COLUMBIA | SIPA
Center on Global Energy Policy

VENEZUELA'S GROWING RISK TO THE OIL MARKET

By Luisa Palacios

AUGUST 2016

ABOUT THE CENTER ON GLOBAL ENERGY POLICY

The Center on Global Energy Policy provides independent, balanced, data-driven analysis to help policymakers navigate the complex world of energy. We approach energy as an economic, security, and environmental concern. And we draw on the resources of a world-class institution, faculty with real-world experience, and a location in the world's finance and media capital. Visit us at **energypolicy.columbia.edu**

facebook.com/ColumbiaUEnergy twitter.com/ColumbiaUEnergy

ABOUT THE SCHOOL OF INTERNATIONAL AND PUBLIC AFFAIRS

SIPA's mission is to empower people to serve the global public interest. Our goal is to foster economic growth, sustainable development, social progress, and democratic governance by educating public policy professionals, producing policy-related research, and conveying the results to the world. Based in New York City, with a student body that is 50 percent international and educational partners in cities around the world, SIPA is the most global of public policy schools. For more information, please visit **www.sipa.columbia.edu**

COLUMBIA | SIPA
Center on Global Energy Policy

VENEZUELA'S GROWING RISK TO THE OIL MARKET

By Luisa Palacios*

AUGUST 2016

* **Luisa Palacios** is a senior managing director at Medley Global Advisors and head of Latin America Macro and Energy Research, and a Fellow at the Center on Global Energy Policy.

COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK

ACKNOWLEDGMENTS

The author would like to acknowledge the invaluable comments provided by Francisco Monaldi, Adrian Lajous, Igor Hernandez, and Alain Brousseau on an earlier draft of this report; the guidance and comments given by Antoine Halff and Matthew Robinson; and the research assistance provided by Fernando Posadas. This policy paper represents the research and views of the author. It does not necessarily represent the views of the Center on Global Energy Policy. The paper may be subject to further revision.

EXECUTIVE SUMMARY

Venezuela has become a supply risk for oil markets, not only because of the multiple operational challenges facing it, from a crippling electricity crisis to malfunction at its oil export terminals and refineries, but most importantly because of the spiraling impact of the steep oil production declines already suffered this year. Noteworthy was the government's admission of a plunge in May in crude production of 120,000 b/d month-on-month, or 11 percent year-on-year, according to OPEC's Monthly Oil Market Report (MOMR). As of June, Venezuela had seen a year-to-date decline of almost 230,000 b/d, and counting. Clearly Venezuela is at the core of the downward adjustment in global oil supply triggered by the oil price drop.

Losses in oil production have yet to translate into a commensurate fall in oil exports, due to the heavy toll taken by the country's economic collapse on domestic demand. But the stability of exports in the first half of the year mask a deteriorating trend with June exports already more than 300,000 b/d lower than last year's average. Despite all the headline noise about Venezuela, the most severe risks to oil markets thus still lie ahead.

The stress brought about by the oil price crash on the national oil company PDVSA's finances lie at the heart of the oil production challenge. So far the government has prioritized bond debt service payments in its allocation of available dollar liquidity, out of concern that failure to do so could have an even more crippling impact on the company's production and exports than already experienced. Even so, the strain on PDVSA's dollar liquidity situation is crippling.

The cash-flow situation of PDVSA is so critical that even a steep cut in its dollar transfers to the government could not keep it from falling into arrears with key oil service providers. The company has also had some trouble paying for its critically needed imports of light crude oil, used to blend with the ultra-heavy grades that make up a growing share of production. Amid worsening declines in conventional crude output, Caracas has doubled down on its bet on its massive reserves of heavy oil. Due to insufficient upgrading capacity, however, marketing this crude requires blending with imported light oil or diluents, which will raise production costs. PDVSA's inability to secure light oil imports could jeopardize exports.

Finally, PDVSA and the oil industry do not exist in a vacuum; they are deeply affected by the country's unprecedented economic, social, and political crisis. Absent a political resolution to the current crisis, Venezuela will represent a growing supply risk for oil markets in 2017. On the other hand, a political resolution, leading to a dramatic change in economic policies that address the current financing and economic crisis, could significantly improve the country's medium-term production outlook.

TABLE OF CONTENTS

INTRODUCTION

Venezuela has caught the attention of global markets recently with the disarray of its energy infrastructure and the myriad problems it has faced, from a crippling electricity crisis to bottlenecks at oil export terminals and stoppages at refineries.

Such challenges prompted the International Energy Agency to question in its May oil market report the ability of Venezuela's oil industry "to maintain operations in the face of power cuts and other shortages."[1]

Such operational issues are just the tip of the iceberg. While they have until now made up the most visible risks facing Venezuela's oil industry, in the future they will likely be dwarfed by the country's simultaneous political, social, economic, and external financial crisis and the critical cash-flow situation of national oil company PDVSA.

Oil production has already seen steep declines, with a cumulative drop of almost 230,000 b/d in January–June 2016, according to OPEC's Monthly Oil Market Report (MOMR). Venezuela oil exports have yet to show a commensurate decline, most likely due to a collapse in domestic oil demand brought on by the economic crisis. This means that the impact of Venezuela's production declines on global markets has in fact been more limited than the headline risk suggests. That trend, however, is starting to change.

Risks to oil production and exports would grow considerably if PDVSA were to default or to be forced into distress debt restructuring by its constrained cash flow and high upcoming amortizations on its global bond debt payments in Q4 2016 and in 2017. The impact of a credit event on PDVSA's oil operations is deemed so high that the government is trying to avoid it at all costs and PDVSA has even said it is working on a debt swap proposal to alleviate upcoming bond debt payments. But payment issues are already becoming evident. Some major oil services companies threatened in April to scale back their operations in the country because of PDVSA's inability to keep timely payments. The national oil company has been trying to find alternative payment mechanisms since then to prevent this from happening.

Separately, exports would be further impacted if credit concerns prevented Venezuela from importing light oil, which it needs to blend with its own increasingly heavy oil so that it can be transported and sold on international markets. A sign of PDVSA's growing problems on this front could be the widening of the price discount of its oil basket relative to WTI, which reached $8–9 per barrel on average in June 2016, from $3 last June. In the absence of a domestic substitute, lack of access to light oil could potentially impact about 200,000–300,000 b/d of net exports (assuming a mix of 75 percent–25 percent heavy to light oil).

The downside risks to the production outlook in 2016 are already materializing. But if there is no political and economic stabilization in the country, the risks to oil production and exports will continue well into 2017. So while Venezuela has already become a headline risk for global oil markets, the true magnitude of its supply risks might lie ahead.

GROWING RISK, SHRINKING SUPPLY

The potential losses faced by the country's oil production look large even by the country's admittedly poor standards.

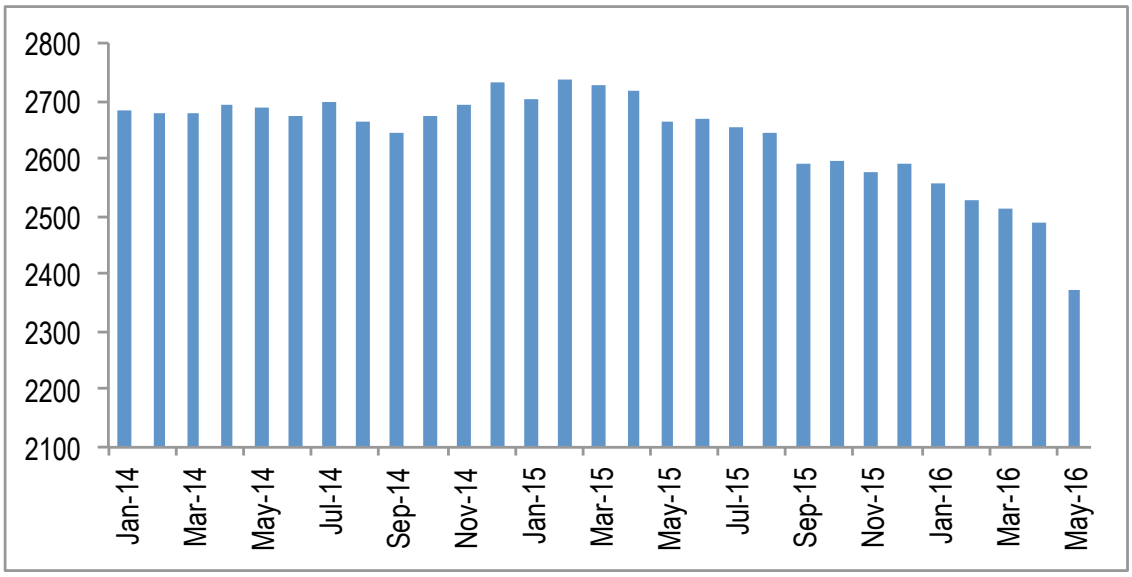
Venezuela is not new to output declines. PDVSA's own data from its annual operational balances indicate a cumulative crude production loss of almost 500,000 b/d in 2008–2015.2 This includes an estimated plunge of more than 220,000 b/d following the oil price collapse of 2008–2009. Other estimates point to even steeper declines. Over the same time frame, Venezuelan production collapsed by 600,000 b/d, according to the BP Statistical Review of World Energy.

