

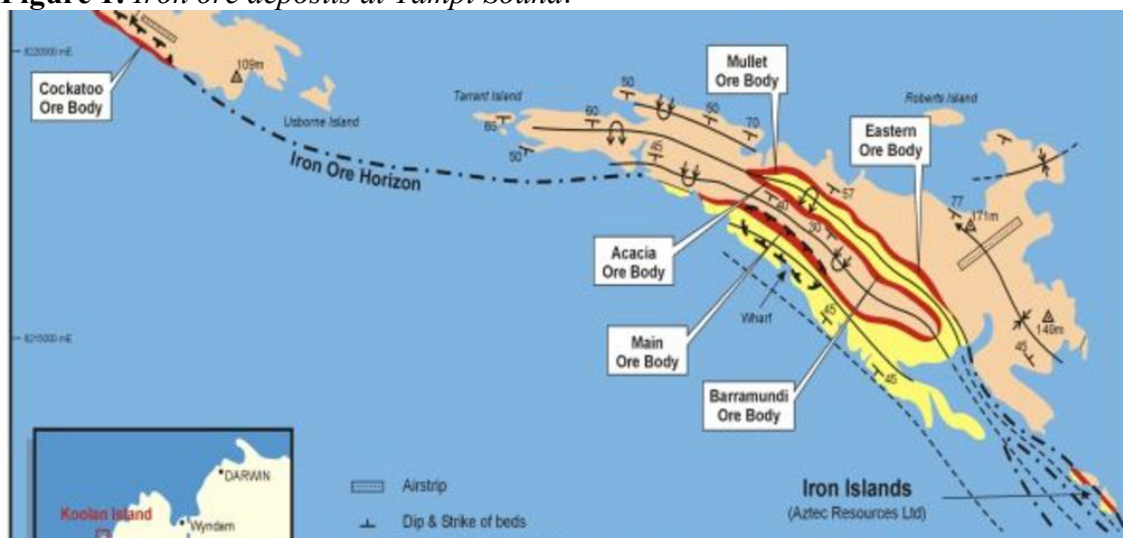
Australia's Embargo of the Export of Iron Ore: a Reconsideration

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The decision of the Lyons Government in 1938 to embargo the export of Australian iron ore meant that 'no iron ore left Australia for foreign ports for a quarter of a century'.¹ The iron ore export embargo has been the subject of various interpretations. Rupert Lockwood has stressed that Australia's monopoly steelmaker, the Broken Hill Proprietary Company (BHP), persuaded Lyons to impose the ban. Another interpretation of the ban is that it reflected racist motives. A third interpretation, held by historians ranging from Geoffrey Blainey to Kosmas Tsokhas, contends that Australia took the decision on grounds of national security. The argument of this article is that BHP did not instigate the embargo, and that racism and national security are insufficient explanations for the embargo. The chief concern of the Lyons Government was with the development of iron ore deposits at Yampi Sound by Japanese capital, which effectively entailed control of a vital Australian natural resource by a foreign power. This concern prompted the Lyons Government's decision to ban all exports of iron ore on the basis of a geological survey that was shown to be inadequate even at the time it was written. Nonetheless, one of the reasons that the embargo lasted until 1960 was that it came to suit the interests of the Australian steel industry. The banning of iron ore exports for one quarter of a century did not necessarily mean that Australia's post-1960 minerals boom could have begun earlier. The ingredients of this mining boom were Asian industrialisation, and technological developments in railways and shipping that allowed for large-scale mining in remote areas and long-term commodity contracts. These ingredients did not fully come to fruition until 1960 when the embargo was lifted.

Figure 1: *Iron ore deposits at Yampi Sound.*



Source: Courtesy *Mining News*.

