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THE WORLD OIL MARKET TO 1990

By

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reduction from 5.2% in 1980 to 1.8% in 1983. Still, the turnaround is more than symbolic. It means that about 1 million B/D more oil will be consumed this year than last.

But how much of this year's increase can be termed structural and how much is due to special circumstances and events? A very rough and preliminary estimate is that about half of the increase might be structural. This is based on an adjustment of demand to eliminate the effect of the colder first quarter, relative to normal, in the U.S., Western Europe and Japan, and of the 7-month old coal strike in the U.K. If we also assume that this year's expected 7.0% U.S. GNP growth is substantially above the long term GNP growth rate and adjust our oil demand accordingly, we may be left with a 0.5 million B/D increase. Thus, while there is a structural aspect to this year's demand reversal, it is a very modest one.

The U.S. will account for about 60% of this year's increase in world oil demand. U.S. demand will be up by an impressive 3.6-4.0% this year, the first annual increase in five years. But, as pointed out, much of it is due to weather factors and the exceptional growth of the economy.

If our assumptions for 1984 are correct, then next year's demand increase should be far lower than this year's, both in the U.S. and abroad. We estimate it will be under 1% world wide. Thus, by the mid-80's world oil demand will still be below where it was at the beginning of the decade.

Where will it be by the end of the decade? This depends on some of the longer term factors affecting the oil market. In a

forecast these factors take on the form of assumptions with all the attendant uncertainties.

The first and foremost assumption concerns the price. If the price of oil were determined mechanistically in a reasonably free market we would treat it as a variable in our assumptions. But because the price of oil is deliberately administered by the OPEC cartel we must start with an assumption as to whether or not the cartel will continue to administer it or whether market forces will take over. I'm sure you have heard all the arguments by now as to why oil prices will or won't hold. So let me just reiterate our view that the odds favor approximate maintenance of the existing OPEC price structure. We see the realistic fear of an uncontrollable price break as a sufficient motivation for effective market intervention by OPEC to defend its price structure against the onslaught of disinterested market forces. We also assume most non-OPEC producers will actively support the OPEC price, as they have done this year but not in 1983. I would add, however, that our confidence in this scenario is less than solid. Thus, while we differ with those who predict the OPEC price structure will collapse, we do not dismiss their arguments lightly nor rate their chances of being right as very low. In particular, we recognize the limitation of the support from non-OPEC producers as long as it does not extend to production control which is unlikely. The one example of such control, Mexico, is more symbolic than real, since Mexican oil production is operated at more than 90% of capacity and, for logistical reasons, could not go to 100% on a sustained basis. We also recognize that the share of oil traded at spot prices is steadily

growing, thereby weakening the structure of official sales prices and posted prices.

Next, we have to make assumptions about the dollar exchange rate in the 2nd half of the 1980's. The reason is that changes in the value of the dollar have a significant impact on local oil prices outside the U.S. Generally their impact has been in the opposite direction from the OPEC price. Thus, in the period 1975-79, the decline in the dollar offset much of the first OPEC price shock in Europe and Japan. Since 1981 the sharp increase in the dollar exchange rate has offset the real and nominal dollar oil price reductions in some European countries and has significantly blunted them in others as well as in Japan. As an example, consumer prices of residual fuel oil were unchanged in dollars in the ten EEC countries between January 1983 and August 1984. But in local currencies they had risen by 11% to 32%, with the majority of countries showing increases of 25% or more. The failure of European demand to rise this year despite a near doubling in the GNP growth rate to 2.25% is partly due to this factor.

Presently, there is a heated debate among monetary experts: some argue that the rise in the dollar exchange rate was structural and is irreversible at least over the next 4-5 years, while others predict a decline by next year which could well turn into a rout. Luckily, we are not experts on the subject. So, using common sense and intuition, we have assumed that a large part of the dollar increase since 1981 has been of a corrective nature, offsetting the excessive decline during the previous 4

years. However, our galloping trade deficit and other factors suggest that the correction has been overdone for the longer term. A moderate decline in the dollar exchange rate, starting sometime in 1985, as the U.S. economy visibly slows down, is therefore likely. Accordingly, in the next several years the dollar exchange rate should have a modest downward effect on oil prices in foreign currencies, thus supporting any real oil price decline brought about by a continuation of OPEC's price holding policy. It should be pointed out in this connection that if OPEC prices remain unchanged through 1985, as is likely, the effect of the second oil price shock will have been largely eliminated in real dollar terms.

Next, we have to consider the impact of conservation on future oil demand. Conservation, measured broadly speaking as the reduction in oil input per unit of oil-using equipment or, where applicable, per unit of output, has of course been a substantial contributor to the world oil demand reduction. According to one estimate it has accounted for about 35% of the total world oil demand reduction between 1980 and 1983. Our assumption is that there will be further oil conservation throughout the 1980's and beyond, even under a somewhat lower real oil price than we have assumed.

