

Trading in oil futures

SALLY CLUBLEY

*Research Analyst at E. D. & F. Man International Limited,
Oil Futures Brokers, London and New York*

Woodhead-Faulkner · Cambridge
Nichols Publishing Company · New York

Published in Great Britain by
Woodhead-Faulkner Limited,
Fitzwilliam House, 32 Trumpington Street,
Cambridge CB2 1QY, England

Published in the United States of America by
Nichols Publishing Company, PO Box 96,
New York, NY 10024, USA

First published 1986

© Sally Clubley 1986

Conditions of sale

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying or otherwise, without the prior permission of the copyright owner.

British Library Cataloguing in Publication Data

Clubley, Sally

Trading in oil futures.

1. Petroleum industry and trade 2. Commodity
exchanges

I. Title.

332.64'4 HG6047.P47

ISBN 0-85941-235-0

ISBN 0-89397-220-7 U.S.

Library of Congress Cataloging in Publication Data

Clubley, Sally.

Trading in oil futures.

1. Petroleum industry and trade. 2. Speculation.

I. Title.

HG6047.P47C57 1985 332.64'4 85-350

ISBN 0-89397-220-7

Designed by Geoff Green

Typeset by Hands Fotoset, Leicester

Printed in Great Britain by St Edmundsbury Press, Bury St Edmunds, Suffolk

Preface

This book is intended as a guide to the use of the oil futures markets. It is primarily for those new to futures but will also serve the oil industry itself. It looks briefly at the history of both the oil industry and futures trading and how the former developed to a state where the two were bound to meet. The development of the spot market in both crude oil and oil products led to a true marketplace for oil for the first time and, simultaneously, made oil a suitable vehicle for futures trading and exposed oil traders to the risks where a futures market becomes a desirable hedging medium.

The book goes on to look at the different futures contracts currently trading, those being planned and the means by which they can be used by the oil industry to offset risk, improve cash flow and increase the flexibility of stocks. Without an understanding of the use of the futures market it is difficult to achieve any long term success in futures trading. This understanding is normally achieved over a period of time in discussions with futures brokers and during a trial trading period when very tight controls are maintained.

Tight controls will, of course, be maintained throughout any trading activity. It is the absence of such controls which has led to most of the major losses made on futures trading. It is tempting to blame the futures markets themselves, particularly the speculative element within them, but there is no justification for doing so.

Judicious futures trading is, as many traders have already established, a useful adjunct to physical trading. But like any other market, it should be treated with respect and understanding.

November 1985

Sally Clubley

Contents

Preface

<i>Chapter 1</i>	The development of the world oil industry	1
	Origins of the modern oil industry	1
	The major oil companies	2
	The oil industry in the twentieth century	3
	The oil price rises of the 1970s	6
<i>Chapter 2</i>	Oil refining	14
	The refining process	14
	Changing patterns of demand and consumption	18
	The refining industry	23
<i>Chapter 3</i>	The markets	27
	The spot market	27
	The futures markets	34
<i>Chapter 4</i>	The futures contracts	36
	New York Cotton Exchange propane contract	36
	NYMEX No. 2 heating-oil contract	37
	IPE gas-oil contract	38
	NYMEX leaded-gasoline contract, heating oil and gasoline (Gulf Coast delivery contracts)	39
	NYMEX crude-oil contract and CBT crude-oil contract	39
	IPE crude-oil contract	40
	The paper refinery	41
	Possible new contracts	42

<i>Chapter 5</i>	Entering the futures market	45
	The decision to trade	45
	Choosing a broker	47
	In-house administration	51
	The mechanics of futures trading	51
<i>Chapter 6</i>	Strategies in futures trading	53
	Hedging	53
	Switches	56
	Arbitrage	61
	Options	62
	Futures strategies for physical trading	63
<i>Chapter 7</i>	How the oil industry can use the futures markets	67
	The supply department	67
	The refiner	71
	The traders	75
	The marketing department	79
	The distributor and the large consumer	80
<i>Chapter 8</i>	Charts and chartists	81
	Point-and-figure charts	82
	Line-and-bar charts	82
	Analysing the charts	83
	Charts and the oil industry	88
	Glossary of terms	89
<i>Appendix A</i>	Contract specifications	93
<i>Appendix B</i>	Costs of futures trading	99
	Index	101