The Japanese and Yampi Sound

Iron ore was discovered at Yampi Sound off the north coast of Western Australia, more than one thousand kilometres from Perth, in the early twentieth century. The first application for a lease to mine the ore there was made as early as 1907.² By that time iron ore was being mined in South Australia.³ BHP used South Australian iron ore in the manufacture of steel at Port Kembla and Newcastle in the 1910s and 1920s.⁴ During the period in which BHP emerged as a major steel manufacturer, mining leases at Yampi Sound were passed around in Australia, the United Kingdom and various other countries, but without success. This was mainly for the reason that the exploitation of the ore from there was considered to be an uneconomic proposition.⁵ Eventually, in 1927, Hoskins Iron and Steel Co. of Lithgow acquired a lease on Cockatoo Island in Yampi Sound to mine some of the ore there to feed the steelworks of Australian Iron and Steel Ltd.⁶ The Great Depression put a stop to the operation, and it was not until 1959 that BHP, which inherited leases at Yampi Sound through its acquisition of Australian Iron and Steel, started mining deposits there.⁷

In between, in the early 1930s, the Japanese steel industry became interested in Koolan Island in Yampi Sound. A syndicate led by a Western Australian, Harold Buckley, acquired leases on that island in 1932 (Fig. 2). About the time Buckley acquired the Koolan Island leases, another resident of Western Australia's north west, J.P. Gill, sought to develop trade between Western Australia and Japan in iron and cattle.⁸ Gill's business contacts in Japan encouraged the Nippon Mining Company of Japan to try to secure the leases from Buckley.

Figure 2: *Some of original party led by Harold Buckley, surveying iron ore deposits at Yampi Sound.*



Source: Buckley Collection Image 3398B/2, State library of Western Australia

The Nippon Mining Company was the largest mining concern in Japan with capital of about £16 million and important interests in Manchuria, Japan and the Malay States.⁹ Baron Ito, its chairman, was a prominent member of the Japanese House of Peers

and a former Admiral of the Imperial Japanese Navy.¹⁰ The Nippon Mining Co. tried unsuccessfully to purchase leases at Yampi Sound in 1933. In the meantime, Sir James Connolly, a former member of the Western Australian Parliament, obtained an option on Buckley's leases, as well as a temporary reserve on the rest of the iron ore deposits at Koolan Island.¹¹ Connolly, an enthusiast for the development of Western Australia, managed to sell his interests at Koolan Island to the British Company, H.A. Brassert, in 1935.

Brasserts did not wish to purchase the Australian iron ore for its own purposes but was willing to work the deposits to sell to the Nippon Mining Company. To help make the arrangement with Japan economic, Gill assisted in organising a side contract for the export of cattle to Japan; the freight on the cattle would help defray the expense of shipping the ore.¹² A Japanese delegation visited Perth in January 1935, its leader expressing Japan's desire to establish closer economic relations between Australia and Japan (Fig. 3). This was in the year following External Affairs Minister Sir John Latham's successful Goodwill Mission to Japan.¹³ In October 1935, H.A. Brassert announced triumphantly that it had signed a contract with the Nippon Mining Company for the sale of millions of tons of iron ore to Japan, in what was described as to be the 'biggest iron ore mining venture East of Suez'.¹⁴

In the 1930s, Australian law prohibited direct Japanese investment in the enterprise. Accordingly, the Japanese sought to proceed through H.A. Brassert and Co.. The Nippon Mining Company put up all the working capital for the venture and in return received the sole right to purchase the iron ore from the British company.¹⁵ Thus began a Japanese-financed iron ore export project that was stopped precipitately in 1938 by the Commonwealth Government, which placed an embargo on the export of all iron ore from Australia. Some historians have seen the major reason behind Australia's 1938 embargo of iron ore as national security, involving a fear on the part of the Commonwealth Government that it would be undesirable to give Japan a foothold on Australian territory with war looming in the Pacific.¹⁶ The major argument against this interpretation is that the Commonwealth agency most concerned with national security, the Department of Defence, was also the most supportive of the venture at Yampi Sound going ahead.



Source: Buckley Collection, Image 3398B/2, State Library of Western Australia.

