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Energy

Crude Export Ban – Impact on Gasoline Prices?

INDUSTRY UPDATE

Americas Integrated Oil
POSITIVE
Unchanged

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POSITIVE
Unchanged

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Given the increasing focus on the U.S. crude export ban and widespread discussion about potential changes to current legislation, we believe it will be helpful to consider the perspectives policymakers may have and the type of data they will evaluate. We believe that policymakers will be cautious to amend or adopt a full repeal of the U.S. crude export ban unless they see a clear benefit to American consumers. Arguments led by oil producers themselves are unlikely to provide enough incentives and political cover for policymakers unless these arguments can clearly demonstrate an incremental benefit to consumers (potentially in the form of employment or product pricing), in our opinion. Organizations and government committees are currently conducting studies to evaluate the economic benefits of U.S. tight oil production. As these studies take place, we highlight one set of data that suggests the U.S. consumer is currently benefitting from discounted crudes in the form of cheaper gasoline prices. We believe this data will likely be evaluated carefully before a decision is made regarding an amendment or full repeal of the U.S. crude export ban.

Domestic crude discounts have been partially passed through to the consumer in the form of product pricing: During 2008-2010, U.S. Gulf Coast 87 unleaded averaged $3.05/bl higher than the Northwest European premium unleaded price. In comparison, during 2011-2013, U.S. gasoline priced largely in line with Northwest Europe gasoline, which implied a benefit of more than $3.00/bl to the U.S. consumer. The relationship is consistent in other regions with a similar relative pump price reduction of more than $3.00/bl in Chicago, Denver and Group 3.

The annual economic benefit of crude discounts to U.S. consumers is potentially greater than $9.6 billion: We believe a benefit of >$3.00/bl of lower gasoline prices is material for a large percentage of the U.S. consumers. We estimate U.S. gasoline consumption at 8.73 million barrels/day (mmb/d) in 2013 and 8.79 mmb/d in 2014, which translates to annual savings of more than $9.5 billion last year and $9.6 billion this year. We also think that the ultimate benefit to the U.S. economy is greater than $9.6 billion due to the multiplier effect.

Due to the strong industrial activity the U.S. has experienced, we believe diesel prices would likely be higher if refiners were not using discounted crudes: The differential between Northwest Europe diesel prices and domestic regional diesel prices shows that domestic diesel prices have become slightly more expensive relative to Northwest Europe diesel prices. However, we believe the differential would be greater and that domestic diesel prices would be significantly higher if refiners were not running discounted crudes.

Crude Export Ban Considerations

Policymaker Perspectives

Given the increasing focus on the U.S. crude export ban and widespread discussion about potential changes to current legislation, we believe it will be helpful to consider the perspectives policymakers may have and the type of data they will evaluate. We believe that policymakers will be cautious to amend or adopt a full repeal of the U.S. crude export ban unless there is a clear benefit to American consumers. Arguments led by oil producers themselves are unlikely to provide enough incentives and political cover for policymakers unless these arguments can clearly demonstrate an incremental benefit to consumers (potentially in the form of employment or product pricing), in our opinion. Organizations and government committees are currently conducting studies to evaluate the economic benefits of U.S. tight oil production. As these studies take place, we highlight one set of data that suggests the U.S. consumer is currently benefitting from discounted crudes in the form of cheaper gasoline prices. We believe this data will likely be evaluated carefully before a decision is made regarding an amendment or full repeal of the U.S. crude export ban.

Product Pricing

Figures 1 and 2 show the historical relative prices of diesel and gasoline in different regions versus the U.S. Gulf Coast and Northwest Europe, respectively. We use Northwest Europe product pricing as a proxy of the international market price. Broadly speaking, the annual averages of the differential between the Northwest Europe and the domestic regional gasoline prices show that the U.S. relative prices have deteriorated since 2011 as North American crude differentials have begun to widen. In Figure 2, the data shows that crude discounts have been partially passed through to the consumer. During 2008-2010, U.S. Gulf Coast 87 unleaded averaged $3.05/bl higher than the Northwest European premium unleaded price. In comparison, during 2011-2013, U.S. gasoline priced largely in line with Northwest Europe, which implied a benefit of more than $3.00/bl to the U.S. consumer. There have been similar trends between Northwest European versus other domestic regional gasoline prices. In 2008-2010, Chicago averaged $3.43/bl more than the Rotterdam market compared to only a premium of $0.03/bl since 2011. The relationship is consistent in other regions with a similar relative pump price reduction of more than $3.00/bl in Denver and Group 3. The benefit of discounted crudes to refiners has been highly tracked, but this data also reveals that crude discounts appear to have at least partially passed through to the consumers.

