

Venezuela and PDVSA Debt: A Guide

A default in 2015 can be avoided but we see no positive end-game under the current policy framework

- Venezuela's loose fiscal policy and overvalued FX rate have left it highly vulnerable to the fall in oil prices, in our view. While total debt of \$142 billion represents 64% of GDP (at a PPP FX rate) and should be manageable, Balance of Payment concerns are likely to remain acute.
- We see a 2015 external financing gap of \$27 billion if Venezuelan oil averages \$50/bbl. A range of public asset sales and borrowing could just cover this in 2015, assuming a strong import contraction.
- We expect Venezuela to continue prioritizing bond payments until all other options are exhausted. Payments can and likely will be met in 2015, but economic stress is likely to exacerbate social and political tension, which we think demands extreme caution heading into 2016.
- The sovereign and state oil company PDVSA are highly intertwined: oil represents 97% of Venezuela's exports; PDVSA provides about half of formal budget revenues, while also funding a large parallel budget; the Republic owns the country's 298.5 billion barrels of proven reserves. The government had been taking around \$40 billion per year from PDVSA in the form of royalties, social expenses, taxes and dividends.
- We estimate a \$5/bbl drop in oil prices reduces PDVSA's undistorted free cash flow by \$1.4 billion; 2015 free cash flow is likely to be at least -\$12.3 billion.
- PDVSA needs EBITDA of \$27.7 billion to sustain its own external debt stock of \$45 billion, plus the government's \$65.9 billion, by our estimates. At current FX rates, oil would need to be at \$80/bbl, or with VEF at 60, oil at \$70/bbl.
- If PDVSA effectively must cover the sovereign's FX debt, too, total debt would need to be halved to be consistent with a 4x gross leverage ratio under the status quo for oil prices and macro policies. This implies a ceiling for a workout recovery on PDVSA, under the status quo for oil and the policy framework, would be in the 40s, depending on exit yield.
- 5y CDS on Venezuela prices a 96% probability of a credit event with 25% recovery; bond prices average 35 for Venezuela and 36 for PDVSA.
- We examine the key terms for bonds and CDS, noting that a PDVSA default does not automatically trigger a sovereign default (or vice versa).
- We see attractive trade opportunities in being short the high-priced front end of the VENZ bond curve (\$16s or \$18 old) either against CDS or versus low price long-end bonds, as well as PDVSA \$16s vs \$27s; also favor switches with attractive timing breakevens, selling VENZ \$22s and buying VENZ \$23s, or buying VENZ \$25s and selling VENZ \$38s. We remain Neutral in our EMBIG model portfolio.

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Introduction

Venezuela faced an exceedingly difficult macroeconomic backdrop in 2014, with missed opportunities to make long-overdue structural policy adjustments.

Despite Venezuelan oil having averaged close to \$90/bbl last year, the balance of payments was already under strain, GDP growth suffered a steep contraction, and inflation and scarcity issues become extreme. Venezuelan oil is currently trading below \$50/bbl. While we believe the root causes of Venezuela's macroeconomic woes are loose a fiscal policy and an overvalued, multi-tiered exchange rate, the immediate concerns for 2015 are related to the balance of payments. Credible structural reforms are needed to address the root of the problem, but at this point we see the oil price shock as equivalent to a rush to the emergency room. Lifestyle changes and cholesterol medication must be prescribed to ensure long-term recovery, but only if the patient survives the emergency bypass surgery: closing the Balance of Payments (BoP) this year. In this context, markets seem to have become more optimistic about 2015, but prices have reached levels near or even below most recent EM restructurings. However, Venezuela continues to send strong signals that it intends to service its bonded debt.

In this report, we offer a guide to Venezuela's debt complex, analyzing fundamentals and market-relevant details of the bonded debt. We begin with Venezuela's macro fundamentals, analyzing the financing challenges, policy options and political scenarios. We then turn to state-owned oil company PDVSA, looking at valuation considerations for the company and the value of potential creditor claims. In the final sections we look at features of Venezuela and PDVSA bonds, examining legal terms, considerations for CDS, and implied default probabilities from bonds and CDS. We conclude that we think Venezuela is in for a bumpy ride but that longer-dated bonds would offer good value should they reach the high 20s in price. We have less conviction over short-dated maturities – not because of immediate concerns about the authorities' willingness to service debt, but rather as political scenarios amid ongoing low oil prices could translate into extreme volatility that could lead to reinversion of currently flattish yield curves. We remain Neutral in our EMBIG model portfolio.

Venezuela's Macro Fundamentals

Debt has increased, but financing the external gap is the immediate concern

Venezuela's external balance sheet has been steadily deteriorating in recent years and continued to do so in 2014. Asset drawdown and net debt external indebtedness have been needed to close the balance of payments, even in a high oil environment. Between 2009 and 2012 Venezuela's external debt stock increased significantly. The country turned to external markets to deal with the 2009 oil shock and also ramped up its debt with China. Market debt has mostly been issued by PDVSA, which saw its debt stock grow almost 260% to over \$43 billion between 2008 and 2012; while the Republic's external debt grew 50% in the same period to almost \$45 billion. All the Venezuela and PDVSA bonds issued in this period were sold via the local market, with the respective issuers receiving local currency in exchange for new USD-denominated liabilities, in quasi-FX transactions designed to circumvent and ease pressure on Venezuela's strict FX controls. Bilateral debt outstanding to China, which is repaid with barrels of oil, peaked by our estimate at

almost \$27 billion in 2012, with lending not only supporting infrastructure and oil sector projects, but also to support housing and imports of consumer durables in the run-up to President Chavez's 2012 re-election. Domestic debt also grew significantly during 2009-12, alongside double-digit fiscal deficits. Local-currency denominated debt grew over 7 times to VEF444 billion by end-2013, reaching 18% of GDP from around 7% before. (See Table 1 and the Appendix for more data on the evolution of public sector debt.)

Table 1: Venezuela public debt stock

\$ in millions

	2013	2014e	2015f
Central Govt	87,085	74,999	64,693
USD bonds	35,388	33,888	32,688
Other external	9,403	10,000	10,000
Domestic (valued at FX rate)*	42,294	31,112	22,005
<i>Domestic in VEF</i>	<i>444,088</i>	<i>560,008</i>	<i>770,178</i>
<i>Domestic bonds</i>	<i>333,510</i>	<i>401,793</i>	<i>535,775</i>
<i>TICC - USD indexed</i>	<i>24,677</i>	<i>14,806</i>	<i>14,806</i>
<i>Indirect – guaranteed</i>	<i>85,901</i>	<i>143,408</i>	<i>219,597</i>
PDVSA	44,573	46,513	49,486
USD bonds	31,957	33,957	36,557
Other external	8,103	9,500	10,500
Domestic (valued at FX rate)*	4,513	3,056	2,429
<i>Domestic in VEF</i>	<i>47,382</i>	<i>55,000</i>	<i>85,000</i>
Estimated Chinese loans	22,370	22,000	26,000
Total FX-denominated	107,221	109,345	115,745
Total VEF-denominated	46,807	34,167	24,434
Total	154,028	143,512	140,178
Memo:			
Nominal GDP in VEFmn	2,493,547	4,021,735	7,641,297
*FX rate (estimated PPP)	10.5	18.0	35.0
<i>FX for TICC calculation</i>	<i>6.3</i>	<i>6.3</i>	<i>6.3</i>
Nominal GDP \$mn at PPP FX	237,481	223,430	218,323
Gross debt to GDP at PPP FX	64.9	64.2	64.2

Source: Finance Ministry (ONCP), PDVSA, Banes, and J.P. Morgan estimates.

Despite this rapid increase of indebtedness, Venezuela's debt burden is arguably still at reasonable levels at 64.2% of GDP. In part this owes to the favorable starting point. In 2007 Venezuela had just bought back \$3.9 billion of Brady bonds and its debt to GDP was around 25%. PDVSA had very little external debt at that point. Since 2012, the growth of the external debt stock has moderated, while domestic debt has grown significantly in nominal terms in order to close fiscal gaps – in real terms it has been kept in check by accelerating inflation. We estimate gross debt to GDP (calculated based on a purchasing-power parity, or PPP, exchange rate) actually peaked at 71% in 2012 before moderating to 64% in 2013 and 2014. Nonetheless, the asset side of the sovereign balance sheet has continued to deteriorate, with reserves at the Central Bank stabilizing at the lows of the last decade in a range between \$19-23 billion, and non-transparent assets like non-reserve cash and securities as well as Petrocaribe claims being marked down and monetized.

From the point of view of external accounts, capital flight has outpaced the oil windfall. Venezuela has run large current account (CA) surpluses in the last decade, though these have been superseded, particularly in the last five years, by larger capital account deficits. Between 2008 and 2012 the CA surplus averaged 8.6% of GDP, while the capital account deficit averaged 10.5%. We estimate the (reported) current account surplus improved on the margin in 2014 to around \$7 billion (3.1% of PPP GDP), from \$6.3 billion (2.7% of GDP) in 2013, with lower oil exports more

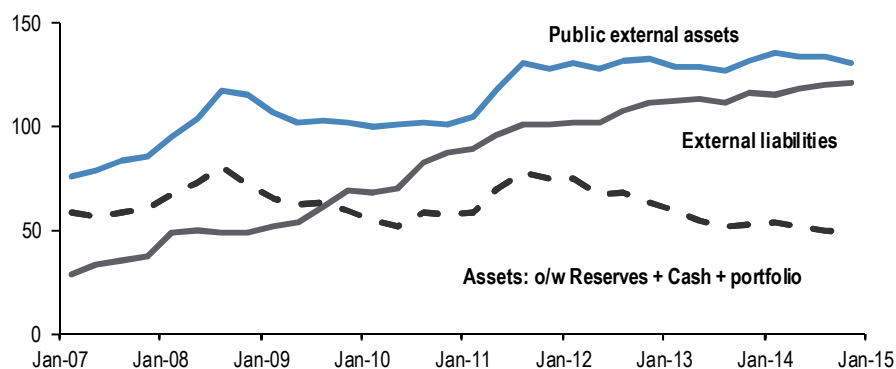
than offset by an estimated \$12.5 billion (18%) contraction of goods and service imports, particularly to the private sector. This import cram-down coincided with a sharp deterioration in the overall economy (we estimate -4% growth in 2014 versus the official forecast of -2.8%, with the difference primarily resulting from a much stronger contraction in domestic demand). Despite the relatively strong current account adjustment last year, capital flight and debt maturities (including \$4.5 billion of bonds) weighed on external accounts, requiring the sovereign to lean on its balance sheet once again in 2014.

We can quantify 2014’s BoP gap by using external accounts data from the Central Bank, in particular the Net International Investment Position series.

According to this data (and recognizing limitations in terms of transparency and quality), Venezuela’s public sector remains a net external creditor, but if we remove or mark-to-market assets of questionable quality and consider face value of bonded debt, we see Venezuela as a net external debtor to the tune of \$34 billion – a negative swing of \$79 billion since 2008.

Figure 1: Net international investment position: Public sector external balance sheet

\$ in billions



Source: BCV and J.P. Morgan estimates.

The public sector’s balance sheet deteriorated in 2014, with an external gap of \$9-10 billion. Total public sector assets fell by \$4.4 billion, while public sector liabilities increased by \$5.2 billion (considering face value rather than the reported market value for bonds on the liability side of the ledger). Reported cash and deposits outside of CB reserves fell by \$2.5 billion during 2014 to a reported \$20.9 billion (no breakdown is available; we acknowledge market skepticism regarding this figure). Portfolio holdings of the public sector fell by \$2.8 billion (mostly mark-to-market losses), while other even more obscure external assets were marked down by \$1.9 billion on the year (see Appendix). On the liabilities side in 2014, external loans were flattish (down \$0.9 billion, suggesting little-to-no net exposure increase by the Chinese), while the face value of bonds outstanding increased by \$4.8 billion based on an estimated \$9.3 billion of issuance, less \$4.5 billion of maturities. Considering the discounted market value of the new bonds, most of which were sold through locals in FX transactions over the now defunct SICAD-2 platform, we estimate gross issuance of bonds financed around \$6.5 billion for BoP purposes in 2014. So all told, we estimate an external gap of some \$9-10 billion last year.

Considering this difficult starting point, the significant fall in oil prices since the end of last year appears to be a devastating blow to external accounts.

Venezuelan oil at \$40/bbl would likely slash exports by over half to \$35 billion in

2015. This compares to current account debits (goods imports plus the deficits in the services and income accounts) of an estimated \$68 billion in 2014, a figure that was already trimmed down 19% last year from 2013 levels, resulting in painful consequences for stagflation and scarcity. In addition, price and exchange controls amid deeply negative real domestic rates means capital flight will be persistent: we estimate \$11.5 billion in 2014, measured by private capital outflows and errors/omissions, and not counting any capital flight disguised as current account transactions.

Oil is the key determinant of Venezuela’s balance of payments. Table 2 lays out our scenario for the balance of payments in 2015 under different oil scenarios. Our base case is closest to the “mid-low” scenario, considering our house forecast for WTI to average \$46/bbl during the year and the discount of Venezuelan crude. In all of our scenarios we consider another 23% drop in non-oil goods imports, in addition to the 18% already incurred in 2014. We also consider an aggressive reduction (between 33% and 50%) in the services deficit. If we assume capital flight at \$1 billion (similar to our 2014 assumption) and all non-bond, non-Chinese external debts is rolled over, we still end up with an external gap between \$14.5 billion (at \$70/bbl Venezuela oil) and \$39 billion (at \$30/bbl), with a gap close to \$33 billion most likely. All of these funding gap estimates are assuming another year of very aggressive cram-down in imports and other current account debits, taking imports down to levels not seen in almost a decade (Figure 2).

Table 2: Venezuela: External financing gap estimate

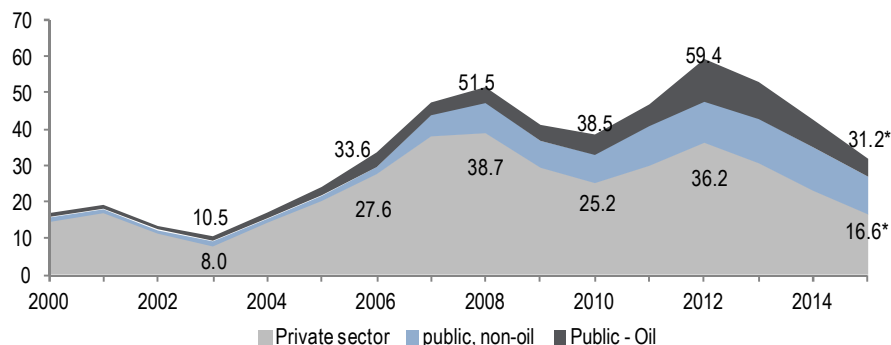
\$ in billions

	2014e	2015 scenarios		
		High	Mid	Low
<i>Venezuelan Oil Basket (\$/bbl)</i>	89	70	50	30
a) Current account balance	7.0	3.1	-9.4	-21.4
Trade balance	32.3	24.9	10.9	-3.1
Exports	74.9	59.4	43.2	27.0
o/w oil	72.1	56.6	40.4	24.3
Imports	-42.6	-34.5	-32.3	-30.2
o/w oil	-7.7	-7.5	-5.4	-3.2
Service balance	-15.5	-12.0	-10.5	-8.5
Income balance	-9.8	-9.8	-9.8	-9.8
o/w bond coupons	-5.9	-5.8	-5.8	-5.8
b) External bond amortizations	-4.5	-4.6	-4.6	-4.6
c) Arbitration claims due	0.0	-2.0	-2.0	-2.0
d) Estimated capital flight	-11.5	-11.0	-11.0	-11.0
	9.0	14.5	27.0	39.0
Uses (a+b+c)				
Possible sources	9.0	25.0	25.0	25.0
Net Chinese lending	0.0	4.0	4.0	4.0
CB reserves + gold sales	-1.5	5.0	5.0	5.0
Draw-down on off-budget funds	4.0	4.0	4.0	4.0
CITGO cash		4.0	4.0	4.0
Sale of Petrocaribe claims		4.0	4.0	4.0
Other loans and project finance		2.0	2.0	2.0
Market value of new FX bond	6.5	2.0	2.0	2.0
Gap	0.0	-10.5	2.0	14.0

Source: J.P. Morgan estimates. Memo: Ven oil (\$/bbl; \$5 spread to WTI)

Figure 2: Imports could contract 45% from 2012 and go back to pre'06 levels

\$ in billions



Source: J.P. Morgan. * 2015 forecast

Ways to finance the balance of payments gap

We think an optimistic scenario for Venezuela to raise cash via asset sales and debt could potentially deliver \$25 billion to the BoP in 2015. This would mean that the gap under our assumptions for the current account could service its bonds under a scenario for Venezuelan oil at \$50/bbl (the YTD average is \$45/bbl). But coming up with \$25 billion in cash would entail all of the following optimistic assumptions:

- China would not just maintain exposure by rolling over maturing facilities but introduce a new \$4 billion loan tranche of fresh cash (we are skeptical that the \$20 billion figure mentioned by Maduro after his January trip is all committed, and could all be disbursed this year; our estimate is consistent with more recent [press reports](#)); alternatively China could also be flexible on some of the estimated \$6 billion of annual amortizations of outstanding loans;
- The Central Bank sells all of its cash (around \$2 billion) and part of its \$15 billion gold;
- \$4 billion of off-budget funds (Fonden/China fund) exist and are tapped to support the BoP (not counting any aforementioned new Chinese disbursements);
- \$4 billion of cash will be squeezed out of CITGO or other international assets (i.e., an additional \$1.2 billion on top of the \$2.7-2.8 billion of CITGO cash raised in February);
- An estimated \$4 billion sale of Venezuela's claims on Petrocaribe, (i.e., an additional \$2.1 billion after the \$1.9 billion already obtained from the Dominican Republic; see our [January 30 commentary](#));
- We consider an additional \$2 billion of loans or project finance, including for oil JVs, though the latter would be tied to imports and debt service of the projects; we do not rule out the sale to current partners of increased equity stakes in the projects (PDVSA currently owns at least 60% and could legally own as little as 51%);
- Finally we pencil in \$2 billion market value of new bond issuance. The recent revelation of new \$3 billion PDVSA 6% '22s sold to the Central Bank implies around \$1 billion market value, so this assumption implies another (face value)

\$3 billion bond could be issued in a similar transaction, eventually leaking into the secondary market via the FX regime.

