Russian Industry and British Business 1910-1930: Oil and Armaments

Geoffrey Jones - Clive Trebilcock
London School of Economics - Cambridge University

I

The role of foreign capital and entrepreneurship in promoting the economic growth of Russia in the 25 years before the Bolshevik Revolution of 1917 has attracted a considerable literature over recent years.[1] In the process the prevailing orthodoxy, at least amongst Western economic historians, that the foreign contribution was very considerable has been challenged, most notably by H. Barkai's startingly revisionist assertion that late Tsarist Russia went « through its industrialisation process by relying almost entirely on its own resources ». However, Barkai's statistics have been much criticised, and there is general agreement that they underestimate both the quantity and the significance of foreign investment in Russia.[2] In any case, global foreign investment

[1] The Western and Soviet historiography on the subject is well surveyed in two recent articles. B. BONWETSCH, 'Das ausländische kapital in Russland. Bemerkungen zum Forschungsstand', *Jahrbücher für Geschichte Osteuropas*, 22, (1974), and M FALKUS, 'Aspects of Foreign Investment in Tsarist Russia', *Journal of European Economic History*, 8, 1 (1979).

[2] H. BARKAI, 'The Macro-Economics of Tsarist Russia in the Industrialisation Era: Monetary Developments, the Balance of Payments and the Gold Standard', *Jour-*

statistics cannot capture the dynamic elements of the foreign entrepreneurship which often accompanied foreign corporate capital. More useful results have been achieved by sectoral analysis, investigating the role of foreign capital and enterprise within specific industries.[3] Studies of this type have generally confirmed the substantial contribution made by Western European direct investment to the growth of the new industrial regions of South Russia in the 1890's, and the continuing importance of foreign capital and enterprise in the decade before 1914.

This article represents an extension of the case study approach to a neglected source of foreign investment over a neglected time period in one very neglected Russian industry and one rather less neglected industry. The source of foreign investment is Britain. The case studies which exist have tended to concentrate on French and German capital and entrepreneurs. Yet, according to the oftenquoted statistics of the contemporary Russian statictician, P. V. Ol', Britain accounted for 23% of total foreign corporate investment in Russia in 1917, compared to France's 33%, Germany's 20%, Belgium's 14% and the United States' 5%.[4] British influence was particularly strong in certain indu-

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nal of Economic History, 33 (1973), p. 362; P. GREGORY AND J. SAILORS, 'Russian Monetary Policy and Industrialisation, 1861-1913', *Journal of Economic History*, 36, (1976).

[3] For example, J. P. MCKAY, *Pioneers for Profit: Foreign Entrepreneurship and Russian Industrialisation 1885-1913*. (Chicago, 1970); J. MAI, *Das Deutsche kapital in Russland 1850-1894* (Berlin, 1970) and 'Deutscher kapital export nach Russland 1898-1907', in H. LEMKE AND B. WIDERA (ed.), *Russisch-deutsche Beziehungen von der Kiever Rus' bis zur Oktoberrevolution* (Berlin, 1976); V. DJAKIN, *Germanskie kapitaly v Rossii* (Moscow, 1973); R. GIRAULT, *Emprunts Russes et Investissements Français en Russie 1887-1914* (Paris, 1973). Girault's study also provides a new source of data for French investment in Russian industry, based not only on the issued capital of corporations but also taking into account such factors as the plough-back of profits. Corporate investment represented only a fairly small proportion of total foreign investment in Russia. The two larger categories were state loans and loans guaranteed by the Russian State (typically contracted by semi-public entities such as the state railroads).

[4] P. V. OL', *Inostrannye kapitaly v Rossii* (Moscow, 1922). There is a considerable literature on the accuracy of Ol's data presented in the above work and *Inostrannye kapitaly v narodnom khoziaistve dovoennoi Rossii* (Leningrad, 1925). Most Soviet histo-

stries, notably gold mining and oil. The time period is the immediate pre-Revolutionary and post-Revolutionary years. Western direct investment in Russia after 1905 has been far less studied than in the 1890's, whilst the continuities in foreign investment patterns between the last decade of the Tsars and Soviet Russia during the 1920's have been barely noticed.[5] The first industry is the petroleum industry, which attracted a third of the total British capital invested in Russia in 1916. The oil industry has attracted considerable attention from Soviet scholars, but surprisingly little from their Western counterparts.[6] The second industry is the armaments industry; it has attracted rather more scholarly debate, although its British aspect has again been neglected.[7]

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rians, following I. F. GINDIN, *Russkye kommercheskie banki* (Moscow, 1948), maintain that Ol's statistics exaggerate the levels of foreign corporate investment. Some recent research, however, would suggest that Ol's statistics may be underestimates. V. DJAKIN, *op. cit.*, found that the foreign capital in the Russian electronic industry at the beginning of the First World War was 10 per cent higher than Ol' estimated. GIRAULT, *op. cit.*, gives 844.1 million rubles as total French direct investment in Russia in January 1914, as opposed to Ol's figure of 731.7 million rubles. See BONWETSCH, *op. cit.*, p. 414.

[5] One recent examination of the long-run trends in foreign participation in Russian industry is J. P. MCKAY, 'Foreign Enterprise in Russian and Soviet Industry: A Long Term Perspective', *Business History Review* (1974).

[6] Recent Western studies include B. GILLE, "Capitaux Français et Petroles Russes 1884–1894", *Histoire des Enterprises*, 12 (1963); R. W. TOLF, *The Russian Rockefellers: The Saga of the Nobel Family and the Russian Oil Industry*, (Stanford, 1976). A general Soviet study is provided by A. A. FURSENKO, *Neftianye trestyi mirovaia politika* (Moscow-Leningrad, 1965). Fursenko is primarily concerned with the politics of oil, but there is also a substantial Soviet periodical literature of more interest to economic historians. This will be referred to below.

[7] A recent Western study of the armament sector in Tsarist Russia is provided by P. W. GATRELL, 'Russian Heavy industry and State Defence 1908–18: Pre-War Expansion and Wartime Mobilization' (unpub. Ph. D. thesis, Cambridge, 1979). See also his 'Industrial Expansion in Tsarist Russia, 1908–14', in *Economic History Review*, 35 (1982). The Soviet literature on the armaments industry before 1914, and foreign participation in it, can be approached through V. I. BOVYKIN, "Bankii voennaia promyshlennost' Rossii nakanune pervol mirovoi voiny", *Istoricheskie Zapiski*, 64 (1959); X. F. SHATSILLO, "Inostrannyi kapital i voenno-morskie programmy Rossii nakanune

The involvements of British industrialists and financiers in the Russian armaments and oil industries do not entail divergent or discordant themes. On the contrary, these industries share a position as the great exemplars of international large-scale capitalism; they are, perhaps, the most obvious rivals for the paradigm case. Beyond this, there are many further resemblances between them. Each industry features the supply of very large markets — both in territorial scope and in value — by a highly concentrated array of oligopolistic producers. This concentration has varied in intensity over time — mainly in oil due to the discovery of new resource areas and to restrictive legislation, as in the United States during the 1930's, and mainly in armaments due to the opportunities opened by new technology areas, as with the aircraft industry of the 1920's and 1930's — but the underlying, long-run pressure is unmistakeable. No doubt this relates to the nature of the market; it is special because of the conjunction in each case of a universally recognised requirement — fuel and weapons counting among man's most basic wants — with a very limited supply of production expertise. In oil, this effect is further heightened by the uneven pattern of world resource distribution which imposes a limited supply of production sites. Furthermore, high entry costs are encountered at the threshold of both industries: very capital-intensive operations follow equally from the rigorous technology of armament manufacture or the demanding processes of oil exploration and exploitation. An additional nudge towards concentration is provided by this cost effect. But oligopoly may also have derived from monopsony on the demand side of the market-place, encouraging producers to band together for defence against the power of the over-mighty single customer. In the annals of the defence industries, with their stormy if enforced marriage to the government purchasing agen-

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pervoi mirovi voiny", *Istoricheskie Zapiski*, 69, (1961); and K. F. Shatsillo, *Ruskii imperializm i razvitie Flota nakanune pervoi mirovoi voiny* (Moscow, 1968).

cies, this has proved a timeless refrain.[8] Over its twentieth century career, however, the oil industry has become progressively less monopsonistic as its market has widened to include every kind of client from the great airline to the private motorist or the surburban comfort-lover, with many an industrial stop between. But, at the beginning, this was much less true. Governments were extremely important customers for the early oil industry primarily on account of their transport systems or their battlefleets. Often it was the latter, for in the first two decades of the century, oil was itself, in some of its most important aspects, a munition of war.

As this implies, in the pre-1914 world, the two industries did not simply resemble one another; they were, rather, beginning to converge in interest. As naval armament became increasingly sophisticated, the admirals began to ask for higher speeds, greater ranges, less smoke and more rapid and convenient bunkerage. A liquid fuel of good thermal efficiency fitted the requirements of the new technology very neatly. The naval powers consequently became increasingly concerned with a twin requirement for oil-fuelled warships and secure oil supplies. The British Admiralty in 1913 found one answer in the puchase of a controlling interest in the Anglo-Persian Oil Company, while, in 1911, the French laid down their first vessels to successfully employ oil burning machinery, the *Brumaire* class of submarine. Moved by similar needs, the Russian naval authorities of the late 1900's were beginning to connect together the objectives of modern warship construction and fresh oil exploration. This was most evident in their final prewar project for naval expansion, the construction of a Far Eastern Fleet on the strategically important and oil-rich island of Sakhalin.

