

ONLINE FEBRUARY 19, 2015

The Impact of Reduced Oil Prices on the Transportation Sector

The benefits of the glut are being distributed unevenly.

BY ANDREW TIPPING, ANDREW SCHMAHL, AND FRED DUIVEN

The Impact of Reduced Oil Prices on the Transportation Sector

The benefits of the glut are being distributed unevenly.

by Andrew Tipping, Andrew Schmahl, and Fred Duiven

1

The precipitous drop in oil prices is among the most significant—and unexpected—forces in the global economy today. Thanks to a combination of increased production (especially in the U.S.) and muted demand, the spot price of West Texas Intermediate crude fell from US\$109 in July 2014 to \$45 in January 2015, and has since rebounded to above \$50. The winners are obvious: consumers, owners of gas-guzzling vehicles, energy-intensive industries. So, too, are the apparent losers: oil exploration and services firms, countries that are dependent on fossil fuels, manufacturers of hybrid cars.

The vital transportation sector has been a beneficiary of lower oil prices. Not only will it experience direct savings derived from lower fuel prices, but the expected uptick in consumer spending will positively impact global trade, and, consequently, transportation. But the benefits aren't being shared equally by all modes of transportation. In each sector, low prices have opened up a host of strategic questions for companies to consider. And because it is unclear whether the low prices will last, transportation companies are understandably reacting with caution.

Airlines

Airlines stand to gain the most from reduced prices, given that roughly a third of their costs are associated

with fuel. Even better, thus far airlines have yet to face direct competitive pressures to pass fuel savings on to customers. Any ticket price reductions will be driven primarily by competitive dynamics (old-fashioned supply and demand), rather than by reductions in fixed fuel surcharge rates. As a result, airline profitability has soared; the International Air Transport Association projected last fall that global airlines would reap a collective profit of \$19.9 billion in 2014, and \$25.0 billion in 2015.

But the perception of an unmitigated windfall may be exaggerated. In recent years, as Reuters has reported, some airlines sought to protect themselves from volatile, often high energy prices by locking up longer-term hedging contracts at a price of \$100 per barrel or more. As the price of oil plummeted, these hedges resulted in large losses. For example, according to Reuters, Delta, which should stand to gain at least \$1.7 billion in 2015 thanks to lower fuel prices, will actually lose an estimated \$1.2 billion to fuel hedges in the same time period, and Southwest Airlines' hedges may result in the airline saving only \$0.80 for every \$1.00 drop in oil prices. Nonetheless, given the drop in oil prices, airlines have the opportunity to rewrite their hedging contracts in order to lock in prices around \$50 per barrel for the foreseeable future.

Although the lower energy costs may not lead directly to sharply lower airline tickets, they may bring

Andrew Tipping

andrew.tipping@strategyand.pwc.com

is a partner with Strategy& based in Chicago. He leads the firm's U.S. transportation practice.

Andrew Schmahl

andrew.schmahl@strategyand.pwc.com

is a partner with Strategy& based in Chicago. He focuses on the transportation, industrial, and private equity sectors.

Fred Duiven

fred.duiven@strategyand.pwc.com

is a principal with Strategy& based in Washington, D.C. He specializes in sustainable growth strategies for the transportation sector.

Also contributing to this article was Strategy& associate Miles Mattson.

about a better customer experience for the long-suffering flying public. First, since the break-even capacity required for a profitable flight will fall, airlines can introduce new routes and expand capacity on existing routes to capture incremental demand—all while accepting lower load factors. (Translation: It's slightly less likely that you'll end up in a middle seat.) This would in turn allow airlines to further maximize aircraft utilization or even acquire additional planes. In another piece of good news for customers, if demand flatlines or falls as capacity expands, airlines may engage in price wars in order to fill these additional seats. A quick rise in oil prices, however, could make reduced load factors again unprofitable. Airlines should be cautious about undertaking longer-term capacity expansion in order to avoid overexposing themselves to future volatility in fuel costs and demand.

In an unexpected wrinkle, customers may notice that the planes they are boarding might be somewhat older. Why? Reduced oil prices also present airlines with an opportunity to rethink fleet management. The value of older aircraft currently in service rises with lower fuel costs. Specifically, it becomes attractive to either extend the use of older aircraft or lease older airplanes that may otherwise be pegged for decommissioning. In fact, at the beginning of 2015, as Bloomberg reported, one aircraft leasing company leased out five Airbus A340s and Boeing 747s—both fuel-intensive aircraft—that were intended to be retired. At the same time, cheaper oil pushes up the relative cost of acquiring new fuel-efficient aircraft, such as the Boeing 787. Although a longer-term trend away from fuel-efficient aircraft is unlikely, depressed oil prices could allow airlines to take advantage of an older fleet as long as lower prices persist.