1

The development of the world oil industry

Origins of the modern oil industry

Until the middle of the last century the world had little interest in crude oil. Then the first commercial oil discovery was made, and the beginnings of the refining industry were founded. Of course, the existence of crude oil had been known for centuries; it had been found seeping out of rocks in biblical times and afterwards, though its usefulness, particularly as a fuel, was never really appreciated. It was treated in the same way as tar and primarily used for water-proofing purposes.

The real origins of the modern oil industry are in Pennsylvania, where Edwin Drake made the first commercial discovery of crude oil in 1859. He is generally acknowledged to be the first person specifically to drill for, and find, crude oil. Very quickly he was followed by others, both in Pennsylvania and elsewhere. This first oil rush led swiftly to the first oil glut and a fall in price more dramatic than any seen since, with prices dropping from \$20 per barrel in 1860 to 20 cents per barrel only a year later.

Oil refining was, in fact, a technique already in use when Pennsylvania's first oil was drilled. Some ten years earlier, a plant had been built in Scotland to process the shale oil seeping into coal mines in the area. But the small-scale project failed to attract any real interest and refining can really be said to have started with the treatment of the American oil. Initially, of course, uses had to be found for the new oil products. Oil lamps were soon prevalent in oil-producing regions and lubrication developed as another major application in the early years. Within a very short time, oil had begun to establish its almost unassailable position as an essential fuel

source and raw material in the industrialising world. But the political and economic upheavals that oil would cause a hundred or so years later were still unthought of, as the race to find more black gold continued.

By the turn of the century the United States and Russia were already established as the world's leading oil producers, a position they still hold today, thus beginning a domination which was to last until the large producers of Venezuela and the Middle East combined forces in the mid twentieth century. In 1908 oil was first discovered in Iran but it was not until many years later that production in the Persian Gulf (then, as now, the cheapest area of production in the world) got underway.

The major oil companies

Just before the turn of the century a race developed to capture the largest number of drilling rights in the Persian Gulf – an area rich in oil deposits, but lacking the technological ability to develop them. The runners in this race were the major oil companies, known as the 'Seven Sisters'. These companies, despite intense competition and bitter arguments, operated effectively as a cartel dominating the oil industry until the 1960s, and still have a tremendous influence.

Five of the Sisters are American, three of them (Exxon, Mobil and Chevron) the offspring of one corporation – John D. Rockefeller's Standard Oil Company. Rockefeller was one of the first people to recognise the importance of integrating oil company activities and keeping control of the oil at the drilling stage, through refining and then delivery into the consumers' oil tanks. The company dominated the US oil industry and, by implication, the world oil markets, but it was eventually disbanded by legislation in 1920. The group splintered into around forty separate companies, each operating in one state. Of these, those in New Jersey (Exxon), New York (Mobil) and California (Chevron) became the most important. The other two US Sisters, Gulf and Texaco, both began life in Texas, which is now the centre of the US oil industry with a large proportion of the refining capacity, many pipeline terminals, landing ports and trading companies. Rockefeller had been excluded from Texas from the beginning and never managed to gain a foothold in the state where North America's greatest oil reserves were found in the late nineteenth century.

The remaining two Sisters were both European – British Petroleum and Royal Dutch/Shell. The latter was formed by the

amalgamation of two companies: one Dutch, one British. The growth of both these Sisters was based on oil reserves far from home – BP in Iran and Russia, and Shell in Venezuela.

These seven companies completely monopolised the industry until the 1960s; drilling for, producing and refining the crude, distributing the products and, finally, retailing them to the consumer. As the oil potential of the Middle East became apparent, the companies formed a series of consortia (after much battling between themselves) to negotiate with the local governments and rulers and arrange production deals. The Middle Eastern governments at the time had no complaints; they were simply happy to see their income growing.

