

Research Department
Federal Reserve
Bank of
San Francisco

March 9, 1979

Oil Shortage?

Because of the rapidity of the change-over, Americans undoubtedly are confused about what Iran's political upheaval means for U.S. and world oil supplies. Their confusion has been aggravated by the seemingly contradictory statements made by various public and private figures with regard to the magnitude of the shortages that could confront the United States and other oil importing nations as a result of the loss of Iranian supplies.

Energy Secretary Schlesinger has presented a rather gloomy assessment of the potential impact, stressing that a prolonged Iranian oil-export cutoff could result in shortages "prospectively more serious than the 1973-74 Arab embargo." Other officials, in contrast, have tended to downplay the seriousness of the situation, especially now that some Iranian oil is being exported once again. A strong case can be made for either view, depending upon the assumptions made with regard to two very uncertain developments — 1) the volume of Iranian oil production and exports that will be forthcoming during the remainder of this year, and 2) the production responses of the other major oil-exporting nations. The following analysis may help clarify the current supply situation and suggest several alternative scenarios for the future.

Net Iranian losses

Iranian crude-oil production — which had been running at about 6.1 million barrels/day prior to the revolt against the Shah — was brought to a complete halt on December 26 by striking oil workers. Production was restored rather quickly to about 650,000 b/d

and remained at that level until early March. But that amount was barely sufficient to meet domestic requirements, so that the world oil market for the past two months has been denied Iran's normal supply of 5.5 million b/d.

Initially a large share (about 3-4 million b/d) of this total short-fall was offset by increased production from other producers, mainly Saudi Arabia, leaving a worldwide net shortfall of around 2 million b/d. Consequently, the net shortfall resulting from the Iranian cutoff amounted to about 4 percent of total non-Communist world oil requirements. The net loss to the United States amounted to about 500,000 b/d, equivalent to about 2.5 percent of total U.S. oil consumption.

Beginning in early February, the net shortfall widened somewhat, however, when Saudi Arabia imposed a new ceiling of 9.5 million b/d on that nation's monthly oil production for the first quarter of 1979. That "emergency" ceiling is higher than the 8.5 million b/d annual limit initially scheduled for 1979, but it has required a cutback in production from the 10.3 million b/d peak output level reached in January in response to the Iranian cutback. Furthermore, although Iran raised its production to 1.7 million b/d in early March and resumed a minimal amount of exports, the net shortfall throughout the non-Communist world remains at somewhat over 2 million b/d.

International oil companies have offset the net loss in worldwide supplies by reducing their inventories more than normally would have been run off dur-

(continued on page 2)

F R B S F Weekly Letter

Research Department
Federal Reserve
Bank of
San Francisco

Opinions expressed in this newsletter do not necessarily reflect the views of the management of the Federal Reserve Bank of San Francisco, nor of the Board of Governors of the Federal Reserve System.

ing this season of the year. Petroleum inventories throughout the non-Communist world had reached a level of about 3.8 billion barrels at the end of 1978, of which 1.1 billion barrels were held in this country. These worldwide stocks were equivalent to about 70 days of normal consumption levels — a somewhat larger supply than normal because of the hedge buying that had taken place late in 1978 in advance of an expected OPEC oil-price increase.

Because of the higher-than-normal level of stocks at year-end, Secretary Schlesinger initially argued that there was no immediate danger of a significant global oil shortage. But he also emphasized that if the export cutoff continued beyond mid-year, a severe shortage could develop by next winter at the latest. This is because producer inventories normally are replenished during the second and third quarters to meet peak winter demand, and a continuous abnormal drawdown of inventories would reduce stocks to a critically low level later in the year.

Possible scenarios

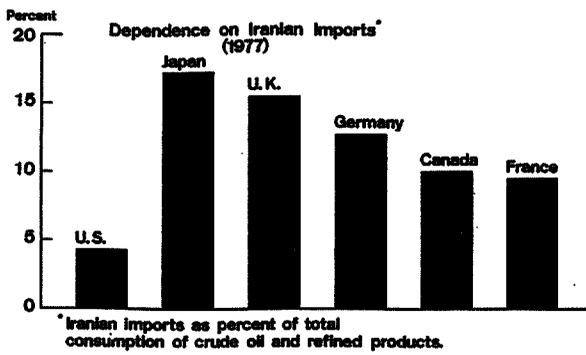
A number of scenarios can be developed with regard to the potential shortfall — i.e., deficit in production — that could develop this year if world consumption were to remain at the levels projected prior to the Iranian crisis. The different outcomes depend upon the alternative volumes of production and exports assumed to be forthcoming from Iran and other OPEC cartel members.

Under the worst-case scenario, 1) Iranian production would continue to just about meet that nation's internal needs, resulting in minimal or zero level of exports; 2) Saudi Arabia would reduce its production to the normal 8.5

million b/d limit after the first quarter; and 3) other OPEC members would trim their output by (say) 1 million b/d. Under the best-case scenario, 1) Iranian oil exports would rise gradually from the current minimal level to at least 4 million b/d by year-end, and 2) other OPEC members would maintain their production at currently expanded levels. The most likely case, as usual, would lie somewhere between these two extremes.

