the coming years, and even if some of it occurs, it will not be enough to compensate for the lack of investment and the high natural field decline.

In terms of incremental reserves, the 2006-2012 figure is not ambitious. It expects oil reserves to increase by 8.6 billion barrels or 1.2 million barrels per year. Recent data

indicate that this average is lower than the 1.9 billion barrels added per year from 1995 to 2001. In fact, oil reserves have been increasing at lower rates in the 21st Century than in the 1990s, and the plan has no intention to reverse this trend.¹¹³ However, the 2006-2012 strategic plan expects to increase these reserves with only 196 E&P wells from 2005 to 2012. Again, this modest increase in reserves depends on the assumption of a very high exploratory success ration mentioned in the previous paragraph, and thus suffers from the same credibility issues.

There are important changes in PDVSA's international investments as it shifts from big markets to small markets and from developed markets to underdeveloped markets. The new plan states that PDVSA has to find the right balance between its overseas and local assets in order to maximize the value of oil and gas resources. As we mentioned at the beginning of this section, PDVSA's objective is to maximize the value of oil exports. Limited refining capacity in developed markets is one reason why oil prices remain high. Therefore, the right balance between domestic and overseas assets to keep prices high certainly calls for avoiding refining expansion in the U.S. or Europe. PDVSA's investment expansion in large markets will remain as low as it has been since 1998.¹¹⁴

The new plan refocuses PDVSA's international expansion to the Caribbean, and Central and South America. This expansion is guided by political rather than economic

¹¹³ The average from 1995 to 2001 is 1.9 billion barrels per year. But the averages from 1995-2002 and 1995-2003 are 1.6 billion and 1.4 billion barrels per year, respectively (PDVSA's Form 20 submitted to the U.S. SEC for 2001, 2002 and 2003).

¹¹⁴ This is compatible with an expected 14 percent increase in total exports from 2005 to 2012. The expected increments are 10 percent and 6 percent for the U.S. and Europe markets, respectively. The increments for undeveloped markets are higher than that: 15 percent for Latin America and the Caribbean, and 55 percent for China and India (Planes Estratégicos PDVSA: Comercio, Suministro y Transporte, August 2006, pp. 1-12).

objectives. The 2005-2010 plan states that: “PDVSA will support the process of Latin America and the Caribbean energy and economic integration promoted by the Venezuelan government. We will also put in practice the government initiative of building a new worldwide multi-polar system of international relations based on justice, mutual respect and social equity. This initiative will allow the Venezuelan people to achieve a better standard of living with less poverty and sustainable development (SEC 2005, p.13).” This is the first time since its creation that PDVSA explicitly incorporates the political objective of the current national administration.

The expansion to the Caribbean, and Central and South America calls for regional energy integration based on natural gas exports and sustained by the Petrocaribe, Petrosur and Petroandina initiatives promoted by Chávez. All three are political and commercial facilitators to promote regional cooperation mechanisms among NOCs, more specifically to supply crude oil at preferential rates and the construction of gas pipelines. There are 15 countries in the Caribbean that are part of Petrocaribe and receive in total 200,000 b/d .¹¹⁵ The preferential conditions when international prices are above \$40 per barrel call for a financing of 40 percent of the sale to be paid in 25 years at 1 percent of interest and a two-year grace period. This payment must be done with bank notes or governmental guarantees, although some countries can pay this debt with commodities at special prices. For instance, Caribbean countries can pay with sugar or bananas and Cuba pays with technical assistance in the fields of health care, physical education, agriculture, animal

¹¹⁵ The 15 countries in Petrocaribe are Antigua y Barbuda, Bahamas, Belice, Cuba, Dominica, Grenada, Guyana, Haiti, Jamaica, República Dominicana, San Cristóbal y Nieves, Santa Lucía, San Vicente y las Granadinas, Surinam, y Venezuela. Haiti was incorporated in November 2005, and Cuba maintains credit conditions that do not follow Petrocaribe rules. Cuba started barter agreements in 2000.

husbandry and illiteracy eradication.¹¹⁶ The remaining 60 percent is paid in cash within 90 days after receiving the shipment. Similar conditions were applied to recent agreements with El Salvador and Nicaragua, as well as with Uruguay, Argentina and Paraguay in South America.¹¹⁷