In 1934, when the Department of Defence first considered the Yampi Sound project, it welcomed the inflow of foreign capital into Australia's iron ore industry just as American capital had supported the motor, oil and cinema industries in the 1920s. As far as the issue of national security was concerned, the Department of Defence reasoned that Japan would be either an enemy or neutral in war. 'In the former case', argued the department, 'it might not be disadvantageous to us that she had developed for our use a further source of supply, whilst her dependence on British sources which would be denied to her, would be greater than if she had turned to neutrals for those supplies in peace'.¹⁷ A year later, the Defence Committee endorsed its earlier conclusion, noting the advantages of increased foreign investment and larger export earnings for Australia from the sale of iron ore abroad.¹⁸ For the Department of Defence, the Yampi venture was not a new departure in the import of foreign capital and not a step toward foreign control of vital national resources. Again, as to national security, the Department of Defence did not see a problem. If the British Navy commanded the seas, the department reasoned, it would keep the Japanese out of Yampi Sound. On the other hand, if the Imperial Japanese Navy were to have command of the sea, it would have unrestricted access to all of Australia's ports and harbours.¹⁹ The Defence Committee concluded that 'from the Defence point of view ... there was no objection to the formation of an Australian company to acquire iron ore deposits at Yampi sound and sell them to a Japanese firm'.²⁰ Other interest groups in Australia supported the Japanese venture at Yampi Sound. One of the most prominent was the Pastoralists' Association of Western Australia, which wrote to the Minister for External Affairs to point out that fostering the trade in iron ore between Australia and Japan might also help the sale of other commodities such as wool and meat.²¹

Nonetheless, the Federal Government led by Joseph Lyons had some questions about the venture as it was developed between the Western Australian Government, H.A. Brassert Co. and the Japanese. In 1935 Lyons asked the High Commissioner in London, Stanley Bruce, to ascertain the opinion of the British Government on the iron ore deposits at Yampi Sound.²² In particular, he asked Bruce whether there was a possibility of the British co-operating with the Commonwealth Government either in reserving the Yampi deposits for the use of the British Empire or developing them for imperial purposes. A positive reply would have given the Lyons Government the leverage to suggest to the Western Australian Government alternative ways of developing Yampi sound other than through the use of Japanese capital. The British, however, had no economic incentive to develop the Yampi deposits with richer deposits closer at hand to them. They did not give any justification to Lyons to intervene with the Western Australian Government. Moreover, the British even encouraged the Australian Government to support the Japanese investment by pointing out that the deposits would be more use to Australia in an emergency if they were actually being developed. An officer of the Australian Department of External Affairs saw the logic in the British position. If the Yampi Sound venture went ahead, the British would have succeeded in making Japan dependent on a British Empire source of supply for an important raw material.²³

If the Department of Defence and the British Government had few qualms about the Japanese exploitation of the iron ore deposits of Yampi Sound, what was the main source of Lyons's concern? M.E. Causer has persuasively argued that Lyons's chief

anxiety was not the sale of ore to the Japanese, but the involvement of Japanese capital in development of a key Australian natural resource. In the middle years of the 1930s Australia exported modest tonnages of iron ore to Japan from South Australia: 250,000t out of 400,000 in 1934–35, 290,000t out of 430,000 in 1935–36 and 194,000t out of 270,000 in 1936–37.²⁴ The balance of the exports went to the United States. Lyons supported the export of iron ore to Japan, but his concern about the penetration of Japanese capital to develop and possibly control the deposits is evident in correspondence with the Tasmanian Premier in 1936. He confided in the Premier that

[t]he question is as to whether foreign nationals should be permitted to have a stake in the production in Australia of essential commodities. You would agree that this is quite a different matter to the export of such commodities to foreign countries by Australian producers.²⁵

Lyons further advised the Tasmanian Premier that:

The objective of the Commonwealth Government is assured control of raw materials in time of emergency ... If, however, foreign interests controlled the source of supply of the raw materials, action to influence the conduct of the operation might be construed as an unfriendly act and result in international repercussions of an undesirable nature.²⁶

For Lyons the major problem was not that iron ore would be exported to Japan from Western Australia, as it was by BHP from South Australia. It was that what was effectively Japanese Government control of Yampi Sound iron ore, through a dummy company, would later become a significant domestic embarrassment for Lyons despite the Leader of the Opposition, John Curtin, supporting the development. Although Lyons had irritated Japan by diverting trade in textiles away from Japan toward Britain in the mid-1930s, he was keen to develop a sound relationship with Japan, as is evidenced by his sponsoring of an Australian Goodwill Mission to Japan in 1934. Racist attitudes to Japan, while they were certainly present in parts of Australia, do not provide a sufficient explanation for Lyons's decision-making on Yampi Sound.

Towards the Embargo

H.A. Brassert paid £35,000 for the Koolan Island leases, and then spent about £50,000 in preliminary expenses to commence mining operations.²⁷ Early in 1936, the Yampi Sound Mining Company, which was Brassert's newly created subsidiary in Australia, submitted detailed proposals to the Western Australian Government for the development of the iron ore. Meanwhile, the Nippon Mining Company spent £260,000 preparing its operations in anticipation of receiving the ore from Yampi Sound. These included constructing new blast furnaces in Osaka and co-operating with another company, Yawata Iron Works, to prepare the latter's blast furnaces to receive ore in large quantities from Koolan Island. The Western Australian Government fully co-operated with the Japanese and H.A. Brassert by sending a party to Yampi Sound to select a site for a township; all the while the Commonwealth Government watched these developments without intervening. Indeed, in 1936, Commonwealth Ministers were twice asked about the venture, and on

both occasions made statements to the effect that the Federal Government saw no reason to intervene.²⁸ Senator George Pearce, the Leader of the Government in the Senate, stated on 22 May 1937

The Commonwealth Government considers that any effort to restrict Japan's access to the iron ore deposits at Yampi Sound would be dangerous ... Moreover, since one of Japan's chief sources of iron ore at present is British Malaya, and since the British Colonial Office has made no effort to restrict purchases for Japan in the colony, it is evident that the British Government is in agreement with the policy of the Commonwealth that restrictions should not be imposed on foreign customers.²⁹

Figure 4: *W.G. Woolnough.*



Source: <https://www.genealogy.com/ftm/b/e/r/Eleanor-marie-C-Bergersen/PHOTO/0004photo.html>

Cabinet meeting, Lyons cabled Bruce to ask whether the position of the Imperial authorities had altered, warning him of changing technical assessments of Australia's iron ore reserves and inquiring again whether the British thought that Australia should restrict iron ore exports to Japan.³² Bruce replied on 4 August 1937 that there was no change in British views and that the British Iron and Steel Federation thought that the Yampi Sound deposits could not be developed profitably for British industry in normal times.³³ Despite Bruce's negative response, Lyons wrote to W.G. Woolnough, the Commonwealth Geological adviser (Fig. 4), asking him to undertake a general survey of Australia's iron ore position.³⁴

Woolnough was born at Grafton in New South Wales in 1876 and educated at Sydney Boys' High and then the University of Sydney where he was influenced by the geologist and Antarctic explorer, Sir Edgeworth David. After lecturing in geology at the University of Sydney, Woolnough was appointed as foundation Professor of Geology (1913–19) at the University of Western Australia. In 1927 the Bruce–Page Government

Nonetheless, considerations such as those raised by Lyons with the Tasmanian Premier prompted closer Commonwealth interest in Yampi Sound in 1937. By that time, an Aerial Geological and Geophysical Survey of Northern Australia was suggesting that there was reason to doubt the long-term adequacy of Australia's iron ore resources. In July 1937 Senator Alexander McLachlan, the Commonwealth Minister in Charge of Development, took heed of the report, recommending that the export of iron ore from Yampi Sound be limited to 20 million tons and that the export of all other Australian iron ore be totally prohibited.³⁰ On 28 July 1937 Cabinet acted on McLachlan's recommendation by asking for the full particulars of the Western Australian Government's leasing of the Yampi iron ore deposits to H.A. Brassert and Co. and, if possible, the terms of any agreement between H.A. Brassert and the Nippon Mining Co.³¹ After the

appointed him to become geological adviser of the Commonwealth of Australia, a post he occupied until 1941.