While we think it is reasonable that any one of these transactions may occur, and perhaps some with even larger numbers than we assume, we are emphasizing in this exercise that all of them would need to transpire in addition to another year of aggressive current account compression, and oil would need move higher from current levels to close the external gap. Moreover, if oil doesn't recover significantly, Venezuela's balance sheet would presumably be too stretched to deliver much additional cushion in 2016, making next year just as complicated, if not more so.

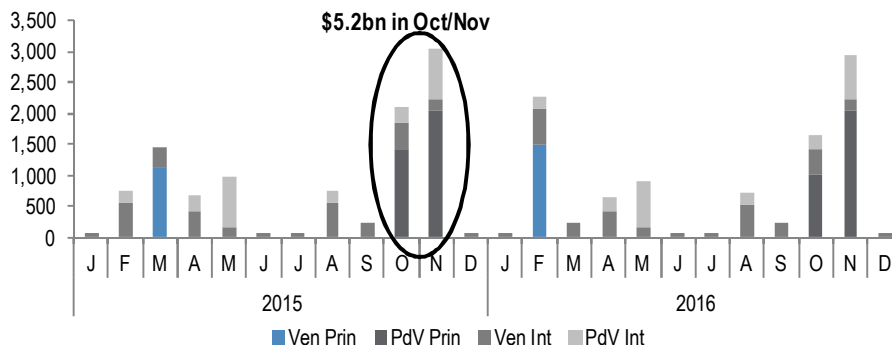
Without financing sources, imports will likely need to decline significantly to close the financing gap. In reality, the balance of payments must close and the gap is just conceptual. To the degree financing or asset sales are not forthcoming, the already stark decline we assume for imports will necessarily be even more significant – and painful. As a result, despite the government's insistence that it intends to continue honoring debt payments and other international obligations, the market appears to have priced in a very high likelihood of bond default, at least beyond a one-year horizon.

The government won't act preemptively to restructure bonds

Despite this difficult math, it seems the authorities will not act preemptively to restructure bonds before it has run out of other options. Correctly or not (see *Considerations of Default Scenarios* later), Venezuelan policymakers seem to have internalized the notion that a bond default would carry significant risk to the country's international assets, oil exports, public sector imports as well as its investment plans in the oil sector. In this context, and with a government very slow to make important policy decisions, the market debate over whether or not Venezuela/PDVSA will default will likely linger for most of this year, since the most important hurdle for 2015 debt service does not arise until 4Q. Figure 3 shows that PDVSA faces almost \$3.5 billion of bond maturities in October and November, when \$1.43 billion of local law PDVSA '15s and the first \$2.05 tranche of PDVSA '17Ns mature (on October 28 and November 2, respectively). In addition, there is some \$1.5 billion of PDVSA and Republic coupons in October-November, meaning half of the \$10.5 billion of external bond service in 2015 takes place in these two months. One caveat worth mentioning to the 2015 maturity profile are ICSID arbitration cases. Exxon won an award for \$1.6 billion plus interest in 4Q14, but discussions are ongoing regarding a roughly \$900 million offset owed to PDVSA for a related award. Mining company Gold Reserve is seeking to enforce a \$746 million-plus interest award with a French judgment. Both awards are against the sovereign, and if they are converted into "final judgments from which no appeal may be made," they could trigger an event of default for the sovereign. Given the sovereign will likely seek to avoid that, we assume another \$2 billion or so of sovereign claims for arbitration will need to be honored in 2015, in addition to the bond maturity schedule.

Figure 3: Monthly debt service is bunched in Oct-Nov'15 with another hump in Feb '16

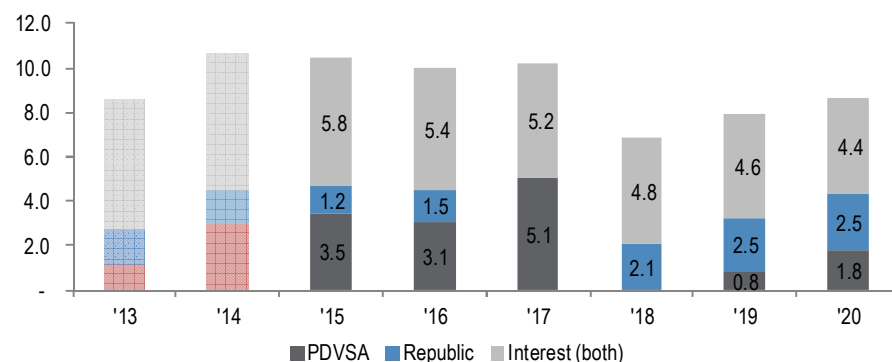
\$ in millions, Venezuela and PDVSA Principal and Interest



Source: Finance Ministry and PDVSA

Figure 4: PDVSA & Republic debt service on external bonds

\$ in billions



Source: Finance Ministry and PDVSA

While many investors seem to remain skeptical beyond 2015, default is likely to be avoided this year. The hard math of the external accounts may keep market participants skeptical of the government’s repeated pledges to honor debt, and Maduro’s December statements didn’t help matters (see our note [“Willingness to pay, ‘unless’”](#); December 16). While our balance of payments analysis suggests concern over the October-November maturities is warranted, we think bonded debt is likely to be serviced this year. Venezuela’s dollar cash flows may be greatly reduced, but it is the prerogative of the authorities where they direct those cash flows. Prices on PDVSA ‘15s have risen over 25pts to 93.00 since mid-December, while long-end PDVSA bonds have remained stable in the low 30s. Other short-dated maturities are outperforming as well, with some reports that there is a Venezuelan public sector bid. This suggests the government’s commitment to keep paying, and a credit event could be delayed.

Even so, the ongoing ideological unwillingness or political inability to make coherent economic policy adjustments has left market perceptions intact that a credit event is eventually inevitable. Barring a strong recovery in oil prices, Venezuela’s balance sheet may be squeezed further in 2015. What probably can’t be delayed is a worsening of the already dire macroeconomic situation, which will likely keep social tension and political risks front and center.

Political scenarios are key to market pricing beyond 2015

The tension between policy inaction and debt-servicing challenges may only be resolved by political outcomes, which may play out even before the government has run out of options for paying bonds. With or without economic adjustments, political tension may increase further in 2015. Unlike 2014, which saw intense street protests, so far political tension has been channeled into upcoming National Assembly elections, which should take place between September and December. We think economic stress is likely to become even more acute before this date, even if adjustments are finally taken, since they would initially be contractionary. This means there is a risk the election date may end up being too late in the year to effectively channel potentially disruptive social tension. We outline the political scenarios we see and their likelihood below (see also Table 3):

1) Institutions hold (JPMe: 65% probability)

In this scenario, the MUD and PSUV hold their respective primary elections on schedule in May and June, and the electoral authorities (CNE) call National Assembly (AN) elections, possibly as late as December, (which would be close to the holidays in an effort to stifle participation and therefore give more of an advantage to the PSUV machine). From the standpoint of today's polls showing the opposition with a strong advantage, and based on our view that the economy will continue to deteriorate, we think if the election happens we see at least a 75% probability that opposition would win a sufficient majority of votes so as to achieve the simple majority in the Chamber (despite the PSUV's institutional advantages). An opposition-controlled AN could in theory start to provide some checks and balances to the executive, but would probably not have the institutional capacity to impact the executive's ability to continue to govern. However, in practice this scenario would likely call into question the administration's political viability going forward and raising the specter of a successful 2016 recall election against Maduro. While the bar for a recall is high¹, in our view, the increased prospects that there could be a viable institutional path to a new government with a more sustainable macroeconomic policy would buoy market sentiment. The main risk we see around this scenario would be a government victory that is interpreted as a mandate for policy status quo (25%), although unsustainable policies suggest this scenario would not attain a political equilibrium. We acknowledge, but assign a very low probability to, a scenario where the government goes for a default on October-November maturities as a nationalistic tactic to raise support ahead of elections.

2. Institutional stress (JPMe: 35% probability)

In this scenario, we see a potential change in government before elections can take place. While this could be a very messy scenario marked by fluid and unclear events, we ultimately see two main sub-scenarios here. In the first, elements of the armed forces, Chavismo, and possibly the opposition agree to some kind of transition interim government that agrees to move toward new presidential elections by 2016. One version of this scenario could see a government that makes use of the transition period to reestablish macroeconomic stability. In a less positive scenario, the interim government would try to sustain the current populist framework. As a more extreme alternative to a scenario of a negotiated, transition government, a second sub-scenario could see a more radical military government imposing a politically repressive regime that impedes the private economy while becoming isolated from the international community. Within the 35% overall probability of an institutional

¹ To be successful, the level of votes in favor of the recall must exceed the 7.587 million votes that Maduro received in his April 2013 election, when voter turnout was almost 80%.

stress scenario, we pencil in 85% to the former sub-scenario (with equal chances of a “good” versus “bad” transition government); versus 15% to the latter sub-scenario.

Table 3: J.P. Morgan views on 2015 political scenarios

<u>2015 political scenarios</u>	<u>Probability</u>		<u>Impact on bonds</u>
<u>Scenario 1) Institutions hold</u>	<u>65%</u>		
<i>Opposition wins AN</i>	75%	<u>49%</u>	+
<i>Govt wins AN</i>	25%	<u>16%</u>	--
<u>Scenario 2) Institutional stress</u>	<u>35%</u>		
<i>Transition govt calls elections:</i>	85%	<u>30%</u>	+
- <i>Governability maintained/ mkt reforms</i>	50%	15%	++
- <i>No governability/ populist bias</i>	50%	15%	-
<i>Repressive regime</i>	15%	<u>5%</u>	--
Total		100%	

Source: J.P. Morgan

Recovery values would depend on the political environment and policy direction

CDS and bonds outside of the very short maturities are already pricing a very high probability of default. Discussions have therefore focused on timing and recovery values. We think recovery values are likely to be a function of whether the Venezuelan government at the time can credibly pledge to implement a more sustainable set of macroeconomic policies. Despite Maduro’s so-far underwhelming incremental adjustment announcements, we think the current macroeconomic policy framework is incompatible with achieving balanced external accounts. Absent oil prices back at 2012 levels (and rising indefinitely), the core of any sustainable policy, in our view, would either need to deliver at least one of two components:

- 1) A massive increase in oil output (all but impossible over a short-term horizon); and/or
- 2) The establishment of a minimum level of macro stability and rules of the game to elicit private sector confidence and investment – reversing incessant capital flight incentives that have been undermining external imbalances in recent years.

The outlook for policy shift, in our view, is the key to see meaningfully higher bond prices in 2015-16 (either in a restructuring or otherwise). We see no evidence that this administration has any ideological proclivity, much less political capacity, to implement the type of shift in policy framework that the market would consider to be sustainable on a long term basis. That said, as we do not think the current policy framework is sustainable economically or socially, we think the political outcomes explored in the above scenarios will eventually drive market prices. Table 3 maps out this scenario analysis in terms of the general directionality of the hypothetical impact on bonds. The outcomes appear to be binary. We would assign more weight to upside end-game scenarios at this point—but with the important caveat that it may be months before political tension comes to a head, and even more time before it is resolved. In the meantime, volatility could be extreme. Indeed, the path to any new political equilibrium would probably at least initially be clouded by apparently fluid events and uncertainty. All told, from a market perspective, we think the risk skew favors longer dated, lower dollar-price bonds over higher dollar-price bonds maturing in the coming 2-3 years.

PDVSA Considerations

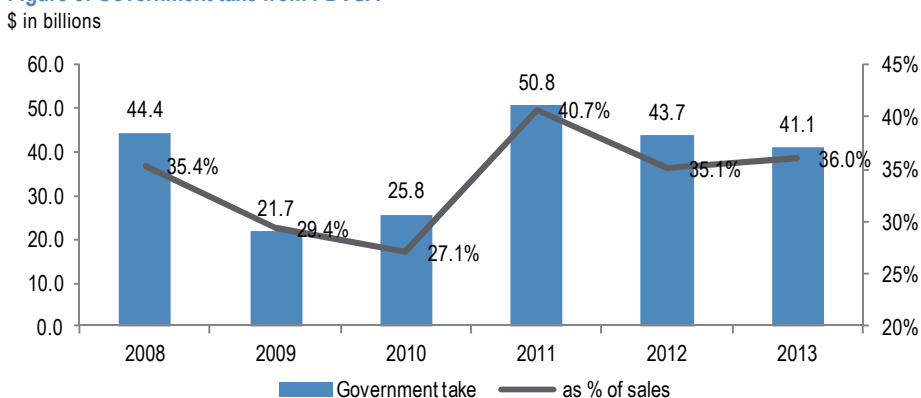
PDVSA's relationship to the government

It is difficult to overemphasize the degree to which Venezuela as a sovereign credit and state-oil company PDVSA are intertwined. Venezuela relies on oil for some 97% of its overall exports. The government take from the oil sector traditionally accounts for about half of budget revenues, while in recent years it has also supported a large (and largely unaccountable) parallel budget. PDVSA's debt strategy has been integrally linked to the government's strategy for its FX regime. And PDVSA under Chavismo has declared itself "*rojo-rojito*" (redder than red), with an overtly pro-Chavez bent for supporting the government's social, economic and political agenda. Up until last year, PDVSA's president and the country's oil minister were one and the same (Rafael Ramirez) for more than a decade. The current oil minister, Asdrubal Chavez, is the late president's first cousin, while the company's president is now Eulogio del Pino, a long-time PDVSA official who most recently served as the VP for Exploration and Production. We now turn to a detailed look at the company's operations and finances.

Contributions to the government

The government in recent years has grown accustomed to taking out over \$40 billion per year from PDVSA. We define 'government take' as the sum of the royalties, social development expenses (including FONDEN), income tax and dividends paid to the Republic. In 2012 and 2013, the government take represented over 35% of net sales. The most important expense is royalties, which represents approximately 30% of the crude produced and processed in Venezuela. However, the government deducts some of the royalties that it has to receive from the barrels sold in the domestic market at subsidized prices and the barrels part of the cooperation agreements (Petrocaribe, China loan and others). The dividend payment has ranged between \$1-2 billion in the last five years. Finally, social contributions are dependant on oil prices, as the company can adjust the investments depending on cash availability. In 2009, the worst year of the financial crisis, the social contribution was only \$3.5 billion, but in 2011, in the run-up to an election year, social expenses were \$30 billion.

Figure 5: Government take from PDVSA



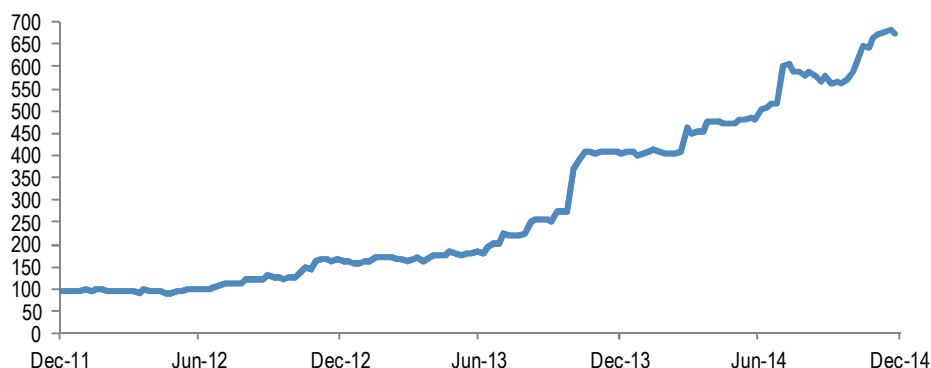
Source: Company reports and J.P. Morgan estimates.

In 2013, social contributions were down 25%yoy in USD terms, but up 6%yoy in VEF-terms. During 2013, the company made a net public investment of \$13.0 billion, which represented 11.4% of net revenues. The company invested \$7.8 billion for social plans and made net transfers of \$5.2 billion to FONDEN (National Development Fund that finances and manages investment and social projects in Venezuela). For the second year in a row, FONDEN returned cash to the company, and, in 2013, the \$5.2 billion sent back to PDVSA offset the \$10.4 billion transferred. In 2012, FONDEN returned \$6.7 billion. PDVSA’s contributions to FONDEN are mandated by Venezuela’s windfall tax legislation and the amount to be transferred depends on a tiered calculation on the difference between the Venezuelan oil basket, the government’s budgeted price (\$55 in 2013) and series of “exorbitant” levels (in 2013 these started at \$80/bbl vs. \$70/bbl in 2012). See page 4 of our [September 2011 report](#) for more details on how the transfers work.

The Central Bank of Venezuela (BCV) reports its claims on PDVSA both on its own balance sheet and in the country’s monetary base statistics. According to the latter, the BCV’s VEF-denominated claims on the oil sector reached VEF 672.9 billion as of end-2014, a 65% nominal increase versus the end-2013 level, but a reduction from \$64.7 billion (valued at USDVEF 6.3 last year) to \$14.0 billion if using the blended USDVEF 18.08 rate. The pace of the BCV’s VEF claims on PDVSA is not outpacing inflation in 2014, and they should be able to be written down with FX devaluation. However, the fact that they continue to grow is a sign that PDVSA is not yet able to sell dollars to the BCV at a sufficiently high exchange rate to obviate this monetary financing, which in turn is de-anchoring inflation expectations and fueling overall price pressure. The high level of the currency (USDVEF) validated by the new SIMADI rate is significant, and if PDVSA is allowed to sell important volumes on the platform it could short-circuit this vicious monetary circle. Nonetheless, President Maduro has emphasized so far the “marginal” nature of the SIMADI, with 70% of FX volumes still earmarked for Cencorex (USDVEF 6.3) and 30% for SICAD (initially USDVEF 12).

Figure 6: BCV liquidity injections to PDVSA

VEF in billions



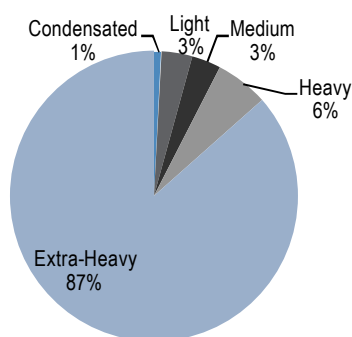
Source: Venezuela Central Bank J.P. Morgan estimates.