Experiences in South America, however, reflect a lack of coordination and political opposition to the Chávez presence. Petrosur was created by a presidential agreement between Chávez, Brazil's Luiz Ignacio Lula da Silva and Argentina's Nestor Kirchner in May 2005, and it was expanded to incorporate Uruguay and Bolivia by the end of that year. The experiences with Uruguay, Argentina and Paraguay varied from successful to complete failure. The deal with Uruguay includes 33,000 b/d of fuel oil in exchange for cement, urban construction services, and ethanol and it has worked well. On the other hand, the deals with Argentina reflect the lack of coordination between the political and economic arms of these types of agreements. The political commitment was to send 1.1 million barrels during 2005, but PDVSA could only deliver 10 percent of it. Cammesa (Compañía Administradora del Mercado Eléctrico de Argentina) did not have enough storage facilities to receive the rest, and two PDVSA cargoes had to return without downloading to Argentina. PDVSA claimed a \$2.4 million bill for the frustrated

¹¹⁶ Cuba and Venezuela started their barter agreement in 2000, five years before Petrocaribe was born. It is estimated that Cuba received 100.42 million barrels valued at \$3.38 billion from 2000 to 2005. The conditions were 75 percent cash and 25 percent financed at 1 percent of interest and to be paid in 15 years. The total debt accumulated was \$850 million and paid with bank notes from Banco Nacional de Cuba. However, Cuba did not pay their cash obligations, and this debt went up to \$651 million by 2003 ("El Universal," 10-31-05). Cuba renegotiated this debt in 2002. Venezuela invited Cuba to consolidate all its debt under the Petrocaribe credit conditions, but the island rejected the proposal, and preferred to continue being special within the special group. It seems the former levels to Cuba were 53,000 b/d in 2000, but now they have reached 98,000 b/d, and PDVSA opened an office in Havana in 2005 (bnamericas.com 4-26-2005).

¹¹⁷ PDV Caribe (PDVSA) and Enepasa (El Salvador) signed an agreement for 3,300 b/d at the Petrocaribe special conditions in April 2006, and Nicaragua made its deal for 80,000 gallons of diesel at the same preferential rates in October 2006 ("El Universal," 4-6-06, 10-3-06).

trips and Cammesa did not recognize the bill until eight months later when President Kirchner approved payment.¹¹⁸ The frustrated deal with Paraguay reveals, in addition to the lack of coordination between the political and business arms, the importance of political opposition to Chávez in the southern parts of the continent. The presidents of Venezuela and Paraguay agreed to exchange 18,000 b/d for meat and soybeans in November 2004. However, a year later, Petropar (Paraguay's NOC) abandoned the deal because PDVSA was asking for a bank note or a governmental guarantee for the value of the deal, and the Paraguayan government could not get it without congressional approval, and the opposition rejected the deal.¹¹⁹ These instances in South America show that Petrosur has more problems than Petrocaribe, but it is still much more effective than Petroandina.

In the case of Petroandina, the different political visions of Andean presidents make it useless as a means to advance PDVSA's export expansion goals. Petroandina was created in a Comisión Andina de Naciones (CAN) presidential meeting in July 2005 but nothing has been accomplished because of political differences between Colombia, Bolivia, Peru, Ecuador and Venezuela. The radical differences about free trade agreements with the U.S. among the members make it unrealistic to think Petroandina will get off the drawing board. The only specific action that was approved in 2005 is still pending. In July 2005, Petroecuador was authorized to send 100,000 b/d to PDVSA's Isla refinery in Curaçao, and be charged just the cost of refining. But internal disagreements

¹¹⁸ "El Universal", 10-6-05.

¹¹⁹ The president of congress, Carlos Filizzola, explained that Petropar does not give bank notes to its suppliers, and the executive cannot extend any guarantee without congressional approval. The opposition already stated that they would not approve it because it would increase the Paraguayan debt by \$300 million over the next two years. Petropar's director said the financial deal was to pay 75 percent in cash and 25 percent in 15 years with 2 percent annual interest ("El Universal," 12-9-05).

kept Ecuador from sending crude; now that pro-Chávez Rafael Correa has become the new Ecuadorian president, the agreement seems ready to be implemented.¹²⁰