In the second half of 1937 criticisms of the Yampi Sound venture were increasingly ventilated in the Department of Commerce, which, with Country Party leader Earle Page as its minister, was the department responsible for encouraging Australian exports. By this time the Department of Commerce was assisted by a network of trade commissioners in overseas posts, including one in Tokyo. Australia's Trade Commissioner in Tokyo, a former intelligence officer, E.E. Longfield Lloyd, became an acerbic critic of the Yampi Sound venture.³⁵ Lloyd had been a political adviser and interpreter for Sir John Latham's Goodwill Mission to Japan in 1934, and by the late 1930s, he had formed the view that Japan was preparing for a 'protracted state of war' and noted Japan's interest in expanding southward, possibly as far as Australia.³⁶ On 6 October 1937, he wrote a memorandum to the Secretary of the Department of Commerce, James Murphy, describing in broad terms the penetrative system posed by Japan in places such as China and parts of Southeast Asia. Instancing the Japanese exploitation of the island of Hainan, he thought that Japan's prospective venture at Yampi Sound

can only result in the occupancy and exclusive right over a portion of Australian territory by Japanese interests and personnel, upon the face of it for half a century; a hold from which these people will not be either then or in the interim readily loosened once the Agreement is allowed to become operative.³⁷

He suggested three methods of preserving the deposits from Japanese exploitation: the Immigration Act; preclusion of export by reference to either Australian or imperial need; or the Defence Act.³⁸ Lloyd thought that the H.A. Brassert-Nippon Co. Mining agreement would give Japan a foothold on Australian territory for a very long time and the position warranted action to cancel it immediately.

While the most alarm about Yampi Sound was felt in the Department of Commerce, the Department of Defence did not share the same degree of concern. On 6 December 1937 the department registered no qualms about the potential of Yampi Sound as a strategic naval base for the Japanese.³⁹ The extent of the reservations of the Department of Defence was that the agreement between the Japanese Mining Company and Brasserts might lead to a large influx of Japanese into North Australia waters. This could add to the large number of Japanese engaged in the pearling industry in north-western Australian waters. Mitigating against that threat, however, was that the Western Australian lease conditions had allowed for the cancellation of the lease in the event of the employment of Asian labour.⁴⁰

The Department of External Affairs, the department responsible for advising on foreign policy, sided with the Department of Defence. On 13 December 1937, Roy Hodgson, the Permanent Secretary of that department, wrote a memorandum to R.G. Casey, the federal Treasurer.⁴¹ Hodgson was mindful of growing questioning of the adequacy of Australian iron ore resources, but reiterated British advice that it had no objections to the involvement of Japanese capital and felt that Australia would be better off in any later emergency by having the deposits developed. Hodgson and his department agreed with Defence that that the dangers of penetration by Japan into Australia were

exaggerated. In late December 1937, the Department of Defence thought that there was little danger of Yampi Sound becoming a potential naval base for Japan. In the sphere of foreign relations, the Department of External Affairs pointed out that a special Committee of the League of Nations was working on the question of 'access to raw materials' and that Australia might be criticised if it prohibited Japan, a nation deficient in raw materials, from acquiring by legitimate means a raw material which she did not require herself.⁴² On the whole the Department of External Affairs concluded that it would be inadvisable and unnecessary to take steps to prohibit the exploitation of the leases.⁴³