Venezuela has 298 billion barrels in proved reserves

PDVSA has 298.4 billion barrels in proved reserves that are owned by the Republic, and most of them are in the Orinoco Belt. To put it into perspective, the area could have 1.4 trillion barrels of oil in place (according to the US Geological Survey), of which 268.6 billion have been certified as recoverable (using a 20% recovery rate) and only a little bit more than 13.0 billion have been developed. The bulk of the reserves come from heavy and extra-heavy crude. The current reserves represent 282 years at the 2013 production rate.

Figure 7: Proved reserves breakdown

298.4 billion barrels



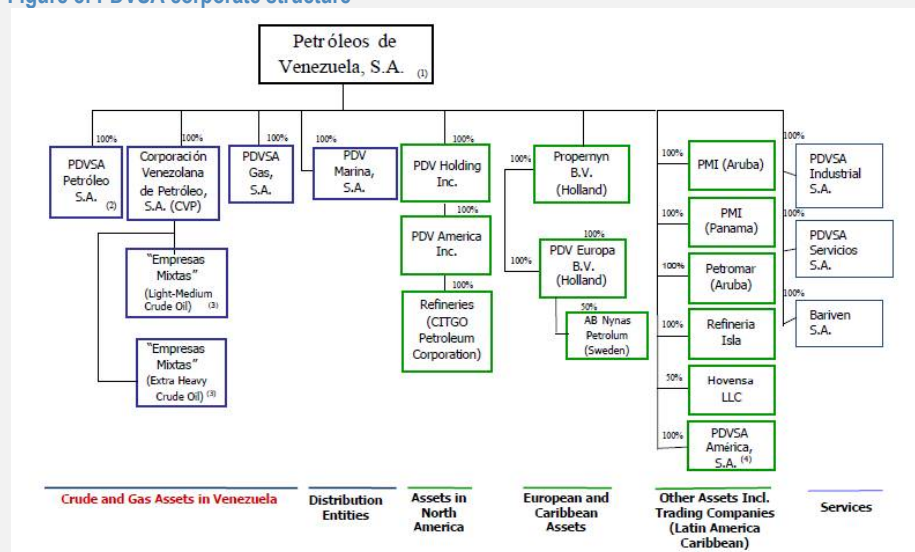
Source: Company reports.

How much are these reserves worth? One way to look at it is the amount international IOCs and NOCs have been willing to pay in signing bonuses to have access to the reserves as minority partners in PDVSA-led JVs. According to consultant IPD, only 45% of the reserves at the Orinoco Belt have been awarded, and the signing bonuses for those barrels were between \$0.3-0.5/bbl. We also looked at the signing bonuses paid by the partners of the current JVs and estimate that the last agreements signed involved a signing bonus of \$0.15/bbl. Signing bonuses for the reserves not yet awarded could range between \$12 billion and \$41 billion. Even though creditors are not able to seize crude reserves, the cash flow coming from the allocation of those blocks could be used to pay creditors or at least give some clarity on cash flows.

CVP is a key entity as it manages the JVs

Corporación Venezolana del Petróleo (CVP) owns PDVSA's stake in the JVs in the belt. Since the establishment of the JV model in the 1990s, CVP has been the entity that holds PDVSA's stakes in those projects (between 60-80%, depending on the project). Basically, we view it as the most important subsidiary of the company. In the past, it has been mentioned that PDVSA could sell stakes owned by CVP (without losing control) in order to fund future capex and/or pay for obligations.

Figure 8: PDVSA corporate structure

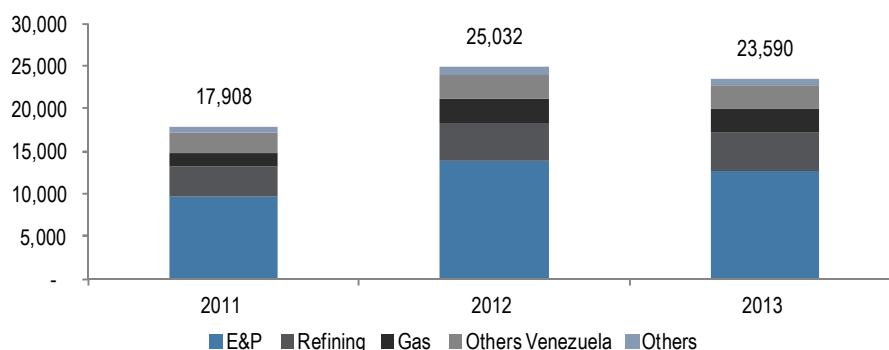


Source: Company reports.

Since 2008, capex has ranged between \$12.9 billion and \$25.0 billion. Production has not increased, and there was a major accident in one of the refineries. Most of the capex is invested in the E&P segment, as the company needs to maintain production and develop the Orinoco Belt. In 2013, capex was \$23.3 billion, lower than the \$25 billion invested in 2012. We believe part of this decrease is due to the devaluation of the currency, as almost half of the investments are VEF-denominated. In addition, the company mentioned that the decline was also due to a lower "number of refining projects being pursued."

Figure 9: PDSVA Capex

\$ in millions



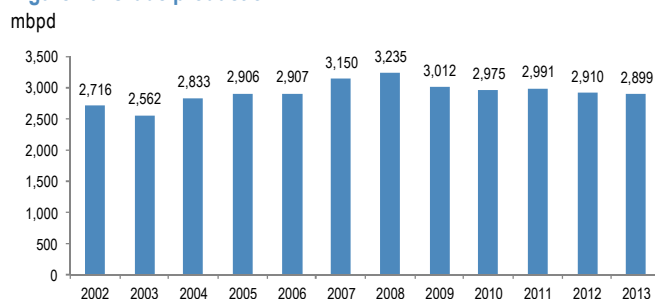
Source: Company reports and J.P. Morgan estimates.

Capex will likely have to increase if the company wants to meet its goal of producing 4,057mbpd from the Orinoco Belt. The company expects to invest \$197.4 billion over seven years. The investment also includes the development of five upgraders with a capacity of 400mbpd for four of them and 200mbpd for the other one. It also includes the expansion and upgrade of the refining capacity and current transportation and storage infrastructure. In the OM of the 2026 notes, the company mentions that 19% of the investments should come from partners.

PDVSA's operations have been stagnating, with production and exports declining

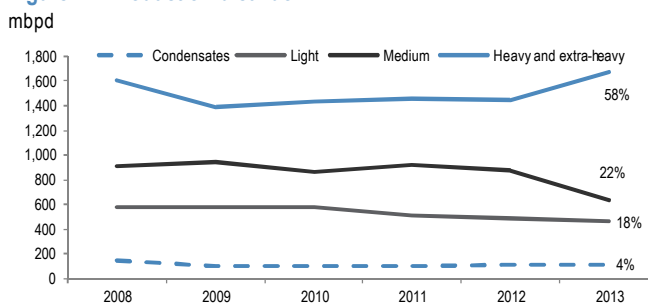
Production has been flattish over the last three years at 2.9mmmbpd. In 2013, production was 2,899mbpd (down 0.4%yoy, Figure 10), and it seems that in 2014 output was unchanged. The slight decline in 2013 was because the production of additional barrels was not enough to offset the declining output of mature fields. 2013 hydrocarbon production was 3,811mboepd, up 0.2%yoy as a 3.6%yoy increase in gas production offset the decline in crude and in NGL production. In addition, there continues to be a shift from lighter to heavier crude, which seems to be having an impact on the Venezuelan oil basket. In terms of net output of refined products, the company increased production 1.2%, primarily due to the recovery of the Amuay refinery and higher output from CITGO. Finally, the country's reserves increased by only 1.6 million barrels to 298.4 billion barrels, as the company only drilled nine exploration wells in 2013 (similar to 2012). Even though the company has not released official numbers, in a recent [interview](#), the Minister of Petroleum mentioned that 2014 production was unchanged.

Figure 10: Crude production



Source: Company reports.

Figure 11: Production breakdown



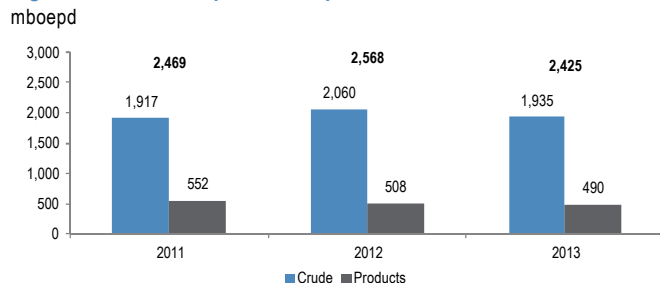
Source: Company reports and J.P. Morgan estimates.

Exports have been declining due to flattish production and higher domestic consumption. In 2013, total exports declined 5.6%yoy due to 6.1%yoy and 3.5%yoy declines in crude and products exports, respectively. The company reported exports of 1,935mbpd of crude and 490mbpd of products for a total of 2,425mbpd. In 2013, Asia surpassed North America as the main destination for the company's exports. The company exported to North America 773mbpd of crude and 72mbpd of products for a total of 845mbpd; this amount was lower than the 1,002mbpd and 1,166mbpd exported in 2012 and 2011². Domestic demand continues to increase and amounted to 703mbpd, 681mbpd, and 646mbpd in 2013, 2012, and 2011. The increase in

² A case that is worth highlighting is the decline in production from El Furrial, which is the company's largest field and produces light oil. Our understanding is that PDVSA has used that light crude to mix with the heavy crude, and the lower supply means the company has imported naphtha and light crude to replace that production. Production from El Furrial has declined from 397mbpd in 2011 to 290mbpd in 2013. In 2014, exports declined 4%.

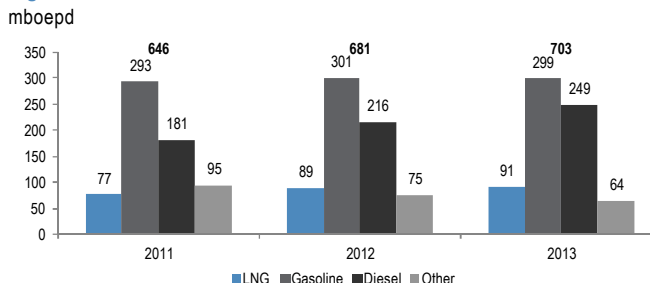
2013 was partially explained by higher demand from electricity generators (diesel and fuel oil). These volumes are sold at subsidized prices, and the company estimates that the production costs and income not collected for these volumes was \$15.0 billion in 2013, \$14.8 billion in 2012, and \$10.0 billion in 2011. In addition, the company estimates that 45mbpd are smuggled to Colombia.

Figure 12: Crude and products exports



Source: Company reports.

Figure 13: Domestic volumes breakdown

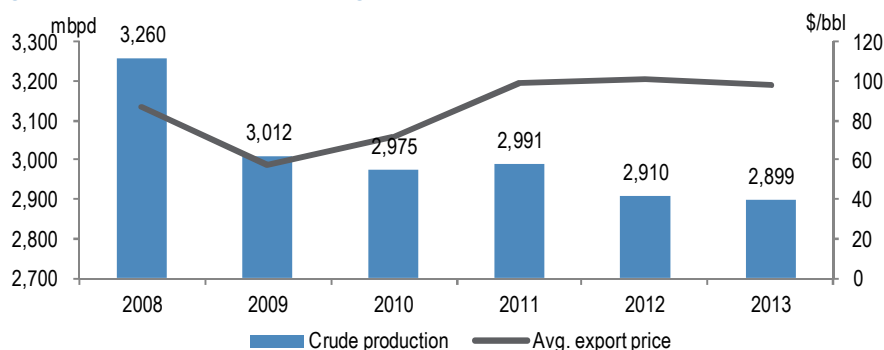


Source: Company reports.

PDVSA Financials: Lower revenues and EBITDA are due to lower exports and average prices

2013 revenues were lower than in 2011 and 2012, and we expect 2014 to be worse. The company reported operational sales of \$114.0 billion in 2013, representing an 8.4% decline vs. 2012. The company's average export price was \$98.1/bbl and represented a 5.2% decline vs. the previous year. CITGO revenues declined from \$43.3 billion in 2012 to \$42.2 billion in 2013, primarily due to lower average prices. In terms of domestic sales, they declined 14%yoy to \$1.5 billion due to the devaluation of the currency (gasoline prices are fixed in VEF), which offset an increase in volumes.

Figure 14: Crude production and average price of crude exports



Source: Company reports

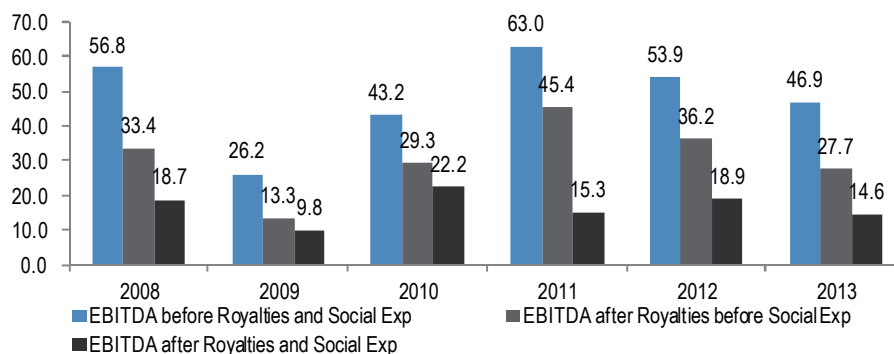
In 2013, the company recorded additional financial income of \$20.3 billion. This amount included a \$9.5 billion gain on an asset sale to the Central Bank and a \$7.8 billion FX gain (official rate moved to 6.3 in February 2013). The asset sale was a 40% stake in a mining company (exploration and exploitation of gold) that was integrated into PDVSA a few months before. PDVSA sold it for \$12.0 billion, and the method of payment was the cancellation of a \$21.5 billion payable to the Central Bank. We do not include the \$20.3 billion income in our EBITDA and cash flow calculations.

EBITDA has been declining since 2011, but cash flows are lower, as some of the revenues are non-cash. For 2013, we estimate that the company’s EBITDA, without taking into consideration social contributions, was \$27.7 billion and the EBITDA margin was 41.2% (vs. 43.3% in 2012). The main reason behind the decline in EBITDA was lower revenues.

Adjusted EBITDA (including social expenses) was down 22.4%yoy and the margin was 12.8% (vs. 15.2% in 2012). We estimate that the company recorded adjusted EBITDA of \$14.6 billion. We do not view adjusted EBITDA as a good proxy for cash flow generation, as the company records the transactions related to energy agreements as revenues and PDVSA provides long-term financing for a some of them (15-25 years). We believe the metric “funds from operations” is a better alternative for cash flows.

Figure 15: EBITDA

\$ in billions



Source: Company reports and J.P. Morgan estimates.

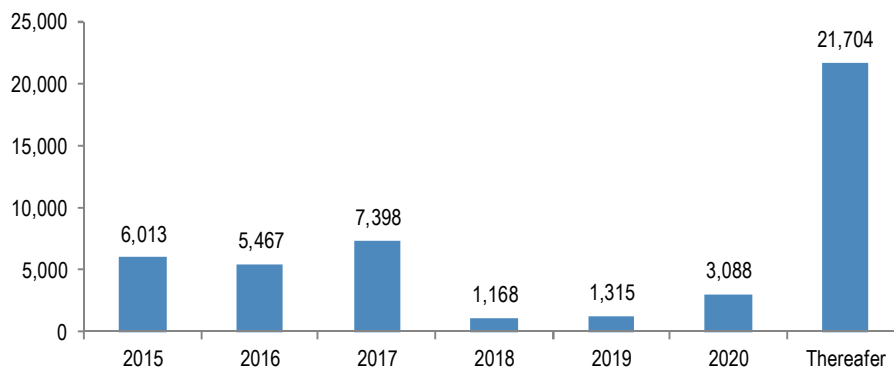
We view funds from operations as a better cash flow proxy, with a large amortization schedule in 2015-17

EBITDA is not a proxy of cash flows, in our view. The EBITDA that we calculate from the income statement includes the barrels sold to some Caribbean countries which are paid between 40-70% (depending on the oil price) in the first month and the balance over the next 25 years, meaning PDVSA only monetized half of those transactions. We estimate that the deductions should be in the \$7.5-10.0 billion level. For example, in 2013, funds from operations were \$3.0 billion (down 79.9%yoy), which was lower than the \$14.6 billion of adjusted EBITDA and the \$21.9 billion of cash from operations.

The amortization schedule is relatively heavy over the next three years, with an average of \$6.0 billion of maturities per year. In 2015, the company has to pay the amortization of the 2015s (\$1.4 billion) and the first amortization of the 2017Ns (\$2.1 billion). In addition, it has to pay \$63-172 million to ENI (the report provides two numbers), \$250 million of the receivables securitization facility at CITGO, \$33 million of the Bonos Agricolas (VEF denominated), \$484 million of investment certificates (VEF denominated), and the balance is VEF denominated debt (credit facilities) and some loans that amortize on a yearly basis.

Figure 16: PDVSA amortization schedule (includes VEF-denominated maturities valued at 18.1)

\$ in millions



Source: Company reports and J.P. Morgan estimates.

Balance sheet: Higher debt and increase in receivables with countries participating in the energy agreements

As of December 31, 2014, PDVSA had adjusted gross debt of \$50.1 billion³. This represented an increase of \$2.6 billion since the end of 2013 and \$35.0 billion since the end of 2008 (Table 4). In terms of the breakdown per currency, 92.6% was denominated in USD, 7.1% in VEF and the balance between EUR and JPY. The total debt reported by the company included debt at CITGO and other subsidiaries, but did not include operations with the Central Bank and suppliers. The company issued a new \$3.0 billion 6% 2022 bond during 4Q14 and gave it to the Central Bank to repay a loan.