We believe a benefit of >$3.00/bl of lower gasoline prices is material for a large percentage of the U.S. consumers. We estimate that U.S. gasoline consumption was 8.73 million barrels/day (mmb/d) in 2013 and 8.79 mmb/d in 2014, which translates to annual savings of more than $9.5 billion last year and $9.6 billion this year. We also think that the ultimate benefit to the U.S. economy is greater than $9.6 billion due to the multiplier effect. To put things into another perspective, we estimate a medium U.S. family consumes approximately 1,000-1,200 gallons per year of gasoline. This implies average savings of $71-$86/year from discounted crudes. For families on the bottom half of the income spectrum, the savings can be significant since discretionary spending is often a rather small portion of their income.

U.S. consumers primarily purchase gasoline, but the trends in diesel are also noteworthy. On the surface, the benefit evident in the price of gasoline seems less obvious in the price of diesel. In 2008-2010, the average price of Northwest Europe diesel was $1.81/bl cheaper compared to the average Group 3 diesel price during the same time period. In 2011-2013, the average of Northwest Europe diesel was $2.06/bl cheaper compared to the average Group 3 diesel price during the same time period. The average differential between

Northwest Europe diesel and Chicago diesel showed the biggest swing between 2008-2010 and 2011-2013, a negative swing impact of $1.21/bl to the diesel consumers in the U.S. relative to international consumers. However, the presence of a small negative swing can likely be attributed to the strength of industrial production in the U.S. It is our opinion that if refiners were not producing diesel at maximum utilization rates with discounted crudes, actual domestic diesel prices would likely be much higher due to the industrial demand seen today.

Outlook for Policy Changes

While we believe that changes to the current export ban law will eventually take place, we do not think changes will take place prior to 2016. We think that policymakers in both the Administration and Congress will carefully consider the pro and con arguments, particularly the potential impact on consumers, before a final decision will be made. It is also important to note that U.S. Lower 48 light oil imports still averaged close to 2 million b/d as of October 2013. In other words, recent wide differentials between Brent and LLS remain largely a logistic issue. In our opinion, U.S. light oil production will not overwhelm the country's light oil processing capacity until 2016/2017 which we believe will also be an important factor to be considered by policymakers.