The Embargo

Despite the division of opinion among the Commonwealth's advisers on the question of the Yampi Sound enterprise and the consensus between the departments of Defence and External Affairs that it should proceed, Lyons and his ministers seemed to have made up their mind to stop it in early 1938. This is evident from the record of a conversation between Lyons and Essington Lewis, the Chairman of BHP on 9 March 1938. Lyons began the meeting by informing Lewis that the Cabinet was becoming perturbed about Australia's iron ore resources and also 'that Japanese position should establish a base at Yampi Sound which would be an unfortunate thing in case of hostilities'.⁴⁴ He then sounded Lewis out on whether, if the Commonwealth were to prohibit the export of iron ore, this could be offset by the Australian iron and steel industry's development of the iron ore on one or other of the islands in Yampi Sound.⁴⁵ By that time Australian Iron and Steel Company, which had obtained leases at Yampi Sound in 1927, was a subsidiary company of BHP. If BHP, which was the Australian iron and steel industry in 1938, could commence work on mining Yampi Sound's iron ore deposits, that would have the effect of appeasing the anger of the Western Australian government and also of refuting allegations of discrimination by the Japanese. In other words, Lyons pointed out, Australian industry would be making the point to the Japanese that Australia needed Yampi Sound iron ore, as well as South Australian iron ore, for the domestic steel industry. Alternatively, Lyons floated the proposal that 'it might conceivably pay someone to buy out the Japanese interests instead of putting an embargo on the export of iron ore at this time'.⁴⁶ As M E. Causer has pointed out, Lewis had already made clear to Lyons that BHP had sufficient reserves of iron ore in South Australia. However, since BHP was the only significant user of iron ore in Australia, Lyons had to make the request to him.⁴⁷

Lewis went on to remonstrate to Lyons for the continuation of the export of iron ore from Australia partly on the ground that the iron ore exported was magniferous and could not be used in Australia. Moreover, in Lewis's view, the export of scrap iron on its own would not be extensive enough to allow for substantial export. On this point, Lyons assured the Chairman of BHP that an export embargo of iron ore would be all embracing (that is, it would apply to BHP too) but there would be no restriction on the sale of scrap metal to Japan.⁴⁸ The conversation between Lyons and Lewis demonstrated that BHP was not in 1938 behind the embargo and that the decision to allow the continued export of scrap iron was in some ways a compensation to BHP for the loss of income occasioned by the embargo on the continuation of its trade in iron ore. This is contrary to allegations

made by the Japanese after the embargo was imposed.⁴⁹ For example, in an article in the *West Australian* newspaper in April 1938, the Japanese were quoted as saying:

It can only be inferred that the only result of the contemplated measure will be the accumulation of monopolistic profits by iron and steel industries in Australia. Such a measure as will encourage the augmentation of particular industrial profits, at the vital sacrifice of legitimately vested foreign interests, can in no way be justified.⁵⁰

Member of the Australian Communist Party and historian Rupert Lockwood also made the charge after the subsequent industrial dispute at Port Kembla when members of the Waterside Workers' Federation protested against the sale of scrap iron to Japan.⁵¹ Lewis maintained that Australia's iron ore deposits were not so limited as to warrant an iron ore embargo and did not think that the Japanese-financed venture at Yampi Sound threatened Australia's national security. These were the opinions, moreover, of a man who was concerned in general about the prospect of war with Japan and the need to make more extensive defensive and industrial preparations against such a contingency. Had BHP developed the Koolan Island deposit, rather than Brasserts, the Lyons Government may well not have introduced the embargo and may have allowed BHP to export iron ore from Yampi Sound to Japan.