Outside the seven, the only company which achieved any degree of success was the French national oil company, *Compagnie Française de Pétrole*. This was admitted into consortia which were involved in Iran and Iraq, though not at the very beginning. It was not until CFP discovered oil independently in Algeria that it was really ranked as a major oil company.

From the beginning the industry was faced by a major problem: transportation. (Shell, in fact, developed from a shipping company but found itself struggling to survive until it merged with Royal Dutch.) Outside North America oil was being produced many miles from the areas of demand – in Venezuela, Mexico, the Persian Gulf and Russia. There existed a number of agreements between the Seven Sisters to exchange oil, in order to prevent the transportation costs becoming too much of a burden. All posted (i.e. official) crude oil prices in the early twentieth century were based on a theoretical price in the Gulf of Mexico, *plus* transport costs, so these exchanges could be quite advantageous to the companies concerned.

The detailed history of the world's oil industry has been well chronicled elsewhere but some brief notes are necessary to an understanding of the current state of affairs and likely future developments.

The oil industry in the twentieth century

In the early part of this century it seemed that all sides of the industry were reasonably content with the way things were going. The producer countries were well paid for the use of their resources; the oil companies were all enjoying high profits and had plenty of oil reserves. After the Second World War the battle for a share of the market became the most pressing problem for the oil companies –

oil demand was booming and no one wished to get left behind in the rush for expansion.

But already the signs of change were, in retrospect, becoming apparent. In the Middle East, the Gulf states and Iran had been using the income from oil to send their young men to Europe and the United States to receive a better education in technological subjects, politics and economics. When they returned they began to question the situation whereby the producing governments had virtually no control over their own resources. The governments had, however, initiated costly and extensive development programmes which were dependent on continuing wealth and were wary of damaging their relationships with the oil companies.

The first move was made by Venezuela, which passed a law in 1948 requiring the oil companies to hand over 50 per cent of their profits. The companies, realising they had little alternative, agreed and the idea quickly spread to the Middle East, where it was taken up, with similar results, first by Saudi Arabia and later by others.

This resentment of the oil giants spread, especially with the gradual emergence of independent oil companies set up either by individuals like J. Paul Getty or by consumer government agencies such as Agip in Italy. At around the same time, too, CFP made its Algerian discoveries. These independents began to make production agreements with the producer governments, offering better royalties than the Sisters. This suggested to the producers that they were not being paid as much as they could be, and they began to consider ways of swinging the advantage towards themselves. The first concrete move came in the form of an alliance, unlikely as it may seem today, between Saudi Arabia and Iran. The terms were very loose, amounting to little more than a vague co-operation agreement and had virtually no effect on anything. Meanwhile, Venezuela was continuing an effort started some years earlier to persuade the producers to get together to form some sort of combined opposition to the multinational companies.

Throughout the 1950s, however, the status quo was maintained, with most of the producers coming to better agreements with the companies. One notable exception to this was Iran, which nationalised its oilfields in 1951. This move was followed by a Western boycott of Iranian oil; a small sacrifice for the companies (apart from BP, which was very reliant on Iranian oil) because there was once more a glut on the world oil markets. Two years later, Western governments intervened to bring down the revolutionary regime in Iran and re-establish a climate in which the Iranian oil

industry could restart operations. Although the glut made the companies somewhat reluctant to increase production, the Iranians were in severe financial difficulties and it was essential, politically, that contact be made. At this stage the BP monopoly in Iran was broken and the Seven Sisters formed a consortium with CFP to continue the development of Iranian oil. Despite the fact that one company had suffered, it now seemed that control of the industry was firmly back in the hands of the seven major oil companies.

The next event of importance was the Suez crisis of 1956, as a result of which the Arab states imposed an oil embargo on the West. Although the total world oil supply was hardly affected, because production was increased elsewhere, irreparable damage was done to the relationships between the producers and the oil companies, particularly the two European ones. Perhaps the main feature of the embargo was that it showed that the producers could act together when sufficiently aroused. In the aftermath of Suez, several of the smaller independents reached still 'better' terms with the producers, and further damage was done to the Seven Sisters.