FIGURE 1

Product Differentials Versus Gulf Coast Prices

	Diesel vs Gulf Coast			Gasoline vs Gulf Coast			
Qtr	Chicago	Denver	Group 3	Chicago	Denver	Group 3	LLS-WTI Cushing
1Q2008	($1.80)	$4.07	$1.07	($3.34)	$1.37	$0.25	$2.73
2Q2008	($1.91)	$3.20	$0.69	($0.34)	$1.69	($0.55)	$3.44
3Q2008	$0.76	$13.30	$3.31	$0.73	$5.62	($4.53)	$3.19
4Q2008	$1.59	$9.79	$4.54	$2.70	$7.68	$1.95	$1.60
1Q2009	($2.24)	$2.01	$0.02	$0.29	$1.15	$0.08	$4.50
2Q2009	($1.42)	$5.00	$1.02	$2.19	$4.85	($0.18)	$1.69
3Q2009	($1.05)	$4.51	$2.11	$1.14	$3.45	($0.10)	$2.28
4Q2009	($1.61)	$4.37	$1.10	$0.10	$3.41	$0.65	$1.74
1Q2010	($1.94)	$4.16	($0.34)	($1.78)	$0.93	($0.67)	$1.21
2Q2010	$1.04	$7.42	$2.65	$0.28	$2.10	($0.22)	$4.23
3Q2010	$2.52	$10.82	$3.66	$2.04	$7.30	$1.80	$3.52
4Q2010	$1.97	$7.73	$2.66	$0.47	$0.27	$0.16	$4.18
1Q2011	($0.61)	$6.08	$1.60	($2.09)	$0.98	$0.75	$12.89
2Q2011	$4.55	$7.97	$4.12	$2.47	$0.24	$0.22	$16.00
3Q2011	$2.06	$8.16	$3.46	$0.90	$5.56	$1.09	$23.03
4Q2011	$0.23	$8.47	$2.36	($1.57)	$4.55	($0.42)	$17.50
1Q2012	($6.99)	$0.34	($1.32)	($5.47)	($11.16)	($5.16)	$16.19
2Q2012	$1.59	$8.84	$3.91	($0.29)	$13.32	($1.52)	$15.75
3Q2012	$1.82	$10.76	$3.61	$3.04	$4.21	$1.90	$16.87
4Q2012	$3.48	$11.01	$3.38	($0.64)	$6.58	($0.92)	$21.12
1Q2013	$0.10	$4.01	$0.70	($2.90)	($5.95)	($2.52)	$20.00
2Q2013	$8.35	$9.88	$4.91	$8.45	$11.09	$3.25	$10.74
3Q2013	$2.33	$8.75	$4.31	$0.53	$5.54	$1.00	$3.99
4Q2013	$0.41	$7.48	$1.35	($1.32)	$5.48	($4.57)	$3.61
2008-2010 Average							
1Q	($1.99)	$3.41	$0.25	($1.61)	$1.15	($0.11)	$2.81
2Q	($0.76)	$5.21	$1.46	$0.71	$2.88	($0.31)	$3.12
3Q	$0.74	$9.55	$3.03	$1.31	$5.46	($0.94)	$3.00
4Q	$0.65	$7.30	$2.77	$1.09	$3.79	$0.92	$2.51
2011-2013 Average							
1Q	($2.50)	$3.47	$0.33	($3.49)	($5.38)	($2.31)	$16.36
2Q	$4.83	$8.90	$4.31	$3.54	$8.22	$0.65	$14.16
3Q	$2.07	$9.22	$3.79	$1.49	$5.10	$1.33	$14.63
4Q	$1.38	$8.98	$2.37	($1.18)	$5.53	($1.97)	$14.08
Annual Average							
2008	($0.34)	$7.59	$2.40	($0.06)	$4.09	($0.72)	$2.74
2009	($1.58)	$3.97	$1.06	$0.93	$3.21	$0.11	$2.55
2010	$0.89	$7.53	$2.16	$0.25	$2.65	$0.27	$3.28
2011	$1.56	$7.67	$2.88	($0.07)	$2.83	$0.41	$17.35
2012	($0.02)	$7.74	$2.40	($0.84)	$3.24	($1.43)	$17.49
2013	$2.80	$7.53	$2.82	$1.19	$4.04	($0.71)	$9.58
'08-'10	($0.34)	$6.37	$1.87	$0.37	$3.32	($0.11)	$2.86
'11-'13	$1.44	$7.64	$2.70	$0.09	$3.37	($0.58)	$14.81