The production declines the country is experiencing this year are well on track to match and even surpass the almost 220,000 b/d fall in output of 2009. In May alone, Venezuela suffered a decline of 120,000 b/d month-on-month (m/m), or 11 percent year-on-year (y/y), according to the data it submitted to OPEC's MOMR, which is already a 300,000 b/d y/y decline amounting to a cumulative fall of almost 230,000 b/d year-to-date as of June (see Figure 1).

Given the significant m/m drop in crude oil output in May, the intensification of political tensions, the worsening of the economic and social situation, and the credit risks of PDVSA, worst-case scenarios for oil production cannot be ruled out.

Worst-case scenarios for oil output declines in Venezuela are based on the assumption that the strains on PDVSA cash flow reach such magnitude as to prevent most capital expenditures. Oil production would fall in line with the country's average natural rate of decline, which according to industry estimates—and in the absence of official data—may be as high as 15–25 percent. Oil consultancy IPD pegs the decline rate in traditional fields at more than 20 percent,[3] implying a national decline rate of 400,000–550,000 b/d.[4]

Figure 1: Venezuela's Monthly Crude Oil Production 2014–2016 (In Thousands of Barrels per Day)



Source: OPEC Monthly Oil Market Report (direct communication).

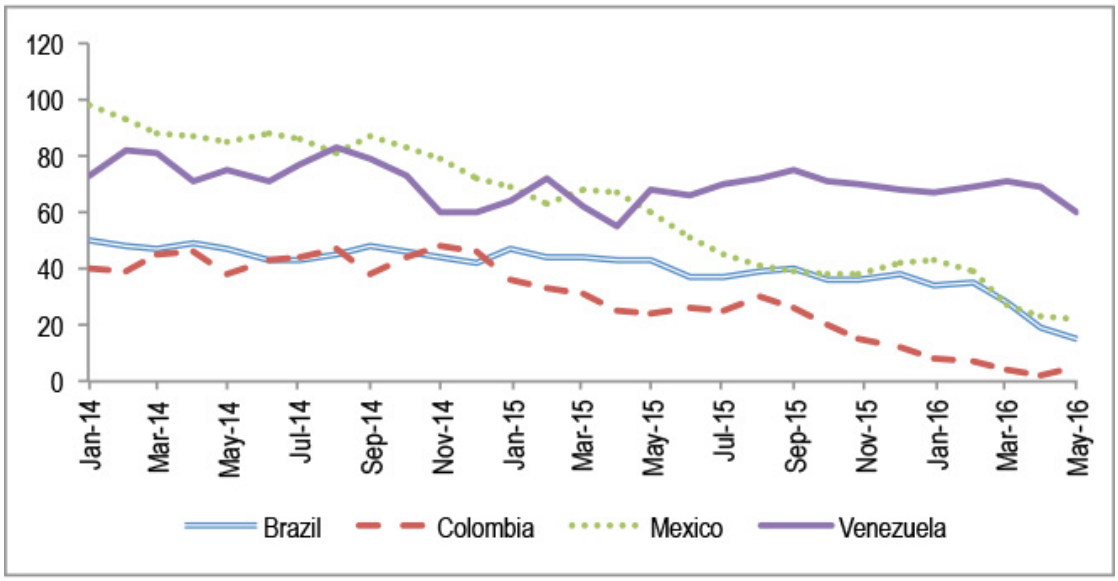
While the May 120,000 b/d m/m decline raises the perceived risk of such a rapid production plunge, there are caveats. Several factors could cause production losses to stretch over a longer, two-year period:

1. Efficiency losses notwithstanding, the rig count is not showing an investment collapse just yet. While the rig count did perform poorly in May, falling by 12 percent y/y, this pales in comparison with drops of more than 60 percent in other producers in the region that have yet to experience commensurate oil production falls (see Figure 1).

2. Capex reductions remain broadly in line with regional trends. PDVSA's 2015 annual report point to a 30 percent decline for PDVSA's capital expenditures roughly in line with cuts elsewhere in Latin America.

3. PDVSA's insolvency may not fully compromise its operations if innovative solutions are found to resolve the thorny issue of its growing arrears with oil services companies. In April and May, both Schlumberger and Halliburton said they would reduce activities in Venezuela due to unpaid account receivables.[5] Since then, two other oil services companies, Petrex and San Antonio International, issued similar statements. This is a structural issue for PDVSA reporting in its 2015 financial balances almost $20 billion in arrears with providers. Given the essential role of oil services providers in PDVSA's conventional crude operations, the announcement raised downside risks to near-term oil production, particularly given the loss of technical capacity experienced by the company. This is why PDVSA has been trying to find alternative payment mechanisms to keep oil service providers in the country. PDVSA CEO Eulogio del Pino recently confirmed that the company was working on a contract scheme that would pay oil services companies with future oil production, which means that PDVSA is having to securitize oil service contracts.[6] The extent to which oil services providers will cut operations thus remains unclear, particularly given the importance of Venezuela for some of them. Both Schlumberger and Halliburton report that Venezuela represents 10 percent of their account receivables, so these companies might have incentives to continue operating in the country as well.[7]

Figure 2: Latin America Rig Count, Selected Producers, November 2014–May 2016
Number of rigs



Source: Baker Hughes.

4. Operations by joint-venture companies may partly offset declines in PDVSA output. While PDVSA's own production is clearly seeing steeper declines this year, it is not obvious that Venezuela will suffer similar drops in its joint ventures, which today account for 40 percent of production (see Table 1). In an April press release about reducing its activities in Venezuela, Schlumberger said that it would "continue servicing those customers with available cash flow."[8] Proof of this can be found in the natural gas project La Perla, which came on stream last year and is expected to significantly ramp up its output by year-end.

Two factors probably explain the extent of Venezuela's oil production declines this year. The most important is PDVSA's dire cash-flow situation, itself a product of the low oil price. But second, and almost a derivative of the first, are the operational issues that have shown up this year, which although temporary in nature, have caused disruptions in oil production and exports.

Table 1: Venezuela Oil Production 2014–2015, by Type of Contract and Production

Thousand b/d	2014	2015	y/y change (%)
Total oil production (crude and condensates)	2780	2741	–1.4
Conventional crude	2068	1985	–4.0
PDVSA	1608	1503	–6.5
JVs	460	482	4.8
Orinoco Belt*	712	756	6.1
PDVSA	132	141	6.5
JVs	580	615	6.0
Total PDVSA	1740	1644	–5.5
Total JVs	1040	1097	5.5
Share of JVs in total production	37%	40%	

Source: Ministry of Oil and Mining, Memoria 2015 and 2014.

*In PDVSA's 2014 annual reports, the total volume for Orinoco oil is registered at 1.228 million b/d. This production is not solely Orinoco, although it is mostly heavy oil, but it is the production managed by the Orinoco production division of PDVSA.

OPERATIONAL WOES: THE TIP OF THE ICEBERG

Even before the steep 120,000 b/d m/m drop in oil production registered in May, Venezuela's oil industry had already caught the attention of oil markets because of the myriad operational issues that seemed to be hitting the industry simultaneously, including an electricity crisis, low capacity utilization at refineries, and bottlenecks at its main oil export terminal Jose. The worst-case scenario of a partial collapse of the electricity system was averted as Venezuela entered its rainy season, but it probably did have an impact on production. And the temporary problem at the Jose terminal—which should have been resolved in a matter of days if PDVSA had had the technical and financial capacity—took two months in total, impacting Venezuela's oil exports in Q2.

Electricity crisis

The electricity crisis elicited oil market concerns by the magnitude of the rationing that had to take place and its possible impact on oil operations.

A severe drought caused by El Niño was the main reason behind the crisis, but did not fully explain its magnitude relative to other countries in the region that were also hit by the same weather shock. What made things worse in Venezuela was a combination of maintenance issues in the existing electricity infrastructure and malfunctioning at newly available generation capacity.

Venezuela's nameplate generation capacity stands at 30–34 GW, after an earlier drought allegedly led the government to install an additional 11 GW in thermal generation since 2009. But, according to electricity experts, lack of maintenance at the old plants and malfunctioning at the new ones cut the effective electricity generation to just 17 GW in Q2, lower than the estimated demand of 18 GW.[9]

As a result, this oil-exporting country is unusually dependent on hydroelectricity (67 percent of the effective power supply) and particularly on the Guri water dam with a generation capacity of 10 GW, making the country particularly vulnerable to a drought.