The demand pattern evident here is not uncommon: military

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[8] For the British case, see CLIVE TREBILCOCK, 'A "Special Relationship" — Government, Rearmament and the Cordite Firms', *Economic History Review*, 19, (1966).

needs prove influential in breaking the ground for a commodity subsequently to command a much wider civilian application. Before 1914, however, in Russia as elsewhere, that pattern brought into unusually close contact two developing high technologies both embedded in very big business, both very demanding, both very expensive. But in Russia, it was not a partnership that was to last. During the 1920's armament received a distinctly lesser emphasis from Lenin's New Economic Policy than it had from the late Tsarist regime, and Western sources were distinctly less inclined to supply it. European producers of heavy engineering equipment — often armourers before 1914 — began to offer the Soviets oil rigs instead of artillery, cracking plants in place of cruisers. But their assistance in developing an independent Bolshevik petroleum industry, purged of Western capital, was not always appreciated by their former friends at Shell, Pearsons or Standard Oil. Here the continuity between the Tsarist and Soviet oil industries is qualified; the former had a close affinity with contemporary developments in armament; for the latter it was the diversification of their suppliers *away* from armament that was important.

II

The petroleum industry of the Tsars contained strong foreign influences virtually from its inception. The first foreign groups were Swedish and French. In the 1870's the Swedish Nobel Brothers had purchased oil properties in Baku, and introduced spectacular improvements to the backward production, refining and transport sectors of the Russian oil industry. From the 1880's the Paris Rothschilds became increasingly involved in the Baku oilfields, with an eye to developing their reserves for the export trade. Under such tutelage, the Russia oil industry grew to become the world's largest by the turn of the century. Crude oil production expanded from 1.7 million poods in 1870 to 630

million in 1900; and Russian oil exports successfully challenged the previous United State dominance over the world petroleum market.[9]

Before 1900 the main British contribution to Russian oil was through individuals. The first British entrepreneurs involved in Russian oil were primarily shipping men, interested in selling Russian oil abroad. British merchants acted as marketing agents for the Rothschilds, and in the 1890's played a major role in expanding Russian oil exports to the Far East via the Suez Canal. Not until the late 1890's, however, did the British turn to investment on a corporate basis. The first British oil company at Baku was the European Petroleum Company of 1896; and it was followed by a spate of foundations in the last years of the decade as the high returns earned by the pioneer companies attracted increasing attention.[10]

The bulk of British capital was used to purchase old Baku oil companies which found themselves in financial difficulties. By 1901 foreigners owned 30% of the total capital invested in Baku's oil industry and about £4 million of the £5.9 million of foreign capital was British.[11] The British were also, however, soon making their mark as pioneers of new oil regions, a tradition which they were to maintain until the Revolution and beyond. As early as 1893 Alfred Suart, one of the first British entrepreneurs in Russian oil, had commenced an exploration of the Grosny field.[12] And he found ready imitators: by 1903 there was £1.2

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[9] Petroleum production in Tsarist Russia was measured in poods. 1 long ton equals 62 poods. The statistics are from W. J. KELLY AND T. KANO, "Crude Oil Production in the Russian Empire, 1818-1919", *Journal of European Economic History* (1977)

[10] There is a discussion of the early British involvement in the Russian oil industry in GEOFFREY JONES, *The State and the Emergence of the British Oil Industry* (London, 1981), chapter 3.

[11] P. V. VOLOBUEV, 'Iz istorii monopolizatsii neftianoi promyshlennosti dorevelutsionnoi Rossii (1903-1914)', *Istoricheskie Zapiski* (1955).

[12] The view of Suart as the 'father' of the Grosny oil industry has been disputed by Soviet historians. See, for example, S. E. POTOLOV, "Nachalo monopolizatsii gros-

million of British capital invested in the Grosny oilfields. British companies were responsible for about one-sixth of the oil produced on that oilfield between 1896 and 1906.[13]

This infusion of British capital was positively encouraged by the Tsarist regime. The basis of the economic 'system' of Count Witte, the Minister of Finance in the 1890's, lay essentially in the recruitment of foreign capitalists to assist the industrialisation of Russia.[14] In the case of the petroleum industry, Witte was anxious not only to encourage the development of native capacity in his usual style but also to preserve it from the overbearing attentions of one particular foreign interest, The Standard Oil Company of the U.S.A., the largest oil company in the world at that time. He, therefore, welcomed the flow of British capital, both for its developmental contribution and for the safeguard that it provided against invasion by Standard. Consequently, the Finance Ministry gave special assistance to British companies, which often found themselves in difficulties through ignorance of Russian laws. After one company, the Russian Petroleum and Liquid Fuel Company, had independently purchased drilling lots, unaware of the tortuous bureaucratic preliminaries to be negotiated, Witte excused the gaffe on the grounds of « wrong understanding » and secured the necessary legal sanction on the company's behalf.[15]

Early in 1899 the general thrust of this policy came under review by a special committee briefed to investigate foreign participation in the oil industry of the Caucasus. Despite conservative complaints about the « too hurried development of industry in the Cossack areas, particularly with the help of foreign

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nenskoi neftianoi promyshlennosti (1893-1903) ', in *Monopolii i inostrannyi kapital v Rossii*, (Moscow-Leningrad, 1962).

[13] A. Beeby Thompson, *The Oilfields of Russia* (London 1908), p. 131.

[14] For the Witte 'system', see T. von Laue, *Witte and the Industrialisation of Russia*. (New York, 1963).

[15] M. Y. Gefter, *et. al.*, 'O proniknovenii angliiskogo kapitala v neftianuiu promyshlennost' Rossii (1898-1902) ', *Istoricheskii Arkhiv*, 6, (1960), pp. 82-86.

capitalists, foreign capital and Jews »,[16] the committee concluded that foreigners had hastened the development of the Russian oil industry in the past, and that the State had sufficient controls at its disposal should foreign influence become excessive in the future.[17] This view was undoubtedly correct, and helps to account for the fact that Tsarist Russia, and its Soviet successor, secured far greater gains from Western oil investment than did the companies themselves.

Indeed, after the turn of the century the British oil companies operating in Russia began to experience considerable difficulties. By the turn of the century the yield from the old Baku oilfields began to fall. This development particularly hit the British companies, who, finding the best lots in the hands of others when they arrived, frequently purchased properties which were nearing exhaustion. Moreover, the oil industry shared all too actively in the general economic recession and labour strife of the period 1900-5. In 1901 there was a sharp fall in prices for petroleum products, a result of overproduction following the influx of foreign capital. The industry had only just recovered in 1903 when serious labour disputes broke out, involving savage racial warfare between Tartars and Armenians. The dislocation following from the twin crises was considerable. The 1904 level of production was not reached again until 1928. There was a considerable drop in Russian exports after 1905. Particularly serious losses were experienced in the Indian, Chinese and Japanese markets, which had previously absorbed nearly 70 % of Russian petroleum exports. Between 1904 and 1913 the Russian share of world petroleum exports dropped from 31 to 9.6 per cent.

These difficulties drove several British oil ventures into liquidation in the later 1900's, and the general consensus was that British investment in Russia had been a failure. « The English

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[16] Minister of War, 10 November 1898, *Monopolisticheskii kapital v neftianoi promyshlennosti Rossii 1883-1914*, (Moscow, 1963), pp. 124-5.

[17] M. Y. Gefter, *op. cit.*, pp. 87-97.

capital which had undertaken the honourable mission of reviving the industry by the inflow of fresh strength », a Russian writer concluded in 1909, had « failed the hopes ».[18] Yet, after 1910, British capital and entrepreneurs entered another period of heavy investment in Russia. Three factors were behind this revival of activity. First, the closer political ties between Britain and Russia after 1907. Secondly, the return of general industrial prosperity to Russia in 1909. Thirdly, the rise in prices of Russian oil, largely the result of the continued decline in production on the old Baku oilfields. During 1913 the average price for fuel oil in Russia was 18% higher than in 1912, and 30% higher than in 1910. In 1913 the Russian Government decided to allow foreign fuel oil into Russia duty-free, and nearly a hundred thousand tons of Mexican oil was imported into southern Russia.[19] Clearly the market could bear investment in additional capacity.

The first new region to attract British investors was Maikop in the Kuban district of the Caucasus. Between 1910 and 1914 Maikop shares became hot favourites on the London stock exchange: nominal issues reached 88.8 million roubles of which 67.4 million were realised. But the speculation proved ill-advised. Despite promising early indications, and one major British strike in February 1910, the area turned out to suffer from poor land communications, much delay in the aquisition of essential machinery, and wholly inadequate harbour facilities, quite impeding the flow of essential exports. Even worse, it seemed to possess little oil; no more than 3.7 million poods were raised by 1914. Small British ventures could not cope with these conditions and the larger companies lost interest once they had received competent assessments of them.[20]

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[18] V. SIMONOVICH, *Neft i 'Neftianaia Promyshlennost' v Rossii* (St. Petersburg, 1909), p. 179.

[19] GEOFFREY JONES, 'The Oil-Fuel Market in Britain 1900-1914: A Lost Cause Revisited', *Business History* (1978), p. 139.