The long-term expansion to all these three regions depends mainly on natural gas pipelines. The 2006-2012 Strategic Plan mentions the Transcaribbean, Central American and South American pipelines. All of them are still in planning stages, and the most ambitious is the pipeline to the south, which should connect Venezuela, Brazil, Bolivia, Paraguay, Uruguay and finally Argentina through a network that would be 7,000 kms long and at a minimum estimated cost of \$20 billion. Argentina is the most interested and signed the initial memorandum of agreement with Venezuela in November 2005; the presidents of Argentina, Brazil and Venezuela officially agreed in January 2006 to build the pipeline¹²¹. However, such an investment requires the participation of Petrobras, and its executives are divided on the issue. Some support it in order to reduce Brazilian dependence on Bolivian natural gas, and others have doubts about the financial soundness of the project as well as the environmental impact in the Amazon region.¹²² Presidential agreements do not guarantee the construction of huge pipelines: the current longest pipeline (2,000 kms) in South America, which connects Bolivia and Brazil, was initially agreed to by the presidents of both countries in the 1960s, but took 35 years to build. A national energy project developed in 1990 to deal with macroeconomic and environmental concerns created the situation that led Brazilian President Fernando Henrique Cardoso to pressure Petrobras to commit the financial resources for the

¹²⁰ "El Universal," August 2005.

¹²¹ "El Universal," 2-16-06.

¹²² "El Diario," 11-14-06.

Bolivian pipeline.¹²³ There are no such dramatic energy shortages in Brazil today, now that it is even exporting oil and discovered natural gas deposits of its own, so it is unlikely that Petrobras will feel the political pressure to commit large funds to the Venezuelan pipeline in the near future.

The strategic plans for the next years do not call for investment expansions in China or India. However, crude exports to China are expected to increase 55 percent by 2012, and allow PDVSA to further diversify its export markets. As we explained in Section A, PDVSA estimates that the Chinese potential is 300,000 b/d, and the firm has only secured short-term contracts up to 160,000 b/d until 2008. If the Venezuelan state firm were to tap the potential, exports to China would be one third of exports to the U.S. This export diversification depends on the involvement of CNPC in the Orinoco Belt. CNPC received a best production technology award for its achievements in heavy oil recovery during 2006, and has long-term relationships with Canadian firms.¹²⁴ Despite this technological advantage with respect to other NOCs in the Orinoco Belt, it seems that CNPC is waiting for some results before signing long-term export agreements with the Venezuelan government. The China connection is definitely a point to observe in the future because exports to China at market prices may allow the continuation of the subsidized export expansion to the Caribbean, Central and South America.

The alliances with NOCs are not limited to the Orinoco Belt Magna project. The 2006-2012 plan scheduled the acquisition of 42 oil tankers by 2009 with an expected investment of \$2.2 billion (Planes Estratégicos PDVSA: Comercio, Suministro y

¹²³ . David R. Mares, "Natural Gas Pipelines in the Southern Cone," in David G. Victor, Amy M. Jaffe, and Mark H. Hayes, eds., *Natural Gas and Geopolitics: From 1970 to 2040* Cambridge: Cambridge University Press, 2006, 185-191

¹²⁴ *World Oil Magazine*, 10-20-2006.

Transporte, August 2006). The current PDV Marina fleet of 21 tankers transports only 26 percent of PDVSA's total exports, and the plan's objective is to have 58 tankers to move 45 percent of exports by 2012. Although the largest and most reliable producer of oil tankers is South Korea, PDVSA has signed deals, so far, with China, Iran, Brazil, Spain and Argentina. CSIC of China will build 18 tankers, and SADRA of Iran 4 tankers.¹²⁵ PDVSA contracted with Brazilian construction firm Andrade Gutiérrez to build the first Venezuelan shipyard for oil tankers large enough to allow PDVSA to export efficiently to Asia; construction of the facility will start in 2007.¹²⁶ Another agreement was signed with the Argentine government to build and repair oil tankers, and Chávez has stated that the first tanker will be named Eva Perón.¹²⁷ Given this information, we conclude the maritime project is another ambitious project of the Chávez administration, with targets that are likely only to be half achieved by the target date of 2009.

Another critical element in which the 2005-2010 plan deviates from previous plans lies in its explicit introduction of social responsibility. PDVSA's social plan has to be aligned with the Venezuelan government's social plan, and it includes education, agriculture, infrastructure and local development projects. The target is to create 1.7 million jobs and benefit 8.4 million people. If we consider that PDVSA's direct employment in 2003 was 33,000, the creation of 1.7 million jobs is certainly a mission that goes beyond the oil, gas and energy industries themselves.