Although reduced fuel prices could slow the purchase of new aircraft and impact commercial aerospace markets, an extended period of higher margins could also unlock capital for investment. Airlines that have recently been cash-constrained could push to modernize their fleets—a trend that could be particularly viable for airlines in developing countries. Alternatively, airlines can invest in an improved customer experience to help differentiate themselves from their competitors. Some potential options include terminal modernizations and aircraft interior upgrades in seats and entertainment systems.

Rail

The freight rail industry also stands to gain from reduced oil prices in the short term. Although fuel isn't as large a contributor to total railway costs as it is for airlines—it historically has accounted for approximately 20 percent of total operating costs—it nonetheless constitutes a major line item for rail companies. But in the railroad industry, the benefits of reduced fuel prices are generally more evenly shared between the operators (which will see higher margins) and customers (who will see reduced fuel surcharges). For example, CSX, which levies fuel surcharges on a two-month lagged basis, reduced its rate from \$0.42 per mile in January 2015 to \$0.36 per mile in February 2015, a decline of 14 percent.

But rail operators must also grasp the competitive challenge that low oil prices will produce. Generally speaking, customers find rail more appealing than trucking for long-haul routes because rail costs much less—even though trucking is generally faster. As oil prices fall, however, rail loses some of its cost advantage, as the U.S. Department of Transportation notes in this

Key Strategic Questions

Airlines need to decide...

- Should new, previously unprofitable, routes be reexamined?
- How much, if any, capacity should be added?
- What is the optimal fleet mix? Should older planes be re-commissioned?
- Which investments should be made with short-term profits?
- Should new fuel hedges be executed to lock in prices?

Rail operators need to decide...

- What is the expected impact of lost shipments of crude oil and oil-related services?
- How will lower oil prices affect intermodal dynamics?
- What is the best way to prevent customers, especially those recently gained from trucking, from defecting?

Trucking companies need to decide...

- Should investments in alternative fuel vehicle pilots continue apace?
- Which current rail customers are the ripest targets for poaching?
- What adjustments can/should be made to the network to optimize speed/convenience for customers?

Ship operators need to decide...

- Which, if any, older ships should be re-commissioned?
- Should the fleet steam at faster speeds to reduce transit time?
- Which new (thinner) lanes are again profitable?

useful study. Given that customers consider trade-offs regarding price, reliability, speed, and convenience (among other factors), a significantly reduced price for trucking may lead customers to rebalance the cost-versus-speed equation in favor of trucking. Thus, rail operators must carefully account for their customers' preferences if they are to understand the fuel-price-induced "tipping point" at which they may switch to other modes of transport. To retain these customers, rail operators must optimize scheduling and operations, improving reliability and speed where possible.

That said, rail operators must also monitor and consider capacity issues impacting alternative modes such as reduced hours of service and driver shortages. For example, the well-documented shortage of truck drivers, estimated at 35,000 in 2014, has increased freight rates irrespective of fuel costs. The American Trucking Associations projects this shortage could grow to more than 200,000 drivers by 2020. So even if lowered oil prices drive down the fuel costs associated with trucking, rail may continue to be competitive on a relative cost basis.

A sustained period of low oil prices may also require rail operators to consider intermodal gateway changes,

and possible routing realignments to meet these changes. For example, freight destined for New England from Asia may have originally been shipped to an intermodal gateway in the mid-Atlantic. But if reduced oil prices make in-land transportation more economically viable, shippers may elect to use alternative gateways, such as the Gulf of Mexico or the West Coast.

Rail operators must also monitor the impact of oil prices on demand for the shipment of crude oil and oil-related commerce. In particular, the break-even price for shale exploration is estimated at \$70 to \$80 per barrel. Sustained prices below that level could dry up North American drilling and, in turn, sap demand for oil-related transportation. Ultimately, crude oil and oil-related shipments, such as frac sand, represent approximately 5 percent of freight volume today for major U.S. rail carriers, according to the U.S. Department of Transportation. As a result, rail companies should seek to grow through other freight segments, with a focus on those that are positively correlated with oil price declines. For example, given that automotive gas price declines lead to more discretionary spending, rail operators should look to take advantage of a rise in transport of consumer products.

Secondary Impacts: LNG

All modes of transportation are being hit with greater emissions regulations, especially involving nitrogen and sulfur oxides (NO_x and SO_x) and particulates. Transportation companies had been considering liquefied natural gas (LNG) as an alternative to after-treatment technologies with diesel. Until recently, conventional wisdom held that LNG offered both lower particulate levels and (more importantly) lower fuel prices. Based on that thinking, most major railroads and many of the trucking OEMs have developed pilot LNG fuel programs. These programs looked very logical when oil was well over \$70 per barrel, but are less attractive as oil prices drop. Transportation companies will need to balance investment in LNG programs if oil prices stay low for the long term. strategic decisions the company makes. strategic decisions the company makes.

