



Nigerian Sanctions: Oil Market Notes

You may find the attached memorandum, *Nigerian Sanctions: Oil Market Notes*, of interest.

If you have any questions on this or other issues, please do not hesitate to call.

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Nigerian Sanctions: Oil Market Notes

Oil-related sanctions against Nigeria to protest that government's recent and much-criticized execution of nine men for murder are still under debate in the US and internationally, pushed by a variety of interest groups. If imposed on an international scale, sanctions would push oil prices sharply higher, with a particularly severe impact globally on heating oil and diesel fuel because of the uniquely high distillate yield of Nigerian crudes. That impact would be additionally magnified for the US Northeast, because of the high dependency of area refineries on Nigerian supply.

Nigeria's high quality oil supplies Europe and North America. Nigeria produces approximately 1.9 million B/D of low sulfur, high gravity crude oil. Most of Nigeria's exports (approaching 90%) go to OECD nations. The most important customer, by far, is the United States, which took nearly half of the Nigerian crude oil imported into OECD countries (including more than 100,000 B/D destined for US territories). Europe, cumulatively, approximately matches the importance of the US in the Nigerian total, but no single country exceeds 11%. Spain is particularly dependent on Nigerian imports; the largest of three major crude oil sources, Nigeria accounts for 15% of Spain's crude oil supply.

Imports of Nigerian Crude Oil into OECD Countries, 1994

	000B/D	%
North America:	818	53
US & Territories	745	48
OECD Europe:	728	47
France	154	10
Germany	140	9
Spain	168	11
Japan/Other OECD	5	0
Total OECD	1552	100

Source: OECD

An international embargo will result in price spikes even if (big "if") volumes are replaced. In the event of an *international* interdiction against the sale of Nigerian oil, global markets will react instantaneously at all levels as they search for incremental volumes and re-distribute existing supplies. While leakage of embargoed oil to neighboring countries may be somewhat higher than the level observed during the ongoing UN embargo against Iraq, markets will still lose more than 1.5 million B/D. Worldwide, spare productive capacity is currently about 3.5 million B/D, two-thirds of it in Saudi Arabia. Whether this incremental capacity would be made available is a significant uncertainty. Even if it were, however, the incremental crude would not match the quality of Nigerian crudes, with their high yields of light products in general, and particularly high yield of gasoil (see Figure 1).

Thus, prices for all crudes would spike, with the high quality (light, low sulfur) crude oils leading the upward move. Product prices in the regions that refine and consume light products such as gasoline, distillate, and diesel -- that is, Europe and the US -- will outpace crude oil. As happened during Operation Desert Shield, the use of heavier, higher sulfur replacement crude oil

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(if available) would require higher runs to meet light product demand, and result in additional, unwanted, volumes of heavy fuel oil.

Uncertainty over the availability of incremental supplies will encourage inventory holding, the phenomenon that unbalanced markets in the 1979 price run-up following the Iranian revolution.

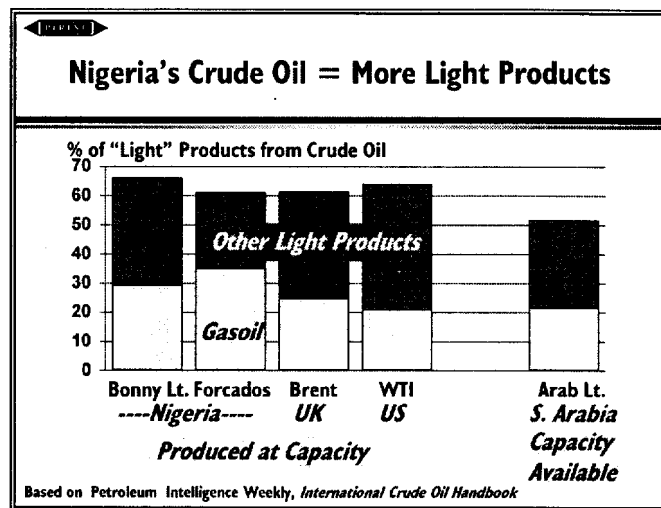
Even the US acting alone could disturb markets for heating oil. The impact in the event of a US-imposed *unilateral* embargo would be a market hiccup in contrast to the storm described above. Even so, if it were to be imposed during the heating season, the resulting imbalance would be felt sharply in US heating oil markets dependent on smooth refinery supplies.

In the event of a unilateral embargo, there would be no net decline in worldwide crude oil supplies. However, even the near-substitutes for Nigerian crudes, such as re-directed supplies from the North Sea, would have a lower distillate yield (again, Figure 1). Thus, markets could be expected to feel the realignment as refiners rebalance the barrel: higher runs to produce additional Winter supplies of middle distillates will increase the draw on crude oil markets (upward price pressure on crude oil) and increase output of gasoline as a co-product (downward price pressure on gasoline). Sharply higher distillate prices would be the expected re-balancing mechanism.

The US Northeast will be uniquely affected. As noted, the US is Nigeria's most important customer, importing more than 600,000 B/D. An additional 130,000 B/D goes to the US Virgin Islands.

BP and Sun, the largest importers of Nigerian crude oils to the US, account for 50% of the total. All of the Sun volumes and 70% of the BP volumes come to East Coast (Philadelphia area) refineries. Other Northeastern refiners also import Nigerian crude oil. Altogether, Nigeria accounts for 20% of East Coast crude oil imports, and about 18% of East Coast crude oil refinery runs. The Nigerian volumes account for 30% of the crude oil imports into the Virgin Islands, an important supplier of petroleum products to Northeastern US markets.

Figure 1



	000B/D
BP Oil Supply Co.	172
Sun Company	134
Phillips 66 Company	61
Shell Oil Company	52
Amoco Oil Company	37
Koch Industries	37
Coastal Corp.	26
Mobil Oil Corp.	24
Other (12 co.'s)	68
Total US	611
Hess Oil Virgin Islands	128
Total US/Territories	747

Source: US Dept. of Energy/
American Petroleum Institute

In recent years, the trend in distillate markets has been toward greater dependence on supplies from area refineries and lower dependence on imported product. Over the 1990-94 period, furthermore, East Coast refiners carried relatively higher inventories while downstream storage ran at lower levels; refiners accounted for 20% of peak seasonal stocks in 1990 and 30 % in 1994. In 1995, lower inventories reflect the new refiner patterns. At the end of September 1995 (the latest monthly data available at this writing), stocks of distillate fuel oil on the East Coast were 11 million barrels lower than year-ago levels and declines in stocks at bulk terminals accounted for 87% of the drop. For high sulfur distillate, refinery stocks were almost unchanged, while 95% of the 8 million barrel stock decrease occurred at the bulk terminal level. The system, therefore, has become highly dependent on smooth output from the refinery gate. As a consequence, any disturbance in refinery operations or output will be quickly and strongly felt in product prices.

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