Industry experts in testimony to the National Assembly warned in February that if water levels fell below a critical threshold, the government would be forced to close eight of the twenty turbines operating at Guri.[10] The Minister of Electricity put that critical level at 240 mts. Below that point, the government would have to take about 5.6 GW of generation off line, effectively shutting down 30 percent of the country's power supply. At the upstream level, although it was broadly felt that the bulk of the oil production was not going to be impacted, some suggested that 250,000 b/d or about 10 percent of the country's oil production could be at risk.[11] Downstream of PDVSA's nameplate refining capacity of 1.3 million b/d, only the 140,000 b/d of El Palito refinery was believed to be at risk.

The electricity crisis as a risk to the country's oil operations has significantly eased because of the draconian electricity power rationing that took place and the start of the rainy season in May, with the rainiest months being June and July. Water levels at Guri Dam have significantly increased and this allowed the government to announce that it was eliminating the electricity rationing altogether on July 1.[12]

To the extent that electricity shortages were partly to blame for the acceleration of oil production declines in May, oil supply losses should thus revert to the more gradual declines experienced before the crisis. Oil production falling by just 6,300 b/d in June, according to official Venezuelan data in OPEC's July MOMR, seems to confirm this.

Refineries and oil imports

Low capacity utilization of refineries is an ongoing structural problem. Maintenance problems at the refinery level are not new, as the 2012 explosion at the Amuay refinery attests. But operational difficulties continue and might even intensify this year.[103]

According to the Ministry of Oil and Mines, 2015 annual refining capacity utilization averaged around 67 percent, based on official nameplate capacity of 1.3 million b/d. News reports suggest that capacity utilization this year may be even lower.[14]

Low capacity utilization at refineries impacts Venezuela's oil export balances in two ways. First, by supporting product imports. Lower local oil demand has so far

limited the impact of refinery outages on Venezuela's oil export balances. But this could change as PDVSA has been ramping up its product tenders in Q2 (though this may be in part a short-term effect of the electricity crisis).[15] This issue will be explored in more detailed in the next section.

Even more relevant from a production perspective, refinery outages might curtail domestic supply of diluents (naphtas) needed by Venezuela to blend with its increasingly heavy crude oil, thus further raising its need for imported light oil or diluents as a condition to sustain production.[16] The effect would be even more damaging if the operational issues had hit the upgraders themselves.[17]

Oil terminals and exports

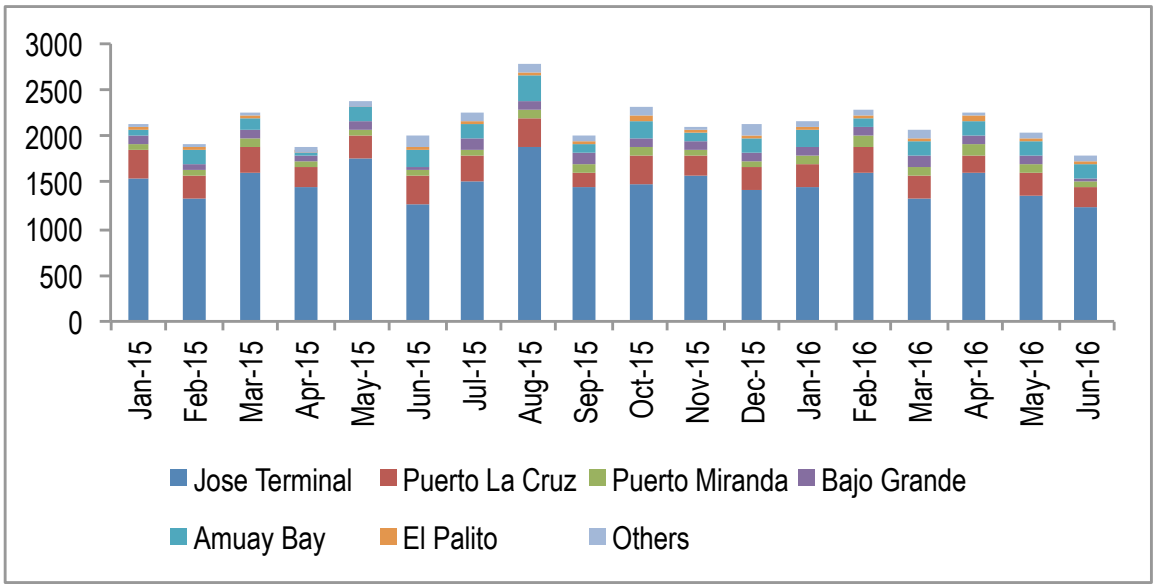
At the end of March, oil union representatives reported that more than half of the eleven loading arms at the Jose terminal were inoperative. The news was consistent with press reports of long loading delays and a large backlog of tankers waiting to load at the terminal.[18]

Located on the eastern coast of Venezuela, the Jose terminal handles about 1.4 million b/d of Venezuela oil exports, mostly ultra-heavy crude from the Orinoco belt. The terminal, the main gateway for the Orinoco belt projects, is connected with an oil complex that includes four upgraders, with combined capacity of 600,000 b/d, designed to transform heavy oil with API of 8–12 into synthetic crude of 16–32 API that it is then exported to oil markets. In all, the Jose oil terminal is responsible for about 70 percent of the country's total oil exports.

The operational issues at Jose appear to have had an important—albeit temporary—impact on the country's oil exports. Tanker data confirm a decline of more than 25 percent m/m in oil exports in March, when the loading arms were reported to have malfunctioned, and again in May, probably due to repair work. May exports declined by 13 percent y/y, or about 300,000 b/d, equivalent to a 9 percent m/m drop. PDVSA said in May it was replacing three of the loading arms at the Jose terminal; press reports said that these were completed on May 31.[19]

Given the operational difficulties experienced by Venezuela's oil industry affecting its terminals and refineries, a closer look at its export balances is warranted.

Figure 3: Crude Oil Exports by Port, Monthly 2015–2016 (In Thousands of Barrels per Day)



Source: Reuters World Oil Flows Explorer Database.

EXPORT RESILIENCE: KEEPING UP APPEARANCES

Despite the oil production declines and the operational issues experienced by Venezuela in H1, exports, judging from year-to-date averages, have remained unaffected. Tanker data show that average Venezuelan oil exports remained flat in January–June 2016 y/y, and as Table 2 shows, import data for Venezuela's major markets—the United States, China, and India—show a similar situation.

Why are exports not declining at the same pace as production? Part of the answer is that the country's economic collapse has led to a significant fall in oil demand (see Figure 4). Estimates from the Ministry of Oil and Mining's Annual Report for 2015 point to a 15 percent y/y decline in domestic demand, or more than 100,000 b/d, following a decline in economic activity of almost 6 percent last year.

Given that the economic crisis is accelerating this year, with the IMF expecting an 8 percent fall in economic activity for 2016,[21] oil demand in Venezuela will probably see steeper declines, helping to cushion the oil production drop. A 6,000 percent increase in gasoline prices earlier in the year, particularly targeted at the high-octane 95 grade, led the contraction, though prices remained below international levels.[22] Price increases left 95 octane gasoline, believed to be the source of gasoline imports, more than six times more expensive than the 91 octane grade.[23]

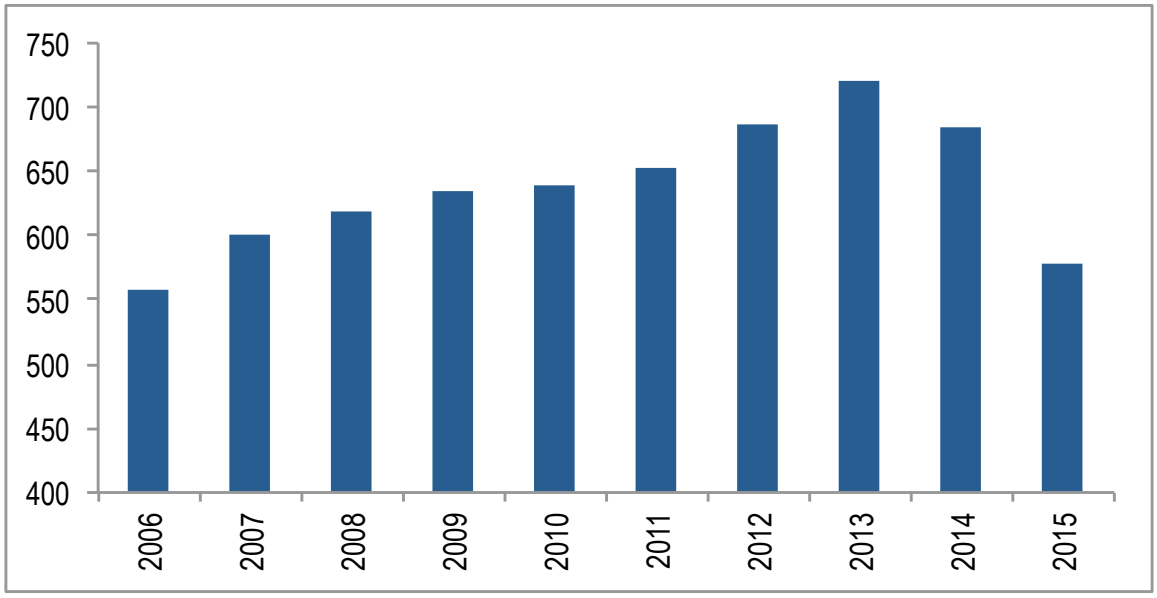
In line with this steep drop in demand, product imports have also fallen. The United States reported a 40 percent y/y decline in petroleum product exports to Venezuela on average in Q1 2016, to about 50,000 b/d, down from the 80,000 b/d 2015 averages.