Having been commissioned by Lyons in August 1937, Woolnough made his report to the Lyons government in March 1938, and based his recommendations on considering iron ore deposits greater than twenty million tons, containing a high percentage of iron and free from notable amounts 'of such objectionable constituents as silica, titanium, sulphur, phosphorus and copper'.⁵² Geographically, he restricted his gaze to deposits 'situated as to be within economical transportation radius of adequate supplies of coal of just the right quality'.⁵³ This left only two groups of iron ore deposits that satisfactorily complied with the conditions he had stipulated, namely the Iron Knob Group in South Australia and the Yampi Sound Group in Western Australia. He assessed available tonnages from South Australia as between 150 million and 200 million tons and the deposits as perhaps between 60 million and 90 million tons of ore. 'Very large tonnages', he admitted, 'are known to exist in the interior of Western Australia, but none of these is comparable in respect of transportation even with the Cadia deposits of New South Wales'.⁵⁴ On the basis that the country was then using about two million tons of iron per year for local steel manufacture and limited exports, that implied for Woolnough that 'it is certain that if the known supplies of high grade ore are not conserved Australia will in little more than a generation become an importer rather than a producer of iron ore'.⁵⁵

On 17 March 1938 Lyons's Cabinet took the decision to prohibit entirely the export of iron ore from Australia, commencing in three months' time. No cabinet minute could be traced but Earle Page, the Minister for Commerce, described the decision as 'of such a nature as to leave little room for any compromise'.⁵⁶ At first, Cabinet intended to announce the ban on 19 March 1938. On the following day, however, it decided not to announce the embargo as planned, although it released the substance of the Woolnough report. The announcement would eventually be made on 19 May 1938.⁵⁷ In the meantime,

Lyons took soundings of his ministers, Earle Page, the Minister for Commerce, and Attorney-General Robert Menzies, who were *en route* to Great Britain and the Commonwealth's representatives in London and Tokyo. Lyons explained that the government wanted to act quickly.⁵⁸

Meanwhile, Torao Wakamatsu, the Japanese Consul-General got wind of a likely proclamation prohibiting the export of iron ore from Australia. Lyons replied that he had received Woolnough's report and that '[t]he responsibility devolves upon [the Australian Government] of conserving raw and irreplaceable material required for the vital and rapidly expanding steel industry in Australia'.⁵⁹ To sweeten a bitter pill, Lyons assured Wakamatsu that 'in considering future action full cognisance will be taken of the situation which already exists and of the special circumstances surrounding the working of the deposits at Yampi Sound'.⁶⁰ Bruce reported from London on 31 March 1938 that the British Government was disturbed at the possible effect on the Japanese Government of a sudden cut off of output from Yampi Sound and hoped that the Commonwealth Government would publish reasons for the ban that would 'carry conviction of its necessity'.⁶¹ In March and April Wakamatsu followed up by pointing out the large amounts of Japanese capital that had been spent at Yampi Sound with the full support of the Western Australian Government and at least the tacit support of the Commonwealth Government. He pressed for an exemption from any prospective Commonwealth prohibition so as to allow Japan to import 25 million tons of iron ore, at the rate of one million tons a year, for a period of twenty-five years.⁶² This was the solution that McLachlan had recommend in the previous year.

Lyons's cablegram to Bruce in the wake of the Japanese protest is revealing. He pointed out that 'there is good reason to doubt the adequacy of our iron ore resources that can be mined ... although admittedly there is some doubt on this point.'⁶³ He went on, however, to explain that the

Point on which there is no doubt is that we do not wish to undergo the embarrassment that would probably become cumulative as years go on of having what was in effect a Japanese Government enterprise well installed in Northwestern Australia, close to Broome where there are already large numbers of Japanese engaged in pearl shell industry.⁶⁴

In comments to Bruce only Lyons concluded: 'Desire you understand we are not only concerned with preservation of adequate ore reserves but also expressly wish to avoid the establishment of this Japanese Enterprise in North West Australia'.⁶⁵