Table 4: Debt breakdown

\$ in millions

	2008	2009	2010	2011	2012	2013	2014	Diff
US\$-denominated Bonds	7,500	13,761	18,417	25,037	28,037	31,957	36,957	5,000
Agrícolas	0	0	0	0	698	475	167	-308
Inv. Certificate	0	1,000	767	1,488	2,035	1,389	484	-905
Credit Facilities	0	0	1,500	1,022	645	2,705	1,377	-1,328
Loans	4,458	3,873	2,757	7,473	8,068	7,409	6,407	-1,002
Total Holdco	11,958	18,634	23,441	35,020	39,483	43,935	45,392	1,457
Bonds	647	646	405	405	408	408	758	350
Bank Facilities	1,575	1,743	1,011	788	687	886	918	32
Leases	30	24	285	276	267	257	247	-10
Total CITGO	2,252	2,413	1,701	1,469	1,362	1,551	1,923	372
Other Debt	882	486	282	461	954	2,095	2,833	738
Foreign Currency	14,734	20,532	24,657	33,370	35,695	40,060	46,886	6,826
Local Currency	358	1,001	767	3,580	6,104	7,521	3,262	-4,259

Source: Company reports *For 2013, includes \$4.5 billion 2026 notes, of which only \$1.86 was actually issued as of December 2013. For 2014, includes \$3.0 billion of 6% 2022 notes issued to the CB. FX rate in 2013 at 6.3 and in 2014 at 18.1.

³ This figure considers the nominal value of market debt; note that the company reported \$46.2 billion based on some accounting distinctions.

Loans at the JV level increased, but not at a significant rate. The Petroboscán loan with Chevron was extended from 2023 to 2025, and the company has drawn close to \$180 million from the facility. In April, Petroquiriquire (JV with Repsol) received a \$45 million loan from Repsol (committed to invest \$1.2 billion in this project). In October, Novo Banco provided a \$60 million short-term revolver to Petrocedeño (JV with Total and Statoil). PDVSA has also reported the facility signed by Petrozamora (JV with Gazprom) with GPB Energy Services for \$1.0 billion in two tranches and of which only \$8 million are either outstanding or drawn.

CITGO has been very active in 2014 and 2015. In 2014, CITGO issued \$650 million of 2022 secured bonds. The proceeds were used to call CITGO's 2017 notes. Also in July, the company received \$650 million of 2021 loans and a 2019 revolver line for \$900 million, of which only \$34 million was drawn as of December 31. Also, in 2014, the company extended until 2015 its accounts receivable securitization program. In 2015, the company issued \$1.5 billion of 2020 secured bonds and received a 3.5-year \$1.3 billion loan. Both instruments were issued from a super holding company created for the transaction.

By issuing more debt at the CITGO level, the asset coverage for PDVSA bondholders diminishes. In their presentation to investors, CITGO management estimates that the enterprise value of the company is \$12.1 billion taking into consideration the value of the refineries, midstream assets, inventories and account receivables. If we take into consideration a debt balance of \$5.8 billion proforma of the issuance of the new bonds and loans (and assuming the revolver gets drawn), we calculate the equity value is \$6.3 billion. This represents a nominal recovery of 13c for PDVSA creditors (bonds, loans and others). However, Reuters [mentioned](#) in December that the bids that the company received were between \$7 billion and a level above \$10 billion. Furthermore, Bloomberg [reported](#) that the assets were valued at \$8.1 billion in July. Our enterprise value estimate is \$8.9 billion, but we only take into consideration the refineries and midstream assets. The calculation we make is for a nominal coverage of 6c for PDVSA creditors, and we assume the equity value of CITGO is \$3.1 billion. In both recovery analyses, we assume CITGO is sold in the future and the debt of the subsidiary gets paid, refinanced or assumed by the buyer.

Table 5: CITGO asset coverage

\$ in millions

	Last Through ¹	Last Peak ¹	CITGO ²	J.P. Morgan ¹
Average EV/US\$ barrels of complexity	250	1,500	717	826
CITGO's 100% Owned Capacity (mbpd)	749	749	749	749
Value of Refineries	2,440	14,641		8,066
Value of Distribution/Marketing Ops	840	840		840
EV of CITGO	3,280	15,481	12,124	8,906
CITGO Debt including revolver	5,808	5,808	5,808	5,808
Value for PDVSA's Creditors	(2,528)	9,673	6,316	3,098
PDVSA's Debt	48,225	48,225	48,225	48,225
Nominal Recovery only CITGO	-0.05	0.20	0.13	0.06
1yr at 25%	-0.04	0.16	0.10	0.05
2yr at 25%	-0.03	0.13	0.08	0.04

Source: Company reports and J.P. Morgan estimates. 1. Based on Complexity. 2. Bases on CITGO's valuations and assuming inventories and ARs.

The relevance of CITGO to PDVSA and its bondholders may be less than expected

CITGO is the sixth largest independent refiner in the US and owns three refineries with processing capacity of 749mbpd. The refineries are designed to process heavy crude (56% of stock processed in the last three years) and are located in Louisiana, Texas and Illinois. In addition, the company owns a terminal with storage capacity of 18.8 million barrels and is part owner of other terminals with capacity of 3.8 million barrels. CITGO's refineries are very complex, but this provides operational flexibility with respect to crude selection and processing. The company estimates that its average Nelson Refinery Complexity Index is 13. In terms of input for the refineries, heavy crude represents approximately 50% of the crude processed. Finally, in terms of products, gasoline represents 50% of the output.

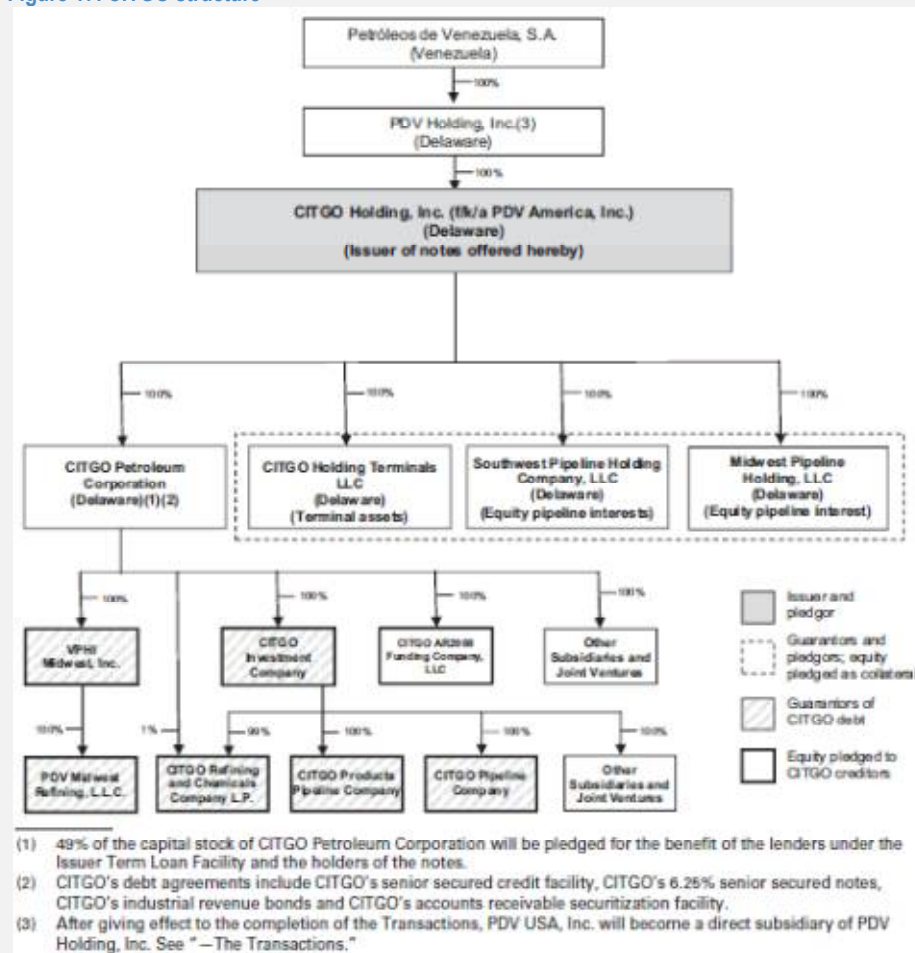
CITGO's dependency on Venezuela's oil is lower than expected. In recent years, CITGO has been buying more crude from US and Canadian producers. In 2013 and 9M14, 47% and 59% of the company's crude was purchased from US and Canadian producers vs. 27% in 2011. Purchases from PDVSA only represented 28% of CITGO's 9M14 crude purchases. The current agreement between CITGO and PDVSA expires at the end of 2015, and it encompasses supply of 300mbpd in 2014 and 350mbpd in 2015 "subject to the availability of crude oil for export by PDVSA." The company also has a supply agreement with Canadian producers. Finally, in terms of exports, CITGO ramped up exports in 2011 to over 100mbpd vs. almost none before. Its main market is Mexico (62% of exports), while Venezuela is only 3% of the exports.

PDVSA backed away from the idea of selling CITGO and decided to lever up the subsidiary and pay a special dividend. News reports indicated that CITGO was for sale at the end of 2014 and received at least four bids. Reuters reported that Marathon, Valero and HollyFrontier were among the entities interested in the company. However, PDVSA decided to pursue another strategy and get paid a special dividend by issuing more debt at CITGO. This is the second time in less than a year that CITGO issued debt to pay dividends. Last July the company issued new bonds and loans to repay debt (including calling old bonds) and pay a \$300 million dividend to PDVSA.

Why was PDVSA trying to sell CITGO? Over the last 15 years, the Venezuelan government has hinted a few times that it would like to sell CITGO. In 2010, President Chavez said that CITGO was a bad business for Venezuela and that they weren't able to sell the company because of the lien on the bonds. In 2003, the Wall Street Journal reported that Venezuela was considering selling CITGO to the Nigerian government in 2001. We could think of a few reasons why Venezuela would sell the asset. First, PDVSA is selling more crude to China and India and reducing its exposure to the US. Second, the government could use the proceeds from a potential sale to boost production in the fields located in the northern part of Venezuela. Third, the option that we think makes more sense, PDVSA could use the proceeds to pay short-term maturities. Finally, PDVSA may look to reduce its exposure to assets in the US jurisdiction in light of ongoing large arbitration processes, though these are mainly against the Republic and the piercing of the corporate veil to extend any claims to PDVSA and subsequently CITGO may not be straightforward. (See our September 4, 2013 [note](#) "Venezuela: A milestone, but not the end of the arbitration road" for background and our March 13, 2014 update.)

CITGO created a super-holdco in order to raise the \$2.8 billion in debt. The newly created CITGO Holding will issue a \$1.5 billion bond and a \$1.3 billion loan. At the same time, this new entity will receive some midstream assets valued at \$750 million. The bonds and the loan will be secured by these assets and by 100% of shares of CITGO Petroleum Corporation (subsidiary). The \$650 million 6.25% 2022 notes were issued by CITGO and secured by the assets of the subsidiary (pari-passu with the credit facility and the revolver).

Figure 17: CITGO structure



Source: Company reports.

How much debt service can PVDSA afford, especially if it is also responsible for the sovereign?

Analyzing PDVSA's financials has become a very complex task. In our view, the financial statements have a lot of noise due to Petrocaribe, payment of the Chinese loans, swaps with the Central Banks and the legal and regulatory impediments that force the company to sell USD at an overvalued rate that fails to keep pace with expenses that are increasing with inflation. In addition, PDVSA's mission has shifted over the last few years from just being an oil and gas company to also being a "social ministry." Since 2005, the company has invested 13% of its revenues in social development plans via FONDEN or directly.

In this section, we do a simple analysis of the company's cash flow generation ability if the company were run as an independent oil and gas company—but also under the premise that it is responsible for the sovereign's external debt. We assume::

- 1) There are no cooperation agreements,
- 2) The company sells USD at a reasonable FX rate,
- 3) The price of gasoline in the domestic market at least compensates production costs, and
- 4) CITGO operates as a separate entity.

In this exercise we look at PDVSA as an exporter that doesn't own CITGO, which to us seems reasonable after the recent attempts to sell the subsidiary and the recent increase in leverage. Other premises include:

- 1) A breakdown of the costs by currency and increasing those VEF-denominated costs by high local inflation,
- 2) \$10 billion in annual capex, basically to maintain output; any development in the Orinoco Belt would use non-recourse financing,
- 3) Government take is adjusted by the interest expense of the Republic (including a \$1 billion cash payment per year for the Chinese debt, which is currently payment in kind) to see if the company's cash flows can cover its own debt *as well as* the sovereign debt,
- 4) The price of the Venezuelan basket is \$8/bbl lower than Brent, and
- 5) Crude exports total 1.9mmbpd.

We estimate PVDSA will record negative free cash flows (FCF) of at least \$12.3 billion in 2015. In this scenario we assume J.P. Morgan's 2015 forecast of \$49/bbl for Brent and an average USDVEF of 30. The interesting result of our model is that FX variation is critical for cash flow generation only when the rate is relatively low. For example, if the USDVEF goes from 25 to 30, then cash flow generation increases by \$1.1 billion (see Table 6 and Table 7). However, if it goes from 65 to 70, it only increases by \$175 million. For changes in crude prices, the story is different. For every \$5/bbl increase in crude prices, the company generates \$1.4 billion in free cash flow. The "neutral point" would be Brent prices of \$80/bbl and USDVEF between 80 and 85.

Table 6: Estimated 2015 FCF calculation

\$ in billions

		Brent Price (\$/bbl)								
		45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
USDVEF	20.0	(16.1)	(14.7)	(13.2)	(11.8)	(10.3)	(8.9)	(7.4)	(6.0)	(4.6)
	25.0	(14.5)	(13.1)	(11.6)	(10.2)	(8.7)	(7.3)	(5.9)	(4.4)	(3.0)
	30.0	(13.5)	(12.0)	(10.6)	(9.1)	(7.7)	(6.2)	(4.8)	(3.3)	(1.9)
	35.0	(12.7)	(11.3)	(9.8)	(8.4)	(6.9)	(5.5)	(4.0)	(2.6)	(1.1)
	40.0	(12.1)	(10.7)	(9.2)	(7.8)	(6.3)	(4.9)	(3.5)	(2.0)	(0.6)
	45.0	(11.7)	(10.2)	(8.8)	(7.4)	(5.9)	(4.5)	(3.0)	(1.6)	(0.1)
	50.0	(11.3)	(9.9)	(8.4)	(7.0)	(5.6)	(4.1)	(2.7)	(1.2)	0.2
	55.0	(11.0)	(9.6)	(8.2)	(6.7)	(5.3)	(3.8)	(2.4)	(0.9)	0.5
	60.0	(10.8)	(9.4)	(7.9)	(6.5)	(5.0)	(3.6)	(2.1)	(0.7)	0.8
	65.0	(10.6)	(9.1)	(7.7)	(6.3)	(4.8)	(3.4)	(1.9)	(0.5)	1.0
	70.0	(10.4)	(9.0)	(7.5)	(6.1)	(4.6)	(3.2)	(1.7)	(0.3)	1.1
	75.0	(10.3)	(8.8)	(7.4)	(5.9)	(4.5)	(3.0)	(1.6)	(0.1)	1.3
	80.0	(10.1)	(8.7)	(7.2)	(5.8)	(4.4)	(2.9)	(1.5)	(0.0)	1.4
	85.0	(10.0)	(8.6)	(7.1)	(5.7)	(4.2)	(2.8)	(1.3)	0.1	1.5
	90.0	(9.9)	(8.5)	(7.0)	(5.6)	(4.1)	(2.7)	(1.2)	0.2	1.7

Source: Company reports and J.P. Morgan estimates. * box represents current range

Table 7: Estimated 2015 Government take (royalties plus income tax excluding interest expense)

\$ in billions

		Brent Price (\$/bbl)								
		45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
USDVEF	20.0	4.6	7.4	10.3	13.2	16.1	19.0	21.9	24.8	27.7
	25.0	6.2	9.0	11.9	14.8	17.7	20.6	23.5	26.4	29.3
	30.0	7.2	10.1	13.0	15.9	18.8	21.7	24.6	27.4	30.3
	35.0	8.0	10.9	13.8	16.6	19.5	22.4	25.3	28.2	31.1
	40.0	8.5	11.4	14.3	17.2	20.1	23.0	25.9	28.8	31.7
	45.0	9.0	11.9	14.8	17.7	20.5	23.4	26.3	29.2	32.1
	50.0	9.3	12.2	15.1	18.0	20.9	23.8	26.7	29.6	32.5
	55.0	9.6	12.5	15.4	18.3	21.2	24.1	27.0	29.9	32.7
	60.0	9.9	12.8	15.7	18.5	21.4	24.3	27.2	30.1	33.0
	65.0	10.1	13.0	15.9	18.8	21.6	24.5	27.4	30.3	33.2
	70.0	10.3	13.1	16.0	18.9	21.8	24.7	27.6	30.5	33.4
	75.0	10.4	13.3	16.2	19.1	22.0	24.9	27.7	30.6	33.5
	80.0	10.5	13.4	16.3	19.2	22.1	25.0	27.9	30.8	33.7
	85.0	10.7	13.6	16.4	19.3	22.2	25.1	28.0	30.9	33.8
	90.0	10.8	13.7	16.5	19.4	22.3	25.2	28.1	31.0	33.9

Source: Company reports and J.P. Morgan estimates. * box represents current range

In our view, PDVSA needs to generate EBITDA of \$27.7 billion in order to service both its own debt and the sovereign's debt. The gross leverage of integrated companies ranges between 1x and 4x, depending on the region and the type of ownership. In this case, we prefer to take the highest multiple, as we are trying to calculate how much debt (PDVSA and sovereign) the company can sustain. We estimate that at the end of 2014, PDVSA had \$45.0 billion of USD-denominated debt (bonds and loans and excluding CITGO), while the Republic had \$65.9 billion (including Chinese debt) for consolidated debt of \$110.9 billion. If we use a sustainable gross leverage of 4x, then we calculate EBITDA has to be \$27.7 billion. In Table 8 we show the different Brent/USDVEF combinations where the company records an EBITDA higher than that level. In one scenario, the company needs a USDVEF rate of 60 and Brent prices of \$70/bbl.