Another explanation for the apparent disconnect between oil production and exports in H1 may have been the closure of the Venezuelan–Colombian border and its impact on product smuggling. Roughly 50,000–100,000 b/d of subsidized Venezuelan oil products typically hemorrhage into higher-priced Colombian markets.

This divergence between oil production and oil exports is starting to change, however. While on average crude oil exports in H1 do not yet show an important decline from the same period a year ago, the latest data point to a deteriorating trend.

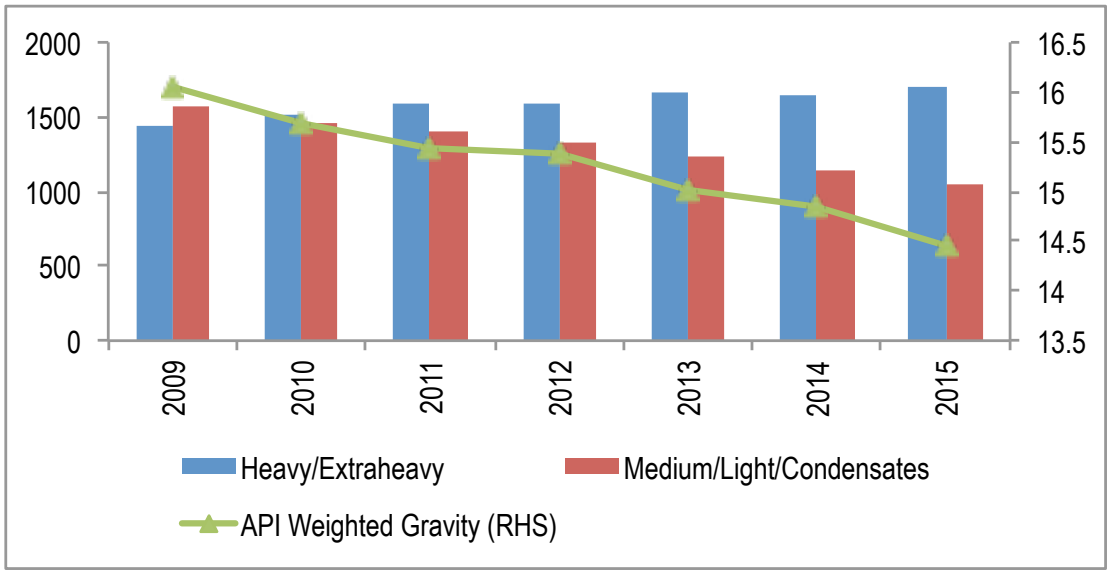
Tanker data show that oil exports in June were almost 330,000 b/d lower than 2015 average export levels, and while preliminary data for July have shown some recovery, exports are still running 260,000 b/d below 2015 averages. Oil production declines might thus be starting to affect exports, as would eventually show, albeit with a lag, in import data from Venezuela's main oil customers.[24]

Figure 4: Venezuela Domestic Oil Consumption, 2006–2015 (In Thousands of Barrels per Day



Source: Ministry of Oil and Mining, Memoria 2015.

Figure 5: Venezuela's Oil Production by Type and Weighted Gravity (In Thousands of Barrels per Day and API Gravity (RHS))



Source: Ministry of Oil and Mining, Memoria 2015.

VENEZUELA'S GROWING LIGHT-OIL IMPORT HABIT

While the collapse of domestic demand has so far limited the need of Venezuela to increase its imports of petroleum products, the government's bet on heavy oil production and the significant declines in conventional crude are pushing Venezuela into becoming a larger importer of light crude (see Figure 5).

The tenders of light oil this year have represented an average of 80,000 b/d in the January–May period, twice last year's average. Almost 70 percent of these imports have been of WTI. Add to this about 50,000–70,000 b/d of product imports, and Venezuela's total oil imports still run around 100,000–150,000 b/d, in line with last year's average.

As PDVSA evolves from a pure oil exporter to a significant light oil and products importer, the company faces increasingly problematic logistical bottlenecks. The country's oil infrastructure simply cannot handle that amount of oil imports. As a result, PDVSA has converted its Isla Refinery in Curacao into a blending facility for its benchmark crude oil Merey, which has a 16 API. Interestingly, PDVSA has been in talks to restart the Aruba refinery, probably to expand its blending facilities in the Caribbean.[25]

All of the light oil imports tendered by PDVSA this year were scheduled to be delivered at Bullen Bay in Curacao. And the tanker data show that about 70 percent of the exports from Curacao Island in the January–May 2016 period were crude, not products (see Figure 6). A portion of this was even identified as Merey blend, Venezuela's most important grade.

In fact, Curacao has received approximately 340,000 b/d in crude oil exports from Venezuela on average so far this year, of which it is reexporting about 200,000–300,000 b/d. If Venezuela were to have difficulties securing light oil imports, that would thus have a direct impact on its ability to export its crude. This is why the news that BP's oil tankers carrying light oil were not able to discharge in June because of payment issues was disconcerting.[26] PDVSA has found a way to start clearing these difficulties with oil swaps.[27] But this precedent might impact future tenders of light oil going forward.

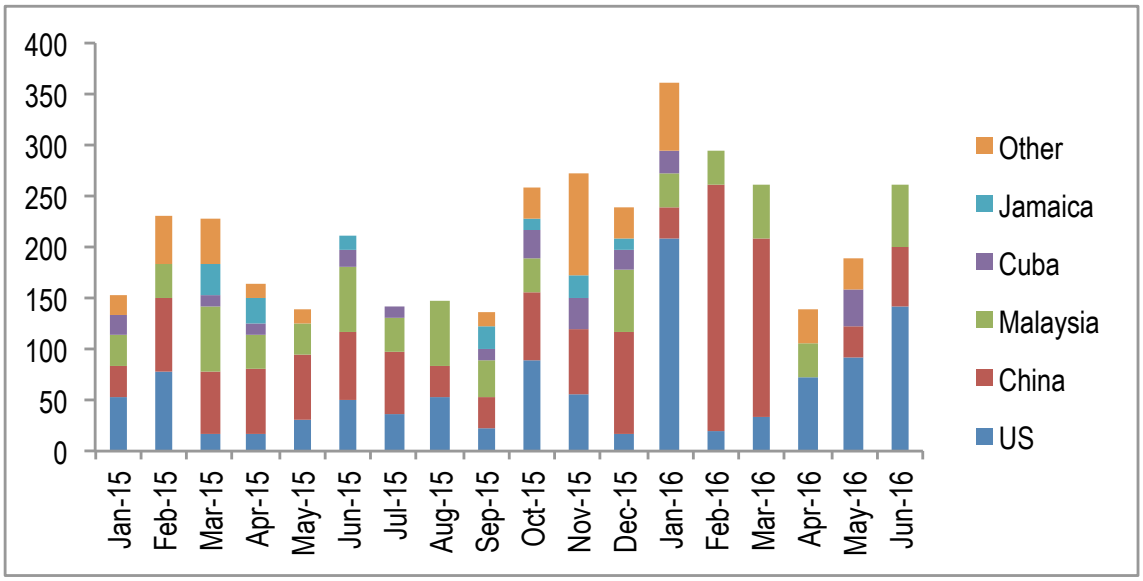
This is why the financial situation of PDVSA is so critical for its oil production and export outlook. PDVSA's operational capacity is starting to be impacted.

Table 2: Venezuela's Oil Exports by Main Trading Partner (In Thousands of Barrels per Day)

	January–May Avg 2016	January–May Avg 2015	% y/y change
United States	743	746	−0.3%
China	462	396	16.7%
India	501	459	9.1%

Source: US Energy Information Administration, China Customs Unions, Reuters.[20]

Figure 6: Curacao's Crude Oil Exports by Destination, Monthly 2015–2016 (In Thousands of Barrels per Day)



Source: Reuters World Oil Flows Explorer Database.

