Introduction

At the beginning of the twentieth century, the international oil industry was still a fledgling, undeveloped not only in size, but also in its range of products, technology and organisation. The main centres of oil production, in Russia and the USA, supplied only a very small fraction of the industrialised world's fuel. Energy supply was still dominated by coal, the fuel which more than any other had powered the development of industry, commerce and transport in the nineteenth century.

The oil industry's principal commercial product was kerosene, used mainly for lighting. It was obtained by refining crude oil into its components – mainly fuel oil, kerosene and gasoline – by the process of distillation. That process was, however, subject to the great limitation that the straight distillation of a given crude oil could produce only a fixed ratio of products. As a result, the refiner was unable to adjust the yield of products to meet the pattern of demand. An increase in the output of one product, say kerosene, could only be achieved by expanding the output of other products, which, being unwanted, had to be destroyed.

Not only was the industry limited by the refining technology of the day, but crude oil exploration and production tended to be haphazard and inefficient. The 'wildcatter' remained commonplace in exploration. Under the law of capture which prevailed in the USA, oilfields, once discovered, were prone to be wastefully developed by competing firms scrambling for maximum short-term production, rather than by operators applying scientific principles in the interests of maximising the amount of oil which could be recovered from the field in the long term.

In 1900, the oligopolistic structure which was to characterise the international oil industry for most of the twentieth century had not yet emerged. But the tendency for the industry to become concentrated in the hands of very large firms was already in evidence, especially in the USA where John D. Rockefeller's Standard Oil Company had risen to dominance. The Nobels and the Rothschilds had developed large-scale oil interests in Russia. Other significant firms were the Royal Dutch Company, formed in 1890 to exploit the discovery of oil in Sumatra, and the Shell Transport and Trading Company, formed in 1897 to carry on the oil business which had been built up by Marcus Samuel.

During the next quarter-century the oil industry made great advances. Crude oil production increased about sevenfold, rising from 20 million tons in 1900 to more than 140 million tons in 1925. In Russia, which was the world's largest oil producer in 1900–1, the development of the industry was retarded during the period of communist revolution. Elsewhere, however, new oil producing regions were discovered in, most notably, the Middle East and South America. Meanwhile, as the position of kerosene as a fuel for illumination was challenged by the rise of gas and electricity, other demands for oil expanded rapidly. Fuel oil captured an ever-larger share of coal's traditional markets and the growing use of the motor car led to greatly increased demand for motor spirit.

The industry's ability to supply increased quantities of motor spirit without producing surpluses of other products was enhanced by the new refining technique of 'cracking', whereby large hydrocarbon (oil) molecules were broken down into smaller molecules, with the practical result that relatively low-value heavy fractions of the crude oil could be cracked to produce higher-value motor spirit. In short, the cracking process introduced new flexibility into refining, allowing the product yield to be varied, within limits, so that the output of the more desirable products could be increased without a concomitant surplus of other products. At the same time, exploration techniques were made more scientific by the spread of geological and geophysical methods and by the adoption of rotary drilling instead of the simple pounding action of the percussion system.

These developments were accompanied by the emergence of a few firms which came to dominate the international oil industry. The 'Seven Sisters', as they came to be called, included five US oil companies. They were the Gulf Oil Corporation and the Texas Company (later Texaco), which were formed in the 1900s after the famous oil discovery at Spindletop, Texas in 1901; and the Standard Oil Company of New Jersey (later Exxon), the Standard Oil Company of

New York (later Mobil) and the Standard Oil Company of California (later Chevron) – each of which was part of Rockefeller's Standard Oil Trust before it was dismembered by order of the US Supreme Court (on anti-trust grounds) in 1911. In addition to the five US companies, there was the Anglo-Dutch enterprise, Royal Dutch-Shell, formed by the merger of the Royal Dutch Company and the Shell Transport and Trading Company in 1907. Finally, to complete the rollcall of the Seven Sisters, there was the Anglo-Persian Oil Company (later British Petroleum and hereinafter called the Company), whose origins and rise to an exalted position in the international oil industry were described in volume 1 of this history.[1]