Table 8: Estimated 2015 EBITDA and "sustainable" parameters for leverage

\$ in billions

USDVEF	Brent Price (\$/bbl)								
	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
20.0	8.5	11.4	14.3	17.2	20.1	23.0	25.9	28.8	31.6
25.0	10.0	12.9	15.8	18.7	21.5	24.4	27.3	30.2	33.1
30.0	11.0	13.8	16.7	19.6	22.5	25.4	28.3	31.2	34.1
35.0	11.6	14.5	17.4	20.3	23.2	26.1	29.0	31.9	34.8
40.0	12.2	15.1	17.9	20.8	23.7	26.6	29.5	32.4	35.3
45.0	12.6	15.5	18.4	21.2	24.1	27.0	29.9	32.8	35.7
50.0	12.9	15.8	18.7	21.6	24.5	27.4	30.2	33.1	36.0
55.0	13.2	16.1	18.9	21.8	24.7	27.6	30.5	33.4	36.3
60.0	13.4	16.3	19.2	22.1	24.9	27.8	30.7	33.6	36.5
65.0	13.6	16.5	19.4	22.2	25.1	28.0	30.9	33.8	36.7
70.0	13.7	16.6	19.5	22.4	25.3	28.2	31.1	34.0	36.9
75.0	13.9	16.8	19.6	22.5	25.4	28.3	31.2	34.1	37.0
80.0	14.0	16.9	19.8	22.7	25.6	28.4	31.3	34.2	37.1
85.0	14.1	17.0	19.9	22.8	25.7	28.6	31.4	34.3	37.2
90.0	14.2	17.1	20.0	22.9	25.8	28.6	31.5	34.4	37.3

Source: Company reports and J.P. Morgan estimates. * box represents current range

In terms of reasonable leverage ratios, market pricing may already be below "workout"

We believe the bonds are already trading at levels similar to workout. Assuming PDVSA (under the premise it is also responsible for the sovereign) can sustain gross leverage of 4x, we can calculate what could be the nominal recovery of the debt under different FX and Brent price scenarios. The low dollar price bonds are trading at 32-34c, and this assumes a scenario of USDVEF of 20-25 and Brent prices of \$45-50/bbl – lower than both the weighted average FX we think PDVSA will experience this year as well as our forecast for Brent. If we assume a scenario of oil prices of \$65/bbl and an FX rate of 50, then the "recovery" consistent with 4x gross leverage could be 78c. Finally, if we use J.P. Morgan's projected long-term Brent price of \$90/bbl, we find that PVDSA could support the debt of both entities and would just need to find a solution for the short-term financing needs. To be clear, this is a simple exercise that glosses over other important considerations (including market expectations for the future direction of macro policies and political stability, as outlined in the first section), but we think it is a useful starting point to think about Venezuela's debt burden under the status quo.

Table 9: Debt stock consistent with 4x gross leverage ratio

% of current external debt stock, Republic+PDVSA

USDVEF	Brent Price (\$/bbl)								
	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
20.0	0.31	0.41	0.52	0.62	0.72	0.83	0.93	1.04	1.14
25.0	0.36	0.46	0.57	0.67	0.78	0.88	0.99	1.09	1.19
30.0	0.40	0.50	0.60	0.71	0.81	0.92	1.02	1.13	1.23
35.0	0.42	0.52	0.63	0.73	0.84	0.94	1.05	1.15	1.25
40.0	0.44	0.54	0.65	0.75	0.86	0.96	1.06	1.17	1.27
45.0	0.45	0.56	0.66	0.77	0.87	0.98	1.08	1.18	1.29
50.0	0.47	0.57	0.67	0.78	0.88	0.99	1.09	1.20	1.30
55.0	0.47	0.58	0.68	0.79	0.89	1.00	1.10	1.21	1.31
60.0	0.48	0.59	0.69	0.80	0.90	1.00	1.11	1.21	1.32
65.0	0.49	0.59	0.70	0.80	0.91	1.01	1.12	1.22	1.32
70.0	0.50	0.60	0.70	0.81	0.91	1.02	1.12	1.23	1.33
75.0	0.50	0.60	0.71	0.81	0.92	1.02	1.13	1.23	1.33
80.0	0.50	0.61	0.71	0.82	0.92	1.03	1.13	1.24	1.34
85.0	0.51	0.61	0.72	0.82	0.93	1.03	1.13	1.24	1.34
90.0	0.51	0.62	0.72	0.83	0.93	1.03	1.14	1.24	1.35

Source: Company reports and J.P. Morgan estimates.

Key Considerations in Bonds and CDS of Venezuela & PDVSA

Venezuela and PDVSA bond terms

Republic of Venezuela bonds share most of the same legal terms relevant for restructuring or default, with some notable differences around CACs. Table 10 shows the main features for Venezuela Republic bonds relevant for a distressed situation, showing the grace periods, % needed to accelerate, cross default (cross acceleration) provisions, Collective Action Clause (CAC) thresholds, and governing law. All Venezuela Republic bonds have a 30-day grace period for principal and coupons, 25% (of notional) is needed to accelerate, there is cross acceleration between bonds, and New York as the governing law. The most notable differences are regarding ‘Collective Action Clauses’ (CACs). Most Republic bonds contain CACs, which allow key bond terms to be changed with the consent of 75% of holders, which would be necessary in a restructuring scenario. Two bonds have a higher 85% threshold (VENZ 7% 18s and 34s). There are also two Venezuela Republic bonds that do not contain CACs: the VENZ 13 5/8 2018s (Olds) and VENZ 9.25% 2027s. There is no cross-default between PDVSA and Venezuela Republic bonds. Venezuela bonds are pari passu with all other Venezuelan External Public Debt, stating “The payment obligations of the Republic under the Notes shall... at all times rank at least equally with all its other payment obligations relating to External Public Debt (as defined below)” [from the VENZ 7% 2018s prospectus]. This could be relevant given other loans that Venezuela has taken, although we have no knowledge for example of any explicit guarantee from the Republic on the Chinese lending, for which the debtor technically is development bank BANDES.

Table 10: Venezuela USD-denominated bonds: Key terms

	Grace Period: Principal	Grace Period: Coupons	% needed to accelerate		Cross-default?	CACs: % of principal needed	Governing Law
VENZ 15	30 day	30 day	25%	Yes - acceleration of any other bond is an Event of Default		75% of principal	New York
VENZ 16	30 day	30 day	25%	Yes - acceleration of any other bond is an Event of Default		75% of principal	New York
VENZ 13 5/8% 18O	30 day	30 day	25%	Yes - acceleration of any other bond is an Event of Default		no CACs	New York
VENZ 7% 18N	30 day	30 day	25%	Yes - acceleration of any other bond is an Event of Default		85% of principal	New York
VENZ 19	30 day	30 day	25%	Yes - acceleration of any other bond is an Event of Default		75% of principal	New York
VENZ 20	30 day	30 day	25%	Yes - acceleration of any other bond is an Event of Default		75% of principal	New York
VENZ 22	30 day	30 day	25%	Yes - acceleration of any other bond is an Event of Default		75% of principal	New York
VENZ 23	30 day	30 day	25%	Yes - acceleration of any other bond is an Event of Default		75% of principal	New York
VENZ 24	30 day	30 day	25%	Yes - acceleration of any other bond is an Event of Default		75% of principal	New York
VENZ 25	30 day	30 day	25%	Yes - acceleration of any other bond is an Event of Default		75% of principal	New York
VENZ 26	30 day	30 day	25%	Yes - acceleration of any other bond is an Event of Default		75% of principal	New York
VENZ 27	30 day	30 day	25%	Yes - acceleration of any other bond is an Event of Default		no CACs	New York
VENZ 28	30 day	30 day	25%	Yes - acceleration of any other bond is an Event of Default		75% of principal	New York
VENZ 31	30 day	30 day	25%	Yes - acceleration of any other bond is an Event of Default		75% of principal	New York
VENZ 34	30 day	30 day	25%	Yes - acceleration of any other bond is an Event of Default		85% of principal	New York
VENZ 38	30 day	30 day	25%	Yes - acceleration of any other bond is an Event of Default		75% of principal	New York

Source: Bond prospectuses

Republic of Venezuela bonds contain an ‘Event of Default’ that can lead to risk of acceleration if there is a successful final arbitration ruling against the government. Venezuela bonds contain an ‘Event of Default’ if the following occurs and is continuing (using text from the VENZ 11.95% 2031s prospectus):

(h) there shall have been entered against the Republic or Banco Central a final judgment, decree or order by a court of competent jurisdiction from which no appeal may be made, or is made, for the payment of money in excess of U.S.\$100,000,000 or its equivalent and 30 days shall have passed since the entry of any such order without it having been satisfied or stayed;

If this Event of Default occurs (and is continuing), then 25% or more of holders can accelerate the bonds (“declare the Bonds immediately due and payable”). Venezuela has a number of outstanding international disputes currently at the International Centre for Settlement of Investment Disputes (ICSID)⁴. We note that the judgment needs to be ‘by a court of competent jurisdiction’ and also ‘final... from which no appeal may be made’ in order to satisfy the event of default. Arbitration awards are not judgments *per se*, but all signatory countries of ICSID are bound to treat any Award from the Centre “as if it were a final judgment of a court in that State.” If any acceleration were to happen due to an unsatisfied final judgment, it could lead to a technical CDS trigger for the Republic, as CDS is triggered on an acceleration, but bonds may otherwise be trading assuming no general default.

PDVSA bonds do not have grace periods for principal payments and do not have traditional CACs (Table 11). Unlike Republic bonds, PDVSA bonds do not state a grace period for payment of principal. An Event of Default occurs if there is a failure to pay the principal when the principal is due. This would also mean that CDS is triggered on a ‘Failure to Pay’ by the maturity date. Coupons include a 30-day grace period similar to Republic bonds. As with Venezuela Republic bonds, “holders of at least 25% in principal amount of outstanding notes” may accelerate the bonds. PDVSA bonds do not have CACs, which makes restructuring agreements more challenging. However holders of 51% of the aggregate principal of any bond can change non-payment terms, which could make holding onto these less attractive. Most of the PDVSA bonds fall under New York governing law, but the prospectus for the PDVSA 2015s and 2016s (so-called “Petrobonos” issued in 2009 alongside already amortized 2014s) are presumed to be local law. These bonds were issued with a Spanish-language prospectus that references the Organic Law of the Financial Administration of the Public Sector of the Republic, but does not explicitly specify governing law of the contract. PDVSA NY law bonds reference as an Event of Default “the failure to pay at final stated maturity... the principal amount of any Indebtedness of the Issuer,” with Indebtedness defined as “any obligation... for the payment or repayment of money which has been borrowed or raised,” which, in our view, could include the Petrobonos. This could be material for CDS triggers, as local law bonds themselves would not trigger a CDS Credit Event, but acceleration based on cross default could be a trigger.

⁴ For example, see

<https://icsid.worldbank.org/apps/ICSIDWEB/cases/Pages/AdvancedSearch.aspx?rspndnt=Bolivarian%20Republic%20of%20Venezuela&cs=CD27>

Table 11: PDVSA USD-denominated bonds: Key terms

	Grace Period: Principal	Grace Period: Coupons	% needed to accelerate	Cross-default?	CACs: % of principal needed	Governing Law
PDVSA 15						
PDVSA 16						
<i>These bonds were issued only with Spanish-language term sheets⁵ (see text).</i>						
PDVSA 17	0 days	30 days	25%	Yes - acceleration of any other bond is an Event of Default (aggregates \$100mn or more)	No CACs	New York
PDVSA 17N	0 days	30 days	25%	Yes - acceleration of any other bond is an Event of Default (aggregates \$100mn or more)	No CACs	New York
PDVSA 21	0 days	30 days	25%	Yes - acceleration of any other bond is an Event of Default (aggregates \$100mn or more)	No CACs	New York
PDVSA 22	0 days	30 days	25%	Yes - acceleration of any other bond is an Event of Default (aggregates \$100mn or more)	No CACs	New York
PDVSA 24	0 days	30 days	25%	Yes - acceleration of any other bond is an Event of Default (aggregates \$100mn or more)	No CACs	New York
PDVSA 26	0 days	30 days	25%	Yes - acceleration of any other bond is an Event of Default (aggregates \$100mn or more)	No CACs	New York
PDVSA 27	0 days	30 days	25%	Yes - acceleration of any other bond is an Event of Default (aggregates \$100mn or more)	No CACs	New York
PDVSA 35	0 days	30 days	25%	Yes - acceleration of any other bond is an Event of Default (aggregates \$100mn or more)	No CACs	New York
PDVSA 37	0 days	30 days	25%	Yes - acceleration of any other bond is an Event of Default (aggregates \$100mn or more)	No CACs	New York

Source: Bond prospectuses

CDS considerations: Venezuela sovereign and PDVSA CDS outstanding and trading volumes

There is currently \$2.52 billion of Venezuela sovereign CDS net notional outstanding according to DTCC data, with an additional \$0.90 billion for PDVSA. CDS net notional represents the amount of net positions market participants have that would need to be settled via any CDS auction process⁶. For Venezuela, there is currently \$1.62 billion of single name Venezuela sovereign CDS net notional outstanding, and another \$0.91 billion we calculate from exposure via CDX.EM⁷, leaving a total of \$2.52 billion in net notional outstanding (Figure 18). For PDVSA there is currently \$0.90 billion of single name PDVSA CDS net notional outstanding, and another \$0.0016 billion from exposure via the CDX LatAm Corp index, leaving a total of \$0.90 billion in net notional outstanding. As a point of comparison, prior to Argentina's CDS trigger in September 2014, there was a total of \$1.533 billion net notional outstanding in Argentina CDS to be settled. Net notionals for Venezuela and PDVSA have been relatively range-bound over the past few years (Figure 19). Given the large notional of Venezuela bonds (\$50 billion) and PDVSA bonds (\$50 billion), compared to the net notional outstanding there should be no technical problems in settling CDS. Venezuela CDS has had an average daily trading volume of \$91m over the last three months, making it the 12th highest daily volume traded of any EM sovereign CDS over that period. PDVSA sees much lower volumes, with only \$10m notional per day on average trading over the last three months.

⁵ <http://www.pdvsa.com/interface.sp/database/fichero/free/5213/732.PDF>

⁶ See [Argentina CDS - What Happens Next: The details and mechanics of a potential CDS settlement process for Argentina](#) (J Goulden, 1st Aug 2014).

⁷ Venezuela is in every CDX.EM series outstanding and currently has a weight of 6% in Series 23.

Figure 18: Net notional CDS outstanding for Venezuela and PDVSA

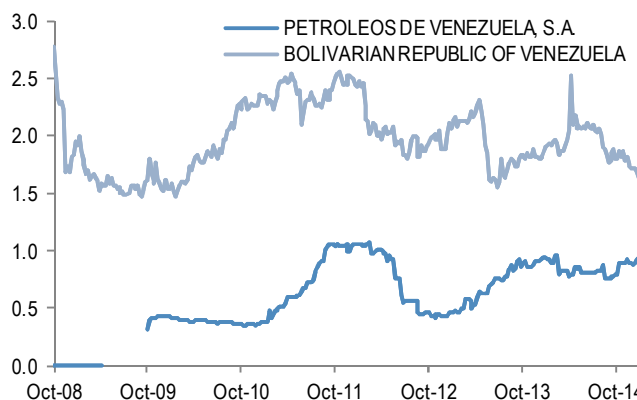
\$ in billions

	Net notional outstanding	
	Venezuela	PDVSA
Single Name:	1.615	0.898
Index:	0.908	0.0016
Total	2.522	0.899

Source: DTCC

Figure 19: Time series of net notional CDS outstanding for Venezuela and PDVSA

\$ in billions



Source: DTCC

The terms of the standard Venezuela and PDVSA CDS contracts

Venezuela sovereign CDS trades under the ‘Standard Latin America Sovereign’ CDS terms, with 500bp the standard coupon. Table 12 shows the important terms of this contract, particularly the features that differ from other Western European Sovereign or Developed Market Corporate CDS. Of note, CDS will only trigger on international law bonds that are not in domestic currency. This means that loans are not obligations that would trigger CDS, and domestic law, domestic currency, or domestic issuance bonds are also not obligations that would trigger CDS.

The standard credit events on Venezuela’s CDS are: Failure to Pay, Obligation Acceleration, Repudiation / Moratorium, and Restructuring. For the Restructuring event, ‘Multiple Holder Obligation’ is ‘Not Applicable.’ This means that Venezuelan bonds **do not need to be held by multiple holders** in order to be eligible for the restructuring credit event (Multiple Holder Obligation limits the Restructuring event only to bonds held by more than three holders). The Settlement Method is ‘Auction Settlement,’ which means that Venezuela would go through the standard CDS auction settlement process if a CDS credit event occurs, which was the same process Argentina went through in 2014. As discussed earlier, Acceleration as a CDS credit event that is worth highlighting, given Venezuela bonds can be accelerated following a final unsatisfied arbitration ruling against the government.

PDVSA CDS trades under the ‘Standard Latin America Corporate BL (Bonds & Loans) CDS terms, with 500bp the standard coupon. Table 12 shows the important terms of this contract. In contrast to Venezuela Sovereign CDS, PDVSA CDS would trigger following a credit event on international law bonds **or loans** that are not in domestic currency, whereas the sovereign CDS only references bonds (not loans). Domestic law, domestic currency, or domestic issuance bonds or loans are not obligations that would trigger CDS.

The standard credit events on PDVSA’s CDS are: Bankruptcy, Failure to Pay, Obligation Acceleration, Repudiation / Moratorium, and Restructuring. As PDVSA is a corporate, it also has a ‘bankruptcy’ credit event, which Venezuela Republic CDS does not have. The Settlement Method is ‘Auction Settlement,’ which

means that PDVSA would go through the standard CDS auction settlement process if a CDS credit event occurs, which was the same process Argentina went through in 2014.

