



OFFICE OF
ASSISTANT SECRETARY
FOR INTERNATIONAL AFFAIRS

DEPARTMENT OF THE TREASURY
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MEMORANDUM FOR MAURICE ERNST
NATIONAL INTELLIGENCE OFFICER FOR ECONOMICS
CENTRAL INTELLIGENCE AGENCY

FROM: Ernest F. Chase *EFC*

SUBJECT: Notes on Economic Dimensions of the Oil Market
Outlook

The attached notes and accompanying tables may be of use in your preparation of the SNIE on the World Oil Market Outlook. The terms of trade work-up is drawn largely from the Bureau of Labor Statistics' January 16, 1984 series on alternative measures of industrial countries' export prices to OPEC. Although less comprehensive, perhaps our measures of "real" interest rates to OPEC and national currency oil import prices will also be of interest. Both draw upon the IMF's International Financial Statistics.

Reference: SNIE 3-2-84

Attachment: Economic Indicators for OPEC

ECONOMIC INDICATORS FOR OPEC

OPEC Terms of Trade

Dollar appreciation and slower inflation have cushioned the decline in OPEC's terms of trade. From the first quarter of 1981 to the second quarter of 1983, the index of export prices/unit values of OPEC's 14 largest import sources declined by 9 percent (taking dollar appreciation into account; Bureau of Labor Statistics data). As a result, related to the decline in oil export prices, OPEC's trading terms declined on average by only about 11 percent, compared to a decline of nearly 25 percent for OPEC-U.S. trade alone. (See Table 1, attached.)

OPEC's "Real" Interest Rates

In addition, high "real" or inflation-adjusted interest rates served to offset cuts in oil prices, particularly for the OPEC's large net creditor members. For example, since early-1981 when oil prices peaked, U.S. Treasury bill rates have declined from 14-15 to around 9 percent, or by 5-6 percentage points. However, in the same time frame, the annual rate of increase in U.S. export prices to OPEC countries has declined from about 11 to 1-2 percent, or by 9-10 percentage points. Hence, "real" U.S. interest rates to OPEC have increased substantially -- averaging nearly 7 percent during 1983 and exceeding 9 percent in some quarters. (See Table 2)

Import Prices and Exchange Rates

On the other hand, since the beginning of 1981 dollar appreciation has resulted in an average 5 percent increase in national currency oil import prices for the four largest oil importing countries overseas. In particular, the French Franc and Italian Lira price per barrel of oil have increased by 28 and 35 percent. (See Table 3)

Drafted by: K. Taecker - Treasury/ICE
Reviewed by: E. Chase - Treasury/ICE
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TABLE 1

Effects of Export Price and Exchange Rate Changes on OPEC Terms of Trade

	Average OPEC Price		*Dollar-basis Export Price Indices (QII'77=100)*					**** OPEC Terms of Trade ****			
	(end-period)		3-Country 14-Country					-- OPEC/U.S. --	-- OPEC/14-Ctry --		
	(\$/bbl)	(index)	U.S.	Germany	Japan	Average	Average	(ratio)	(index)	(ratio)	(index)
								QI'81=100	QI'81=100		
1977 QII	\$12.76	100.0	100.0	100.0	100.0	100.0	100.0	1.00		1.00	
1978 QII	\$12.94	101.4	106.8	114.5	118.5	113.1	112.5	0.95	48.1	0.90	47.8
1979 QI	\$14.07	110.3	112.6	131.3	129.7	123.6	125.6	0.98	49.7	0.88	46.5
QII	\$18.29	143.3	116.8	131.4	126.7	124.1	127.7	1.23	62.2	1.12	59.5
QIII	\$20.29	159.0	120.1	139.1	129.1	128.0	134.3	1.32	67.1	1.18	62.7
QIV	\$25.45	199.5	123.1	144.4	125.6	129.1	137.0	1.62	82.2	1.46	77.1
1980 QI	\$28.87	226.3	127.1	148.6	126.7	132.0	142.4	1.78	90.3	1.59	84.2
QII	\$31.26	245.0	128.4	147.2	133.0	134.6	144.9	1.91	96.7	1.69	89.6
QIII	\$32.20	252.4	132.7	150.9	138.4	139.1	150.2	1.90	96.4	1.68	89.0
QIV	\$33.66	263.8	136.8	141.3	142.7	140.1	149.0	1.93	97.8	1.77	93.8
1981 QI	\$35.28	276.5	140.2	131.9	145.6	140.4	146.5	1.97	100.0	1.89	100.0
QII	\$34.38	269.4	142.5	123.3	141.0	137.4	141.3	1.89	95.9	1.91	101.0
QIII	\$33.88	265.5	143.7	117.0	138.4	135.3	137.7	1.85	93.7	1.93	102.2
QIV	\$33.85	265.3	145.2	127.0	141.0	139.3	143.2	1.83	92.6	1.85	98.2
1982 QI	\$33.37	261.5	146.1	124.2	137.4	137.6	141.2	1.79	90.8	1.85	98.1
QII	\$32.96	258.3	146.8	123.3	132.3	135.7	138.4	1.76	89.2	1.87	98.9
QIII	\$33.37	261.5	147.0	118.7	125.4	132.0	134.4	1.78	90.2	1.95	103.1
QIV	\$33.15	259.8	147.5	117.7	122.7	131.0	133.0	1.76	89.3	1.95	103.5
1983 QI	\$29.11	228.1	148.0	122.9	127.9	134.4	135.2	1.54	78.2	1.69	89.4
QII	\$28.55	223.7	148.3	119.5	126.9	133.3	133.4	1.51	76.5	1.68	88.9
QIII	\$28.46	223.0	150.3	114.2	125.0	132.1	n.a.	1.48	75.2	n.a.	n.a.
QIV	\$28.54	223.7	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1984 Feb	\$28.56	223.8									