Throughout this time, the oil glut was continuing. While it was in nobody's interests (except those of the consumer, who had little say in things) to reduce the price of oil, it soon became inevitable that this would happen. In 1959 the crude oil price was cut for the first time this century. The inevitability of the move meant that there was little real protest from the producers; but a meeting of the Arab Petroleum Congress quickly followed. The meeting produced no firm action. But, when the companies imposed a second price cut the following year, the Congress met again, this time with Venezuela in attendance, and the Organisation of Petroleum Exporting Countries (OPEC) was formed by Venezuela, Saudi Arabia, Iran, Iraq and Kuwait.

However, there was no dramatic action from OPEC and everything carried on much as it had before. The group pledged co-operation to avoid 'unnecessary fluctuations' in the price of oil; but even so, the coming changes in the structure of the industry were still virtually imperceptible.

Oil demand was booming, production was increasing and incomes following suit: there was no reason for any conflict. Prices did not increase sharply, gradually rising from \$1.20 per barrel in 1960 to \$1.80 a decade later. But the higher production levels kept the producers' incomes rising steadily. The only worry facing the industry was whether the oil reserves would last until the end of the century, but even this was of no real concern – reserves were

increasing as new areas were explored and drilled, and technology was improving, allowing more oil to be extracted from every well and enabling previously impossible reserves to be developed.

Perhaps the most significant change during the 1960s was the increasing part played by the major US oil companies in the European market, following the imposition of import controls by the US government in 1957. The US Sisters and independents had to market all their Middle Eastern, North African and other foreign oil outside the USA. The only real market available was Europe, and oil companies launched into fierce advertising battles to increase market share and develop brand loyalty in the consumer, particularly in the fast-growing gasoline market. The degree of success achieved in this latter objective is perhaps surprising, but many motorists were impressed by the promotional offers and the advertising campaigns – the most successful of which was Exxon's 'Put a tiger in your tank'. By the time the US import controls were lifted, the major oil companies had established lucrative European markets, where they remained active until the early 1980s, when one or two, notably Gulf, withdrew altogether from Europe.

Since the Suez crisis, when the oil boycott had been successfully executed, albeit with little effect, there had been some concern about an orchestrated move by the oil producers to block exports to the West for political or economic reasons. But, by 1970, when the next move was made, many had come to believe that any concerted action was unlikely – the producers were enjoying their increasing wealth.

The oil price rises of the 1970s

In 1970, however, the Libyan government imposed reduced production levels on Occidental Petroleum, an independent oil company totally reliant on Libyan oil. The company's production was cut back by almost half, forcing it to agree to higher posted prices and an increased royalty for the Libyan government. At the semi-annual OPEC meeting at the end of that year, the ministers called for a 55 per cent royalty agreement for all member countries. Negotiations with the oil companies resulted in an acceptance of OPEC's terms, on the condition that, apart from an agreed increase to allow for inflation, there would be no new demands for five years. In 1973, the OPEC countries decided to impose a 70 per cent increase in prices. The announcement came during a boycott on oil supplies to the United States and The Netherlands following the

Yom Kippur war. World supply was short and prices rose – by the end of 1973 the posted price for Arab light crude was \$11.65 and the spot price more than \$20 per barrel. Prices on the spot market had never before risen above the official price. Although the spot market, then as now, tended to give a somewhat exaggerated picture, it indicated the industry's fears.

During the same year Saudi Arabia, the largest producer within the cartel, obtained an improved participation agreement with the oil companies, not only for itself, but also for the smaller Gulf producers, Kuwait, Abu Dhabi and Qatar. The agreement gave the producers a 25 per cent equity in production, rising to more than 50 per cent in 1982. Libya had achieved a similar result by nationalising its oilfields and Iraq had taken over 100 per cent equity. In fact, further pressure from the producers led to a much faster takeover than originally planned, with several achieving 100 per cent equity by the end of the 1970s.