Source: Platts, Bloomberg, Barclays Research

FIGURE 2

Europe Product Differentials Versus U.S. Regional Prices

	NW Europe Diesel				NW Europe Gasoline					
Qtr	Gulf Coast	Chicago	Denver	Group 3	Gulf Coast	Chicago	Denver	Group 3	Brent-LLS	Brent-WTI Cushing
1Q2008	($1.40)	$0.40	($5.47)	($2.47)	($4.11)	($0.77)	($5.48)	($4.37)	($3.59)	($0.86)
2Q2008	$0.45	$2.36	($2.75)	($0.25)	($7.14)	($6.80)	($8.83)	($6.59)	($6.17)	($2.73)
3Q2008	$0.78	$0.02	($12.53)	($2.54)	($14.13)	($14.86)	($19.75)	($9.60)	($6.10)	($2.90)
4Q2008	$0.00	($1.59)	($9.79)	($4.53)	($0.72)	($3.42)	($8.40)	($2.67)	($4.79)	($3.18)
1Q2009	($0.41)	$1.83	($2.42)	($0.43)	($4.27)	($4.56)	($5.42)	($4.35)	($3.80)	$0.69
2Q2009	$0.33	$1.75	($4.67)	($0.69)	($1.30)	($3.49)	($6.15)	($1.12)	($2.42)	($0.73)
3Q2009	$0.24	$1.29	($4.28)	($1.87)	($0.32)	($1.46)	($3.77)	($0.22)	($2.04)	$0.24
4Q2009	($1.00)	$0.60	($5.37)	($2.10)	($0.92)	($1.02)	($4.33)	($1.56)	($3.07)	($1.34)
1Q2010	($1.59)	$0.35	($5.75)	($1.25)	($0.84)	$0.94	($1.77)	($0.16)	($3.35)	($2.14)
2Q2010	$1.35	$0.31	($6.07)	($1.30)	($1.95)	($2.23)	($4.05)	($1.74)	($3.84)	$0.39
3Q2010	$1.50	($1.02)	($9.32)	($2.16)	($2.09)	($4.13)	($9.39)	($3.90)	($3.00)	$0.52
4Q2010	$0.51	($1.46)	($7.22)	($2.15)	$1.15	$0.68	$0.87	$0.99	($2.86)	$1.33
1Q2011	($0.18)	$0.43	($6.26)	($1.78)	($1.66)	$0.43	($2.64)	($2.41)	($2.61)	$10.29
2Q2011	$1.39	($3.16)	($6.59)	($2.73)	($3.81)	($6.28)	($4.06)	($4.04)	($1.39)	$14.60
3Q2011	$1.33	($0.73)	($6.83)	($2.12)	($0.04)	($0.94)	($5.60)	($1.13)	$0.70	$23.73
4Q2011	$3.16	$2.93	($5.31)	$0.79	$0.14	$1.72	($4.40)	$0.57	($1.49)	$16.00
1Q2012	$0.81	$7.79	$0.47	$2.13	($1.50)	$3.97	$9.66	$3.66	($1.45)	$14.75
2Q2012	$3.90	$2.30	($4.95)	($0.02)	($1.34)	($1.06)	($14.66)	$0.18	($0.09)	$15.66
3Q2012	($1.46)	($3.29)	($12.22)	($5.07)	$1.22	($1.82)	($2.99)	($0.68)	$0.18	$17.05
4Q2012	$0.14	($3.34)	($10.87)	($3.24)	$5.70	$6.34	($0.88)	$6.62	$0.26	$21.38
1Q2013	($1.45)	($1.55)	($5.45)	($2.15)	$1.03	$3.94	$6.98	$3.56	($1.25)	$18.75
2Q2013	($2.19)	($10.54)	($12.07)	($7.10)	($3.84)	($12.29)	($14.93)	($7.09)	($2.21)	$8.52
3Q2013	($0.13)	($2.46)	($8.88)	($4.44)	($0.80)	($1.33)	($6.34)	($1.80)	$0.39	$4.38
4Q2013	$2.35	$1.94	($5.12)	$1.00	$5.60	$6.92	$0.13	$10.18	$8.26	$11.87
2008-2010 Average										
1Q	($1.14)	$0.86	($4.55)	($1.39)	($3.07)	($1.47)	($4.22)	($2.96)	($3.58)	($0.77)
2Q	$0.71	$1.47	($4.50)	($0.75)	($3.46)	($4.17)	($6.34)	($3.15)	($4.14)	($1.02)
3Q	$0.84	$0.09	($8.71)	($2.19)	($5.51)	($6.82)	($10.97)	($4.57)	($3.71)	($0.71)
4Q	($0.16)	($0.81)	($7.46)	($2.93)	($0.16)	($1.26)	($3.95)	($1.08)	($3.57)	($1.06)
2011-2013 Average										
1Q	($0.27)	$2.23	($3.75)	($0.60)	($0.71)	$2.78	$4.67	$1.60	($1.77)	$14.59
2Q	$1.03	($3.80)	($7.87)	($3.28)	($3.00)	($6.54)	($11.22)	($3.65)	($1.23)	$12.93
3Q	($0.09)	($2.16)	($9.31)	($3.88)	$0.12	($1.36)	($4.98)	($1.21)	$0.42	$15.05
4Q	$1.88	$0.51	($7.10)	($0.48)	$3.82	$4.99	($1.72)	$5.79	$2.34	$16.42
Annual Average										
2008	($0.04)	$0.30	($7.64)	($2.45)	($6.52)	($6.46)	($10.61)	($5.81)	($5.16)	($2.42)
2009	($0.21)	$1.37	($4.18)	($1.27)	($1.70)	($2.63)	($4.92)	($1.82)	($2.83)	($0.28)
2010	$0.44	($0.45)	($7.09)	($1.72)	($0.93)	($1.19)	($3.58)	($1.20)	($3.26)	$0.02
2011	$1.42	($0.13)	($6.25)	($1.46)	($1.34)	($1.27)	($4.17)	($1.75)	($1.20)	$16.15
2012	$0.84	$0.87	($6.89)	($1.55)	$1.02	$1.86	($2.22)	$2.45	($0.28)	$17.21
2013	($0.35)	($3.15)	($7.88)	($3.17)	$0.50	($0.69)	($3.54)	$1.21	$1.30	$10.88
'08-'10	$0.06	$0.40	($6.30)	($1.81)	($3.05)	($3.43)	($6.37)	($2.94)	($3.75)	($0.89)
'11-'13	$0.64	($0.81)	($7.01)	($2.06)	$0.06	($0.03)	($3.31)	$0.64	($0.06)	$14.75