[20] Report by P. C. A. Stewart on Maikop Oilfields, November 1910, Pearson

Despite this depressing failure, British capital continued to play a pioneering role in the new oil regions of Russia. Grosny continued to attract British capital, as did the areas of Emba and Cheleken Island on the Caspian Sea. By 1914 companies which were wholly or partly British-owned accounted for 50% of Grosny production, 75% Cheleken production and almost the whole of Emba production.[21]

The final episode in Britain's ante-bellum involvement with tsarist oil came in quite another part of Russia. And not only with oil; for it was in this region that the armament and fuel interests finally came to a point. By the eve of the First World War, the east coast of Sakhalin Island, off the coast of Siberia, had been suspected of being petroliferous for many years, and a considerable amount of money had been spent in searching for oil in commercial quantities. In 1912, Russian interests offered concessions covering the Sakhalin reserves to the British oil and contracting firm of S. Pearson and Son, at a price of £50,000. Pearsons had just made spectacular discoveries of oil in Mexico, but they were reluctant to extend their efforts to Siberia. The severe climatic conditions, the absence of a domestic market for any oil found, and Pearson's previous unhappy dealings with the Russian bureaucracy as an engineering contractor, all disinclined the firm to become involved in the venture.[22]

But other British interests proved more adventurous than Pearsons. In the event, the concession went instead to the armaments firm of Vickers. Its officials were no novices in dealings with the tsarist autocracy; within the specialized defence trade, they were indeed old Russian hands.

Papers, C8, Science Museum, London. Report by Mr. Kruisher on Maikop Oilfields, 8/3/1910, Shell Archive (hereafter cited as Shell). The authors wish to thank the Shell Group for permitting access to their archives.

[21] P. V. Ol', *op. cit.*, pp. 47-54.

[22] Pearson Papers, C15, Sakhalin Summary, 20/5/1914.

III

If the Russian oil industry of the early twentieth century needed Western capital and technology, the Tsarist state had no less a need for Western armament. The political complexion of the regime, a military autocracy supported by a bureaucratic revenue state, guaranteed a high level of expenditure on weaponry for the double purpose of international aggrandisement and internal security. Lavish military spending was less a matter of free selection than a function of the political sociology of Tsardom. This point has been less than soundly grasped in recent writings: the non-economic contraints upon the range of economic choice and the consequent implausibility of 'alternative' expenditure or fiscal strategies require much more emphasis than they have received.[23]

Certainly, these constraints were particularly evident during the years 1905-14, a period in which military defeat challenged the justification of military autocraty and drove the regime into connected programmes of armament renewal and industrial modernization. And in view of the spiralling diplomatic tensions of the period, the simple purchase of modern armament was insufficient; for security to be adequately grasped, the sources of supply — and thus a notably high technology — had to be established within Tsarist frontiers.[24]

Recent Soviet work has revealed that the funds attributed to this task were prodigious. Between 1906 and 1914 no less than 2050 million roubles — about 11 per cent of national income for 1913 — were approved for naval and military rearmament.[25]

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[23] H. BARKAI, *op. cit.*, cf. also A. Kahan, "Government Policy and Industrialization in Russia" *Journal of Economic History*, 27, (1967).

[24] This view is shared by GATRELL, *op. cit.*, (1979), cf. p. 29 "The normal pattern was for construction inside Russia (often with foreign technical assistance) rather than direct construction by firms in Britain, France or Germany".

[25] The underlying data are from SHATSILLO, *op. cit.*, and BOVYKIN, *op. cit.*, The aggregation is calculated from Gatrell's presentation of these data, *op. cit.* (1979), Ta-

Such investment encouraged many Western armourers to set up shop — or arsenal and dockyard — in Russia. With native industry able only to manufacture the lighter classes of weaponry, and lagging badly in shipyard practice, the bulk of the new work went to business backed by foreign expertise.[26] And the lion's share of this fell to firms with British affiliations. Whatever may have been the case in regard to small arms or automatic weapons,[27] Britain's traditional maritime preoccupation ensured that the premier ranking in the world market for heavy weaponry remained with the makers from Barrow, Clydeside, Sheffield and Tyneside. True enough, there were important French concerns involved in the colonization of the Russian arms industry: Schneider-Creusot helped promote the Nevsky Steel Casting and Forging Works and maintained close relations with the most important native arms venture, the Putilov Company, while another French enterprise, the St. Chamond concern provided the technical supervision for the armour plate foundries at the *Franco-Russe* and Bryansky establishments. Political tastes limited the involvement of the Germans, though Krupp, characteristically, tried. But not even the vast politically-directed pensions paid into Russia by the French could prevent the British armourers from stealing the competitive edge, to the considerable diplomatic chagrin of the Quai D'Orsay.[28] British firms appeared in every major theatre of Russian armament manufacture: Thomas Firth &

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bles 1.3 and 1.4, pp. 15-16. The national income estimate is from M. FALKUS, "Russia's National Income, 1913: A Revaluation" *Economica*, 35 (1968), p. 57. Estimates for the amounts spent on armaments can be smaller than estimates for the sums approved, though still in absolute terms considerable. Thus Gatrell estimates 1100 million roubles actually disbursed "in the six years after 1907", *op. cit.* (1982), p. 105.

[26] The only alternatives were the government arsenals and here, according to GATRELL, "The main feature of the state sector before 1914 was its stagnation" *op. cit.* (1979), p. 33.

[27] H. J. HABAKKUK, *American and British Technology in the Nineteenth Century* (Cambridge, 1967).

[28] GIRAULT, *op. cit.*, p. 554 gives witness to the effect of British competition upon "la perte de la prépondérance de l'influence française en matière d'armement".

Company Limited of Sheffield purchased the Salamander Works in Riga for shell manufacture in 1903; William Beardmore & Company of Glasgow participated in a dockyard and foundry scheme at Reval from 1905; John Brown of Clydebank were instrumental in guiding the construction of battleships by the South Russia Company (Russud) and served as technical adviser to a dockyard scheme on the Baltic from 1906; and the joint Armstrong-Vickers subsidiary, the Whitehead Torpedo Company, took up a half- share in a torpedo factory at Feodosia in the Crimea in 1914. Vickers themselves were primarily occupied with two great schemes at Nicolaiev on the Black Sea and Tsaritsyn (later Stalingrad) on the lower Volga.

Unlike the indicators for the oil industry, the available sources do not make it easy to isolate the proportion of the total sectoral capital supplied by British, or, indeed *any* foreign firms. However, it is *likely* that this proportion may be safely classed as a significant minority; probably, it was close to 10 per cent. Of the 147 million roubles in armament capital that may be identified from P.V. Ol' — the majority but not the whole of the private industry — some 14 millions may be definitely attributed to British sources. More satisfactory, if still approximate, measurement may be made of the technical liaisons between British and Russian armourers. By 1914 some nineteen private armament ventures may be identified at work within the tsarist economy.[29] Of these, twelve had technical agreements with British firms and four with French; in addition, there were British technical connexions with two state arsenals. Out of this total, the single British firm of Vickers accounted for no less than ten technical exchange arrangements.

Again, unlike the case for oil, there is some contention over the value of these technology flows; and some obstacles need

[29] P. V. Ol', *op. cit.* From Ol's data, capital figures for some fourteen armament firms may be aggregated. The entire private arms sector probably consisted of nineteen firms.

to be cleared before the case may proceed. Recent Soviet work, with some western echoes, has sought to rescue the late tsarist economy from the slur of under-development. This argument involves the need to dilute the contribution made to *manufacturing* technology by western advisors. It employs two devices: the suggestion that the power of local Russian interests — especially the Petersburg banks [30] — was a powerful guiding influence within the cosmopolitan industrial ventures; and, secondly, the proposition that the technological contribution made by the western firms was sometimes much less than perfect.[31]

The first contention can be readily sustained, the second just as easily suspected. In the first instance there is anyway little conflict between the notion of a primarily technological donation made by the westerners and a primarily financial, diplomatic or organisational contribution made by the Russian participants. Undoubtedly the Russian banks had special knowledge of local markets and special ease of dealing with Russian bureaucracy. And there may well be force in the idea that Russian interests, both before and after the Revolution, retained considerable power of *selection* over what was absorbed from the western stock of knowledge and substantial control over the manner of absorption. Quite certainly the autonomy of the Russian party has been underplayed in the Soviet period;[32] there is no call to underplay it in the tsarist period. There is no question, for instance, but that the International Bank played an influential role within « Le groupe Vickers » in its pursuit of Russian armament work. But that, of course, in no way detracts from the technological transmissions provided by the western armourers.

Attempts to effect precisely this have not been soundly based. It is true, of course, that some defence schemes were commenced

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[30] SHATSILLO, *op. cit.* (1961), p. 84.

[31] *Ibid.*, pp. 95-6.

[32] A. C. SUTTON, *Western Technology and Soviet Economic Development 1917-30* (Stanford, 1968).

too close to the outbreak of World War I for their record to be unblemished. Some firms underwent learning periods of quite inadequate duration before the storm of war demand broke upon them: they had scarcely achieved a peacetime footing when their task was re-defined as total mobilization. Even the great established armouries of western Europe reacted to the « unprecedented demands » of 1914 and 1915 with some confusion; [33] the new armouries of Russia are sometimes judged with excessive harshness for registering similar reactions. But, in fact, very little of this reflects upon the virtue of the pre-war technological borrowings; the more significant variables are the short pedigree of the borrowing arrangements and the overwhelming nature of the demand.