Consumers responded to the sharp price rises of 1973 by cutting back, and demand slumped. Most continued to blame the oil companies for the increases, not as yet realising that they had all but lost control of pricing. These cutbacks were, however, short-lived. When the oil embargo was lifted in the middle of 1974, demand quickly began to rise again. This trend continued, even through the steady price rises of the next few years. The failure of the West to anticipate the Iranian revolution and the fall of the Shah at the beginning of 1979 has been well documented. Quite why the warnings of so many informed sources were ignored for so long remains something of a mystery. But when it came, the revolution, and the subsequent war between Iraq and Iran a year later, was to bring about the second oil crisis of the 1970s. Immediately after the revolution oil production in Iran dropped sharply. Prices rose on the spot market, but it was some months before any increase in posted prices was imposed. But the real harm was not done until the beginning of the war. Iranian production had fallen from a peak of over 6 million barrels per day (m.b.d.) in 1974 to 5.7 million barrels per day in 1978 as the internal unrest grew. By the end of 1979 the country was producing little more than 1 m.b.d. and Iraqi output fell from over 3.5 m.b.d. to less than 1 m.b.d.

Although significant areas of production were being developed elsewhere, the industry was still walking a tightrope between supply and demand, and was unable to cope with such a large cutback in supply. Product and crude prices on the European and US spot markets more than doubled during the course of 1979 (see Fig. 1).

8 Trading in oil futures

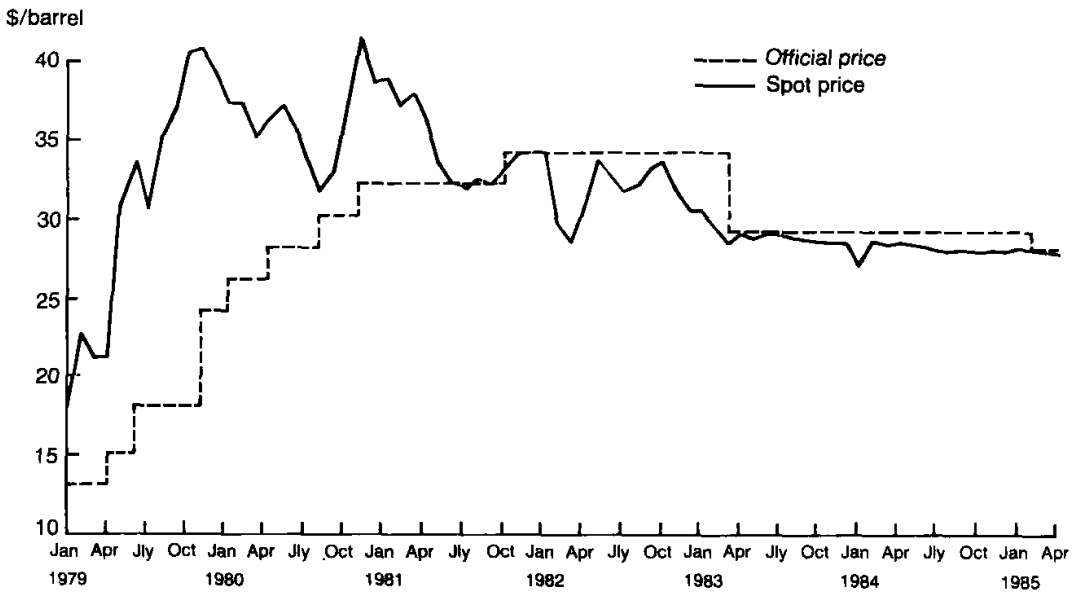


Fig. 1 Arab light crude oil – official and spot prices, 1979–85

Day after day, the price just continued to rise, and any trader managing to get hold of oil was sure to make a profit. All logistical factors were forgotten as the scramble for oil continued.

