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Proposed Tank Car Safety Requirements, Coupled with Dropping Oil Prices, Are Credit Negative for Railcar ABS

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The US government's proposed tank car safety requirements, combined with the recent sharp decline in oil prices, are credit negative for railcar asset-backed securitizations (ABS).

Railcar ABS trusts will bear the cash outlays to pay for retrofitting tank cars that transport crude oil and other hazardous materials as a result of the new safety standards. Lease terms typically permit the trusts, as railcar lessors, to recoup such costs by charging lessees higher lease payments. However, the significant drop in crude oil prices over the last six months will slow the growth of production of shale oil in North America, especially from the Bakken oil field of North Dakota, possibly reducing the US oil industry's ability and willingness to absorb any increased costs to transport crude by rail. Lessors might choose to spread their cost recoupment for the retrofits over a longer time period than lease terms allow, in order to reduce the negative impact of higher lease rates on railcar lessees.

At the same time, there are limited crude transportation alternatives that make economic sense for the oil industry, which should result in demand for tank cars remaining relatively high even in light of the lower oil prices and the added costs related to the new safety standards.

Other risks for railcar ABS stemming from the proposed tank car safety requirements could include a lack of shop capacity to meet the tank car retrofit deadlines, which could leave some cars idle and have a negative effect on lease revenues in the securitizations, as well as having to come up with cash to pay for retrofit costs when needed. Deal structures have various reserve mechanisms to accrue for the costs of retrofits in advance. Most of the deals we rate will be able to use some combination of existing cash or future excess cash to pay for the tank car modifications.

Tank Cars Represent a Significant Portion of Railcar ABS

Tank car concentration in the railcar ABS deals we rate varies widely, making up 20%-90% of the fleets, measured by number of railcars, although the portion of tank cars carrying flammable liquids is smaller. The potential retrofits resulting from the Department of Transportation's proposed safety standards would apply to less than 25% of the fleets backing deals we rate.

Railcars in the deals that specifically transport crude oil could constitute 9%-17% of the fleets in the deals. Besides transporting crude, tank cars also carry renewable fuels, agricultural, chemical, semi-gaseous or gaseous products.

The DOT proposed the new safety standards in July 2014. The standards would apply to the transportation of large quantities of flammable materials by rail, particularly crude oil and ethanol, and came in response to several rail accidents in North America. The Pipeline and Hazardous Materials Safety Administration is currently reviewing the 3,500 comments received during the 60-day public comment period. The timeframe for final regulations is not yet clear.

Tank car retrofit costs will be significant, and trusts will bear the initial costs

As owners of the railcars, ABS trusts will bear the cash outlays to pay for tank car modifications required under the proposed Department of Transportation (DOT) safety standards[1]. Leases typically allow recoupment of mandated retrofit costs over roughly four to six years. To mitigate the negative impact of a substantial lease payment increase on lessees, lessors might elect to spread the retrofit cost recoupment over a longer timeframe.

Preliminary cost estimates to comply with the proposed safety standards are more than $30,000 per affected tank car, and some estimates are closer to $50,000[2]. The expense is significant compared with the cost of a new tank car, which is more than $100,000.

Lease terms typically allow lessors to pass along retrofit costs over a four-to-six year period, at the rate of up to 1.5%-2.0% of retrofit costs per month. Based on the preliminary $30,000 estimate for retrofit costs, lessors could shift $450-$600 per month in costs to lessees for four to six years. Lease rates are often around $1,000 per month for tank cars in shale oil service, although they can run as high as $1,500-$2,000. If retrofit costs are closer to the $50,000 estimate, lease rates could increase by nearly $1,000 per month.

Based on a $450-$1,000 increase in tank car lease rates, there would be an added cost of $0.32-$1.43 per barrel of oil over the four-to-six year recoupment period to pay for the retrofits, as Exhibit 1 shows. (We base our estimates of per-barrel increases on the following: each DOT-111 tank car holds roughly 700 barrels of crude oil, and a tank car makes one to two round trips between the Bakken oil field and coastal refineries per month, so a tank car can move roughly 700 to 1,400 barrels of crude per month[3,4].)