PDVSA'S FINANCIAL STRAIN

The increase in the price of Venezuela's oil basket to $40 in June 2016, $10 per barrel higher than at the start of the year, should bring some relief to the cash-strapped PDVSA. But even with prices at these levels, year-to-date the Venezuelan basket has averaged $32 per barrel, $13 per barrel below last year's $45.24 per barrel average.

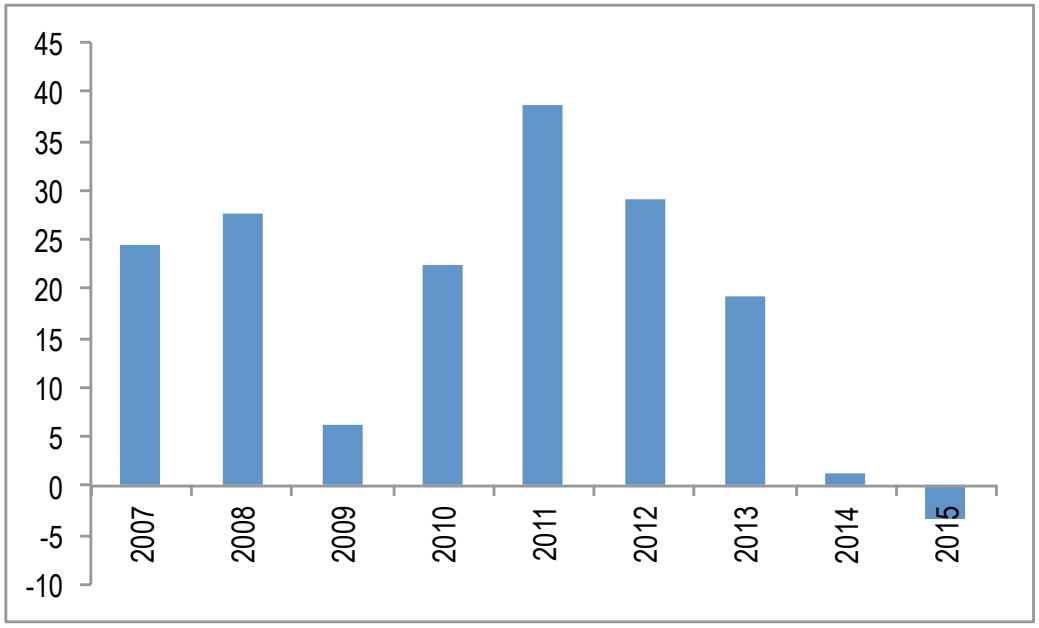
While the latest recovery in oil prices is good news, it is not yet enough of a relief for PDVSA, whose 2015 annual financial balances, published in July 2016, show a 40 percent annual decline in total revenues and a 79 percent collapse in profits. In fact, PDVSA is showing an operational loss of $3 billion on its global operations, which include Citgo, with operational losses equal to $10 billion on its Venezuela activities alone, versus a $1 billion profit in 2014.

A back-of-the-envelope projection of Venezuela's oil sales for 2016, based on the 2 million b/d average oil and product exports shown in tanker data in H1, and assuming an average annual price of $40 per barrel for Venezuela's oil basket (almost $10 per barrel more than the H1 average), yields annual gross export revenues from PDVSA in the $30 billion range.[28] This could be higher depending on the oil price scenario in H2 2016 (with a $10 increase in the oil basket price resulting in an estimated $7 billion in incremental revenues). This is the bulk of the dollar flows the country will receive as oil accounts for more than 94 percent of total exports, and given the country's limited access to global credit markets, multilateral financing, and FDI.[29]

To add to the stress, as Figure 8 shows, Venezuela's oil basket has been trading at a widening discount in relation to WTI, from $3 per barrel in June 2015 to about $8–9 per barrel on average in June 2016, and has thus underperformed the WTI rally on the back of a heavier oil export basket, as output of conventional and lighter crude continues to fall.[30]

Figure 7: PDVSA Operating Profits

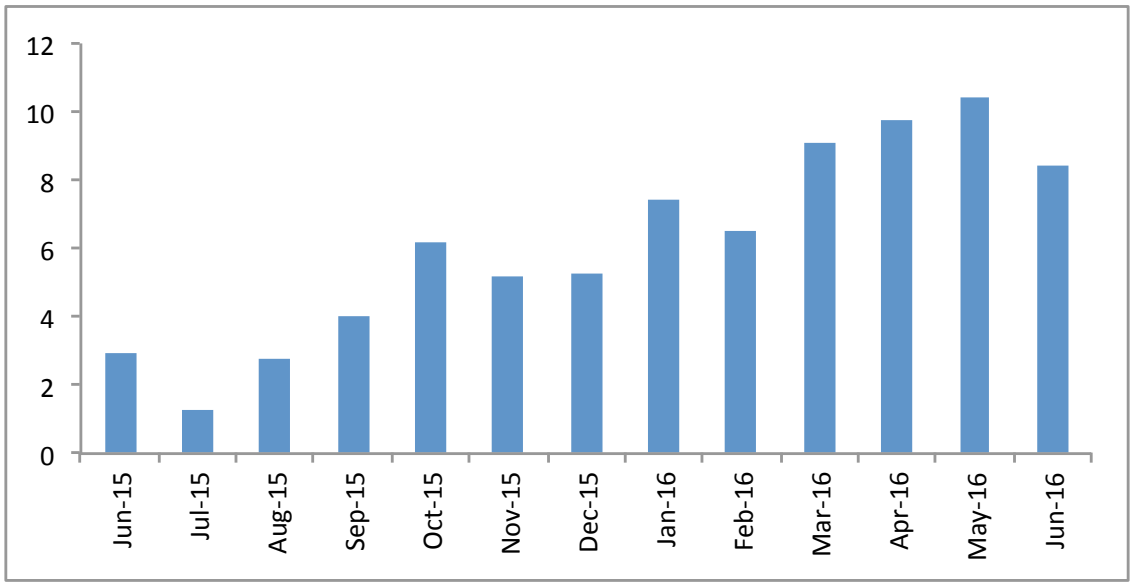
$ Billion



Source: PDVSA 2015 Financial Balances.

Figure 8: WTI–Venezuela Oil Price Differential

$/bbl



Source: Estimations based on Bloomberg data.

This projected gross export revenue of roughly $30 billion must cover bond debt service of about $10 billion for 2016, leaving only $20 billion for imports of goods and services—including the cost of PDVSA's oil imports, which amounted to $6 billion in the first three quarters of 2015, the most recent period for which official balance of payments data are available.

The situation could be even more precarious if it were not for the fact that Venezuela could receive some relief from its debt service to China, estimated to be $5–6 billion annually, on top of its bond debt service.[31] Lack of official information about the specifics of these debt negotiations makes it difficult to assess the extent of the relief. So far press reports hint at a moratorium on capital repayments and not on interest payments.[32] This is relevant from a cash-flow perspective, because Venezuelan analysts usually factor in only the estimated share of oil exports that generate cash revenue, stripping out those barrels earmarked for debt service payment to China, which implicit in PDVSA 2015 financial reports should have amounted to 330,000 b/d of the total 579,000 b/d PDVSA sends to China. Whatever cash is left after paying for debt service and oil imports is then used for imports of goods and services.

This strategy of forcing the burden of the fall in oil export receipts on the reduction of the much-needed food and medicine imports was recently confirmed by Venezuelan Vice President for Economic Affairs Miguel Perez Abad in an interview with Bloomberg on May 13, in which he stated that imports would probably fall to about $20 billion this year from $37.5 billion in 2015.[33] This will represent a contraction of about 45 percent y/y in imports, following a decline of more than 20 percent in 2015.

This massive adjustment in imports is proving to be socially unsustainable, as it comes with severe limitations in the ability of the private sector to respond by increasing domestic supply. Not only does the private sector have to deal with a very adverse regulatory pricing and political environment, but it also faces severe lack of access to hard currency to import primary and intermediate goods.

As a result, according to the largest business sector organization in Venezuela, Fedecamaras, the private sector is estimated to be operating at 36 percent of its installed capacity.[34]

In addition, the private sector has to function under severe macro distortions because of a dysfunctional FX regime that causes massive price dislocations. Venezuela's economy de facto operates under three foreign exchange rates, an official FX rate of 10 Bolivars per dollar (VEF/$) called DIPRO, a semifloating rate called DICOM at almost 640 VEF/$ (as of July 6), and a parallel or black market rate at more than 1,000 VEF/$.