An even more severe impediment to accurate appraisal has so far been entirely neglected in the debate over the late tsarist economy. It is a matter of evidence; the archives do not agree. The French sources, as interpreted by Girault, chart the decline of the French armouries but pay clear tribute to the growing superiority of « la grande practique des Britanniques dans la technique maritime ».[34] The Russian sources — wholly official — haggle interminably over the terms and content of the technological transfers; in a deeply traditional refrain, Russian bureaucracy cried for the moon and then blamed the foreigners for negligence in failing to supply it.[35] In contrast, the British sources — wholly industrial — testify to the advancing influence of Sheffield and Barrow but complain long and loud about the impossible requirements and technical ineptitude of Russian bureaucracy and management. Vickers, for example, protested at standards « beyond even those imposed by the Royal Navy » and ballistic specifi-

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[33] C. TREBILCOCK, " War and the Failure of Industrial Mobilization: 1899 and 1914 " in J. M. WINTER (ed.), *War and Economic Development* (Cambridge, 1975).

[34] GIRAULT, *op. cit.*, p. 556.

[35] SHATSILLO, *op. cit.* (1961), pp. 95-6.

cations « considerably higher than any practicable ballistics hitherto proposed » and eventually countered with the effective threat that « we cannot allow our name to be associated with designs and conditions we know to be impossible ».[36] Self-important financial officials were roundly put in place by a statement that strikes precisely at the centre of a disagreement, now ironically resurrected in the current literature: « You have no-one on your Russian staff who is competent to criticise our actions and our methods... we are not novices in such an undertaking ».[37] No doubt there were teething troubles in the absorption of such demanding technologies, but it is clear that the Russian partners, to say the least, cannot be exonerated from the prime responsibility for this. Political historians have recently placed much emphasis upon the limitations of late tsarist *administration*;[38] it is not clear that economic historians should be more generous.

Within the conflict of evidence there is a tilt to the balance of plausibility. Firstly, the French and British valuations, even as between competitors, are in broad agreement. Secondly, the Russians had come to the technical agreements as postulants; the learning process had to begin somewhere and cannot reasonably be presumed to have been *immediately* effective; pending its conclusion, there is a necessary weighting to be placed upon

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[36] VICKERS ARCHIVE, (hereafter cited as V. A.), Memorandum on Guns 26/3/1913, Microfilm 214; Barker to Balinsky, 6/8/1913, Microfilm 215. The authors wish to thank Vickers Ltd. for permitting access to their archives.

[37] *Ibid.* Skeggs to Founders of Tsaritsyn, 3/10/1913, (not sent), Microfilm 215. The examples could be multiplied; the fusillade is interminable e.g. " The staff here, are totally inadequate for the purpose " Vickers, Tsaritsyn to Vickers, London, 17/9/1913 Microfilm 215; " They (the bankers) are trying to build up a case, so that if the works are not completed in the time anticipated, they may repudiate all responsibility ", Skeggs to Vickers, London, 3/10/1913, Microfilm 215; " the local directors are entirely ignorant of the requirements of a shipyard ", Jones to Owens, 19/7/1913, Microfilm 214; " The Russian officials spend a large part of their time in making suggestions for altering our designs instead of devoting the whole of their energies to carrying them out ", Skeggs to London, 28/7/1914, Microfilm 215. Under this fire Shatsillo's carping bureaucrats began to look somewhat jaded.

[38] N. STONE, *The Eastern Front* (London, 1975).

valuations of disagreements between pupils and masters. And, after all the trials and tribulations, the major British contenders still counted themselves « absolutely in a paramount position in Russia ».[39] Since they were writing for their own record, with no intent to impress outside opinion, and since the rivals against whom they measured themselves included firms of the calibre of Krupp, Schneider-Creusot and St. Chamond, it is not an estimate to be dismissed lightly.

Perhaps, then, a way can be cleared towards a defensibly positive assessment of Britain's technological contribution to the pre-war development of the tsar's armament industries. Its purpose was to effect a revival that was primarily naval. And its involvement, like the Russian maritime renaissance itself, was divided into three main phases: the overhaul of the Baltic Fleet; the creation of a new Black Sea squadron as part of the Tsarist risposte to the running crisis in the Balkans; and, finally, the construction of a matching Far Eastern unit in reprisal for Japanese expansionism in this theatre.

As is already evident from their domination of the technical agreements, Vickers were to lead the British firms in their support of this programme. In its second and third stages, Vickers were involved in manufacturing schemes of great magnitude. The enormous dockyard to the north-east of Odessa, *Les Chantiers et Ateliers de Nicolaiev* commenced in 1910 was at the heart of the Black Sea Plan [40] while the arsenal of Tsaritsyn (Zatvor) was a major piece of infrastructure for the entire Tsarist scheme of defence. At a later point, the building of the Far Eastern Fleet was to turn on Vickers' plans for the development of Sakhalin island.

At Nicolaiev and Tsaritsyn, Vickers were to play financiers, but, most especially, technologists. For both works they provided

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[39] V. A. Barker to Zaharoff, 6/6/1913, Microfilm 215.

[40] Through Nicolaiev, Vickers acquired, according to Girault, " le monopole des chantiers de la mer Noire " *op. cit.*, p. 542.

a minority of the capital but a preponderant share of the expertise. In both schemes, the financial arrangements achieved the classic internationalism displayed by the most advanced Russian industries of the era. Here, Vickers contributed to the 24 million rouble equity of Nicolaiev, a share of about 8%, while the dominating 65% was supplied by Parisian high finance, pre-eminently the Société Générale, and a significant 12% came from the International Bank of Petersburg. At Tsaritsyn the British were to put up about one quarter of the capital of 13 million roubles, and the Russian investment bankers were to find the rest.

On the other side of the table, it is clear what the tsarist government wanted from the deal. At Nicolaiev, Vickers were bound to provide their designs, to lay bare their patents, to guarantee the quality of the final product and to exercise a close technological supervision. Next door, at Russud, John Brown's dealt on similar terms, and to Vickers' admiration, to similar standards.[41] The result was a substantial 'educational' commitment: British engineers were sent out to Russia as instructors; British skilled workers were to be installed as stiffening for the unruly ranks of native labour; the more promising Russians were sent back to the mother company for instruction in the most difficult armament processes; as McKay notices, « the obligation of foreign technical consultants to train Russians abroad was widespread in the defence industries ».[42] Conditions for the Tsaritsyn scheme were no less rigorous: in return for a design fee of 3 million roubles and 10% of the profits over the first decade, Vickers were again to reveal their artillery patents — a jealously guarded store of industrial secrets — and to provide comprehensive technical guidance over a fifteen year period. In both cases, also,

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[41] Again there is conflict. Shatsillo finds Brown's contribution to Russud "strictly limited" *op. cit.*, (1961), p. 95. Vickers found it "of the first quality". A. A. Owens to Vickers, London. 27/11/1912, Microfilm 214. It is difficult to imagine why Vickers should praise competitors for excellence they did not possess.

[42] J. P. McKay, *Pioneers for Profit*, p. 186.

the armourers had to provide a full equipment of modern machinery, drawing on the best British, German and American tool-makers. The result was to leave Nicolaiev and Tsaritsyn among the showcases of Russian process technology; the Tsaritsyn works especially became « the most recent, most modern and most effective which could be procured in any country in the world... a private factory such as no other country possessed excepting England ».[43]

The armament schemes affected not only the performance within the specialized defence industries but also the overall level of Russian technology. As Vickers themselves perceived, they were engaged in « creating a new industry » [44] from scratch; and this was bound to have wider consequences. These multiplier effects have been extensively reviewed in another place.[45]

But the direct consequences of British involvement in the tsarist defence industries seem at least to have fulfilled the autocracy's original expectations, however impatient its officials had proved in the meanwhile. In an economy previously unversed in the arts of designing and constructing large vessels, the new naval dockyards achieved, even in the opinion of unsympathetic critics, « the progressive creation of a national shipbuilding industry in Russia »,[46] and it was an industry both military and mercantile. The construction roster at Nicoliaev in 1913, with six warships and eleven merchantmen on the stocks, revealed the double virtue of the scheme. Elsewhere, the « inadequate technical progress » which the Russian press correctly diagnosed as an affliction of the native armament and quality metal sectors was countered by the lessons provided by the armourers « in the application of steel of special composition ».[47]

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[43] V. A. Microfilm, 214.

[44] *Ibid.*, Barker to Balinsky, 6/9/1912. Microfilm 307.

[45] C. TREBILCOCK, " British Armaments and European Industralization, 1890-1914 ". *Economic History Review*, 26, (1973).

[46] H. L. PERRIS, *The War Traders* (London, 1913), p. 11.

[47] *Novoye Vremya*, 18/11/1912; 6/2/1913. These examples could be multiplied; a

The dangers of excessive concentration on the quantities of capital imported into Tsarist Russia, are particularly clear in the case of the armaments industry. As in many other areas of Russian industry, insufficient attention has been paid to the *qualitative* effects associated with foreign borrowing, effects derived from the technological signals carried by the capital flows. Discounting for the strictures of importunate officials, it is clear that, within the defence sector, the qualitative impact of British technology was substantial. Of course it is true that direct financial involvement by British interests was scarcely negligible. But even where the major share of equity in a given defence venture was *not* British, as with the French and Russian participation at Nicolaiev and Tsaritsyn, the technical impact was nevertheless associated with the minority of capital which did derive from British sources.

IV

In the last years before World War I, the modernising and expansionist tendency within the Tsarist defence industry began to converge with the exactly similar tendency within the Tsarist oil industry. Their paths crossed in the Russia Far East, at Sakhalin. The British armourers, following the flow of the defence needs, were present at the junction point and eager to share in the final phase of the defence plan, the building of the Far Eastern Squadron. By now, Vickers had indeed « more money in Russia than they knew what to do with » [48] and, in recent years, had cultivated an appetite for financial as well as industrial operations.[49] Both

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more complete inventory is provided in C. TREBILCOCK, *op. cit.* (1973), pp. 262-7.