[1] Under the proposed regulations, DOT-111 and other tank cars transporting flammable liquids such as crude oil and ethanol must meet higher safety standards by October 2017. Tank cars transporting other flammable liquids must meet higher standards by 2018 or 2020, depending on the type of liquid

[2] "A Review of the Pipeline and Hazardous Materials Safety Administration's Draft Regulatory Impact Analysis,"14 November 2014, prepared for the Railway Supply Institute Committee on Tank Cars by the Brattle Group

[3] ibid

[4] "U.S. Rail Transportation of Crude Oil: Background and Issues for Congress," 4 December 2014, Congressional Research Service

EXHIBIT 1

Retrofit Costs Will Translate into Higher Costs for Transporting Oil by Rail

	Scenario 1	Scenario 2
Preliminary Retrofit Costs per Tank Car	$30,000	$50,000
Lease Pass-through Rate of Retrofit Costs per Month per Tank Car	1.5% - 2.0%	1.5% - 2.0%
Retrofit Costs Passed Through to Lessees per Month per Tank Car	$450 - $600	$750 - $1,000
Potential Range of Monthly Lease Rate Increase per Tank Car	$450 - $1,000	
Approximate Barrels of Oil Transported per Tank Car x Round Trips per Month = Barrels of Oil Transported per Tank Car per Month	700 x 1 to 2 = 700 to 1,400	
Potential Transportation Cost Increase per Barrel (monthly lease rate increase divided by barrels oil transported per month)	$0.32 - $1.43	

Source: Moody's Investors Service

Shale oil industry's ability to accommodate increased tank car lease rates will depend on oil prices

The significant drop in crude oil prices since July 2014 has reduced the oil industry's ability and hence willingness to pay increased costs to transport crude, which could result in lower demand for tank cars and lower revenue for railcar ABS.

If oil prices remain below $70 per barrel and investment in drilling new wells continues to contract, shale oil production will begin to decline in 2016 or 2017. Shale oil wells experience rapid production decline rates in the first few years of production. Many producers that have hedged a large portion of their production for 2015 will be able to continue to invest at levels that do not totally reflect the current commodity price environment. But most of the hedges will roll off by the end of the year. Without robust investment levels, production will begin to fall, weakening demand for tank cars.

In early 2015, we expect oil production to continue to increase in North America given the momentum of historical investment rates and drilling budgets that benefit from hedged production. By the end of 2015, production growth could stall and begin to decline in 2016. Under this scenario, oil prices would eventually stabilize and begin to recover to levels that could support increased investment.

Longer term, we expect that Brent crude will reach an equilibrium price of around $80 per barrel and WTI crude will average $75 per barrel. However, we are expecting Brent crude to average $55 per barrel in 2015 and $65 per barrel in 2016[5]. Even using this depressed oil price assumption, producers in the Bakken would have operating margins of $10-$20 per barrel, a level that could absorb the added per-barrel costs of the safety retrofits. Before the recent decline in oil prices, the North Dakota Department of Mineral Resources projected that more than 90% of North Dakota oil producers (which account for 80% of crude-by-rail shipments in the US) could break even at oil prices at or below $55 a barrel. Ignoring the cost of drilling new wells to maintain production rates, we believe the break-even cost of producing shale oil is closer to $35-$40 per barrel. Therefore, we do not anticipate that producers will have to shut in existing wells. When oil prices go back to equilibrium levels, production in North Dakota could double from current rates. The North Dakota Department of Mineral Resources has stated that it expects oil output to peak at 2 million barrels a day between 2015-25, from 1 million barrels per day in 2014, which would increase the demand for railcars.

If demand for tank cars were to weaken, it would first be absorbed by the severe backlog in railcar orders. The backlog for railcars was one and a half years as of September 2014, according to the last public data from the Economic Planning Associates and the Railway Supply Institute.

[5] See "Airlines, Packaged Food, Shipping Get Biggest Lift from Oil Price Plunge" 15 January 2015.

Oil industry will weigh price increases for rail shipment versus other forms of transport

The completion of pipeline construction projects over the next few years and a slowdown in the growth rate of production will affect producers' willingness to absorb additional rail costs, especially in a lower oil price environment when operating costs are under greater scrutiny. However, competing modes of crude transport such as oil pipelines or trucking may not be immediately feasible or desirable, which means that demand for tank cars will remain relatively strong even if oil production decreases.