Table 12: Venezuela Sovereign trades under 'Standard Latin America Sovereign' CDS Terms and PDVSA trades under 'Standard Latin American Corporate BL' CDS Terms

Transaction Type	STANDARD LATIN AMERICA SOVEREIGN	STANDARD LATIN AMERICA CORPORATE BL
Credit Events:	Failure to Pay Grace Period Extension: Applicable Obligation Acceleration Repudiation/Moratorium Restructuring Multiple Holder Obligation: Not Applicable	Bankruptcy Failure to Pay Grace Period Extension: Applicable Obligation Acceleration Repudiation/Moratorium Restructuring
Obligation Category:	Bond	Bond or Loan
Obligation Characteristics:	Not Subordinated Not Domestic Currency Not Domestic Law Not Domestic Issuance	Not Subordinated Not Sovereign Lender Not Domestic Currency Not Domestic Law Not Domestic Issuance
Settlement Method:	Auction Settlement	Auction Settlement
Physical Settlement Period:	As per Section 8.19 of the 2014 Definitions*	As per Section 8.19 of the 2014 Definitions*
Deliverable Obligation Category:	Bond	Bond or Loan
Deliverable Obligation Characteristics:	Not Subordinated Specified Currency Not Domestic Law Not Contingent ¹ Not Domestic Issuance Transferable Not Bearer	Not Subordinated Specified Currency Not Sovereign Lender Not Domestic Law Not Contingent** Not Domestic Issuance Assignable Loan Consent Required Loan Transferable Not Bearer

Source: ISDA* Section 8.19 of the 2014 Definitions reads that "Physical Settlement Period" means... the number of Business Days specified as such in the related Confirmation". In other words, CDS physical settlement follows the bond settlement period, which for Venezuelan bonds is T+3, and this is therefore the time period of physical settlement of CDS after the auction. ** This provision is not relevant to a 2014 Definitions Transaction.

Would a restructuring process trigger CDS?

For EM Sovereign CDS, a restructuring event involves a change to bond documentation under distress⁸. More formally, it refers to a change in the agreement between the reference entity and the holders of an obligation (where such agreement was not previously provided for under the terms of that obligation) due to the deterioration in creditworthiness or financial condition of the reference entity with respect to:

1. a reduction of interest,
2. a reduction in principal,
3. a postponement of payment of interest or principal,
4. a contractual subordination, or
5. a change of currency (other than to a "Permitted Currency").

⁸ For more details on Restructuring in CDS, see *Restructuring Credit Events: Case Studies of Restructuring and the Impact on CDS*, S Doctor, 18th January 2011.

In the case that any of the above five events occur, the ISDA CDS Determination Committee will announce that a restructuring credit event has happened, and investors will be able to trigger their CDS contracts.

It is important to note that the occurrence of any of the five restructuring events must be binding on all holders of the obligation. For this reason, a voluntary exchange offer or tender that is not binding on all holders is not considered a CDS restructuring credit event, even though the sovereign may be said to be going through a restructuring. The use of CACs to bind all bondholders to the change in terms would qualify as a Credit Event since the change is binding on all. In a case where an exchange is encouraged (even through some pressure on investors), but the change is not binding on all holders, a CDS Credit Event is unlikely to take place. Since the original debt has not been changed for holdouts in this case, CDS would not trigger.

The process for triggering and settling CDS

CDS is triggered via a ruling from the ISDA Determinations Committee and is settled through a CDS Auction process. CDS contracts are designed to allow buyers of protection to receive a loss payment in case of a credit event impairment on their bonds. In order to have a CDS contract pay out, with the buyer of protection receiving '100% less the recovery rate' from the seller of protection, there needs to be a ruling from ISDA's Determinations Committee that there has been a credit event⁹. A question would be asked of the ISDA Determinations Committee, which they would need to accept for consideration, and then rule that there has been a credit event¹⁰.

Where a CDS credit event is determined to have occurred, a CDS 'auction' will likely follow. A CDS auction is used to determine the final recovery rate for CDS contracts. While we call the rate used the recovery rate, it is worth noting that what we really mean is the price that investors can buy or sell bonds on the day of the auction, and that finally clears the auction balance. The price that bonds trade at is therefore used to determine the payoff from CDS contracts. Investors who wish to cash settle their CDS contracts need do nothing and will pay or receive 100-Final Recovery. CDS investors looking to physically settle (i.e., pay \$100 and receive bonds worth 100% notional or receive \$100 and deliver 100% notional) can also do so through the auction. For more information on the CDS settlement process and auction settlement, using the Argentina CDS process, see [Argentina CDS - What Happens Next: The details and mechanics of a potential CDS settlement process for Argentina](#), J Goulden, 1st Aug 2014.

Considerations of default scenarios: Can the Republic stay current while PDVSA defaults, or vice versa?

As the market continues to price a scenario where Venezuela's ability and willingness to pay eventually are exhausted, market observers have been contemplating how default scenarios could play out. Frequent questions include, but are not limited to, whether or not there could be a selective default on one but not both credits, what leverage bondholders would be able to exert over each entity in a

⁹ See a summary of 'The Credit Event Process', on the ISDA website at, http://www.isda.org/uploadfiles/_docs/TheCreditEventProcess.pdf

¹⁰ See for more information on the Determinations Committee, http://www2.isda.org/attachment/NDM1NA==/AGM%202012_DC%20anniversary_appendix_043012.pdf

hypothetical restructuring negotiation, and vice versa, and what steps Venezuela and/or PDVSA could take to shield themselves from creditors.

Some basic considerations: without getting into an exhaustive discussion, from a political and practical point of view, we consider PDVSA and the Republic to be deeply intertwined. We see PDVSA as dominated by the sovereign in terms of the company's decision making, while the sovereign is extremely dependent on PDVSA for fiscal resources, both in terms of formal government take and parallel social and investment programs. In our view, if willingness and ability to pay external debt is exhausted at one entity, it is highly likely to be the case for both entities.

That said, we acknowledge that PDVSA and the Republic are two separate issuers, that there is no formal guarantee between their respective debts, and there is no formal cross-default clauses between the two. So in theory one entity could default while the other remains current. In this scenario, perhaps the most salient consideration is that Venezuela, not PDVSA, owns the most important asset: nearly 300 billion barrels of oil reserves. PDVSA owns oil only from the point at which it is extracted until the time it is sold. However, PDVSA is the entity that owns the bulk of fixed assets in foreign jurisdictions, most importantly refineries, but also tankers. CITGO and Venezuela's US-based refineries have long been viewed as the bondholders' most important collateral, though their value for Republic and PDVSA creditors lately seems to be highly discounted (see our CITGO analysis earlier). Beyond the significant hurdle of piercing corporate veils, CITGO's own creditors' claims have increased, and they are in the cue ahead of creditors of PDVSA or the Republic.

Nonetheless, we think litigating bondholders could find pressure points. Beyond CITGO's assets, we presume PDVSA has a broad and complex set of business relationships with numerous foreign counterparties, for which the company has to manage foreign collection, operating and capital accounts, as well as inventories and accounts receivable. While PDVSA may move to sell its oil FOB rather than CIF, while minimizing the use of its own tankers, and otherwise moving some accounts to friendlier jurisdictions, overall any attempt to fully shield its day-to-day operations from litigating bondholders would be disruptive to say the least. Even so, PDVSA is merely the chosen operator to exploit Venezuela's oil reserves, and in theory Venezuela could create a new state-owned company to operate in the future, abandoning PDVSA and its liabilities. Again, this would be a disruptive and operationally complex decision to implement, making it unlikely, in our view, especially in light of the relatively small savings that could be accrued from (presumably temporarily) suspending bonded debt service. In addition, default could have important consequences in terms of impeding medium-term capital intensive plans to expand output in the Orinoco heavy crude belt.

As for a selective default that only impacts the Republic, bondholders may have less leverage. While the Republic may have some vulnerable accounts abroad, in particular related to development fund Fonden, these are largely likely to be in friendlier jurisdictions these days. In addition, in order for bondholders to pursue assets of Venezuelan state-owned companies (PDVSA, CANTV, CVG, CONVIASA), "alter-ego" would need to be proved, the litigation of which may prove less straightforward. Even assuming "alter-ego" is proven, the vast majority of Republic bonds have CACs (see Table 10), which could be an important tool in minimizing holdouts in a future exchange. All that said, we think it is unlikely the Republic would opt to default while leaving PDVSA current. First and foremost, debt service obligations are skewed more towards PDVSA than the Republic in the

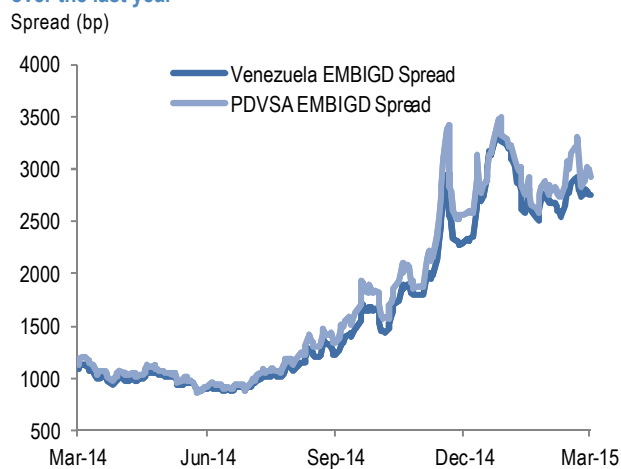
coming 3 years (more than 60% of 2015-17 external bonded debt service pertains to PDVSA).

Again, we find a selective default scenario unlikely, in part because of the deep inter-linkages between the Republic and PDVSA. But we also consider that the size of external debt service in proportion to the overall balance of payments gap outlined in the first section is small – such that default on one entity and not the other would be insufficient to remedy external accounts pressure, while in our view still exacting a reputational cost on “Venezuela” overall. Bottom line, if default occurs, we think it is likely to occur with both PDVSA and the Republic.

Venezuela and PDVSA spread curves and market pricing

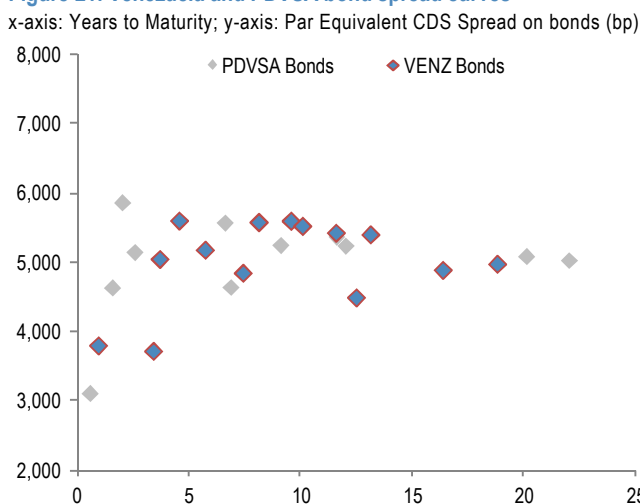
Spreads on bonds of Venezuela sovereign and PDVSA have widened significantly over the last 12 months, with volatility picking up since October as oil prices fell. The spread on Venezuela’s sovereign EMBIGD bonds is 2,750bp (COB 27th Mar) and has widened 1,865bp since June as the lower oil price has put pressure on the already large imbalances in the economy (Figure 20). This equates to a drop of around 41pts in 5y bonds. PDVSA spreads have moved in tandem with Venezuela sovereign spreads over the period, with PDVSA and Venezuela spread levels (using Par Equivalent CDS spreads) comparable across the curve (Figure 21).

Figure 20: Venezuela and PDVSA spreads have widened significantly over the last year



Source: J.P. Morgan

Figure 21: Venezuela and PDVSA bond spread curves

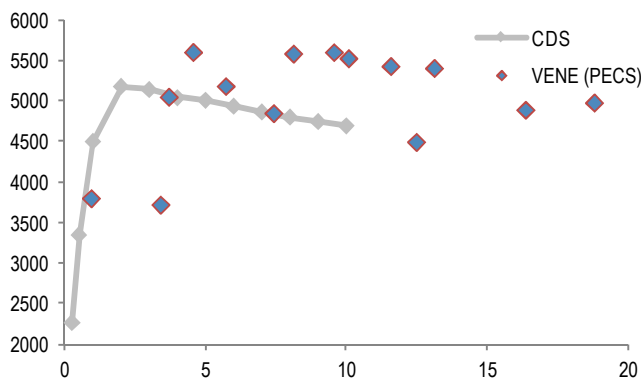


Source: J.P. Morgan

The CDS spread curve is heavily inverted in Venezuela after 1y (Figure 22), with the bond spread curve much flatter and wider from 5y onwards (see Table 13). Short-end CDS trades at much lower spreads due to there being no VENZ maturities until February 2016. PDVSA shows a similar dynamic of a heavily inverted CDS curve beyond 1y, and a flatter bond curve. Table 13 shows that front-end Venezuela Republic bonds trade tight to CDS (positive bond-CDS basis), while bonds from 2019 trade wide to CDS on a Par Equivalent CDS Spreads measure.

Figure 22: Venezuela sovereign bonds and CDS spreads

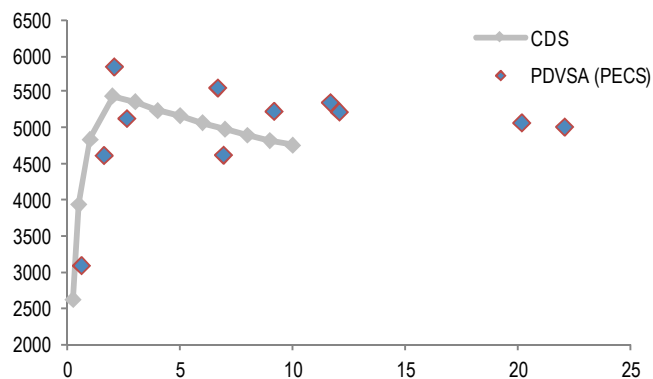
CDS spread and Bond Par-Equivalent CDS spread (bp)



Source: J.P. Morgan

Figure 23: PDVSA sovereign and quasi-sovereign bonds

CDS spread and Bond Par-Equivalent CDS spread (bp)



Source: J.P. Morgan

Table 13: Venezuela bonds versus CDS across the curve

Bond	Maturity (years)	Basis (bp)	Bond Price (mid)	CDS		PECS (bp)
				upfront (pts)	CDS Mat Match	
VE Republic 5 3/4% due 16	0.91	601	77.75	34.23	4,406	3,805
VE Republic 13 5/8% due 18	3.38	1,363	65.88	60.28	5,089	3,726
VE Republic 7% due 18	3.68	6	41.13	61.81	5,060	5,054
VE Republic 7 3/4% due 19	4.54	-587	37.25	63.31	5,021	5,607
VE Republic 6% due 20	5.70	-232	35.50	64.50	4,954	5,186
VE Republic 12 3/4% due 22	7.41	-20	44.75	64.95	4,832	4,852
VE Republic 9% due 23	8.11	-796	36.75	64.95	4,789	5,586
VE Republic 8 1/4% due 24	9.55	-891	35.75	64.95	4,713	5,604
VE Republic 7.65% due 25	10.07	-837	35.00	64.94	4,692	5,530
VE Republic 11 3/4% due 26	11.57	-	41.75	-	-	5,432
VE Republic 9 1/4% due 27	12.47	-	40.63	-	-	4,499
VE Republic 9 1/4% due 28	13.12	-	37.38	-	-	5,409
VE Republic 11.95% due 31	16.36	-	41.88	-	-	4,894
VE Republic 9 3/8% due 34	18.81	-	38.13	-	-	4,982

Sources: J.P. Morgan. Levels as at COB 27th Mar 2015. * CDS 'price' uses the matching CDS spread to calculate upfront pts.

Table 14: PDVSA bonds versus CDS across the curve

Bond	Maturity (years)	Basis (bp)	Bond Price (mid)	CDS upfront (pts)	CDS Mat Match	PECS (bp)
VE PDVSA 5% due 15	1.58	1,189	94.25	22.78	4,292	3,104
VE PDVSA 5 1/8% due 16	2.04	634	60.50	47.83	5,264	4,630
VE PDVSA 5 1/4% due 17	2.60	-400	42.00	54.64	5,456	5,856
VE PDVSA 8 1/2% due 17	6.64	300	66.00	58.54	5,441	5,141
VE PDVSA 9% due 21	6.89	-558	37.34	65.86	5,008	5,566
VE PDVSA 12 3/4% due 22	9.14	352	47.02	65.91	4,986	4,634
VE PDVSA 6% due 24	11.64	-	33.63	-	-	5,241
VE PDVSA 6% due 26	12.04	-	32.23	-	-	5,360
VE PDVSA 5 3/8% due 27	20.15	-	32.24	-	-	5,233
VE PDVSA 9 3/4% due 35	22.05	-	38.55	-	-	5,081
VE PDVSA 5 1/2% due 37	0.00	-	32.38	-	-	5,022

* CDS 'price' uses the matching CDS spread to calculate upfront pts.

Sources: J.P. Morgan. Levels as at COB 27th Mar 2015.

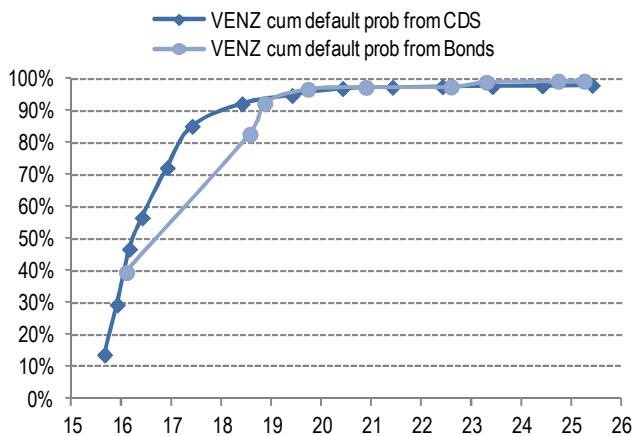
Venezuelan sovereign and PDVSA implied default probabilities

It is useful to turn current market pricing of bonds and CDS into implied default probabilities to be able to compare these to our own intuitions around likely events. Figure 24 and Figure 25 show the implied cumulative (or unconditional) default probabilities, using the CDS and bond curves of Venezuela Republic (VENZ, in Figure 24) and PDVSA (Figure 25). We can use CDS as the simpler way of implying default probabilities from the spread curves and then compare that to implied default probabilities from bonds. Over the next 12 months (March 2016 maturity date), markets are implying a 47% probability of a Venezuela Republic CDS triggerable default, with a recovery rate of 26%. The implied probability of default rises to 85% by June 2017, and 97% by June 2020 (the 5y point). Pricing for PDVSA is similar (Figure 25), with markets implying a 49% probability of a PDVSA CDS triggerable default over the next 12 months (March 2016), with a recovery rate of 25%. The implied probability of default rises to 85% by June 2017, and 96% by June 2020 (the 5y point). Implied default probabilities from bond curves shows many more pricing imperfections¹¹. For Venezuela bonds (Figure 24), the implied probability of default is much lower than for CDS at the front end of the curve (2016 to 2018). For PDVSA bonds (Figure 25), the bond curve pricing looks more aligned relative to CDS (using cumulative default probabilities).