As was seen in that volume, the Company's origins go back to May 1901, when a wealthy Englishman, William Knox D'Arcy, obtained a concession from the Shah of Iran to explore for and exploit the oil resources of that country, excluding the five northern provinces which bordered Russia. Having been granted the concession, D'Arcy employed an engineer, George Reynolds, to undertake the task of exploring for oil in Iran. The inclement weather of that country, the difficult terrain, the lack of infrastructure facilities which would have been taken for granted in Britain and other more developed economies, the shortage of local skilled labour and the problems of dealing with local tribes in the absence of a strong central government – all conspired to make Reynolds' pioneering task an exceptionally arduous one. There was, moreover, no guarantee of success; indeed, growing reason to doubt it as months, then years, passed without oil being discovered in commercial quantities. Meanwhile, the costs mounted, stretching D'Arcy's resources to the point where he sought outside assistance. That came in 1905 from the Burmah Oil Company, a Scottish-registered company with its head office in Glasgow, which had been formed in 1886 to produce, refine and market Burmese oil.[2] More exploration in Iran followed without success until eventually in May 1908 Reynolds and his helpers struck oil in commercial quantities at Masjid i-Suleiman in the province of Khuzistan in south-western Iran. It was the first commercial oil discovery in the Middle East, signalling the emergence of that region as an oil producing area.

After the discovery had been made, the Company was formed in April 1909 to develop the oilfield and work the concession. At the time of its formation, 97 per cent of the ordinary shares were owned by the Burmah Oil Company, which had financed the exploration effort in Iran since May 1905. The remaining 3 per cent were owned by Lord Strathcona, the Company's first chairman, who was then aged 89 and whose interest in Iranian oil affairs stemmed more from imperial than business considerations. Of the eight other directors, three – John Cargill, Charles Wallace (the Company's first managing director) and James Hamilton – were directors of the Burmah Oil Company, the first in a long line of Burmah directors on the Company's board. Although D'Arcy was also appointed a director and remained on the board until his death in 1917, he was not to play a major part in the Company's affairs. His role as the initial risk-taking investor in the uncertain oil prospects of Iran was past and the daunting task of developing the oil discovery into a commercial enterprise passed to others, amongst whom one stands out: Charles Greenway. He had long experience of oil marketing in eastern markets, having joined the mercantile firm of Shaw, Wallace and Co., agents for the Burmah Oil Company in India, in 1893. He became a partner in 1897 and had a longstanding acquaintance with Charles Wallace, who was a co-founder of Shaw, Wallace and Co. As one of the Company's founder-directors, Greenway quickly became a central figure in its affairs, succeeding Wallace as managing director in 1910 and Strathcona as chairman in 1914. Knighted in 1919 and elevated to the peerage in 1927, Greenway was the architect of the Company's early development.

The strategy which he pursued was the same as that followed by other prominent international oil companies: to build up a vertically integrated enterprise, which, in its full form, meant participating in every stage of the flow of oil from the well to the consumer, including crude oil production, transportation, refining and retail marketing. So thoroughly was this strategy executed by the major oil companies that the vertically integrated enterprise became the standard form of organisation in the international oil industry.

Steps in that direction were taken by the Company before World War I, when not only was further drilling carried out at the oilfield, but a pipeline was laid along the 138-mile route from Masjid i-Suleiman to the site of the intended refinery at Abadan, a flat mud island on the Shatt al-Arab, the delta of the rivers Tigris and Euphrates, some thirty miles from the Persian Gulf. Although many difficulties were encountered in laying the pipeline, its construction was a relatively simple operation, completed in July 1911. The erection and commissioning of the Abadan refinery proved to be a challenge of a different order. The properties of Iranian crude oil were then unknown and the Company ran into great problems trying to produce marketable products. As a result, the commissioning of the refinery, whose construction was started in 1909, was subject to long delays.

Meanwhile, in 1911 the Company, expecting that the refinery would soon come onstream, gave consideration to the marketing and branding of its products. However, the failure to master the refining of Iranian crude blighted the Company's early hopes of pursuing a strategy of independence in marketing. As the Company, struggling with its refining problems, came under increasing financial strain, Greenway had no alternative but to fall back on negotiating a ten-year contract to supply crude oil and products to Royal Dutch-Shell, thereby securing a ready-made outlet for the Company's production.