PDVSA's new social role requires expenditure commitments that may conflict with the financial needs of oil operations. For instance, in 2004, PDVSA spent \$4.3

¹²⁵ CSIC and SADRA stand for China Shipbuilding Industry Corporation and Iran Marine Industrial Company, respectively. (PDVSA online news service 8-24-06 and 12-22-06)

¹²⁶ "El Universal," 11-23-06.

¹²⁷ "El Universal," 10-31-05.

billion in social programs and only \$2.9 billion in oil related investments. PDVSA claims this low oil investment in 2004 was unintended. The planned investment was \$5 billion but because of technical difficulties the effective investment was 42 percent short. These difficulties, PDVSA claims, were related to sabotage suffered between December 2002 and February 2003. These interferences were no longer present in 2005, but the \$6.5 billion of social expenditure was above the \$5.8 billion of planned investment in the oil business (Tables D1 and A1). These figures demonstrate clearly where PDVSA's priorities lie.

The fact that PDVSA's social expenditures were higher than oil investments in 2004 and 2005 certainly may harm the firm in the near future. PDVSA's last financial report claims that social commitments have not adversely impacted its ability to generate the necessary flow of receivables to support payments on its indebtedness. However, it also states that the firm cannot ensure that this will not change in the near future. This is likely to happen if the price of oil drops significantly, or if PDVSA continues substituting the U.S. market export share with the Caribbean market share without increasing the Chinese share. If we believe that oil prices will be around the low \$50s during 2007 and mid \$40s during 2008, then prices will not hurt the social expenditures of the firm.¹²⁸ The real danger will most likely come from the inability of PDVSA to increase exports to markets with "market prices" rather than "subsidized prices," and this point depends on the development of the Chinese market.

¹²⁸ OPEC expects the floor for the WTI oil price to be \$50 per barrel during 2007, said Minister Ramirez. Mazar Al-Shereidah, based on an econometric model predicts the price to be between \$53 to \$58 per barrel. He also mentions that oil production costs went up in the last 3 years significantly, so large firms and consumers perceive prices should be around \$48 to \$52 per barrel. Ramon Espinaza, ex-PDVSA chief economist and now CAF consultant, predicts \$53 and \$39 per barrel for 2007 and 2008, respectively. All these economists expect more or less a 20 percent reduction in prices for 2007 based on large inventories, slow down of the world economy and increasing non-OPEC supply ("El Universal," 12-11-06).

V. FUTURE ROLE IN GLOBAL ENERGY SYSTEM AND OIL GEOPOLITICS

The global supply context was extremely favorable for Venezuela over the past year, though it eased up a bit in the fall of 2006; as mentioned above, we expect prices to remain high through 2008. (See Appendix for revenue calculations under different price scenarios.) Yet, in the past, high petroleum prices contributed to severe economic and political challenges within Venezuela, with disastrous results for the ruling clique (e.g., 1973-1980). One cannot assume that Chávez will deal with these domestic demands any better than did his predecessors, even if prices remain in the mid-\$40-50 range throughout 2008. The needs of the poor are so immense, and the appetites of the military and some political allies are so great, that Chávez' policies can easily exceed the parameters created by whatever revenues oil brings to Venezuela. What is certain is that Chávez will seek to transfer as much of the costs of confronting a domestic economic and political crisis to the international energy markets as possible.

Three scenarios for the short-to-medium term future of Chávez and PDVSA are worth considering as we think about how Venezuela will impact global energy markets, the IOCs and the U.S.

➤ ***Scenario 1: Chávez consolidates his rule at home.***

Chávez won a landslide re-election in December 2006 and immediately began to accelerate his “Bolivarian Revolution”. Scenario 1 assumes that international oil prices will remain high enough to permit the Chávez administration to extend its inefficient provision of social services to the poor and appease the military. It also assumes that Chávez will be successful in creating an umbrella organization that will subsume all of

the political parties that support his government under his direct control. As a result, Chávez' popularity will continue to soar and all of his political allies will continue to see the benefits of reinforcing the Caudillo's legitimacy and control.