In time, however, the sharp escalation in prices had a corresponding, though opposite, effect on demand. 'Free world' oil demand peaked at 51.2 m.b.d. in 1979, falling to 48.6 m.b.d. the following year, and continued to drop, reaching 44.8 m.b.d. in 1983, the lowest level for ten years. Cause and effect may be difficult to determine, but the world recession following the high-inflation, high oil-cost years of the 1970s is undoubtedly the main reason for the fall. But the spin-offs – increased conservation and the switch to alternative forms of energy – have played a strong part and are to some extent, irreversible. The full effects are still not known – new industrial plants planned at this time, with other fuel sources and better efficiency and insulation, are still being built. One survey has suggested that heating-oil demand per house for space heating has fallen by around 40 per cent in Germany, largely because of more efficient heating systems and better insulation.

After the 1979 crisis the OPEC members decided to introduce price differentials for their crude oils. Changing demand patterns had made the lighter North African crudes, for example, very much more attractive than the heavier Gulf crudes, which produced less gasoline and more fuel oil. Arab light crude, with the largest volume, was chosen as the marker, with premiums of up to \$9 per barrel being paid for some of the better crudes, and discounts being applied to the very low-quality ones (see Fig. 2).

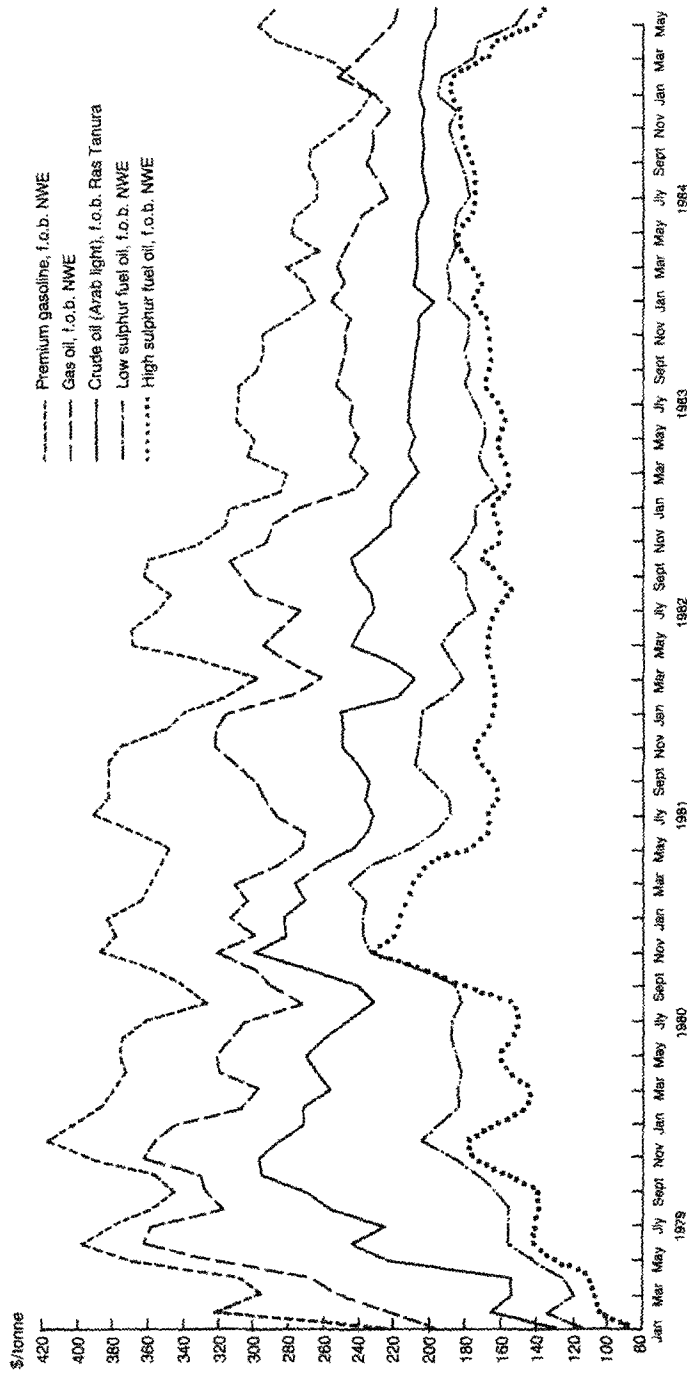


Fig. 2 Spot prices for crude oil and oil products, 1979-85

It was these differentials, rather than the actual price of oil, which brought OPEC close to collapse in the early part of 1983. A year earlier, the benchmark price had been lifted to \$34 per barrel and the maximum differential cut to \$3 in an attempt to halt the slide of oil prices seen in the spring of 1982, as production continued at high levels and demand kept falling. For a while it looked as though this attempt might have been successful.