Greenway, anxious to avoid falling under the domination of Royal Dutch-Shell, also turned to another potential source of revenue and capital: the British Government. The basis of an agreement to mutual advantage lay in the Company's desire to find both new capital and an outlet for its fuel oil; and, on the other side, in the Admiralty's desire to obtain secure supplies of fuel oil, which had advantages over coal as a fuel for the ships of the Royal Navy. After lengthy negotiations, the two sides reached agreement in 1914 shortly before the outbreak of World War I, when the Company contracted to supply the Admiralty with fuel oil and the Government injected £2 million of new capital into the Company, receiving in return a majority shareholding and the right to appoint two directors to the Company's board. Although the principle that the Government would not interfere with the Company's normal commercial operations was enshrined in a letter to the Company from Sir John Bradbury, Joint Permanent Secretary of the Treasury, the Government shareholding undeniably brought an unusual political dimension to the Company's affairs. For Greenway, however, the Admiralty contract and the Government's injection of new capital represented a major coup. He had succeeded in securing the Company's survival and independence by finding a new source of finance, while simultaneously diluting the Burmah Oil Company's shareholding and avoiding the seemingly predatory instincts of Royal Dutch-Shell without conceding managerial control to the Government.

One of the advantages of the contract to supply fuel oil to the Admiralty was that it enabled the Company to make bulk supplies of a single product to one customer, obviating the need for a spread of distribution and marketing installations which could not be afforded at the time. However, although the Admiralty and other armed services were by far the most important customers of the Company during World War I, it remained one of the Company's primary objectives to develop its own marketing business. As products of marketable quality began to come into regular production in 1913–14, a network of outlets and agents was built up in the Persian Gulf and Mesopotamia, to which kerosene and benzine were distributed in two-gallon tins. Meanwhile, fuel oil began to be supplied for local steamers, the first contract being with Lynch Bros in December 1912. In 1914 further contracts were made with the Euphrates and Tigris Steam Navigation Company and the Hamburg-Amerika shipping line, followed in 1916 by a contract with the British India Steam Navigation Company. A much larger step was taken in 1917, when the Company acquired the British Petroleum Company, which had developed a substantial marketing presence in Britain after being formed in 1906 as a subsidiary of the German oil company, the Europäische Petroleum Union. Meanwhile, in 1915 the Company had formed a new subsidiary, the British Tanker Company, and built up a significant shipping fleet by the end of the war.

Further moves of vertical integration were made in the decade after the war. In 1919 the Company ventured into marketing on the continent of Europe through its interest in a new marketing associate, L'Alliance in Belgium. Over the next few years further marketing interests were acquired or formed in France, Italy, Austria, Germany, Iceland, Sweden and Holland. At the same time, new marketing methods were introduced, with kerbside pumps replacing two-gallon tins in the distribution of motor spirit. New Company refineries, much smaller than that at Abadan, also came onstream at Llandarcy in South Wales in 1921 and at Grangemouth in Scotland in 1924, added to which the Company's majority-owned French associate had a refinery at Courchelettes, near Douai. On the other side of the world, in Australia the Company and the Australian Government were partners in Commonwealth Oil Refineries Ltd, which commissioned a new refinery at Laverton, near Melbourne, in 1924 and sold oil products in the domestic market. The Company also marketed its products in Iran and Iraq and established an international chain of marine bunkering stations, which provided outlets for fuel oil as naval demand fell after the end of the war.

Thus, by the time that Greenway retired as chairman in March 1927, the Company was established in all phases of the industry. Yet, despite the development of its downstream operations, the Company still held a much smaller share of world oil markets than its main rivals, the Standard Oil Company of New Jersey and Royal Dutch-Shell. The Company's influence in the industry and its competitive strength were based mainly on its upstream position, which, despite widespread exploration activities in the 1920s, continued to be based on its huge oil reserves in the Middle East. Some of those reserves were in Iraq, where the Company discovered oil at Naftkhana in 1923 and connected the field by pipeline to the Alwand refinery, which came onstream in February 1927 to supply products for internal distribution in Iraq. Much more important, however, was the Company's position in Iran, where, as sole concessionaire, it was able to develop the oilfield at Masjid i-Suleiman by applying the best-practice principle of unitisation, by which the field was treated as a single production unit operated exclusively by the Company and not, as happened elsewhere in the industry, as a battleground for competing firms to maximise their individual short-term extraction rates at the expense of longer-term productive efficiency. Moreover, within a month of Greenway's retirement, the discovery of a second Iranian oilfield at Haft Kel gave the Company the added security of no longer being dependent on the one oilfield at Masjid i-Suleiman for its Iranian crude.