Source Notes: ** OPEC Prices: Export weighted average for OPEC crudes at the end of each period; Treasury compilation.
 ** Export Unit Price Indices: Compiled by the U.S. Bureau of Labor Statistics and expressed on a dollar equivalent basis (i.e., to show exchange rate effects). 14-Country average is weighted by shares of exports to OPEC; includes export unit value indices where export price indices are unavailable.
 ** Terms of Trade: Computed by Treasury; index base set to QI'81 (when oil prices peaked).

Treasury/ICE
 February 7, 1984

Table 2

U.S. 'Real' Interest Rates to OPEC

	'T-Bill' Interest Rate	U.S. Export Index	Prices to OPEC Annual Rate	'Real' Int Rates
1977 QII	4.83	100.0		
1978 QII	6.48	106.8	6.80	-0.30
1979 QI	9.36	112.6		
QII	9.38	116.8	9.36	0.02
QIII	9.63	120.1		
QIV	11.80	123.1		
1980 QI	13.46	127.1	12.88	0.52
QII	10.05	128.4	9.93	0.11
QIII	9.24	132.7	10.49	-1.13
QIV	13.71	136.8	11.13	2.32
1981 QI	14.37	140.2	10.31	3.68
QII	14.83	142.5	10.98	3.47
QIII	15.09	143.7	8.29	6.28
QIV	12.02	145.2	6.14	5.54
1982 QI	12.89	146.1	4.21	8.33
QII	12.36	146.8	3.02	9.07
QIII	9.71	147.0	2.30	7.25
QIV	7.93	147.5	1.58	6.25
1983 QI	8.08	148.0	1.30	6.69
QII	8.42	148.3	1.02	7.32
QIII	9.19	150.3	2.24	6.79
QIV	8.79			

Notes ** 'T-Bill' Rate ** Period average; source - IFS
 ** U.S. Export Price Index ** source - BLS
 ** U.S. Export Price Changes ** compiled by Treasury from BLS
 ** 'Real' Rate: compiled by Treasury ** 'T-Bill' rate deflated by
 export price change.