[48] Pearson Papers, C8, Conference at Vickers House, 9/5/1916.

[49] The firm had excellent contacts with British and American financiers, including Cassel, the Rothschilds, the Guggenheims and the Schiffs. By 1910 its investments stretched from nickel through motor cars and shipping lines to the occasional controlled flutter in mining shares; the total portfolio exceeded £ 3.75 millions.

this taste, and the need of the armourer to defend himself against the inherent unpredictability of his market, made the firm responsive to any possibilities of relevant diversification. Moreover, their naval products by 1913 had become increasingly reliant upon oil propulsion. At this point, therefore, the British arms interests, on several important counts, were ready to contemplate high-techology suggestions for the expansion of their Russian operations. This was just as well, for the Sakhalin project raised large issues in both strategy and fuel supply.

From the Tsarist viewpoint the requirements were very obvious. The Japanese threat demanded a counter-move; this required a modern fleet in the east; a modern fleet by now was oil-burning. Sakhalin, separated from the Siberian mainland only by the narrow Tatarskiy Proliv, jutted menacingly towards Japan, stopping a mere thirty miles short of Hokkaido Island, the northernmost in the Japanese chain; it posed the ideal counter-threat. And Sakhalin also had oil. But that is where the advantages ended and the problems began. The Ministry of Marine was adamant that the eastern squadron should be built *in situ*. Existing manufacturing, and, more important still, existing repair and maintenance facilities were far removed from the eastern seaboards. Existing fleets were either bottled up — like the new capital ships in the Black Sea — or tied to distant stations. Consequently, if there were to be an eastern fleet, it would have to be built in the east. This would require quite new and very large shipbuilding facilities, and these in turn would need an array of externalities, including fuel and ore supplies, more comprehensive by far than those supplied for the earlier schemes. The autocracy was prepared to invest some 400 million roubles in the operation and it decided that the best guarantee of success was to make the entire venture revolve around the solution of the raw material problem. The capitalist interests which broke this bottleneck would be awarded the contract for the entire, enormous undertaking. If the armourers wanted to do armament business, they would also have to do

coal, iron and oil business. For the regime, the return would be not only an effective and soundly supplied fleet but also the industrialization of a new region and the provision of local fuel resources for the railways and steamships of the developing economy of Siberia, from which much was hoped.

For the western armourers the prize was obviously enormous. The construction of a complete manufacturing complex from ports through shipbuilding and metal works to coal mines and oil wells represented the apotheosis of their development-leading work in the backward economies. But the cost was also enormous. Vickers were anxious to spread the load. Their first thought was to involve Schneider-Creusot, the leading French arms concern, and their occasional ally on other naval projects in Turkey and China. The proposal that emerged was for « an understanding... between the English and French groups of Shipbuilders » on the assumption that it was « essential that the capital to be raised should be European capital and the countries which should supply this capital must clearly be the English and French groups (sic), this being most acceptable to the Russian Government from the political point of view ».[50] On condition that the regime provided guaranteed orders and subsidies sufficient to pay the interest and sinking fund incurred on the capital over the first decade, Vickers were prepared to become enthusiastic.[51]

The regime needed their enthusiasm. No less than the demanding technology of armaments, the exploitation of oil reserves in marginal regions required the intercession of western expertise. Hence the appeal to Pearsons, and, after their refusal, the attempt to attract Vickers with a tempting package which included not only oil rights but large coal and iron reserves and lavish shipbuilding contracts. Probably as a result of their more lucrative experience with Russian contracts, Vickers were prepared to go

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[50] V. A., Microfilm 215, Outline Proposals of the Sakhalin Project.

[51] *Ibid.*, Barker to Courville, 28/5/1914; Barker to Balinsky, 11/6/1914.

further than Pearsons, but, lacking specific experience in oil, they deemed it only prudent to seek professional assistance: in May 1914 they re-presented the Sakhalin proposition to Pearsons on their own account. They proposed a new joint venture, the Russian Far Eastern Trading Co., with a projected capital of 12 million roubles, in which « the Anglo-French Syndicate » was to hold the dominant share of 5 million.

Pearsons were at first unimpressed. Neither the high rates of royalty on the oil raised, nor the proposed system of oil leases were to their satisfaction. And the means for improving these terms, the « lubrication » of officialdom which was a convention of the Russian market-place, lay outside Pearson's experience, and also outside their tastes.[52] However, the intervention of Vickers had modified the project in one significant respect; there would now be a customer for Sakhalin oil. In the winter of 1914-15, Pearsons agreed to send a small geological party to Sakhalin. Its reports were unexpectedly favourable. The climate did not offer the obstacles that Pearsons had anticipated. There were indications of rich oil reserves and that the crude was of a « heavy » variety with a high fuel yield. The prospects for railway and harbour construction, and for the creation of a local industrial complex, were good. Impressed by the evidence, Pearsons in February, 1916, at length sent a representative to Petrograd to negotiate a concession. And, during the course of this year, Vickers gave greater substance to the industrial side of the plan: designs were finalised for a 72 million rouble steel works which would bridge the gap between the local ores and the local railways needed for the carriage of Sakhalin oil. By this time the two firms were involved in an undertaking of greatly expanded scope, gathering pig iron, steel, shipbuilding and banking interests in pursuit of the Sakhalin development contracts. The total potential of the scheme at this point amounted to the provision of the infra-

[52] Pearson Papers, C15 Memorandum of Conference at Messrs Vickers, 22/5/1914.

structural base for a major development of Siberian industry; and in 1916 its realization seemed almost within the grasp of the British entrepreneurs.[53]

The negotiations, however, were subject to interminable delays. Embroiled now in a different, western war, the tsarist officials began to display a more characteristic intransigence with regard to the terms of the concession. As 1916 wore on, Pearsons progressively lost heart, concluding that « Russian business... has been a will-o-the-wisp for all English contractors ».[54] Vickers, schooled in the ways of Russian bureaucracy by the Nicolaiev and Tsaritsyn affairs, showed more stamina. But the events of 1917 were too much even for them; on 10th May they cabled their agent « extremely urgent » to break off all dealings with the Russians.[55] And with that, one of the largest schemes proposed by western capitalists for the industrializing empire came to its untimely conclusion.

V

While this last and finally fruitless phase of pre-war oil exploration was being played out in the Far East, British interests were not idle in the other fuel regions of the empire. From 1912 onwards, British companies were engaged upon a campaign for the renewal and re-invigoration of the oil industry that was directly comparable to the technological overhaul of the defence industries carried out by British armourers after 1905. The main protagonist was the Anglo-Dutch Shell group which, during 1911, purchased considerable interests in the Grosny and Emba fields, and, in 1912, took over the Rothschilds' giant holdings

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[53] *Ibid.*, C8, Conference at Vickers House, 9/5/1916.

[54] *Ibid.*, Memorandum by Sir Clarendon Hyde, 31/7/1916.

[55] V. A., Microfilm 215, Barker to Balinsky, 10/5/1917.

in Russia.[56] Shell found an industry which was technically very backward, a very different situation from that of the 1870's and 1880's when the Nobels had placed Russian oil at the forefront of world practice. The Anglo-Dutch engineers and geologists, like the British armament technicians in their sector, set out to provide the remedies. Professional geological surveys of Baku and the new oil regions were initiated. Plans for the provision of improved refining processes were set in hand. And, at Baku, where the slow and inefficient « free-fall » system of drilling was customary — but rarely able to descend more than 1,000 feet in a year — perhaps the most striking innovation of all was achieved: the introduction in 1917 of the modern rotary drill.[57] The work of Shell engineers here, as they themselves described it, promised to make « the rough and ready drilling of the early days a thing of the past. ».[58]

However the new British impetus affected more than oil technology; it played a major role also in the promotion of concentration within the industry. As in many other areas of Russian enterprise, western capitalists brought in their baggage not only modern machines but modern forms of business. Shell contributed its bit to this process of integration: by 1914 its eleven Russian operations controlled 104.9 million poods of oil production, just under one fifth of the total Russian extraction. British capital was also deeply involved in the attempt to unify the inconveniently large number of independent producers on the Baku

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[56] The Shell Group was founded in 1907 by a merger of the British Shell Transport and Trading Company and the Royal Dutch Petroleum Company of the Netherlands. The Group was under 60% Dutch control, and dominated by the Dutchman Henri Deterding. The story of Shell's Russian expansion is told in F. C. GERRETSON, *History of the Royal Dutch*, 4 volumes, (Leiden, 1958). There is an account, based on Rothschilds' archives, of Shell's purchase of the Rothschilds' oil interests by V. I. BOVYKIN, " Russkaya Neft' i Rotshildy ", *Voprosy Istorii* (4), 1978.

[57] P. V. VOLOBUEV, *op. cit.*, C. GERRETSON, *Geschiedenis der 'Koninklijke'* (Baarn, 1973), IV, pp. 101-134 gives an account of Shell's activities in Russia between 1912 and 1917.