~~In the 1980's, conservation took largely the form of~~
direct consumer reaction to price increases such as buying smaller cars and turning down thermostats. In the 1980's it will be achieved principally through the use of more efficient equipment. Thus, oil conservation is increasingly becoming a technological process, which makes it far less price sensitive

than when it was primarily a function of end-user decisions. This is why we expect it to continue even if the price of oil should fall somewhat further in real terms. Most of the conservation can be expected to occur in transportation fuels which are nearly immune from fuel substitution. An example is U.S. gasoline consumption which we expect to drop from 6.7 million B/d this year to 6.3 million B/D in 1990 despite a 9-10% increase (about 10 million units) in the number of gasoline fueled automobiles. In Europe we are witnessing a steady shift from gasoline to diesel engines in new cars which will increase the overall fuel efficiency of automotive transportation. Technical improvements in fuel efficiency are also continuing in the airline industry despite substantial reduction in jet fuel prices during the last three years.

Next we must look at substitution of oil by other fuels. The importance of this form of oil demand reduction is shown by the fact that in the (OECD) industrial nations residual fuel oil alone accounted for 55% of the total demand reduction of 8 million B/D between 1979 and 1983.

Residual fuel oil is of course the oil product most sensitive to fuels substitution since it competes in most markets directly or potentially with coal, gas, hydropower and nuclear power. The major reason, by far, for the reduction in the demand for this product has been substitution, not conservation. The reduction has brought fuel oil's share in total OECD oil consumption from 27% in 1979 down to 19% last year. Yet, there is room for more reduction. In the U.S. where resid's share was

19% in 1977, it is now only 9%. Europe and Japan are moving in this direction. The ready availability of substantial and growing volumes of natural gas for export from the Soviet Union, the Netherlands, Algeria and Indonesia will play a major role in this substitution process. So will nuclear power in most industrial countries, except the U.S.

The main battle ground between resid and these fuels will continue to be the electric power generation sector. Oil's share in that market which was about 13% in Europe and 35% in Japan last year, will continue to decline throughout the rest of the 1980's.

This decline together with that in other stationary heating markets is expected to more or less offset the modest increases in transportation fuel demand in the industrial countries so that total oil demand in these countries in 1990 is unlikely to differ significantly from this year's approximately 34 million B/D. By 1990 the substitution process may be completed so that in the next decade the increase in the demand for transportation fuels in the industrial countries will register as an increase in total oil demand.

Fortunately for oil producers, the demand outlook is more upbeat in the developing countries which last year accounted for more than a quarter of total free world demand. These countries can not afford to build many nuclear power stations nor can they afford the capital cost of importing gas in liquid form or by long-distance pipeline (unless they happen to be transit countries of such lines). The fact that their residual oil demand rose by 5.4% from 1979 to 1983 while that of the

industrial countries fell by 42% is an indication of the difference in the oil demand pattern between the two blocs of countries. Total oil demand in the developing countries also grew (by 11%) during this period while, as we have seen, it plummeted in the industrial countries. We expect the demand for both stationary uses and transportation uses of oil to grow throughout the 1980's and 1990's in the developing countries. In the next six years they are likely to account for virtually the entire growth in world oil demand, if the industrial countries are viewed as a bloc. However, it should be pointed out that about half the oil consumption in the developing world is in countries which are oil self-sufficient or net oil exporters. Hence, the growth in international oil trade is likely to be slower than that in world oil consumption.

Altogether, based on our assumptions, we estimate that the non-Communist world will require 48-50 million B/D of oil in 1990. This is 2-4 million B/D more than this year's likely demand. If all of the increase were supplied by OPEC, its output would rise from 19 million B/D this year (incl. NGL) to 21-23 million B/D in 1990, leaving it with an excess producing capacity of at least 8 million B/D. Realistically, this is the best OPEC can expect by then. More likely, its production will be slightly lower because total non-OPEC oil supplies in 1990 will be slightly higher than this year's. It appears now that production increases from new sources will not be offset by as big a drop from existing sources as had been assumed until quite recently. Thus total North Sea crude production, contrary to earlier

expectations, will not decline from its 1985 peak until after 1990. Up to then the increase in Norwegian and other non-U.K. production will offset the decline in the U.K. Likewise, we now expect net Soviet oil exports to be still in excess of 1 million B/D by 1990. We are still assuming a reduction in U.S. oil production of at least 0.5 million B/D by 1990. But one can not ignore the fact that from 1981 through 1984 U.S. oil production has steadily, if minutely, increased contrary to most expert predictions.

Well, this is our forecast to 1990. Its general conclusions do not differ greatly from those of a number of other recent forecasts. However, I would not call our overview a consensus forecast.

In conclusion, let me point out that the value of any forecast lies of course not in the actual numbers projected but in the trend and structure it describes. Our forecast describes an environment in which potentially available oil supplies will consistently remain substantially above actual demand for the 6-7 year period under discussion and price pressure will generally be downward. Investment and market decisions will have to be made in this climate during that period. This is the message in our forecast.