In this situation, Venezuelan supply to international markets will be secure, but with greater returns to the owners of NOCs (at least in South America) and the poor of the Western Hemisphere, with corresponding increases in costs to OECD consumers and the IOCs. Given the aforementioned domestic and foreign policy goals of the Chávez administration one should expect its oil geopolitical strategy to have the following characteristics:

- Work to strengthen OPEC to keep supply managed in accordance with the strategy of maintaining high prices per barrel.

- Work to strengthen regimes opposed to U.S.-led globalization by providing them with subsidized energy and economic aid. Chávez also continues to make pronouncements designed to influence the electoral outcomes in other countries of the region (e.g., Ecuador, Peru and Mexico). Chávez is, however, unlikely to be as generous as his rhetoric (e.g., the offer of \$30 billion dollars to the administration of Evo Morales in Bolivia) because of domestic needs (social programs as well as infrastructure investment). Promotion of Latin American and Caribbean energy integration centered on Venezuela will slow as a result.

- Seek E&P alliances with NOCs of like-minded governments as a way of pressuring both the U.S. government and the IOCs to negotiate political and economic relationships closer to Chávez' preferred terms. But with consolidation of his rule Chávez will increasingly think about the long term and his demands to the IOCs will moderate as

he recognizes his continued need for their participation in Venezuela's oil and natural gas industries.

- Stay in the U.S. market even as Chávez seeks to complement it with new markets. The U.S. market is the most profitable for Venezuela. Like his predecessors, the Venezuelan leader will find the pull of the U.S. market will limit his outright opposition to Washington.

- Increase alternative sources of energy in PDVSA and the country's portfolio, particularly natural gas. Chavistas, as well as many who oppose him, believe in the "End Oil" scenario and plan to be prepared. *Though given Chávez' immediate need to distribute benefits, the investment targets are not consistent in the short term with such a policy.*

➤ ***Scenario 2: Chávez remains in power, but his rule is unstable***

This scenario assumes that Chávez retains enough control over the military and enough influence among the poor to convince opponents that they could not successfully overthrow him. But his rule would be unstable because, in this scenario, he cannot generate enough resources to satisfy his constituencies and the opposition retains control over some key assets that enable them to speak and act against him. In this context, Chávez will be angry, frustrated and worried that he might be overthrown at some point. He will increasingly lash out against his "enemies" and seek to squeeze even more out of a damaged economy and private investors in order to materially and ideologically placate his supporters.

In this situation, Venezuelan supply to international markets will be unstable as politicization of PDVSA and the transfer of its resources towards social and military

programs increase. Under these conditions, one should expect Chávez' oil geopolitical strategy to have the following characteristics:

- Continued instability in contract terms with the IOCs because PDVSA inefficiencies will limit its productive capacity at the same time that Chávez' demands upon it increase.

- Continued promotion of anti-Americanism and instability both in the Americas and globally to encourage speculation that will drive prices higher and to minimize the likelihood of direct U.S. action against his government.

- Increased efforts to develop Latin American and the Caribbean energy integration centered on Venezuelan oil and gas. Chávez will need to keep Latin American and Caribbean nations tied to the idea that his regime is one with which one can easily co-exist and whose "democratic" standing must be protected by the Organization of American States (OAS). This view will dampen the opposition's expectation that Venezuela's neighbors would support an overthrow of Chávez in order to promote democracy in the country.

➤ ***Scenario 3: Chávez is overthrown, with two sub-scenarios based on how the Venezuelan poor respond***

This scenario is likely to develop only in the context of a severe domestic economic collapse and a sustained decline of oil prices into the low \$40 range or less. An economic collapse can occur even with oil prices in the \$50-60 range if inflation continues to accelerate (it was 18.4 percent in 2006), private producers for the domestic market begin to withhold supplies (as supermarkets and farmers are already rumored to be doing), and Venezuelan oil output continues to suffer from lack of investment.

Another jolt could come from a Cuba in which Raul Castro decides to emulate the Chinese model of economic reform and Cuban doctors and teachers can no longer simply be ordered to staff Venezuelan *misiones*, thereby severely cutting back on these benefits to the poor.

The poor can be expected to take to the streets as Chávez' largesse dries up (even Peronist unions engaged in national strikes against Juan Peron's Argentine government in the early 1950s when the economy fell into crisis). The military will be called upon by the Chávez government to intervene, but it will be reluctant to use force. The political opposition will be rejuvenated. Radical *chavistas* will turn increasingly to violence to regain control of the streets and military leaders will be forced to decide whether they are simply ideological supporters of Chávez or whether the time has come to declare that Chávez has lost the ability to govern. If the rioting is severe enough, we expect the military to step in to "save" the country, though not to run it.