Meanwhile, crude-oil producers outside OPEC were gaining in importance, most notably the United Kingdom, Norway and Mexico. In 1973 three of the world's top oil producers were in OPEC, but ten years later the United Kingdom and Mexico had displaced Iran and Libya, leaving only Saudi Arabia in the top five. In the first quarter of 1982 non-OPEC production exceeded OPEC output for the first time in 20 years. OPEC was becoming the swing producer. Table 1 gives a breakdown of world oil production figures between 1970 and 1984.

All these factors contributed to the worsening problems facing OPEC when it met in December 1982 and, for the first time in its history, failed to reach agreement on pricing. The meeting was adjourned until January, when the same thing happened again. The price of oil was becoming of secondary importance by this stage; differentials and production quotas were the problem. In early 1982 OPEC had sought to stabilise prices by imposing a maximum combined output level of 17.5 m.b.d. Although it wished to retain this overall ceiling, there was pressure for some reallocation of individual quotas.

Finally, in March 1983, the producer countries came to an agreement, cutting the benchmark to \$29.00 per barrel and restricting differentials to \$1.50. Production quotas were also agreed and, to the surprise of many in the industry, prices began to stabilise. Spot prices for Arab light, the marker crude, had fallen from \$33.50 per barrel in September to \$28.20 in March; but, by September 1983, they had moved back up to official levels.

The stability was helped by positive signs of some upturn in demand in the United States, which began to move out of the recession more quickly than Europe or Japan. Fourth-quarter demand was forecast to increase throughout the industrialised world and OPEC began to step up production in anticipation. By October 1983 there were few signs that this was happening and there was some unease creeping back into the industry. But OPEC showed that it could act in a crisis and strengthened its credibility by doing so.