¹¹ In order to create the implied probabilities from the bond curves we need to price each bond separately, rather than all the bonds as a single spread curve, as the cumulative default probability for bonds decreases as time increases at some points, which is a theoretical impossibility as it implies negative hazard rates (conditional default probabilities).

Figure 24: VENZ CDS and bond implied probabilities of default

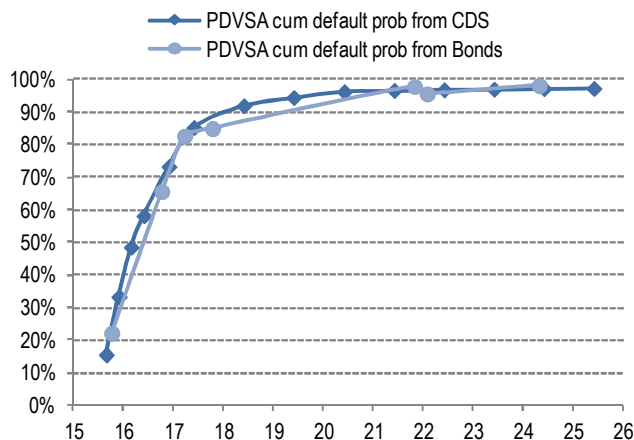
Cumulative (unconditional) default probabilities (%), using a recovery rate of 26% for VENZ



Source: J.P. Morgan

Figure 25: PDVSA CDS and bond implied probabilities of default

Cumulative (unconditional) default probabilities (%), using a recovery rate of 25% for PDVSA



Source: J.P. Morgan

Trade Opportunities in Bonds and CDS

We see attractive trade opportunities in being short the high-priced front end of the VENZ bond curve (\$16s or \$18 old), either against CDS or versus long-end bonds, and also like switches with attractive timing breakevens, such as selling VENZ 22s and buying VENZ 23s, or buying VENZ \$25s and selling VENZ \$38s. We can use our views around default timing – namely 2015 is likely to remain default-free, but after that the risk significantly increases – and current market pricing to look for trade opportunities. We look at the pricing of bonds and CDS in Venezuela (Table 13) and PDVSA (

Table 14), along with the implied default probabilities in Figure 24 and Figure 25 to inform this discussion.

We highlight what we view as five attractive trade opportunities that either take advantage of high-priced front-end bonds in VENZ, or switches where we think the breakeven timing of default is attractive given carry differentials. We can illustrate the full workings of this approach with the first opportunity, and then will describe the key points in short-hand for the rest. All pricing is as of 30th March 8am NY time, with indicative bid-offer considered, and all the switches are equal notional:

1) Buy VENZ \$23s at 37.25, sell VENZ \$22s at 44.00

VENZ \$23s have a low cash price and 600bp higher PECS (par equivalent CDS spread) versus VENZ \$22s (Table 13). That is likely due to the higher coupon of 12.75% on the VENZ \$22s, compared to only 9.0% on the \$23s, and the fact the \$22s amortize. Selling the \$22s at 44.00 and buying the \$23s at 37.25 gives you a premium of 6.75pts upfront (Table 15). There is no reason to assume these similar maturity bonds will recover at different levels should there be a default, so the premium of 6.75pts should materialize on default or if both mature at par. We can then see the coupon differentials in cash flow terms in Table 15. If we step through each coupon, we can see that the trade only becomes negative cash carry by 23-Feb-17. In other words, the coupon carry only exceeds the upfront premium if the 23-Feb-17 coupon is paid. However, from the CDS curve pricing we can see the market implies there only a 22% chance that Venezuela will not have defaulted or restructured by 23-Feb-17. We pay less attention to the VENZ\$22s amortization in 2020, since markets imply there is only a 3% chance of reaching that date. If markets rally it is likely that the lower price bond outperforms. We therefore see this switch as offering good value.

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Table 15: Illustration of cash flows on VENZ \$22s versus VENZ \$23s switch

	Short VENZ \$22s	Buy VENZ \$23s	Cumulative Carry	Premium	Implied prob of reaching date
Coupon:	12.75% semi	9.0% semi			
Price:	44.00	37.25			
Upfront Cashflow:	44.00	-37.25		6.75	
	<i>Cashflows to date</i>				
23-Aug-15	-6.375	4.5	-1.875		
23-Feb-16	-6.375	4.5	-3.75		
23-Aug-16	-6.375	4.5	-5.625		
23-Feb-17	-6.375	4.5	-7.5	Carry b/e date*	22%
23-Aug-17	-6.375	4.5	-9.375		

Source: JPMorgan

2) Sell VENZ\$16s at 77.25, sell 9m (20-Mar-16) VENZ CDS protection at 28.00.

This package gets you an upfront of 105.25, which is equivalent to a 5.25pt premium (as there is a 100pt payout if there no default by 20-Mar-16). The front end bonds have generally risen, as the government may be buying back 2015 bonds. February 2016 is nearly a year away, and we think CDS is too wide to bonds. Should default not happen in this time, you can expect to keep the 5.25pt premium. The risks come from two main points: i) investors would be short the ‘cheapest to deliver’ option on

CDS, meaning they could get delivered a bond that recovers lower than the \$16s if there is a credit event; and ii) there is a one-month time difference as this sells CDS protection for beyond the bond maturity meaning a month longer default risk. The carry is not too different as the VENZ \$16s have a 5.75% coupon and CDS has a 5% coupon. All told, we think the risk reward looks attractive, as the prices at the front-end of the bond curve look high relative to CDS.

3) Sell VENZ \$38s at 34.75, buy VENZ \$25s at 35.50.

This switch will cost the equivalent of 0.75pt to enter as the mid bond prices of these are almost identical on these bonds. The yield on the \$25s is 6% higher than the \$38s, the PECS is 550bp higher on the \$25s, and the \$25s have a 7.65% coupon versus the 7% coupon on the \$38s. If default happens quickly, a similar recovery rate is to be expected, and the loss would be 0.75pt. If default occurs after 21-Apr-16, then the coupon carry exceeds the upfront payment and the trade will start to make money from the coupon differential.

4) Sell VENZ \$18 O (old) at 65.00, buy VENZ \$27s at 41.25

VENZ \$18 O trade at a high cash price as they have two attractive features: i) they do not have CACs, meaning they could be attractive in a default/restructuring (Table 10); ii) they have a high 13.625% coupon. However, the VENZ \$27s also do not have CACs and so share that feature, and have a 9.25% coupon. Using a similar analysis to Table 15, the upfront premium is 23.75pts for entering this switch, whereas the cumulative coupons until maturity of the \$18O are -15.3pt, the negative coupon carry still leaves a positive upfront premium. The risk is that there is no default before August 2018 and the \$18O mature at par, and then there is a subsequent default before 2027. However, markets imply only a 93% probability of there being a credit event by 2018, so the risk-reward is still attractive on this trade, in our view.

5) Sell PDVSA \$16s at 60.00, buy PDVSA \$27s at 32.25.

PDVSA \$16s mature only on 28th October 2016 and do not seemingly benefit from international law protection, given the lack of bond prospectus. We like the pricing in the long-end of the PDVSA bonds and buying the PDVSA \$27s against selling the PDVSA \$16s looks attractive, given the cash price differential of 27.75pts. The major risk is if PDVSA continues to muddle through and service bonds through 2016, but then defaults after. However, as discussed, we think the political tensions following from the economic difficulties the country faces are likely to become more acute in 2016, making this a much more make-or-break period for bonds.

For outright exposure rather than RV, we like low-dollar price PDVSA bonds like the \$24s, \$26s, \$27s, and \$37s for their convexity and limited downside. We would look to add positions in PDVSA \$22Ns, currently held by the central bank, and likely to hit the secondary market sometime this year, as such issues tend to come cheap to the curve.

Historical guides of sovereign recovery rates

The recent lows in bond prices of Venezuela and PDVSA were around 30pts, which would put them in line with sovereign recovery rates which involved large principal haircuts. Sovereign bond restructurings since 1997 have usually seen maturity extensions and coupon reductions, with principal haircuts not the norm. There have been 27 sovereign default events since 1997, according to

Moody's research¹², which saw 36 sovereign bond restructurings. All but two involved a maturity extension, with around 80% involving a reduction in coupon. Only 45% saw a haircut on the principal, meaning this was not the norm. Given a principal haircut is the quickest way to get debt/GDP levels lower, it is instructive that these have not been the most common experience historically. This is likely to do with the preference of countries not to have a disorderly or acrimonious default involving large haircuts as they look at future market access. In fact, Moody's found that in 38% of cases the Debt/GDP ratio was *higher* after the restructuring¹³.

We think the single biggest question for recovery rate values has been whether there have been principal haircuts. Moody's estimates the average recovery rate from 1983-2013 to be 49%¹⁴, although as **Error! Reference source not found.** Figure 26 shows, this average does not appear to describe well the data distribution which has largely fallen into two buckets: a) 20-40% recovery rate, and b) >60% recovery rate. When we look more closely at the default events sorted in ascending order by recovery rates in Table 14, it seems that the biggest factor contributing to lower recovery rates is whether there were principal haircuts or not. In fact, every example of recovery rates below 45 saw a principal haircut, and only one case of recovery rates above 60 saw a principal haircut, only of 5 cents. This may seem obvious, but actually coupons and maturity extensions can have large NPV impacts as well. So the lows in Venezuela and PDVSA bond prices have implied a high chance of default with a large haircut.

¹² See *Sovereign Default and Recovery Rates 1983-2013*, Moody's Investors Service, April 2014. There are many disperse sources for we have used for historical data on sovereign defaults, recovery rates, and haircuts, with Moody's providing a comprehensive and centralised source.

¹³ See *Sovereign Defaults Series Compendium*, Moody's Investors Service, October 2013.

¹⁴ The definition of 'recovery rate', as well as the passage of time, means that there is some natural inaccuracies involved with the historical recovery rate analysis. For CDS holders, the 'Recovery Rate' that matters is the price at which bonds were trading in the 30 days after the CDS trigger, which in the current market would be where the auction likely settles and CDS recover at. For bond holders, we may think of the recovery rate as the price of the bond in the instance after a restructuring package comes into effect. In practice accurate data on either is not easy to obtain for restructurings that took place 15 years ago, and academic literature may well not represent accurately where assets were actually trading. We use Moody's data as the most comprehensive source, which is based mostly on market prices, and we augment that with other data sources.

Table 16: Sovereign defaults and recovery rates since 1998

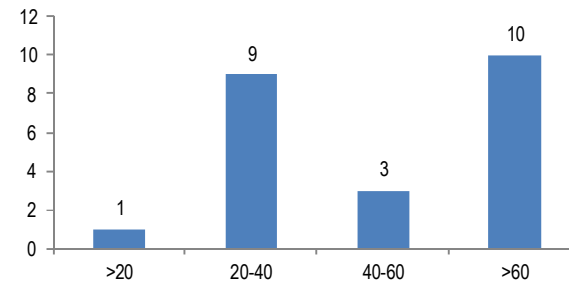
% of notional

Default	Recovery Rate	Face Value Haircut
Ivory Coast (2000)	18.10	20.00
Greece (2012)	23.69	54.00
Russia (1999)	25.00	63.00
Ecuador (2008)	25.75	65.00
Argentina (2001)	27.88	66.00
Seychelles (2008)	30.00	50.00
Ecuador (2009)	30.50	65.00
Ecuador (1999)	32.01	40.00
St Kitts and Nevis (2011)	38.00	50.00
Belize (2012)	39.50	3.00
Dominica (2003)	47.00	30.00
Pakistan (1999)	47.74	-
Nicaragua (2003)	49.00	-
Moldova (2002)	60.00	-
Uruguay (2003)	64.74	-
Grenada (2004)	65.00	-
Ukraine (2000)	69.13	5.00
Ivory Coast (2011)	75.00	-
Belize (2006)	75.44	-
Jamaica (2013)	89.00	-
Jamaica (2010)	90.67	-
Paraguay (2003)	92.00	-
Dominican Republic (2005)	94.85	-

Source: J.P. Morgan, Moody's, IMF, Sturzenegger & Zettelmeyer

Figure 26: Sovereign defaults and recovery rates since 1998

Count of defaults in each recovery rate bucket

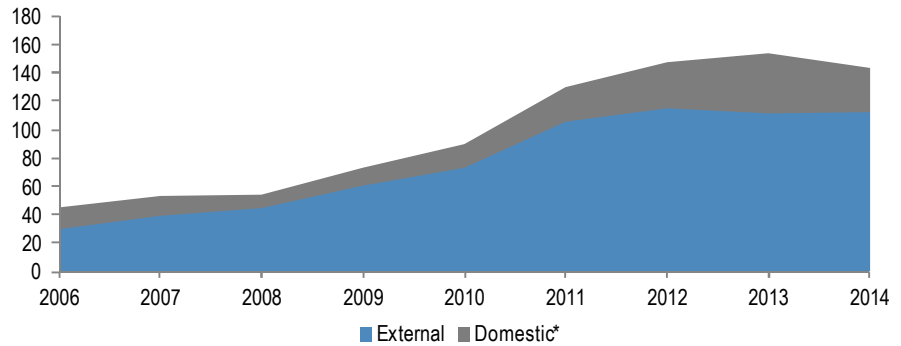


Source: J.P. Morgan, Moody's

Appendix I: Venezuela Debt Metrics

Figure 27: Venezuela's public debt grew significantly after the 2009 oil shock and accelerated ahead of the 2012 presidential election

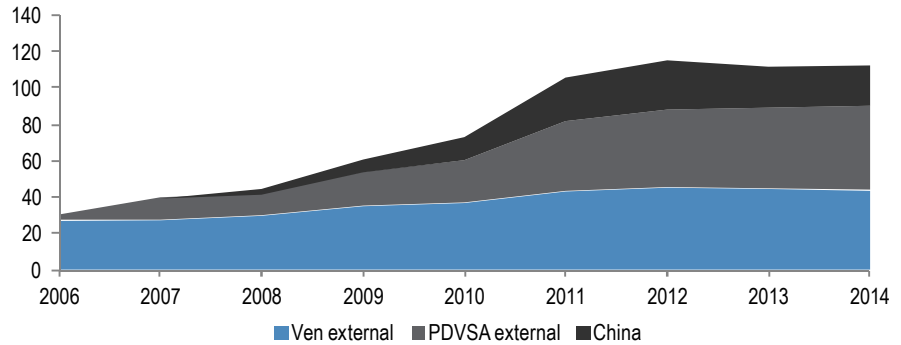
\$ in billions



Source: BCV, Finance Ministry, PDVSA and J.P. Morgan estimates. * Valued at PPP FX rate.

Figure 28: Venezuela external debt evolution by principal component

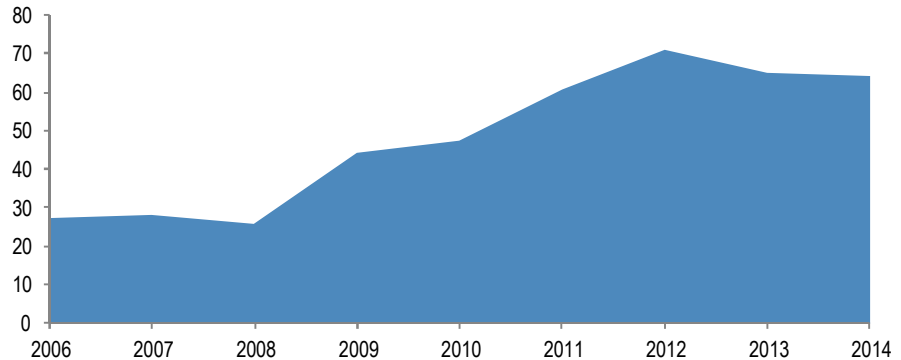
\$ in billions



Source: BCV, Finance Ministry, PDVSA and J.P. Morgan estimates.

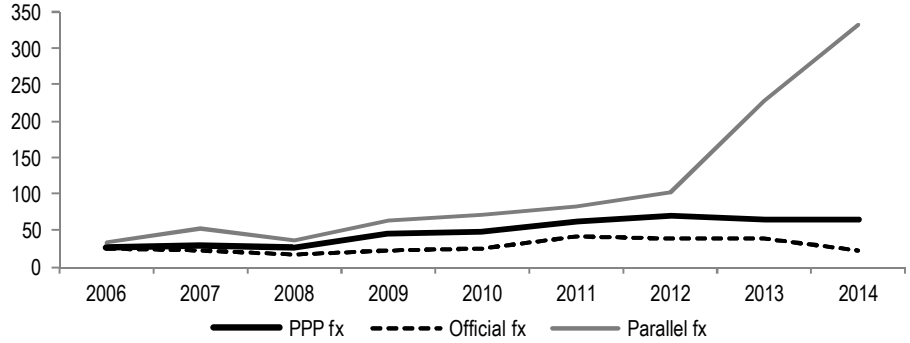
Figure 29: Debt ratios have arguably stabilized considering a PPP fx rate to value nominal GDP

% of GDP (valued at PPP FX)



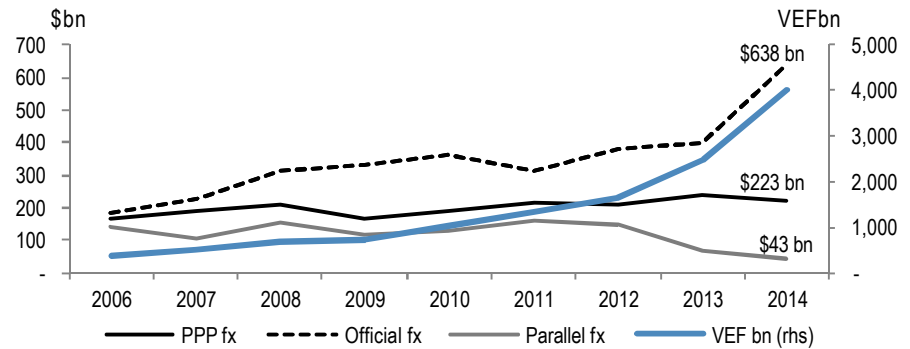
Source: BCV, Finance Ministry, PDVSA and J.P. Morgan estimates.