This supply shock is leading to a significant rise in inflation and widespread scarcity of goods and services that are reaching humanitarian crisis levels.[35] Official inflation ended at 180 percent in 2015. The IMF estimates it could close 2016 at 700 percent, and a local pollster estimates scarcity levels of more than 80 percent of goods in the capital, Caracas.[36]

The oil sector is not exogenous to the current economic crisis because the high inflation and highly distorted FX regime also has significant implications for the cost structure of Venezuela's oil operations, making it very difficult for Venezuela to increase oil production and exports, like other OPEC countries are doing, to cushion at least partially the impact of the oil price collapse.

PAYMENT PROBLEMS

PDVSA and Venezuela are facing a financial crisis of historical proportions, and the consequence of this is that PDVSA is in arrears with its oil suppliers and, as argued, has even incurred payment delays on its oil imports. PDVSA maintains arrears on the dividends with its JV partners, making it difficult for these to step in with investments.

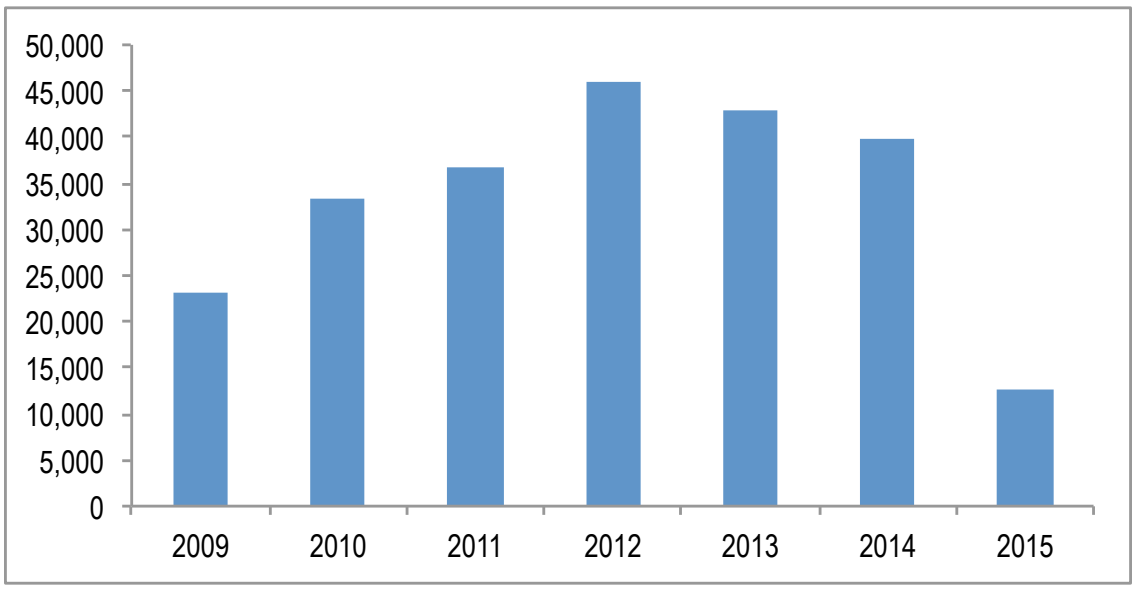
Venezuela and PDVSA remain current on their bond debt, which, according to the Ministry of Finance and PDVSA's financial report, stands at a combined $90 billion by the end of 2015. And while there are no official numbers on the current stock of Chinese external debt, the central bank reported total external debt by the public sector at $120 billion by Q3 2015.

But the dollar liabilities might be higher when PDVSA's arrears to its oil service suppliers, the government's unpaid commercial debt[37] and contingent liabilities from expropriation claims at the World Bank International Court for Investment and Settlement Disputes are included.

PDVSA's cash flow cannot cope with all these external obligations, which is why arrears are mounting. But also it is not even enough to pay for the much-reduced import bill this year. In fact, PDVSA's transfers to the central bank have collapsed, declining by 70 percent (see Figure 9), and the government's few statements about how these transfers are behaving this year show an even more dire situation.[38] As a result, the country is tapping its international reserves, which have lost more than $4 billion so far this year, in order to pay for imports.

Figure 9: PDVSA's Oil Export Revenue Transfers to Central Bank, 2001–2015

$ Million



Source: Ministry of Oil and Mining, Memoria 2015.

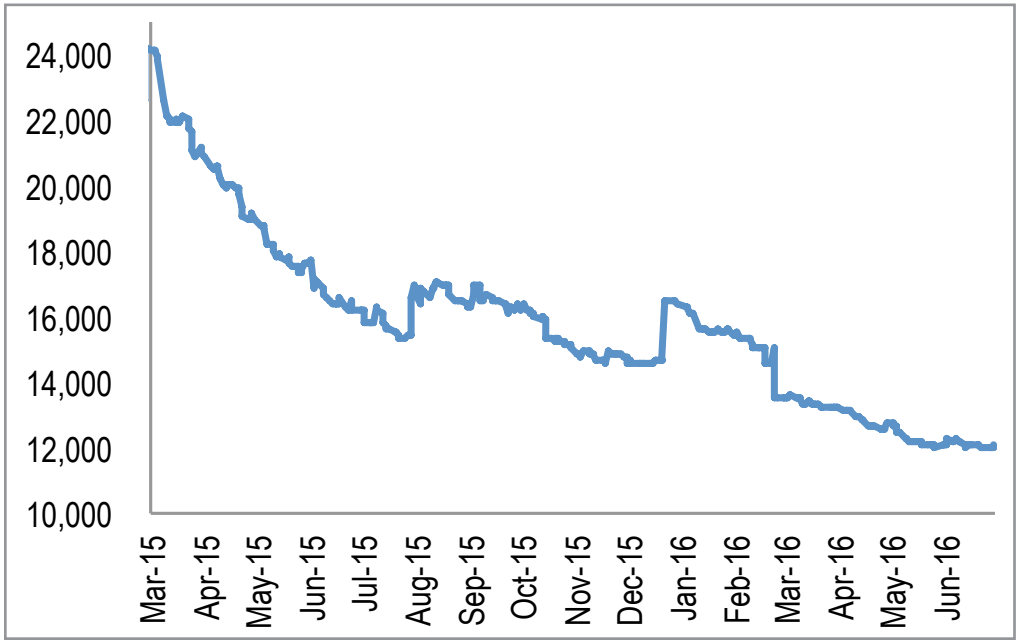
This fall in international reserves comes even before the bulk of Venezuela's debt service is paid, which is in Q4 2016. This includes $3 billion in PDVSA's amortizations for a total debt service of $4.5–5 billion in the last three months of the year, for a total bond debt service of around $10 billion this year. This is likely to leave international reserves at a critical level entering 2017 with bond debt service payments again at $10 billion.

Given the precarious situation of the dollar liquidity position, financial markets and rating agencies still see a high risk that this story could end with a default or a debt restructuring at some point.[39] Yields on PDVSA bond debt have widened from 10 percent before the oil price collapse to 80 percent during Q1 2016 when the oil price reached $20 per barrel. PDVSA's bond yields have since recovered to about 40 percent, but it is still one of the highest-risk assets in the emerging market bond space.

The company seems to have prioritized bond debt payments above anything else, probably for fear that a default of its global bonds will lead to attachments of its account receivables, oil-tanker flows, or fixed assets abroad, which could further impact its oil production and exports, which is why a default is not inevitable.[40] In fact, PDVSA's CEO recently stated the company is working on a debt operation to swap upcoming maturities for longer-dated bonds in order to deal with the situation.[41] But payment issues are spilling over regardless, affecting the operations of the oil company.

Figure 10: International Reserves

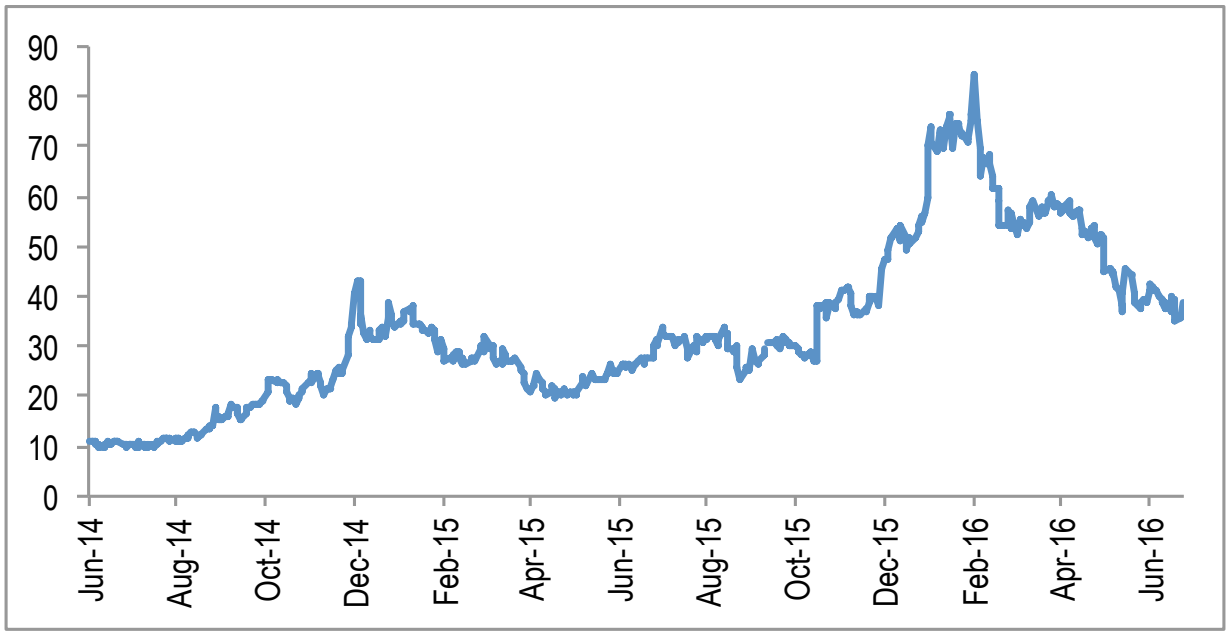
$ Million



Source: Central Bank.