The man who had been groomed to succeed Greenway was of a different personality and background. More inclined to co-operate with other firms than to assert the Company's independence, and with an experience of the oil industry which was more technical than commercial, Sir John Cadman had first become interested in petroleum while he was Chief Inspector of Mines in Trinidad in 1904–8. In 1908 he was appointed Professor of Mining and Petroleum Technology at Birmingham University. He continued, however, to maintain close links with the Government and was a member of the Admiralty Commission which visited Iran to inspect and report on its oil prospects in 1913, when discussions on the supply of fuel oil to the Admiralty were in progress. Four years later, Cadman was appointed director of the Petroleum Executive, which was set up by the Government to administer wartime petroleum affairs. He was also a member of the Petroleum Imperial Policy Committee which was established under Lord Harcourt in 1918 – the year in which Cadman was knighted – to formulate a long-term petroleum strategy for the Government. In 1921 Cadman was recruited to the Company, where his advancement to managing director in 1923 and deputy chairman in 1925 was strongly supported by the Government.[3] Like others of his generation who had experienced the unprecedentedly close contact between government and business during World War I, Cadman was a figure who comfortably bridged the traditionally separate worlds of politics and commerce in Britain, bringing more diplomatic skills to the chairmanship than either his predecessor or, as will be seen, his successor.[4]

PART I

DEPRESSION, RECOVERY AND WAR, 1928–1945

I

Management and finance, 1928–1939

When Sir John Cadman became chairman in succession to Lord Greenway on 27 March 1927, the Company's position in Iran was fundamental to its existence. Apart from the small Naftkhana oilfield in Iraq, Iran was the Company's single centre of crude oil production until 1934 and remained the predominant source of supply until 1951. The geology and topography of Iran determined the location of oil reservoirs and access to them. The natural composition of Iranian crude oil affected the technology of production, the processes of refining and the yield of products for the markets and stimulated the research required for technical progress, product development and customer satisfaction.

At the same time, the lack of a local industrial and educational infrastructure in the south west of Iran, where the Company's operations were located, necessitated the provision of Company facilities for a whole range of activities from power generation to ice manufacture, from the installation of telecommunications to the institution of medical and educational services, from the supply of accommodation to the erection of workshops. The wide range of requirements necessitated a variety of skills, some of which were to be found only in the expatriate element in the workforce, many of whom were engaged in ancillary occupations rather than purely industrial activities. At a local level, the borderline between municipal and corporate responsibilities was often difficult to define and sometimes caused disagreement between the Company and the Iranian authorities. At the national level, Riza Shah's ambitions for the modernisation of Iran, involving expensive projects which were partly funded by oil revenues, did not always coincide, and sometimes conflicted, with Company objectives. There was, moreover, an international dimension to the Company's relations with the Iranian Government, especially as the British Government's majority shareholding in the Company gave ample scope for confusion over the distinction between affairs of state and matters of commerce.

The Company's dependence on Iran as the main source of its crude oil and refined products put it in the vulnerable position of having most of its eggs in one basket. Not only had the Company to guard against the risk of arbitrary Iranian action, it also had to fend off competition from other oil producers whose expansion might undermine Iran's position in the world oil industry, causing the Iranian Government to become dissatisfied with the Company's performance. The threat of competition was felt most keenly from those who sought to acquire nearby concessions in the Middle East. However, the Company could not ignore more distant sources of new production, particularly those in the oil exporting states of the western hemisphere. These included the USA, where the Company had no producing interests, and the countries of South America where, apart from a minor interest in the oil industry of Argentina, the Company was effectively precluded from participation in oil exploration and production because the British Government's shareholding was legally and intrinsically unacceptable to the principal states concerned, most notably Venezuela.

The handicap of being excluded from South America was greatly magnified by the rapid development of South American oil resources on a massive scale in the 1920s. The resultant surplus of production, already evident in 1927, was exacerbated by the onset of the worldwide economic depression in 1929, which resulted in reduced demand for oil at the very time when supply was greatly augmented by the discovery of the vast US East Texas oilfield, from which production commenced in 1930.

The combination of concessionary problems and excess productive capacity in the late 1920s and early 1930s predisposed the Company to a cautious policy of overall retrenchment and a collaborative effort with two other major oil companies, Standard Oil of New Jersey (NJ) and Royal Dutch-Shell, to stabilise the industry (see chapter 4). Cadman was a leading proponent of rationalisation and co-operation, which satisfied his personal preferences, his scientific principles and the Company's needs. His expressions of concern about the need for each generation to hold in trust the resources of the world for those following were combined with his insistence on the need to bring supply and demand into equilibrium. In 1927 he cautioned that surplus pro-