Figure 30: Venezuela external debt evolution by principal component
 %



Source: BCV, Finance Ministry, PDVSA and J.P. Morgan estimates.

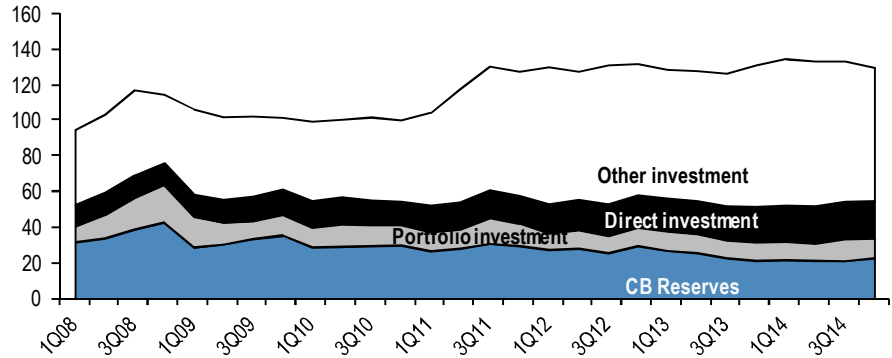
Figure 31: Nominal GDP valued at different fx rates



Source: BCV and J.P. Morgan estimates.

Figure 32: Public sector external assets (NIIP series)

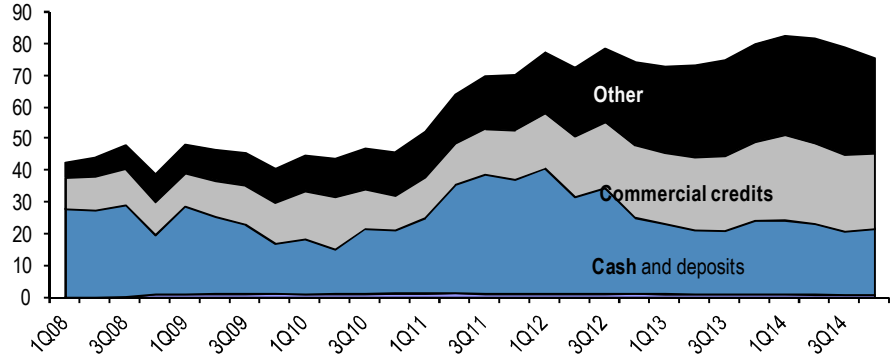
\$ in billions



Source: BCV.

Figure 33: Breakdown of public sector “other investments” (NIIP series)

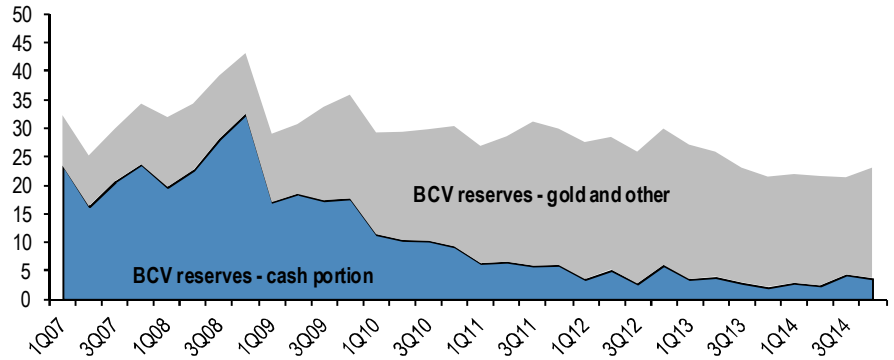
\$ in billions



Source: BCV

Figure 34: Central Bank reserves

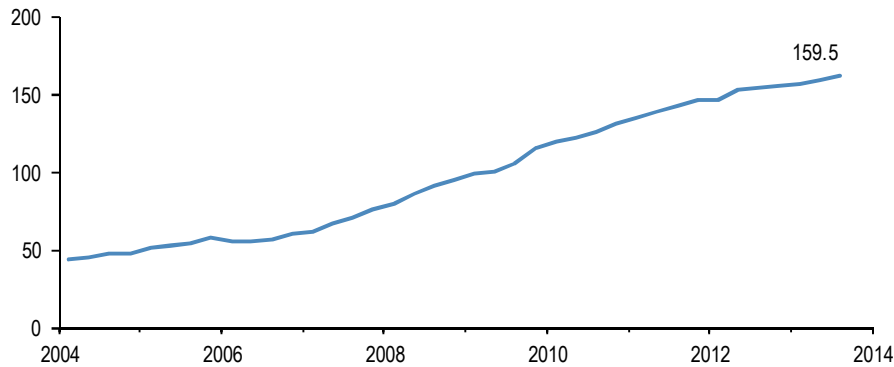
\$ in billions



Source: BCV

Figure 35: Venezuela: Private sector external deposits

\$ in billions



Source: BCV

Table 17: Venezuela: Economic indicators

	Avg. 2008-12	2013	2014f	2015f
Real GDP, % change	2.0	1.3	-4.0	-4.0
Consumption ¹	2.4	4.0	-3.2	-2.8
Investment ¹	1.7	-6.6	-7.5	-4.3
Net trade ¹	-2.1	4.0	6.7	3.1
Consumer prices, %oya	27.4	38.5	56.9	91.0
% Dec/Dec	26.9	52.7	64.7	85.0
Producer prices, %oya	23.8	37.6	75.0	85.0
Government balance, % of GDP	-4.6	-6.0	-5.0	-9.0
Merchandise trade balance (US\$ bn)	34.2	35.1	32.3	7.6
Exports	81.7	89.7	75.0	41.2
Imports	47.5	54.6	42.6	33.6
Current account balance	17.6	6.3	7.2	-13.8
% of GDP	5.6	1.5	3.0	-6.0
International reserves, (US\$ bn)	28.0	21.5	20.0	12.0
Total external debt, (US\$ bn)	97.4	127.6	131.6	137.1
Short term ²	20.2	20.7	20.7	20.7
Total external debt, % of GDP	29	31	54	59
Total external debt, % of exports ³	104	135	163	295
Interest payments, % of exports ³	5	7	9	16

Source: BCV and J.P. Morgan estimates. 1. Contribution to growth of GDP. 2. Debt with original maturity of less than one year. 3. Exports of goods, services and net transfers.

Appendix II: PDVSA Additional Data

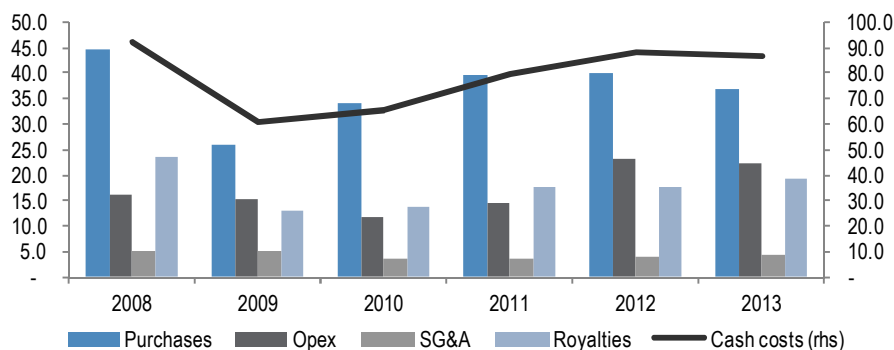
In this section we review some of the fundamentals of PVDSA, including **with Latin American countries have declined due to lower exports**. Shipments related to these agreements were 302mbpd in 2013, 328mbpd in 2012, and 332mbpd in 2011. We estimate that PDVSA is not sending all the volume initially agreed upon, as the financial statements mention that the company agreed to sell 377mbpd in 2013, 394mbpd in 2012, and 463mbpd in 2011. The company mentions that this could be the case if crude prices are higher than the price agreed upon in the contracts. The agreements are renewed annually, and the countries have to pay market value, but PDVSA financed part of the shipments. The notes of the 2013 financial statements mention that only 116mbpd (\$3.2 billion), 122mbpd (\$2.7 billion), and 106mbpd in 2013, 2012, and 2011, respectively, were deducted from the royalties that the company had to pay. Volumes sent to Cuba are estimated to be around 100mbpd.

In 2013, PDVSA exported 550mbpd to China, of which 485mbpd were channeled through the bilateral lending arrangement between the Republic and the Chinese. In 2012 and 2011, the company exported 530mbpd and 480mbpd, respectively, of which 451mbpd (\$16.2 billion) and 415mbpd (\$16.6 billion) were delivered into the collection scheme related to the bilateral lending arrangements between the Chinese Development Bank (CDB) and the Republic via Venezuelan development bank BANDES. Part of these shipments is earmarked to debt service, but taking into consideration oil prices, significant proceeds accrue to BANDES in a prescribed collection account at the CDB. BANDES transferred funds from this account to PDVSA in the amounts of \$9.6 billion in 2013, \$12.5 billion in 2012, and \$6.7 billion. Note that at the current level of oil prices (and barring undisclosed Chinese concessions on repayment flexibility), we would expect nearly all of the volumes to China would be needed to meet debt service obligations, with little excess cash left to go back to BANDES and eventually PDVSA.

Cash costs in USD terms have been increasing since 2009 despite the depreciation of the currency. The main driver behind the increase has been operating expenses. In addition, crude and product purchases have increased since 2009-2010 as production has declined. In addition, the accident at the Amuay refinery forced the company to buy products.

Figure 36: Cost breakdown

\$ in billions



Source: Company reports and J.P. Morgan estimates.

The ultimate goal is to have crude production of over 6.0mmbpd by 2019, but this seems very ambitious to us. The main contributor should be the Orinoco Belt, where the company expects to reach over 4mmbpd from existing and future operations. Output from new operations is expected to amount to over 2.8mmbpd. In addition, PDVSA wants to produce 2mmbpd from mature areas by 2019. In the 2026 OM, the company mentions that an important part of the growth is expected to come from the JVs in the belt. Gas production is also expected to be expanded from 7,395mmcf to 9,821mmcf by 2019.

The development of the upgraders key for PDVSA, but the partners have been hesitant to invest; diluted heavy crude may be the way forward. As a result, early production from the Belt is expected to use naphtha strippers while the company waits for the construction of the upgraders. We understand that the partners in the Belt have delayed the construction of the \$10-15 billion upgraders as much as possible and we think PDVSA may need to contemplate other options. The current strategy includes the investment of \$3.0 billion in five strippers, which should have a capacity of 1mmbpd. These strippers will permit the movement of extra-heavy crude oil diluted with naphtha from the fields to the terminals and storage facilities. PDVSA also imported Algerian crude in 2014 to mix heavy crude, a strategy that some view as more efficient.

Changes to working capital have been very volatile due to the different agreements and transactions with the Central Bank. In 2013, PDVSA “reduced” working capital by \$19.0 billion. However, this resulted from some accounting (non-cash) transactions. For example, at the end of 2013, the company declared a dividend of \$10 billion that was paid by offsetting receivables owed by the government due to the volume sent to fulfill the energy agreements. The big reduction in working capital is primarily due to the decline in accounts receivables with related parties and prepaid expenses and extension of accounts payables and income tax to be paid.

Table 18: Facilities with partners/suppliers

\$ in millions

Lender	Project	Rate	Maturity	Amount	Disbursed	Availability
Gazprombank	Petrozamora	L+5.5%	NA	1,000	8	992
Repsol	Petroquiriquire	L+4.5%	2015	1,200	45	1,155
Chevron	Petroboscan	L+4.5%	2025	2,000	297	1,703
Novo Banco	Petrocedeño	1.32%	2015	60	40	20
CDBC	Sinovensa	L+5.8%	2023	4,015	291	3,724
ENI	Petrojunin/Petrobicentenario	L+5%	2015	1,742	63-172	1,570
Suelopetrol	Petrocabimas		NA	625		625
Perenco	Petrowarao	L+4.5%	2017	420		420

Source: Company reports Bloomberg, Reuters and J.P. Morgan estimates.

In 2013, accounts payables with the National Treasury Office declined, primarily due to the FX devaluation. The amount outstanding at the end of the year was \$13.5 billion, which is lower than the \$27.8 billion shown in 2012. The decline is explained by the FX devaluation (\$6.8 billion effect), some repayments (\$6.5 billion), and the exchange for the asset sale (\$21.5 billion) offsetting the issuance of \$36.1 billion of new notes (maturity between 2015 and 2022 paying a rate of 0.5-1.5%).

In 2013, accounts receivable with related parties and related to the energy agreements continued to be high. At the end of 2013, the amount of accounts receivable with related parties was \$26.8 billion, which was lower than the \$31.4 billion recorded at the end of 2012. Most of these receivables were related to the sale of crude and products under the different agreements and were the royalties that had to be discounted or the excess that had to be returned to the company. At the same time, long-term accounts receivable related to the energy agreements increased \$700 million to reach \$6.1 billion and almost doubled in two years. We estimate that these receivables should continue to increase, as most of them will be repaid in 15 to 25 years.

While, accounts payable with suppliers increased \$4.7 billion to \$21.4 billion. The company did not provide a reason for the increase. In addition, taxes payable increased \$7.8 billion, and the company owes \$10.1 billion to the government. It is also interesting to note that benefits/pension to be paid has increased 73% in two years and the liability as of 2013 was \$17.7 billion.

Company fundamentals have been improving, and we estimate EBITDA in 2014 increased 11%yoy. After a good 2013 where the company recorded revenues of \$42.3 billion and EBITDA of \$1.8 billion for a margin of 4.25%, the company expects to record an EBITDA of \$2.0 billion in 2014. In addition, the gross leverage of the company is not high and is expected to be 2.1x (on a proforma basis after the recent issuance), while interest coverage is expected to be 5.7x.

PDVSA has other international refining assets besides CITGO. We are not valuing in the above analysis the 50% stake in the Chalmette, Louisiana refinery (JV with ExxonMobil with 184mbdd capacity), as the refinery is owned by PDV Americas and not by CITGO. PDVSA also has a 50% of Texas-based PDV Sweeny (a 58mbpd coker and 110mbpd vacuum crude distillation unit), though JV partner ConocoPhillips is attempting to exercise a call option due to an alleged breach of contract by PDVSA. We are also not including the value of PDVSA's stakes in the refineries outside of the US, which include a combined 43% stake in NYNAS refineries, with 67mbpd capacity in Sweden and the UK. PDVSA also has 49% stakes in refineries in Cuba, Dominican Republic and Jamaica with 66mbpd

combined capacity. Note that the Dominican press reported in February that PDVSA is evaluating the sale of its 49% stake in Refidomsa (35mmbpd) for \$200 million.

Table 19: Orinoco Oil Belt Development Project

\$ in millions

JV Name	Area	Signing bonus/loan	PDVSA stake (%)	Partners stake (%)	Partners	Expected Production	Note
PetroIndependencia	Carabobo 2 South, Carabobo 3 North and Carabobo 5	Bonus: \$500 Financing to PDVSA: \$1,000	60	40	Chevron (34%), Mitsubishi (5%) and Suelopetrol (1%)	400mmbpd	
PetroCarabobo	Carabobo Center and Carabobo North	Bonus: \$1,000 Financing to PDVSA: \$1,050	71	29	Repsol (11%), ONGC (11%) and Indoil (7%)	400mmbpd	Petronas used to own 11%. Repsol mentioned that net reserves are 268m
PetroVictoria	Carabobo 2 North and Carabobo 4 West	Bonus: \$1,100 Financing to PDVSA: \$1,500	60	40	Rosneft (40%)	400mmbpd	Rosneft mentioned that reserves are estimated at 40bn barrels.
PetroMiranda	Junin 6	Bonus: \$600	60	40	Gazprom (32%) and Rosneft (8%)	450mmbpd	Rosneft bought Lukoil's stake at the end of 2014. TNK-BP and Surgutneftegas were initial members of the consortium. Per Gazprom, recoverable reserves at Junin-6 are estimated at 10.96bn barrels
PetroMacareo	Junin 2 North	Bonus: \$584	60	40	Petrovietnam	200mmbpd	Petrovietnam mentioned that oil in place is estimated at 36bn barrels. El Universal mentioned certified reserves of 7.5bn barrels.
PetroUrica	Junin 4	Bonus: \$1,000	60	40	CNPC	400mmbpd	The estimated reserves are 8.7bn barrels
PetroJunin	Junin 5	Bonus: \$600 Financing to PDVSA: \$1,500	60	40	ENI	240mmbpd	Holds 35 billion barrels of oil equivalent (boe) of certified oil in place
Junin 1	Junin 1		60	40	Sinopec	200mmbpd	Rafael Ramirez said the Junin 1 deposit contains an estimated 2bn barrels
Junin 10	Junin 10		60	40	CNPC	220mmbpd	The estimated reserves are 10.5bn barrels. Total and Statoil did not meet the eligibility criteria

Source: Company reports, Bloomberg, Reuters, El Universal, El Mundo

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	Date	Action	Rating/Designation	Ticker/ISIN
Issuer	01 Oct 13	Initiate	Neutral	PDVSA
4.9% '14	01 Jul 14	Downgrade	Neutral	XS0460546442
12.75% '22	23 Oct 14	Downgrade	Neutral	USP7807HAM71
5% '15	23 Oct 14	Downgrade	Neutral	XS0460546525
5.125% '16	23 Oct 14	Downgrade	Neutral	XS0460546798
5.25% '17	23 Oct 14	Downgrade	Neutral	XS0294364103
5.375% '27	23 Oct 14	Downgrade	Neutral	XS0294364954
5.5% '37	23 Oct 14	Downgrade	Neutral	XS0294367205
6% '24	01 Jul 14	Initiate	Overweight	USP7807HAT25
6% '24	23 Oct 14	Downgrade	Neutral	USP7807HAT25
6% '26	23 Oct 14	Downgrade	Neutral	USP7807HAR68
8.5% '17	23 Oct 14	Downgrade	Neutral	USP7807HAK16
9% '21	23 Oct 14	Downgrade	Neutral	USP7807HAP03
9.75% '35	23 Oct 14	Downgrade	Neutral	USP7807HAQ85

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