Figure 11: PDVSA 2017 Global Bond 2014–2016

Yield (%)



Source: Bloomberg.

GATHERING STORM: POLITICAL CRISIS AND THE OIL SECTOR

Venezuela and PDVSA are not the only oil-exporting country and company suffering from the oil price collapse, but the simultaneous financial, economic, and social crisis hitting the country—which is also morphing into a full-blown political crisis—is noteworthy. At the heart of this is not only an economic model that has collapsed, but state institutions and a government that have become unresponsive, and that is effectively disabling all possible avenues for economic policy and political change coming from its society. In fact, the government's actions are effectively making the situation much worse.

As a result, the political conflict in Venezuela has significantly intensified. This started to happen with the electoral loss the government faced during the December 2015 legislative elections, which resulted in the opposition winning two thirds of the National Assembly.

But the government has failed to recognize the electoral results and has de facto thwarted the capacity of the National Assembly to legislate, using its control of the Supreme Court to declare the laws issued by the elected assembly as unconstitutional.

As the economic and social situation deteriorates, the Venezuelan opposition has moved to push for a recall vote on President Nicolas Maduro's six-year term. The Venezuelan constitution allows for a recall vote halfway through the mandate of any elected official. The government has responded by impeding the process for a recall, declaring a state of exception in the country and militarizing even more the political conflict.

By not allowing any expression of political discontent to find an outlet, President Maduro is pushing Venezuela into a politically unstable equilibrium. The most recent opinion polls show that 80 percent of voters want President Maduro to leave office this year,[42] and that if a recall referendum were to take place, it would be an electoral loss of such proportions that the ruling party will not survive. This explains why the government is trying to avoid the referendum altogether or at least delay it until 2017 at which point the vice president takes over. So while this is a very unpopular government, of which voters in opinion polls overwhelmingly blame for the economic crisis, it is a government that is using its institutional control of the state to block political change toward an opposition government.

With Venezuela in a full-blown political confrontation, the timing and extent of the damage before there is some political stabilization are unknown. As a result, the risks to oil production remain on the downside not only this year but also for the next if there is no political resolution. And this is almost regardless of the expected recovery in oil prices.

As argued in the previous sections, this political conflict is a result of an economic and social collapse, which is affecting the oil sector in multiple ways. To the already explained financial and macroeconomic issues that affect the availability of financing and the cost structure of oil operations, need to be added the significant increase in crime, which is even affecting production sites. The political crisis and rising insecurity translate into an even more important managerial crisis given the lack of qualified human resources.

But the oil production outlook for next year and in the medium term could dramatically improve if efforts at a recall referendum are successful and result in a more pragmatic government in office next year. As a result, the political conflict in Venezuela could become a binary outcome for oil markets.

CONCLUSION

Venezuela operational problems have caught the attention of oil markets, and for good reason. A crippling electricity crisis, bottlenecks at the Jose export terminal, which accounts for about 70 percent of the country's exports, and ongoing problems at its refineries are testament that years of neglect and losses in technical capacity are taking their toll.

But while operational glitches have plagued the country with rising outages in recent months, these are neither the only problems nor the most daunting ones facing Venezuela and the broader oil market. Some of these mishaps may prove to be short term. Rather, it is the underlying trend in Venezuelan crude production that constitutes the most important risk ahead for oil markets, not just in the very short term but in the 2016–2017 period.

Venezuela was already having economic problems when the oil price was at $100 per barrel. Its oil production started shifting into decline at a time of high oil prices. Higher oil prices are a necessary condition, but not a sufficient one, to solve its current predicament.

The Venezuela oil basket is becoming heavier, as its discount to WTI prices can attest. Declines in lower-cost conventional medium-grade crude oil are being offset with very heavy oil from the Orinoco belt. And while Venezuela remains a low-cost producer (PDVSA's 2015 annual balances put average oil production costs at $11 per barrel), this trend will mean rising costs for Venezuela's oil production.

Venezuela has about 500,000–600,000 b/d of upgrading capacity domestically to transform this very heavy crude into a lighter synthetic crude of 16–32 API. Replacing medium-grade oil, which faces steep decline, with heavier oil comes at an exceptionally high cost, because this heavier crude, even as it fetches lower prices on international markets, also needs to be blended with higher-priced diluents to be marketable. The ramp-up of light oil imports this year is a clear indication that domestic diluents and/or PDVSA's production of lighter crudes are already insufficient.

This means that any increase in oil production from Venezuela under the government's current strategy of doubling down on its heavy oil production from Orinoco could mean a $10–12 mark up to the final production cost at current WTI prices. This is assuming a 75 percent–25 percent mix of heavy oil to light crude oil in order to arrive at Venezuela's Merey blend of 16 API.

The continuation of this strategy will significantly eat into the government's oil rent, and thus its ability to export its way out of this crisis, even at higher oil prices. But while an improved oil price scenario is not sufficient, it is absolutely necessary for making the Orinoco oil at least commercially viable.

Arresting production declines in conventional crude should thus be a priority, but most of the fields that produce this crude are solely operated by PDVSA. Venezuela's nationalistic oil policy has thus clearly backfired, resulting in accelerated oil production declines that are making the situation worse.

The response of Venezuela and PDVSA to the oil price collapse has not only been highly insufficient but even self-defeating. Other producer countries have let their currency devalue and allowed their national oil companies to sell assets and rationalize investments, while improving their oil fiscal and regulatory regimes and becoming more flexible, even more investor friendly. PDVSA and Venezuela are noteworthy for how they have lagged behind.

The way the country is adjusting to the oil price collapse is leaving its economy, society, and oil industry in much worse shape than its competitors in an oil market where there the pool of investable resources has shrunk and the investment opportunities expanded.

While PDVSA's dire cash-flow situation is putting significant downside risks to oil production, Venezuela's oil industry, far from being immune from the country's economic, political, and social crisis, is deeply affected by it.

So while the political crisis is not the root cause for PDVSA's current problems, it is aggravating the situation. How the political situation evolves will likely have a binary outcome for global oil markets. In the absence of a political resolution to the current crisis, Venezuela will remain a supply risk in 2017. Conversely, a political resolution with a dramatic change in policies that addresses the current financing and economic crisis could significantly change the country's medium-term production outlook.

NOTES

1 International Energy Agency, Oil Market Report, May 12, 2016, p. 3.

2 According to PDVSA's annual report numbers.

3 Estimates from IPD, a local oil consultancy in Venezuela. IPD, "Working around the Edges," April 8, 2016.

4 A. Ulmer, "Venezuela 2016 Oil Output Seen Down at 2.35 mln bpd—Consultancy," Reuters, May 3, 2016, http://uk.reuters.com/article/venezuela-oil-output-idUKL2N1800QX.

5 "Halliburton Joins Schlumberger in Cutting Venezuelan Activity," Bloomberg, May 6, 2016, http://www.bloomberg.com/news/articles/2016-05-06/halliburton-joins-schlumberger-in-cutting-venezuelan-activity.

6 See Eulogio del Pino's interview: R. Chilcote and N. Crooks, "Venezuela Says Oil at $50 Will Be Enough to Avoid Default," Bloomberg, June 16, 2016, http://www.bloomberg.com/news/articles/2016-06-16/venezuela-says-oil-at-50-will-be-enough-to-avoid-default.

7 Halliburton stated in its quarterly filings with the SEC that its "total outstanding net trade receivables in Venezuela were $756 million as of March 31, 2016, which represents more than 10% of our trade receivables…The majority of these receivables in Venezuela are United States dollars." They also recognized that they had been experiencing "delays in collecting payment on our receivables from our primary customer in Venezuela. These receivables are not disputed, and we have not historically had material write-offs relating to this customer…during the first quarter of 2016, we made the decision to begin curtailing activity in Venezuela."