[58] Shell, Memorandum by Russian Department, 13/2/1919.

field. In 1912 a company with this intention was formed by a group of Russian bankers and oil men and floated in London as the Russian General Oil Corporation (R.G.O.C.). It attracted much British and French capital; by 1914 about one quarter of the equity — £600,000 — had been raised in London and a matching share in Paris. The intent of the scheme, to tidy up Baku, was achieved with notable speed: by 1915, RGOC controlled 20 enterprises producing 157 million poods of oil, nearly 28% of the total Russian extraction.[59]

By the time of the Revolution, according to P.V. Ol', some 171.4 million roubles of British capital had been invested in the Russian oil industry. Some 51.11 million roubles of French capital, 13.67 million roubles of German capital and 6.8 million roubles of Belgian capital were also invested.[60] Although many Soviet writers have stressed the speculative nature of much of this British capital,[61] it had made a significant contribution to the growth of several new oil regions. The formation of the RGOC, and the entry of the Shell group into Russia promised extensive organisational and technological reforms for the entire industry. And, not least, the Sakhalin project had brought the partnership of British oil and British arms to the brink of providing a major scheme of regional industralisation.

The entire investment, plus all the ambitious schemes for the future, were lost during the Bolshevik Revolution. The oil industry was the second industry to be nationalised by the Bolsheviks, and all foreign investments were sequestrated within a matter of months. The assets of the western armourers, not only in Sakhalin but in the whole of Russia — assets for Vickers alone worth, at a conservative estimate, about £ 2 million — disappeared without trace into the maw of the Revolution.

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[59] P. V. Volobuev, *op. cit.*

[60] P. V. Ol', *op. cit.*

[61] L. Eventov, *Inostrannye Kapitaly v Russkoi Promyshlennosti*, (Moscow, 1931), p. 53.

VI

The British interests reacted in different ways to this loss of their property. British armourers displayed some realism in their willingness to negotiate re-entry to the Russian — now Soviet — marketplace. But British oilmen for a number of years continued to believe that the Bolsheviks were a temporary aberration in Russian history, and that they would soon be removed. In the immediate aftermath of the Revolution this did not seem a remote possibility.

In the oil regions, indeed, it must have looked distinctly feasible. After all, British troops had moved into Baku from the Middle East on 4 August 1917 and they stayed until 14 September. Although this force was subsequently driven out by the Turks, Bolshevik rule was not established. In October 1918 the local Azerbaijan government denationalised the oil industry, and British troops returned to Baku in the following month. A British major-general was installed as Governor of Baku.

The oil companies were soon making plans to return to normal operations in Russia. During February 1919 the Russian Department at Shell's London head quarters were considering means for extending their drilling improvements at Baku. And in October 1919 Shell went further and formulated a plan, in conjunction with the British military authorities, for the revival of oil exports from Baku.[62] Even the Sakhalin project showed signs of renewed life: by January 1920 Pearsons had recovered sufficient confidence to sound Vickers on the prospects of resuming exploration in the east.[63]

Still more ambitious was the *coup* attempted in April 1919 when Shell, Anglo-Persian Oil, Pearsons and other British financial interests combined in a design to annexe the Nobel'

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[62] Shell, H. Colyn to J. Evelyn Coates, 10/10/1919.

[63] Pearson Papers, C15, Lord Murray to Sir Trevor Dawson, 16/1/1920.

oil interests in Russia. Negotiations were opened with the Swedes but made little ground.[64] The Nobels wanted too much money — £36 million — and they wanted it in cash. The British commercial interests were determined that the Nobels should not entirely break out of the Russian connexion and that they should retain at least a minority holding.[65] And the British government would not give the oil men the guarantees of diplomatic support that were considered essential. At this point the matter stuck. Nobels began to prospect for a more gullible buyer, and, fortunately, found one. In July 1920 Standard Oil of New Jersey purchased title to one half of Nobels' Russian holdings.[66]

The crucial factor in this sequence was the diffidence of the British government. Polemicists alleged that the Allied intervention in the Caucasus had the seizure of the oil fields as a primary aim [67] and there were even a few elements at Westminster who dreamt of British domination over the reserves of Baku. But these views were never in the majority.[68] And they were certainly not enought to prevent the evacuation of the Caucasus, which, by October 1919, was largely complete. While goverments hesitated in their grand designs, the British oil interests lacked the confidence to replace the Nobel empire with a Russian grand design of their own.

Nevertheless, well into 1920, the companies, and, in particular, Shell continued to expect the imminent collapse of Soviet Russia. « The Bolsheviks will be cleared », the chief executive of Shell, Sir Henri Deterding wrote in September 1920, « not only out of the Caucasus, but out of the whole of Russia in about six months ».[69]

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[64] Pearson Papers, C8, Russia — File No. 2.

[65] *Ibid.*, Memorandum of Meeting at Britannic House, 26/11/1919.

[66] G. S. GIBB AND E. H. KNOWLTON, *The Resurgent Years. The History of the Standard Oil Company (New Jersey), 1911-1927* (New York, 1956), pp. 328-335.

[67] L. FISCHER, *Oil Imperialism*, (New York, 1926), p. 13.

[68] R. H. ULLMAN, *Anglo-Soviet Relations* (Princeton, 1968), vol. II.

[69] Shell. H. Deterding to Calouste Gulbenkian, 28/9/1920.

As late as 1925 Deterding believed that « in less than a year Russia will look civilised again ».[70]

VII

Vickers adapted more readily to the new political situation in Russia, even though their financial losses through the Bolshevik appropriation of industry were almost as great as Shell's. Certainly the armament capitalists were no less anxious for compensation. The tactics they adopted, however, were to seek any possibility of Russian work, military or non-military, in the hope that such an entrée might be exploited to win reimbursement for the confiscated armament factories. « Vickers », wrote one director, with notable understatement, « would welcome the opportunity to get back some of their own in Russia ».[71]

Vickers did not have to wait long for the opportunity of getting their own back. By 1920 the economy of the new socialist state was in chaos. Lenin's response — the « retreat » of the New Economic Policy — involved both the partial restoration of private capitalism and the granting of concessions to Western firms.

For Vickers, the Soviet thaw opened up an avenue of approach which lay through an industry especially high in Lenin's affections: electric power. There had been serious investigation by Vickers in 1917 of Russian prospects in this sector — particularly the possibility of using the hydro-electric resources of the Narva and Imatra Falls to supply both Petrograd and the Finnish economy. A Vickers engineer, sent to Russia in August 1917, reported accurately that the country stood in great need of power-station equipment, turbines, generators, light railway and tramway apparatus.[72] The comprehensive electrification plan, GOELRO,

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[70] *Ibid.*, H. Deterding to W. Rudeloff, 1/10/1925. Deterding was not alone in this view. The British Chargé in Russia, Sir R. Hodgson, expected " increasing moderation " in 1926.

[71] V. A., Microfilm 215, Caillaird to Zaharoff, 16/2/1924.

[72] *Ibid.*, Shepherd Report on Industrial Conditions in Russia, 1917.

announced by the Soviets in 1922 and aiming at the generation of power for the cities, bore out this analysis. Backed by Lenin's romantic attachment to electrification, GOELRO turned the USSR into the world's largest buyer of generating equipment. Valuable orders resulted for advanced economies like the British. And of these, by the end of 1925, some 40% had gone to the important Vickers subsidiary, Metro-Vickers; by May of that year Metro-Vic had already delivered in Russia some £670, 181 of equipment.[73]

By the close of 1925, the biggest station of the initial phase, the Shatura plant, was generating power and in late 1926 the turbine orders for the second phase, at £2 million in value, the largest contracts of their kind ever placed at that time, came up for tender. These transactions brought considerable relief to Metro-Vickers. But they did rather more. By 1926, Metro-Vic had eight of their engineers in Russia, posted from « the most inaccessible regions in the Ural mountains » to the major cities. They had « exceptional opportunities of judging the position in Russia ».[74] This watching capability was to stand Vickers in good stead in their second area of diversification; though it was to land the Metro-Vic engineers in dire political straits in the early ' thirties when Stalin's prosecutors made rather more of their careful economic analysis than they could ever have foreseen.

Vickers' second major interest in Russia was, once again, oil. As their armament interests had led them into involvement with the Tsarist oil industry, so their attempts to rescue their armament interests led them into involvement with the Soviet oil industry. For in the middle ' twenties, one of the Soviet Union's most pressing requirements was for modern oil-drilling, cracking and refining plant.

It is well-known that the lack of sympathy between the

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[73] *Ibid.*, Report on Business Conditions in USSR, February 1926.
[74] *Ibid.*

urban Bolshevik regime and the mass of the peasantry disrupted agricultural production throughout the decade. In turn, this prevented the Soviets laying hands on sufficient grain to maintain vital export commitments, of which cereals formed the massively dominant part. Without exports the regime could not purchase the western machinery needed for economic reconstruction. Consequently, the sharp contraction in the marketed grain surplus after the ' Scissors Crisis ' of 1923–4 and the Grain Strike of 1925 onwards sent a peasant scythe slashing through Bolshevik economic hopes.

Much less well-known are the Soviet counter-measures. Substitute exports were needed. Given the industrial attainments of NEP, they would need to be primary product exports. Russia was rich in timber — but, more valuably, in oil. The logical deduction was drawn; the middle 1920's saw an urgent drive to replace failing grain exports with swelling oil exports. The established literature has almost entirely ignored this important episode in the economic history of NEP, the deliberate attempt to transform a processing trade, the petroleum trade, into a replacement for the crippled primary trade in cereals.[75] This time, oil was not to be used as the central feature of a system for regional economic development, as had been planned for Sakhalin, nor as a domestic fuel, as it had widely been before 1914, but, much more specifically, as the central feature in a reconditioned export drive; the guiding principle was the « mineralization of exports ».

The Soviets perceived very early on that Western technological assistance was essential if the oil industry was to develop. By 1917 the wells were again lagging in technology; and they had been greatly damaged by the events of the Revolution and Civil War. By the beginning of 1922 half of Baku's wells lay idle.