Iranian oil production at best is likely to reach only about 3 million b/d by year end. It is doubtful that production could be raised above that level without the help of foreign technicians, most of whom have fled the country. Indeed, even if technical experts were available, it is doubtful that the new regime — despite its need for foreign exchange — would want to produce flat out at maximum levels. Some government officials are pressing for a ceiling on production of around 3 million b/d to conserve Iranian oil resources. Moreover, the Saudi government already has indicated that it plans to restore its normal 8.5 million b/d production ceiling after the first quarter, and this would offset at least part of any increase in Iranian production. That combination of output levels would leave the worldwide shortfall at a level of around 2 million b/d, requiring reductions in consumption, since inventories cannot continue to make up the deficit indefinitely.

With a prolonged shortfall of that magnitude, the present situation could become more serious than the 1973-74 Arab embargo. At the height of the embargo, non-Communist world oil production dropped by about 3-4 million b/d below the levels reached in the immediate pre-embargo period. The



shortfall amounted to 10 percent of projected world consumption, and the U.S. shortfall was even greater — understandably, since the embargo was directed primarily against the United States. But the 1973-74 Arab embargo lasted only four months, whereas the Iranian curtailment could last indefinitely, making its impact potentially greater. If the shortfall itself were to increase as a result of an exceptionally low level of Iranian exports and a cut in Saudi Arabian production, the Iranian situation undoubtedly could lead to a more serious outcome than the 1973-74 embargo.

Lowering demand

If the worst-case scenario were to occur, consuming nations would adopt mandatory conservation measures to help lower consumption. Higher prices also would serve to reduce consumption below projected levels. Spot prices, which cover perhaps 5 percent of all oil sales, already have risen as much as \$10/barrel above the current \$13.34/barrel official contract price for Saudi light crude. In response to this spot-price increase, Saudi Arabia has added a \$1.20/barrel "premium" for production above its 8.5 million b/d production ceiling, while a number of other OPEC producers have added that surcharge (or more) for all sales. These developments make it likely that the OPEC governments will readjust posted crude-oil prices more than the scheduled 14.5 percent increase by year-end. But in any case, prices realized in the world market will rise far more than the increase originally planned.

Indeed, the Energy Department (in a pessimistic scenario) claims that the official benchmark price for crude oil could reach \$18/barrel by year end, representing a 42-percent increase over

the course of 1979. (Also, the price of unleaded gasoline could reach \$1/gallon by year-end.) Based on that crude price increase, the nation's oil-import bill could reach \$55-60 billion this year, up from \$42 billion in 1978.

The Congressional Budget Office has attempted to estimate the impact on the domestic economy if the current U.S. shortfall of around 500,000 b/d were to continue for a full year. In that event, the growth in real GNP would be reduced by 0.5 percentage point, while the nation's unemployment and inflation rates would rise by an additional 0.2 and 0.4 percentage point, respectively, in 1979. If the shortage were to grow to 1 million b/d, which is still a distinct possibility, the adverse economic impacts would double.

The U.S. and other industrialized nations belonging to the International Energy Agency — an organization designed to cope with energy emergencies — have agreed to voluntarily reduce their oil consumption by 5 percent in order to eliminate the current shortfall. Indeed, government appeals to the public for voluntary conservation already have been made, both here and abroad. But the Carter Administration also has submitted a set of mandatory conservation measures to Congress for use if necessary. These would focus on reductions in discretionary forms of consumption such as heating, cooling, lighting and transportation. Included would be a measure for compulsory weekend closing of gasoline stations and, as a last resort, gasoline rationing. The objective is to reduce consumption in those uses which will have the least adverse effect on industrial production and employment.

Yvonne Levy

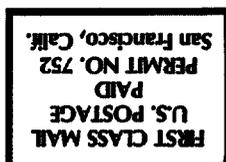
Alaska • Nevada • Oregon • Utah • Washington
 Idaho • California • Hawaii

San Francisco

Bank of

Federal Reserve

Research Department



BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 2/21/79	Change from 2/14/79	Change from year ago @	
			Dollar	Percent
Loans (gross, adjusted) and investments*	121,294	881	NA	NA
Loans (gross, adjusted) — total#	99,191	771		
Commercial and industrial	28,897	70		
Real estate	35,238	71		
Loans to individuals	20,317	72		
Securities loans	2,001	336		
U.S. Treasury securities*	7,623	25		
Other securities*	14,480	85		
Demand deposits — total#	41,110	1,295		
Demand deposits — adjusted	28,310	1,529		
Savings deposits — total	29,685	42		
Time deposits — total#	50,911	12		
Individuals, part. & corp.	41,353	25		
(Large negotiable CD's)	18,873	26		
Weekly Averages of Daily Figures	Week ended 2/21/79	Week ended 2/14/79	Comparable year-ago period	
Member Bank Reserve Position				
Excess Reserves (+)/Deficiency (-)	12	23		42
Borrowings	75	64		22
Net free reserves (+)/Net borrowed(-)	87	41		20
Federal Funds — Seven Large Banks				
Net interbank transactions	2,129	637		1,535
[Purchases (+)/Sales (-)]				
Net, U.S. Securities dealer transactions	572	432		285
[Loans (+)/Borrowings (-)]				

* Excludes trading account securities.

Includes items not shown separately.

@ Historical data are not strictly comparable due to changes in the reporting panel; however, adjustments have been applied to 1978 data to remove as much as possible the effects of the changes in coverage. In addition, for some items, historical data are not available due to definitional changes.

Editorial comments may be addressed to the editor (William Burke) or to the author

Free copies of this and other Federal Reserve publications can be obtained by calling or writing the Public Information Section, Federal Reserve Bank of San Francisco, P.O. Box 7702, San Francisco 94120. Phone (415) 544-2184.