- 3a) Poor demobilized

In this situation, Venezuela will likely increase its supply to global markets as the new government will be more market-oriented than the Chávez administration and will not face immediate demands from the poor for benefits. The poor are demobilized either because a repressive regime engages in massive human rights violations to terrorize them into demobilization, or because they are exhausted after the failure of Chávez' experiment with "Direct Democracy". Either way, PDVSA is returned to professional management and new relationships with IOCs are sought to help the company recover and the country to increase oil exports. Given the pent-up demand for infrastructure investments and rewards to an elite that had been persecuted for a decade or more,

Venezuela is likely to adopt an export strategy that maximizes income via a supply rather than price-per-barrel strategy. The IOCs are likely to earn greater returns and U.S. consumers are likely to benefit from a slight decline in oil prices as Venezuela exceeds OPEC quotas.

- 3b) Poor remain mobilized (Power in the Streets)

In this scenario, the new government will also seek better relations with the IOCs and increased exports to world markets. But the poor are mobilized and largely leaderless, as Chávez and his close associates have been eliminated as political actors. No post-Chávez government will be able to govern the country and a succession of coups will likely ensue as the military resents its use by the post-Chávez governments to attempt to control the streets. There will likely be a backlash by the poor against the installations of the IOCs and a PDVSA now regarded as under the “control” of international capital. Supply instabilities will ensue in the domestic market and Venezuela will be an unreliable partner in international energy markets.

CONCLUSION

PDVSA is captive to Hugo Chávez and his interpretation of the “Bolivarian Revolution”. But it is imperative to recognize that the Chávez-Rodríguez-Ramírez axis is a pragmatic one. This group has what can, in the current international context, be considered radical goals (e.g., redistribute economic and political power, structure the political institutions in ways that permit Chávez to win relatively free elections).

But the Chávez administration seems to both understand its limits and the basis of its support. Note that despite his friendship with Fidel Castro and his lambasting of U.S. policy towards Cuba, he has not called for a vote in the OAS to reinstate Cuba’s

membership.¹²⁹ More to the point of this paper, the Chávez administration has broken new ground in dealing with the IOCs. After a decade of privatizations that put NOCs on the ropes, Venezuela has taken the lead in renegotiating the terms of IOC-NOC relationships. The Chávez administration does not seek to eliminate the role of international capital, but rather to alter the distribution of benefits and risks of those relationships. Because the contracts negotiated in the 1990s were based upon very pessimistic expectations about how much oil was in the Orinoco Belt and producible, the Venezuelan government offered excellent terms to the IOCs.¹³⁰ But the level of reserves turned out to be much larger than expected; the IOCs came up with technological advancements that decreased costs of production and, in the current context of tight world oil supplies even with the forced renegotiations, most IOCs still see opportunities to do business with Venezuela.¹³¹

Looking into the near future, we expect that Chávez' need for oil revenues will continue to increase because his political survival depends upon the distribution of benefits to Venezuela's poor and the consolidation of an alliance with governments in the hemisphere who would stand up to U.S. government hegemony or interference in the region. To a great degree, Chávez' anti-party politics and reliance on "Direct Democracy" (demonstrations in the streets, plebiscites on major issues as well as general elections) has increased his dependence upon patronage. In addition, his experience with the April 2002 coup attempt must have convinced him that he could not afford to lose the

¹²⁹ Javier, interview, 1/26/06.

¹³⁰ Amy Meyers Jaffe, personal communication.

¹³¹ Juan Forero, "Orinoco Belt in Venezuela holds the promise of great oil riches." *The New York Times*, May 31, 2006 <http://www.iht.com/articles/2006/05/31/business/oil.php> (accessed 2/14/07).

support of the poor, since the coup was successful until the masses demonstrated in the streets, frightening the military into abandoning the political opposition and returning Chávez to power. His overwhelming victory in the August 2005 plebiscite that he made every effort to avoid holding, and the overthrow of his ally, President Lucio Gutiérrez of Ecuador by middle class demonstrations in April 2005, reinforces Chávez' reliance on popular support. Hence, Chávez radical rhetoric will remain more threatening to international oil markets and companies than his bite, as long as he believes that he will remain president of Venezuela.

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