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[75] M. DOBB, *Soviet Economic Development since 1917* (London 1966), p. 215. The subject receives little attention in such standard works as A. NOVE, *An Economic History of the USSR* (London, 1969) and E. H. CARR AND R. DAVIES, *A History of Soviet Russia: Foundations of a Planned Economy 1926–1929*, vol. 1 (London, 1969).

On 1 February 1921 Lenin introduced and secured the passage in the Council of Commissars of a resolution « to approve in principle the granting of oil concessions at Grosny and Baku and at other operating fields, and to begin negotiations, pushing them forward more rapidly ».[76]

The first companies to receive concessions were American. The Sinclair Oil Corporation was given a concession on Sakhalin in 1922. However, the island was almost immediately occupied by the Japanese and they refused to allow the company's representatives even to set foot on their claim.[77] In 1923 Sinclair also failed to get a concession in the Transcaucasus. Another small American oil company, the International Barnsdall Corporation, fared better. In September 1922 Barnsdall signed two contracts with the Soviets' Baku oil trust, Azneft. The first contract provided for the equipping and pumping of old wells at Baku and Grozny; the second covered prospecting and drilling on undeveloped land.[78]

By the middle of the 1920's Vickers had become involved in the work of renewing the Soviet oil industry. During 1924 the Soviets, increasingly concerned about the grain problem, redoubled their efforts to build-up their oil capacity. A mission was despatched to the U.S.A. under A.P. Serebrovsky in mid-1924 to evaluate American oil practice — and it stopped off in Britain on the way home. Vickers were able to employ this opportunity to demostrate their own drilling equipment to the Russians. Grozneft, the Grozny oil trust, in particular was impressed by the Vickers apparatus, despite the very much more ambitious scheme for a $ 25 million expansion in refining capacity proposed to them by the Sinclair Company.[79] These outlines began to develop more substance in 1925 and 1926 as large extensions

[76] P. S. GILLETTE, " American Capital in the Contest for Soviet Oil, 1920-1923 ", *Soviet Studies* (1972-3).

[77] F. J. FITHIAN, " Dollars Without the Flag: The Case of Sinclair and Sakhalin Oil ", *Pacific Historical Review*, (1970).

[78] A. C. SUTTON, *op. cit.*, chapter 2.

[79] V. A., Microfilm 215, Memorandum on Russian Oil Industry, 3/7/1924.

were put in hand on each of the three great Russian oilfields. At Baku record production levels were recorded in May 1926, and, in the same year, new wells were drilled at Batum in the Grozny field and also on the Emba field on the Khirgiz Steppe, abutting the north Caspian and to the east of the Volga's outlet.

Grosneft planned to open a new refinery at Batum and a new pipeline from Grozny to Triapne, while Azneft also wanted a new outlet line from Baku to Batum.[80] To help pay for these varied extensions, the oil concerns were permitted an exceptional dispensation: to keep part of the proceeds from foreign sales as funds for the purchase of foreign-made machinery.[81] By 1926, oil was unique among Soviet industries; it was highly profitable and it was using its profits to finance a major campaign of renewal, almost certainly the most impressive example of technological modernization in the USSR before 1928.

In the midst of all this activity, in early 1925, Vickers' man, Lawson Lomax, was in Russia and in close consultation with Soviet oil experts. He expected large orders on both the drilling and cracking sides to follow from the expansion plans of the three major oil organisations. He was not disappointed. Throughout 1925 and 1926, Serebrovsky was purchasing internationally in quantities described by Vickers covetously as « very large ».

But what they coveted, they mostly got. The first order from Grozneft, for a rig worth £6,000 came in 1924 with good prospects of contracts worth £180,000 to follow.[82] And early in March 1925 Azneft received its first license to import Vickers' plant.[83] The value of oil equipment orders placed by the Soviets in London in the two years to March 1926 — leaving aside the contracts going to France, Germany and U.S.A — totalled £1.5 millions and Vickers accounted for large proportions of this. Already by

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[80] *Ibid.*, Memorandum on Vickers and Russian Oil, 1925.
[81] *Ibid.*, The Russian Situation in October 1925.
[82] *Ibid.*, Leslie to Caillard, 24/4/1924.
[83] *Ibid.*, Memorandum on Vickers and Russian Oil, 1925.

May 1925 Vickers had delivered equipment worth £ 430,332, most of it oil equipment, and excluding the important electrification work being carried out by Metro-Vickers as a parallel part of the refurbishment of the oilfields. By February 1926 the parent firm had additional orders for drilling outfits worth £ 400,000, mostly for the Emba field, but some for the Caucasus, and by the end of the year they were discussing large cracking plants and tankers with the Soviets. In July of that year the total contracts of the entire Vickers group currently in train for the Soviets were worth £ 1,100,000.[84]

Despite the large Russian purchases of oil apparatus from the Americans, the Soviets retained a liking for British machinery in this sector; Azneft certainly preferred British equipment and Grozneft was most impressed by Vickers' cracking plant. Where in many lines of advanced technology exports, including such exports to Russia, the Americans and Germans enjoyed a definite edge, this was not true of oil machinery. By 1925 Vickers themselves claimed their rigs and refining processes to be « very successful » and fully able to compete with the American and German equivalents. This view was borne out by Soviet appraisals. Serebrovsky certainly expressed himself pleased with Vickers' pumping sets and judged that they would last three times as long as their American counterparts.[85]

Vickers seemed to have established in oil engineering the same kind of market penetration that they had earlier achieved in armaments. There is no doubt, however, that they desperately needed to do so, nor that the doing came hard. For their initial diversification into oil equipment had been disastrous and the early 'twenties were filled with development difficulties. In 1923 Vickers drilling bits failed dismally in Roumania and many oil companies came to distrust the product. To make matters worse,

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[84] *Ibid.*, Report on Business Conditions in the USSR, February 1926.

[85] *Ibid.*, Memorandum on Vickers and Russian Oil, 1925.

the firm needed sales of £100,000 per year to put the oil department on a commercially viable footing. They needed Russia, therefore, both to reclaim a reputation and to keep a new product line alive — which, in the second half of the decade, the Soviets virtually single-handedly did.

Rapid technological rectification apart, the devices used by Vickers to effect entry to the Russian oil market were basically two-fold: a generous approach to payment and an expert approach to negotiations. In 1924 Vickers were allowing terms refused by other suppliers and accepting bills that were, at this time, impossible to discount. This was perhaps because of two unusual needs felt by Vickers; first to get back on an amicable footing with the Soviets with an eye to some general compensation settlement; secondly to vindicate an attempt at diversification that had come under suspicion. In a sense, having lost so much, they had little more to lose. This policy proved effective with the Soviets. During the 'twenties, the Soviet government, knowing that it had to, paid its bills for high technology imports punctiliously. And by 1926 Vickers were able to take a harder line, winning orders with credit provisions far less extravagant than those promised by the French and Germans; such unwise schemes, they argued, merely reflected the economic instability of their rivals, a view apparently accepted by Serebrovsky. Here Vickers were no doubt assisted by their past experience of Russia. The agonies suffered by Vickers officials in their byzantine dealings with Tsarist officialdom before 1914 provided invaluable lessons for their successors in their no less tortuous dealings with the Soviets.

The equipment of Vickers, and the American and German constructors, helped to revolutionise the Soviet oil industry. Rotary drilling was finally introduced in volume into the Baku oil fields. By 1928 over 80% of Baku's wells used rotary drilling techniques. Pumping replaced bailing. By 1926 45% of Baku crude oil was being pumped rather than bailed. Finally, electricity

was brought to the oil fields. Only 30% of the wells had electric power in 1913. By 1928 the figure had reached 97%.[86]

It would be a mistake to attribute this technological progress entirely to Western capitalists, as A.C. Sutton clearly does.[87] It was the product of considerable Soviet effort. In 1925 the Naptha Trust, controlling all three of the major oil concerns, Grozneft, Azneft and Embaneft, received more state credits than any other industry, and, in the second half of the decade, more investment went into the petroleum sector than into any other. The Soviets, like their tsarist predecessors, identified their technological needs with precision. Western companies were brought in to meet these requirements, but the Soviet government strictly controlled the nature and direction of their activities.

It is undeniable, however, that the new Western technology played a substantial role in the recovery of the Russian oil industry after 1920. Oil won back more ground in output between 1913 and 1925 than any other industry bar matches and cigarettes.[88] Russian oil exports expanded rapidly, in remarkable contrast to the sad state of grain exports. The situation is shown in Table 1:

TABLE 1

GRAIN AND OIL EXPORTS IN PHYSICAL TERMS [89]
(*in thousand tons*)

	1913	1925-26	1926-27	1928	1929
Grain	9,647	2,069	2,161	89	262
Oil	947	1,473	2,086	3,005	3,852

Soviet petroleum exports advanced in quality as well as quantities. The pre-war reliance on kerosene was abandoned as new refineries enabled the Soviets to export the petroleum products

[86] A. C. SUTTON, *op. cit.*, p. 26.

[87] For a general criticism of Sutton's conclusions, see J. P. MCKAY, 'Foreign Enterprise in Russian and Soviet Industry', *Business History Review* (1974). pp. 351-352.

[88] M. DOBB, *op. cit.*, p. 84, E. H. CARR, *Socialism in One Country*, I, p. 348.