Passenger rail operators must also consider the impact of reduced oil prices for both short-haul commuter trips and longer-range interstate travel. Specifically, as oil prices fall, the relative cost of driving falls, which can lead passengers to shift from public transit private vehicles—a mode of transport that is typically quicker and more convenient. This would impact the income of municipal and state authorities, which rely on ticket sales to fund ongoing operations. These public operators, in turn, would need to increase per-passenger subsidies, boost ticket fares, or identify alternative revenue sources to offset the drop in ridership. A study from the American Public Transportation Association conducted in 2011–12 estimated that gasoline prices of \$4 per gallon would lead to 670 million additional public transit trips per year, and a price of \$5 per gallon would push this figure to 1.5 billion. With the fall in oil prices, we may observe a reverse trend, as individuals head back onto the roads. However, frustration with congested highways and sensitivity to environmental concerns may create some stickiness among travelers who made the switch into passenger rail only a few years back, when crude oil sat above \$100 per barrel.

Trucking

Falling oil prices have the potential to benefit trucking companies significantly in both the short and long term. Tractor-trailers generally run at five to seven miles per gallon. Assuming an oil price of \$60 to \$80 per barrel, the line-haul cost per container mile is \$1.82 for trucks versus \$0.37 for rail, according to the U.S. Department of Transportation. Lower oil prices, however, will narrow that relative price gap.

In the short term, operators stand to gain higher

margins while passing some of the savings on to customers. For example, National Delivery Systems levies a fuel surcharge on customers that is updated weekly to reflect changes in the national average fuel index. In addition, as noted, reduced fuel costs allow trucking to be more competitive compared with rail. As a result, trucking companies should look to recapture customers they may have previously lost when oil prices were higher. That's already happening. In fact, according to the Journal of Commerce, a set of U.S. shippers surveyed during the third quarter of 2014 decided to shift freight from intermodal trains to trucks, rather than the reverse, for the first time in five years. Some of the shift was due to rail congestion caused by surging traffic in 2014, but lower diesel prices accelerated the shift, especially among the more frustrated shippers. Trucking companies should seek to further exploit this trend by highlighting the stronger speed/cost trade-off available to customers today.

Lower fuel costs also allow trucking companies to streamline operations around demand, rather than fuel savings. In particular, these companies can adjust their networks and routes to better serve their customers on the basis of speed and convenience. Finally, lower fuel costs could also allow trucking companies to keep older, less fuel efficient vehicles on the road longer (assuming they are compliant with emissions standards—see “Secondary Impacts: LNG”).

Ocean Shipping

As is the case with all other modes of transport, fuel is a major operating expense for ship operators. So in the short term, ocean shipping companies stand to benefit from lower operating costs and higher margins. In the longer term, lower fuel prices may also expand the number and variety of fleet vessels. Typically, greater fuel burn per pound of cargo is associated with older, faster, and smaller vessels. When oil spiked in 2008, MTS Logistics reported a significant focus on reducing fuel costs through the deployment of newer, more efficient ships; reduction of travel speeds (slow steaming); and consolidation into larger vessels to amortize fuel costs across more shipment units.

Assuming lower oil prices are sustained in the long term, operators can profitably differentiate their services by moving back in the other direction. First, shipping companies can redeploy smaller vessels on specialized routes that previously did not have sufficient demand to justify operation. In addition, companies can seek cost savings by postponing the purchase of new ships and substituting older, less fuel-efficient vessels. Reduced fuel costs also create opportunity for investment in passenger traffic. Operators of ferries and cruise lines would have lower costs associated with the “dead weight” of moving empty fleets globally in order to chase seasonal demand.

The moves in the oil market have been swift, massive, and precipitous. In the short term, the fall in oil prices will translate into higher margins for transportation operators and some pass-through savings to customers. But there remains great uncertainty about the sustainability of these prices. To be sure, a commitment by Saudi Arabia to maintain current production levels,

even at a price of \$20 per barrel, could usher in an extended era of lower oil prices. This would open up a variety of longer-term strategic opportunities for transportation companies. But it's also easy to imagine a scenario (or series of scenarios) in which oil prices rise. U.S. shale production, which has been one driving factor behind the falling price of oil, has an average break-even price of \$70 to \$80 per barrel; sustained prices below this level could cause production to dry up, leading to an eventual “re-rise” in oil prices. In the era of high oil prices, prudent companies hedged their exposure and sought efficiencies. In the era of low prices, prudent companies are hedging by embracing the new price levels with caution rather than abandon. +

strategy+business magazine
is published by PwC Strategy& Inc.
To subscribe, visit strategy-business.com
or call 1-855-869-4862.

For more information about Strategy&,
visit strategyand.pwc.com

- strategy-business.com
 - facebook.com/strategybusiness
 - twitter.com/stratandbiz
- 101 Park Ave., 18th Floor, New York, NY 10178



strategy&
Formerly Booz & Company

Articles published in *strategy+business* do not necessarily represent the views of PwC Strategy& Inc. or any other member firm of the PwC network. Reviews and mentions of publications, products, or services do not constitute endorsement or recommendation for purchase.

© 2015 PwC. All rights reserved. PwC refers to the PwC network and/or one or more of its member firms, each of which is a separate legal entity. Please see www.pwc.com/structure for further details.