The flexibility offered by rail transportation will continue to be a valuable differentiating factor for the North American oil industry. Railways access coastal refineries, a logical destination for Bakken crude, whereas pipelines mostly run south to refineries in the mid-continental US and along the Gulf Coast. East and west coast refineries generally are configured to process light, sweet crude oil. Rail-transported Bakken crude provides a domestic source of this crude for refineries, displacing sweet crude shipped from West Africa and the Middle East especially when Brent trades at a premium to WTI crude. (Internationally-sourced crude is typically indexed to Brent crude prices, and recent historical Brent prices were at a $5-$10 per barrel premium to WTI.) In contrast, refineries along the Gulf Coast are designed to run heavy, sour crude and therefore have more limited demand for Bakken-produced crude.

Pipeline construction is costly, time consuming and often requires long-term throughput commitments, in which producers commit to purchase a certain amount of pipeline capacity, whether or not they end up using it. Rail transportation has a higher cost than pipeline transportation and until the last few years when the shale boom created an immediate need for flexible takeaway capacity, rail was thought to be a stop-gap alternative to be used only temporarily until the completion of pipeline construction.

The cost to move Bakken crude to the Gulf Coast by pipeline costs roughly $5-$10 per barrel, compared with an estimated $10-$15 per barrel by rail. The need for a quicker infrastructure solution for moving oil made rail a competitive option, as rail infrastructure could be up and running in a matter of months. Once they began using rail cars, oil producers realized the flexibility that large scale shipment of crude by rail offered. The ability to ship their product to refineries on the east and west coasts led to the reactivation of moth-balled and under-utilized refineries that now rely on uninterrupted supplies of light sweet crude oil.

The most flexible transportation option is trucking. For short haul, trucking will remain a viable alternative to move oil from the well head to central delivery points or local refineries. But for long haul requirements, trucking becomes expensive and is environmentally unfriendly.

Other risks for railcar ABS remain

There are other risks related to the tank car retrofits, such as a risk that tank car owners will not meet the retrofit deadlines as a result of limited available shop capacity for retrofits. If that happens, tank cars could be left idle, which would have a negative effect on tank car lease revenues in railcar ABS.

The degree to which shop capacity will be insufficient remains unclear. The Rail Supply Institute estimated in October 2014 that 30%-50% of the affected tank car fleet would be idled at any given time between 2018-20, based on its projections of shop capacity.

It is not yet clear if the lessees would be responsible for lease payments for leased tank cars; however, at a minimum, lessees would choose not to renew or initiate leases on tank cars if the prospects for timely retrofit were uncertain. However, a key mitigating factor to retrofit shop capacity constraints will be the ability of certain lessors, such as GATX and Trinity, which have their own manufacturing repair and maintenance facilities, to prioritize tank cars from their own managed fleets, thus better ensuring timely completion of retrofits.

Most trusts will be able to use existing cash or future excess cash to pay for retrofit costs

Railcar ABS deal structures have various reserve mechanisms to accrue for the DOT-mandated modification expenses in advance. Most of the deals we rate will be able to use some combination of cash already in place or future excess cash to pay for retrofit costs. Some deals currently hold enough funds in cash-trapping accounts to cover more than 60% of our estimated retrofit costs[6] for those deals. In addition, a number of the deals we rate generate excess cash that can be accrued in reserve accounts to pay for the retrofits at a speed of around 4% of our estimated retrofit costs per month for those deals. Deals that rely upon future excess cash flows to pay for retrofits could require several years to accrue for the retrofits, in which case the trusts will need to carefully manage the timing of the modifications to ensure that they accrue enough funds to pay for them at the time they are required.

If cash already in place plus future excess cash isn't sufficient for a trust to accrue the money needed for retrofit costs, a delay in scheduled principal payments to the noteholders could occur. If this happens, the expected maturity of the bonds might be postponed. However, the deals we rate have at least three years' difference between the scheduled maturity and legal final maturity. This provides the trust with a cushion to recoup retrofit costs over time.

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[6] Our estimated retrofit costs equal $30,000 per tank car multiplied by the number of tank cars carrying flammable liquids that would be subject to the proposed retrofits in each deal

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