8 "Schlumberger Issues Venezuela Operations Update," Schlumberger website, April 12, 2016, http://www.slb.com/news/press_releases/2016/2016_0412_slb_venezuela.aspx.

9 "Venezuela Tries to Dig out of Power Crisis" Argus Media, April 4, 2016, http://www.argusmedia.com/news/article/?id=1216200.

10 According to the document presented by the Zuluaga group to the Venezuelan National Assembly, http://www.lossinluzenlaprensa.com/wp-content/uploads/2016/02/El-Grupo-Ricardo-Zuloaga-a-la-Asamblea-Nacional-2-de-febrero-de-2016.pdf.

11 "250k B/D of Venezuela Oil Production at Risk as Electricity Crisis and Economic Depression Persist," The Fuse, May 5, 2016, http://energyfuse.org/electricity-crisis-economic-depression-accelerate-decline-venezuelas-oil-production.

12 "Venezuela Ending Power Rationing After Two Months of Cuts," New York Times, July 1, 2016, http://www.nytimes.com/aponline/2016/07/01/world/americas/ap-lt-venezuela-power-rationing.html?_r=0.

13 M. Guanipa and M. Parraga, "Venezuela Oil Refineries Face Operating Woes, PDVSA Launches Tenders," Reuters, April 26, 2016, http://www.reuters.com/article/us-refinery-operations-pdvsa-idUSKCN0XN2RS.

14 Ibid.

15 Ibid.

16 "Venezuela's PDVSA Asks Partners to Pick up Tab as Oil Prices Sink" Reuters, January 18, 2016, http://www.reuters.com/article/us-oil-venezuela-naphtha-exclusive-idUSKCN0UW1LE.

17 M. Parraga, "Credit Concerns Loom Behind PDVSA's Super-Sized Oil Import Tender," Reuters, March 11, 2016, http://af.reuters.com/article/commoditiesNews/idAFL1N16J12P.

18 See M. Parraga and A. Ulmer, "Delays at Venezuela's Main Crude Port Trigger Vessels Backlog," Reuters, March 24, 2016, http://www.reuters.com/article/oil-venezuela-backlog-idUSL2N16W1C7.

19 PDVSA published in its website a news report that on May 31, 2016, it had finished the installation of three loading arms at Jose to expedite the loadings of heavy oil. See PDVSA press report, May 31, 2016, "PDVSA Culminó Instalación de Brazos de Carga en Plataforma Marina del TAECJAA 31-05-2016," www.PDVSA.com.

20 Weekly US imports are preliminary and subject to revisions. The US oil import monthly data is released with a two-month lag. The Reuters World Flows database might have some accuracy issues, but this is the best available data to assess the oil export trends in Venezuela.

21 These are the IMF estimates from the April 2016 WEO.

22 PDVSA's 2015 financial balances show a $7 billion loss for fuel subsidies last year.

23 "Del Pino: The Adjustment of Gasoline Prices Is a Reduction of the Subsidy," www.PDVSA.com, February 22, 2016, http://www.pdvsa.com/index.php?tpl=interface.en/design/salaprensa/readnew.tpl.html&newsid_obj_id=13793&newsid_temas=1.

24 Oil tankers from Venezuela take between fifteen days to arrive to the United States, about forty-five days to China, and about thirty-five days to India.

25 R. Brelsford, "Citgo, Aruba ink deal to restart idled refinery," OGJ, June 13, 2016, http://www.ogj.com/articles/2016/06/citgo-aruba-ink-deal-to-restart-idled-refinery.html.

26 M. Parraga and S. Mcfarlane, "Oil Tankers in Limbo as Venezuela's PDVSA Fails to Pay BP: Sources," Reuters, May 31, 2016, http://www.reuters.com/article/us-oil-pdvsa-bp-idUSKCN0YM2OX.

27 M. Parraga, "BP Receives Its First Venezuelan Crude Cargo under Swap Deal," Reuters, June 29, 2016, http://www.reuters.com/article/us-venezuela-oil-bp-idUSKCN0ZF2LP.

28 The last official number was the 2015 average annual oil export of crude and products of 2.425 million b/d for 2015, according to PDVSA's 2015 financial report. Since there is no official monthly export data for Venezuela, the Reuters World Flows Tanker Data is used with the understanding that this is an imperfect estimate since it does not include all product exports, only fuel oil. Since PDVSA has placed product tenders to import diesel and catalytic naphta, this might not imply an important underestimation of PDVSA total exports.

29 PDVSA is believed to have issued through a third party some dollar-denominated notes to pay off oil suppliers. See "Venezuela's PDVSA Quietly Issues New Debt to Pay off Supplier," Reuters, May 3, 2016, http://www.reuters.com/article/us-venezuela-economy-exclusive-idUSKCN0XU1HL.

30 In addition, Venezuelan refineries processing a heavier crude diet might result in a higher share of fuel oil that contributes to the heavier basket.

31 Vice President of Economic Affairs Miguel Perez Abad stated in May that Venezuela had reached a rescheduling of its debt service payments this year, which are paid in kind with oil exports. "Venezuela Says Better Oil Loans Deal Reached with China," Reuters, May 17, 2016, http://www.reuters.com/article/us-venezuela-economy-china-idUSKCN0Y80PY.

32 See C. Pons, A. Ulmer and M. Parraga, "Venezuela in Talks with China for Grace Period in Oil-for-Loans Deals," Reuters, June 15, 2016, http://www.reuters.com/article/us-venezuela-china-idUSKCN0Z01VH.

33 N. Crooks and N. Soto, "Venezuelan Economy Czar Says More Import Cuts Coming to Pay Debt," Bloomberg, May 13, 2016, http://www.bloomberg.com/news/articles/2016-05-13/venezuelan-economy-czar-says-more-import-cuts-coming-to-pay-debt.

34 Interview by Carlos Larrazabal, vice president of Fedecamaras. "Analisis de La Coyuntura Venezolana," Circuito Exitos Radio, July 1, 2016, http://www.fedecamaras.org.ve/resumen-de-noticias/viernes-1-de-julio-de-2016/.

35 There are numerous reports about the ongoing humanitarian crisis in Venezuela. An example is "Venezuela: Stubborn Politics Accelerate Catastrophic Humanitarian Crisis," Amnesty International, June 10, 2016, https://www.amnesty.org/en/latest/news/2016/06/venezuela-stubborn-politics-accelerate-catastrophic-humanitarian-crisis/.

36 A. Schipani, "Venezuelans Resort to Looting as Food Shortages Hit Crisis Point," Financial Times, May 27, 2016, http://www.ft.com/cms/s/0/0c2b0db8-21a4-11e6-9d4d-c11776a5124d.html.

37 There is no official data about the extent of the commercial debt in default, but some estimates put it at $20–25 billion. See A. Oliveros and G. Villamizar, "A Cuanto Asciende la Deuda en Venezuela," Prodavinci, April 21, 2015, http://prodavinci.com/2015/04/21/actualidad/a-cuanto-asciende-la-deuda-total-de-venezuela/. As an example, the International Air Transport Association (IATA) reported that just to commercial airlines Venezuela's debt was almost $4 billion. See "IATA Urges Governments to Address Airline Blocked Funds," IATA, June 2, 2016, http://www.iata.org/pressroom/pr/Pages/2016-06-02-03.aspx.

38 President Nicolas Maduro stated in February that PDVSA's transfers to the central bank had declined 90.7 percent to less than $100 million in January from $800 million in January 2015 in "Venta de Divisas de PDVSA al BCV Cayo 90% en el Ultimo Año," El Mundo, February 17, 2016, http://www.elmundo.com.ve/noticias/petroleo/pdvsa/venta-de-divisas-de-pdvsa-al-bcv-cayo-90-7--en-el-.aspx.

39 See "Moody's: Credit Event Highly Likely for Venezuela in 2016–17 but Not Inevitable," Moody's Investor Services, June 20, 2016, https://www.moodys.com/research/Moodys-Credit-event-highly-likely-for-Venezuela-in-2016-17--PR_350915.

40 PDVSA is believed to put money aside every month to ensure it can service its 2016 debt, which could explain the low level of dollar transfers to the government. It is also believed to have repurchased some of its bonds on the secondary market at very depressed prices.

41 B. Ellsworth, A. Ulmer and E. Chinea, "Venezuela's PDVSA Boss Says Debt Swap Planned," Reuters, July 27, 2016, http://www.reuters.com/article/us-pdvsa-debt-idUSKCN1072QI.

42 D. Lozano, "El 80% de los Venezolanos Quiere que Nicolás Maduro Deje el Poder," El Mundo, July 5, 2016, http://www.elmundo.es/internacional/2016/07/03/577806bb268e3e56508b4639.html.

COLUMBIA | SIPA
Center on Global Energy Policy