Table 1. World oil production (million barrels/day), 1970-84

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
OPEC															
Saudi Arabia	3.877	4.817	6.067	7.707	8.620	7.220	8.757	9.430	8.550	9.840	10.262	10.173	6.852	5.380	4.900
Iran	3.845	4.565	5.050	5.895	6.060	5.385	5.920	5.705	5.275	3.175	1.480	1.325	2.410	2.465	2.195
Kuwait	3.037	3.247	3.337	3.077	2.600	2.135	2.397	2.030	2.180	2.555	1.702	1.150	0.862	1.055	1.195
Iraq	1.565	1.700	1.465	2.020	1.970	2.260	2.415	2.350	2.560	3.475	2.645	0.895	1.010	1.105	1.170
United Arab Emirates	0.780	1.060	1.205	1.525	1.650	1.695	1.945	2.015	1.830	1.830	1.705	1.505	1.249	1.149	1.148
Qatar	0.370	0.430	0.485	0.570	0.520	0.435	0.495	0.445	0.485	0.510	0.460	0.425	0.340	0.310	0.425
Oman	0.330	0.285	0.280	0.295	0.290	0.340	0.365	0.340	0.315	0.295	0.285	0.325	0.325	0.390	0.420
Venezuela	3.760	3.620	3.305	3.460	3.065	2.425	2.375	2.315	2.235	2.425	2.235	2.180	1.965	1.875	1.875
Libya	3.320	2.765	2.240	2.180	1.520	1.480	1.930	2.065	1.985	2.090	1.830	1.220	1.135	1.140	1.115
Nigeria	1.085	1.530	1.815	2.055	2.260	1.785	2.065	2.085	1.895	2.300	2.055	1.440	1.285	1.235	1.405
Gabon	0.110	0.115	0.125	0.150	0.200	0.225	0.225	0.220	0.210	0.205	0.175	0.150	0.155	0.150	0.155
Algeria	1.040	0.780	1.060	1.095	1.010	1.020	1.075	1.150	1.230	1.255	1.120	1.035	1.045	0.965	0.990
Indonesia	0.855	0.890	1.080	1.335	1.375	1.305	1.505	1.690	1.635	1.590	1.575	1.680	1.415	1.345	1.440
Other	23.974	25.804	27.514	31.364	31.140	27.710	31.469	31.840	30.385	31.545	27.529	23.503	20.048	18.564	18.433
United States	11.295	11.160	11.185	10.950	10.480	10.010	9.735	9.865	10.270	10.135	10.170	10.180	10.200	10.245	10.385
Canada	1.475	1.585	1.830	2.115	2.000	1.735	1.605	1.610	1.575	1.770	1.725	1.545	1.485	1.515	1.555
United Kingdom	—	—	—	—	—	0.030	0.240	0.765	1.095	1.600	1.650	1.835	2.125	2.360	2.580
Other non-Communist	3.316	3.506	4.036	3.911	3.955	4.370	4.621	5.135	5.635	6.330	6.986	7.555	8.230	8.961	9.732
Total non-Communist	40.060	42.055	44.205	48.340	47.575	43.855	47.670	49.215	48.960	51.365	48.020	44.618	42.088	41.645	42.685
USSR	7.145	7.630	8.105	8.685	9.290	9.935	10.525	11.055	11.595	11.870	12.215	12.370	12.430	12.520	12.415
China	0.565	0.735	0.485	1.100	1.320	1.490	1.675	1.880	2.090	2.130	2.125	2.035	2.050	2.135	2.300
Eastern Europe	0.355	0.365	0.385	0.385	0.395	0.400	0.400	0.410	0.430	0.410	0.385	0.360	0.420	0.405	0.400
Total	48.125	50.785	53.540	58.510	58.580	55.680	60.270	62.560	63.075	65.775	62.745	59.383	56.988	56.705	57.800

Source: BP/Petroleum Economist

Prices fell towards the end of 1983 and it appeared that another crisis was unavoidable when the oil industry packed up for Christmas. The weather, however, came to OPEC's rescue. North America was plunged into one of the coldest winters on record, with oranges freezing on the trees in Florida and refineries forced to close on the Gulf of Mexico. Oil demand leapt and large volumes of heating oil flowed across the Atlantic from Europe, supporting the market there. Stocks had been allowed to fall through the preceding autumn, because of the falling prices and unchanging demand, so the sudden surge in consumption had an exaggerated effect which lasted through the early part of the spring as stocks were rebuilt.

Later in the year the oil price began to fall again, but this time the OPEC producers were helped by the war between two of its members, Iran and Iraq. A large oil tanker, the *Yanbu Pride*, was attacked by Iranian ships off the coast of Saudi Arabia and the oil industry's fears of a cut-off in the oil supply from the Gulf were revived and prices leapt again. After a few weeks and some lesser attacks on shipping it became apparent that there was no interruption to supply and the prices began to fall again.

Yet again, the autumn saw falling prices, with the British National Oil Corporation and Norway's Statoil forced to cut their contract prices in October. This move was followed by cuts in US domestic crude oils and a number of other smaller producers. By this time production from the OPEC countries had gradually risen once more and the outlook was very gloomy when OPEC met in December, again facing a potential crisis and again unable to find a solution.

The meeting was reconvened a few days later and this time an agreement was reached, leading to an adjustment of prices with good quality crudes coming down in price and the heavier crudes, now back in favour because of changing demand patterns, rising in price. As important as the pricing agreement, however, was the decision to monitor the production levels of member countries, in the hope that this would prevent the widespread cheating and bring production down again, helping to stabilise the market.

This led to a definite tightening in crude-oil supply, which fed through the market to affect products. Stock levels were again low, so there was little chance of substantial destocking in the first quarter of 1985 and prices began to stabilise, albeit with most people looking for a fall later in the year when the effects of another cold winter, this time in Europe, began to wear off.

By this time both Norway and the United Kingdom had decided