Treasury/ICE
 February 22, 1983

TABLE 3

*** EXCHANGE RATE EFFECTS ON THE COST OF IMPORTED CRUDE OIL ***

	- Ave. International -			Foreign Currency Price of Imported Crude								- Ave. Change in -	
	- Crude Oil Price *			--- Japan ---	-- W.Germany --	--- Italy ---	--- France ---					- For. Cur. Prices** -	
	(\$/bbl)	(%-Chg)	(Index#)	(Y/bbl)	(Index)	(DM/bbl)	(Index)	(L/bbl)	(Index)	(FF/bbl)	(Index)	(%-Chg)	(Index)
1978 QI	\$12.96			2882		26.2		11048		59.4			
QII	\$12.94	-0.2%	36.1	2449	14.5	26.9	13.9	11058	10.2	58.2	12.5	-3.3%	33.5
QIII	\$12.92	-0.2%	36.0	2444	12.3	25.0	13.3	10640	9.8	56.0	11.8	-6.2%	31.4
QIV	\$12.98	0.5%	36.2	2526	11.7	23.7	11.7	10770	9.5	54.3	11.0	-0.1%	31.4
1979 QI	\$14.94	15.1%	41.7	3127	15.0	27.9	13.0	12548	11.2	64.2	12.6	20.3%	37.8
QII	\$19.96	33.6%	55.7	4331	25.7	36.9	20.3	16622	17.4	85.5	19.9	35.2%	51.1
QIII	\$21.84	9.4%	60.9	4877	40.0	38.1	27.7	17516	24.2	89.6	27.8	7.9%	55.1
QIV	\$26.81	22.8%	74.8	6426	59.4	46.4	34.8	21555	31.4	107.8	35.0	26.1%	69.5
1980 QI	\$30.29	13.0%	84.5	7563	92.1	58.8	53.8	27210	48.8	135.7	53.0	22.6%	85.2
QII	\$32.06	5.8%	89.5	6976	99.9	56.4	65.3	26889	60.9	131.0	64.4	-5.1%	80.9
QIII	\$32.69	2.0%	91.2	6937	91.7	59.2	65.8	28179	63.0	137.3	65.2	2.5%	82.9
QIV	\$34.39	5.2%	96.0	6981	91.7	67.4	78.6	32000	75.0	155.3	77.3	7.9%	89.5
1981 QI	\$35.84	4.2%	100.0	7562	100.0	75.3	100.0	37560	100.0	177.7	100.0	11.7%	100.0
QII	\$34.62	-3.4%	96.6	7817	103.4	82.8	109.9	41250	109.8	197.9	111.4	7.3%	107.3
QIII	\$33.91	-2.1%	94.6	7891	104.3	78.8	104.6	39929	106.3	188.8	106.2	-2.0%	105.2
QIV	\$34.28	1.1%	95.6	7538	99.7	87.3	116.0	41136	109.5	197.0	110.9	1.6%	106.8
1982 QI	\$32.77	-4.4%	91.4	8078	106.8	79.1	105.0	43322	115.3	204.6	115.1	2.8%	109.8
QII	\$32.89	0.4%	91.8	8354	110.5	80.9	107.4	45497	121.1	224.6	126.4	4.6%	114.8
QIII	\$32.73	-0.5%	91.3	8821	116.6	82.7	109.8	46558	124.0	233.6	131.5	4.0%	119.5
QIV	\$32.55	-0.5%	90.8	7649	101.2	77.4	102.7	44594	118.7	218.9	123.2	-9.1%	108.6
1983 QI	\$28.87	-11.3%	80.6	6911	91.4	70.1	93.0	41717	111.1	209.9	118.1	-8.2%	99.8
QII	\$28.48	-1.4%	79.5	6827	90.3	72.4	96.1	42956	114.4	217.5	122.4	1.3%	101.0
QIII	\$28.53	0.2%	79.6	6736	89.1	75.3	100.0	45614	121.4	228.5	128.6	2.1%	103.2
QIV	\$28.57	0.1%	79.7	6617	87.5	78.0	103.6	47355	126.1	238.2	134.1	1.3%	104.6
1984 Feb	\$28.51	-0.2%	79.5	6642	87.8	78.1	103.7	48068	128.0	239.7	134.9	0.6%	105.1

Summary of Changes:

	- \$ oil price -		--- Japan ---		-- W.Germany --		--- Italy ---		--- France ---		4-Country
	(\$/bbl)	(%-Chg)	(Y/bbl)	(%-Chg)	(DM/bbl)	(%-Chg)	(L/bbl)	(%-Chg)	(FF/bbl)	(%-Chg)	Average
											(%-Chg)
QIV'78 to QI'81	\$22.86	176.1%	5036	199.4%	51.6	217.5%	26790	248.7%	123.4	227.5%	218.4%
QI'81 to Feb'84	(\$7.33)	-20.5%	-920	-12.2%	2.8	3.7%	10508	28.0%	62.0	34.9%	5.1%
QI'78 to Feb'84	\$15.53	119.6%	4116	163.0%	54.4	229.2%	37298	346.3%	185.4	341.8%	234.7%

Notes * Export weighted average for internationally traded crudes (including spot supplies) at the end of each period.

** Average of changes in foreign currency prices for international oil supplies weighted by country imports. The United States and net oil exporters Canada and the U.K. are excluded from the average.

Index basis: QI-1981 equals 100

Treasury/ICE
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