Source: Platts, Bloomberg, Barclays Research

FIGURE 3

Total Light Imports by Region (31 and Above API) (mb/d)

	Gulf Coast	East Coast	West Coast	Mid-Continent	Alaska & Hawaii	Total	Brent-LLS
2009	1,907	844	359	523	71	3,704	($2.83)
2010	2,119	913	443	529	99	4,104	($3.28)
2011	1,786	825	468	593	101	3,773	($1.14)
1Q 2012	1,452	634	414	606	86	3,191	($1.49)
2Q 2012	1,562	656	551	513	99	3,382	($0.13)
3Q 2012	1,497	607	567	554	99	3,324	$0.28
4Q 2012	1,147	615	358	515	105	2,741	$0.36
Full YeBL 2012	**1,414**	**628**	**473**	**547**	**97**	**3,159**	**($0.24)**
Jan-13	813	745	260	587	94	2,499	$0.08
Feb-13	915	536	259	524	96	2,330	($0.22)
Mar-13	719	558	359	575	60	2,271	($3.80)
1Q 2013	**812**	**616**	**294**	**563**	**83**	**2,368**	**($1.51)**
Apr-13	840	647	353	463	56	2,359	($2.48)
May-13	831	679	463	380	15	2,368	($2.15)
Jun-13	793	681	488	405	51	2,418	($1.42)
2Q 2013	**821**	**669**	**435**	**416**	**40**	**2,381**	**($2.03)**
Jul-13	955	620	453	561	45	2,634	($2.57)
Aug-13	839	659	486	516	52	2,551	$0.10
Sep-13	788	702	498	558	71	2,617	$3.71
3Q 2013	**861**	**660**	**479**	**545**	**56**	**2,600**	**$0.39**
Oct-13	748	332	421	453	129	2,083	$5.74
Oct '13 vs. Oct '12	(488)	(311)	(49)	(74)	(7)	(928)	$4.21
Oct '13 vs. Dec '12	(220)	(231)	184	(72)	41	(298)	$6.23

Source: EIA, Barclays Research

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Imperial Oil Ltd. (IMO.TO)	Murphy Oil (MUR)	Petroleo Brasileiro S.A. (PBR)
Petroleo Brasileiro S.A. (PBRA)	Suncor Energy (SU.TO)	
U.S. Independent Refiners		
Alon USA Energy (ALJ)	Delek US Holdings Inc. (DK)	HollyFrontier Corp. (HFC)
Marathon Petroleum Corp. (MPC)	Phillips 66 (PSX)	Tesoro Corporation (TSO)
Valero Energy (VLO)	Western Refining, Inc. (WNR)	

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