[89] E. H. CARR AND R. DAVIES, *op. cit.*, p. 1027.

most in demand in the West. By 1927 petrol contributed more than 25% of total oil exports, and by the following year oil was established as the Soviets' largest single money-spinner in foreign trade.[90]

However, oil exports never adequately replaced grain exports as a means of winning foreign exchange. This was partly because of the opposition by Western, especially British, oil companies to the sales of the fuel which the equipment of other British companies, notably Vickers, had helped to produce.

After the failure of the proposed British syndicate to purchase the property of the Nobels, the Shell Group went in search of concessions directly from the Soviets. During November 1920 the Shell management established contact with L. Krasin, the Soviet Trade Commissioner in London. By June 1921 a scheme had been concocted by which the oil company would construct, at cost, a pipeline linking the Grozny oil fields with various terminals. In return, the Soviet government agreed to give Shell the preferential right of transporting oil through this pipeline.[91] Shell's negotiations, however, were always bedevilled by the fact that the company had lost so much property in 1918. Shell's demands for compensation against past losses proved an insurmountable stumbling block to the satisfactory conclusion of new agreements.

Consequently, the scramble for concessions was taken up by other British oil companies. During 1920 the Anglo-Persian Oil Company began negotiations for a concession to work the Grozny oilfields.[92] In March 1921 Krasin told the company that a joint transaction between it and Standard Oil (New Jersey) might receive favourable attention by the Soviets. The two companies would obtain the right to build a pipeline to the Black Sea and would assume the obligation to pay a fair price to the

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[90] A. C. SUTTON, *op. cit.*, pp. 36-40.
[91] Shell, Proposals Submitted by the Soviet Trade Delegation, 31/6/1921.
[92] *Ibid.*, C. S. Gulbenkian to H. Colyn, 20/12/1920.

former owners of properties from which oil was taken. Anglo-Persian was eager to push forward with this scheme, but Standard Oil declined.[93]

Little came of these approaches while the issue of compensation progressively soured the attitude of the most powerful companies. By 1922 Shell and a number of other firms had moved into open opposition to the Soviet regime. Together, they mounted a campaign to prevent Soviet oil exports, denying any outlet to the "stolen oil". In the "London Memo" of July 1922 the leaders of Jersey Standard, Shell and the Nobels pledged that they would not negotiate independently with the Soviets and that they would *collectively* demand compensation for their sequestrated oil fields. This was the beginning of the *Front Uni* of oil companies against Soviet oil exports.

The *Front* was not united for long. In April 1923 Shell purchased a large quantity of Russian kerosene, "stolen" or not, and offered half of it to Standard Oil (New Jersey). At first the Americans refused, but in November 1924 Jersey Standard and Shell agreed to form a joint trading company for the purchase of *all* Russia's oil exports on the basis of an exclusive long-term contract. If the Soviets could not be brow-beaten into compensation, they were apparently to be joined in exploitation. But, at this promising point, Shell again changed tack and resumed an extremely anti-Soviet line, a manoeuvre not entirely unrelated to Deterding's recent marriage to a White Russian countess. When two American companies — Vacuum and Standard Oil (New York) — announced that they were going to revive the Shell plan to purchase Russian oil, the uxorious Deterding launched a price war against them.

The opposition of the Western oil companies obliged the Soviets to organise direct sales abroad. The Soviets paid particular attention to the British market. In 1924 they established a com-

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[93] P. S. GILLETTE, *op. cit.*

pany, Russian Oil Products, to sell oil in Britain, and by 1928 this had become the U.K.'s fourth largest importer of oil (by volume). Shell and the other British oil companies were eventually forced to concede an agreed quota to Soviet oil in the British market.[94]

But, in the final analysis, the affliction which curtailed Soviet oil exports in the late 1920's derived less from the hostility of the multi-nationals than from movements in world price levels: a slide in oil prices consequent upon expanded production in the U.S.A. and the emergence of new fields in Venezuela and Persia. Bolshevik trading hopes were thus frustrated by adverse prices, much as tsarist plans for grain exports had been damaged by falling cereal prices in the 1890's. During 1932 the Soviets earned no more from their overseas oil sales than they had in 1927-8, even though they exported twice as much oil by volume. This was scarcely promising for westerners whose relationship with the Soviets revolved around oil technology.

By 1928, although the Soviets were still talking to Vickers and negotiating with British oil companies, there were clear signs that the long dialogue between the Soviet oil industry and Western capitalism was nearing its end. As the Russian engineering industry advanced in sophistication, there was a diminishing need to resort to Western oil technology. And, at levels other than the industrial, Soviet Russia was beginning the process of introversion, which, by the end of the decade, would become virtually total. From 1927, however, this process, based upon the doctrine of Socialism in One Country, began to produce effects that were all too relevant for western manufacturers: the party leadership decreed that existing contracts with foreign firms would be honoured but no new ones placed. Vickers were among the worst hit; as late as 1932 they were still supplying drill joints for Soviet oil rigs. But, in August of that year, the total value

[94] JONES, *The State and the Emergence of the British Oil Industry*, (Chapter 8).

of Russian orders on the books of their entire organisation amounted to a meagre £1,730.[95]

In effect, the end had come in 1931. Vickers had sold their controlling — while retaining a minor — interest in Metro-Vickers to the International General Electric Co. of the U.S.A. in 1928, but it was Stalin's arrest of the Metro-Vickers team on charges of spying that signalled the end of the Russian adventure for the entire Vickers organisation. Though more indirect in its consequences, this proved effectively to be a sequel to the expropriation of 1917, a second enormous blow to their hopes in Russia. And this time, there could be no redress: the Stalinist economy of the Five Year Plans had no use for Vickers technology and was not interested in good relations.

VIII

A number of conclusions emerge from this study of the interaction between British business and Tsarist and Soviet Russia.

The first point is that British interests did not earn huge sums from the "exploitation" of Russia. The pioneer British oil companies of the late 1890's did make large profits. But the companies which followed them, lured by the promise of high earnings, were less fortunate. This was the general pattern of foreign investment in this market.[96] During the 1900's British oil companies struggled for survival in Russia, hit successively by depression, racial warfare, revolution and declining yields, and hampered by their own inadequate management. Millions of pounds were lost in the Maikop speculation in 1910. The considerable investment which went into the exploration of new oil regions after 1910 was all lost in 1917. An armaments firm like Vickers fared better. Armament contracts with the Tsarist regime were lucrative and Vickers were not the only firm to end up

[95] V. A., Microfilm 307.

[96] J. P. McKay, "Foreign Enterprise in Russian and Soviet Industry: A Long-Term Perspective", *Business History* (1974), p. 348.

having more money than they knew what to do with in Russia. But it was *in* Russia. These funds were used not for the boosting of western industrial surpluses but — exactly in the style emphasized by McKay for the general run of foreign enterprises [97] — for investment, for the finance of more extensive operations in Russia. And again these worthy transactions were terminated by the outbreak of the Revolution. The British armourers joined the wan queue of petioners fruitlessly seeking compensation from the Bolsheviks. Both oil and arms interests were heavy losers in this most classic of repudiations.

Nor was the long-term social gain to the British economy any more lavish. Elsewhere, British foreign investment was highly successful in generating plentiful supplies of cheap primary products. But this was not true of oil. The large British capital commitment in Russia did nothing to develop a secure supply source for the British industrial economy. Indeed, Russian oil exports *fell* soon after the arrival of British funds. And investment in Russian armament factories represented, for British capital, a rare flirtation with *manufacturing* activities which offered few direct returns to the metropolitan economy. The purpose here was precisely to reduce the dependence on imported weaponry, contracts for which might otherwise have fallen to British domestic producers. Neither the private nor the social rates of return to the British economy upon these two lines of Russian investment turned out very impressively.

The second conclusion, however, is that both the Russian oil and armament industries benefitted substantially from British participation. British, as well as French, capital and entrepreneurs made major contributions to the development of new oil regions and new arms capabilities. After about 1905 British, or part-British companies, were employed as powerful vehicles for technical modernization in each of these sectors. And from 1917 an unusu-

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[97] J. P. McKay, *op. cit.* (1970), p. 383.

ally symmetrical industrial conjunction permitted the sophisticated production capability of the western armouries to converge with the advancing equipment needs of the revived Soviet oil industry. Their meeting provided an important part of the technological base for the spectacular expansion of Russian wells during the 1920's.

The third conclusion is that if the Russian oil and arms industries benefitted from British investment, this was the result of deliberate planning by both imperial and communist regimes. Tsarist ministers clearly recognised that key native industries required extensive technological refurbishment and promoted western capital involvement so as to secure its crucial secondary effects. Lesser officials often outran their capabilities (and western patience), but the ministerial aim was true. Further, the British, along with all western interests, were required to work under strict state regulation, while foreign companies considered "undesirable" — such as Standard Oil or Krupp — were never permitted to acquire any substantial Russian base. The Soviets in the 1920's also proved more than willing to continue the use of Western expertise and more than able to avoid being used by it. It is not irrelevant that "ever since" the Soviet Union has remained a highly efficient buyer of Western technology.[98]

The lesson is clear. Foreign investment, attracted selectively to sensitive high-technology industries can exert a developmental leverage out of proportion to its physical volume. But this will only be so if the same conditions are applied to these transactions as to the much larger borrowings in other sectors: the importing state must retain autonomy in the definition of its economic objectives and sovereignty in the management of the foreign interests recruited to pursue them.

For measurement of what the Russian economy might have achieved *without* these qualitative contributions from western capital we shall no doubt have to await a new generation of cliometricians.

[98] J. P. McKay, *op. cit.* (1974), p. 354.