Bruce made haste to discuss the Lyons Government's intended iron ore embargo with the British Board of Trade and the Foreign Secretary, Viscount Halifax. Halifax, Bruce reported, felt that the Japanese would keenly resent the move and 'certainly attribute political motive' to any action taken by the Commonwealth Government.⁶⁶ The British Foreign Secretary suggested that the Lyons Government should 'emphasise that the conservation of its natural resources by any Sovereign State is a policy that is very generally acknowledged as reasonable, and one the force of which the Japanese Government will fully appreciate'.⁶⁷ Halifax also advised that the Commonwealth Government should make it clear that the Japanese investors at Yampi Sound should by

adequately compensated for the expenses already incurred by the company.⁶⁸ When Menzies and Page arrived in London, Menzies and Bruce went to the Foreign Office after which they concurred in Halifax's recommendation that the statement that Lyons made regarding the embargo should undertake to examine compensation for companies affected by the ban. In Menzies' view it could reasonably be argued that the Commonwealth Government had tacitly assented to the operations of the Nippon Mining Company from 1935 to 1937.⁶⁹

Reaction to the Embargo

The months following the announcement of the embargo in May 1938 saw Japan mount a concerted campaign to keep the Yampi Sound venture operating. At the centre of the campaign was Torao Wakamatsu, Japan's Consul-General in Sydney. He conceded the point that sovereign states had the right to take measures to conserve their natural resources, but that such were 'not purely domestic matters but should be recognised as international problems when they affected vested interests of foreign nationals'.⁷⁰ Wakamatsu argued that it was disturbing that Japan should be deprived of its interests from a measure taken 'without full evidence of absolute national necessity', and pending the completion of a 'thorough and critical survey of the iron ore deposits throughout Australia' that was to be conducted between the Commonwealth and the states over a period of two years. In the interim he argued that the most practicable and reasonable solution was for the Commonwealth Government to permit the export of a certain minimum quantity of iron ore from Yampi Sound, pending the results of the fuller survey. He had in mind permission for the yearly export of one million tons for a period of fifteen years, or at a minimum, ten years.

Wakamatsu also cast serious doubt on the stated reasons for the export embargo: Woolnough's geological survey. He argued that the practical studies of a number of experts in Australia had persuasively pointed to there being 'enormous known quantities of iron ore economically accessible, and, besides, almost inexhaustible unknown quantities'.⁷¹ An accompanying note by the chief geologist of the Nippon Mining Company, K. Fujimura, supported Wakamatsu's contention. Fujimura pointed to the conclusions of the Dominion Royal Commission of 1918 and the Imperial Mineral Resources Bureau, which assessed Australia in 1922 as having 344,929,000t actual iron ore reserves and probable iron ore reserves of at least 503, 449,000t.⁷² Fujimura also pointed to more recent reports of an expert, that a mere twenty miles from the deposits in the Iron Prince and Iron Duke in South Australia, there were numerous bodies of iron that together could contain one thousand million tons of iron ore. That expert had also predicted that if all the resources in Australia, and especially Western Australia, were properly and carefully surveyed

it would be found that ore was present on an enormous scale, a supply sufficient for many hundreds of years, and probably greater than the resources in England, which are also inferior in quality, the highest grade in England, of which there is only a limited quantity, assaying, as quoted, much lower than in Australia, where it assays 65%.⁷³

In view of both the known Australian resources and anticipation of deposits yet to be discovered, Wakamatsu contended reasonably that ten to fifteen million tons exported from Yampi Sound 'will have only a negligible effect on the conservation of iron ore resources in Australia'.⁷⁴ Wakamatsu next took aim at Woolnough's stipulation that workable deposits of iron ore had to be situated within economical transportation radius of adequate supplies of coking coal of just the right quality.⁷⁵ From the point of view of transportation expenses, Wakamatsu argued that the sea route of three thousand miles from Koolan Island to either Newcastle or Japan could be compared to a distance of three hundred miles overland. Wakamatsu's campaign was reinforced in the Australian media and in the United Kingdom where Japan's Ambassador to Great Britain, Yoshida Shigeru, saw Stanley Bruce in June 1938.⁷⁶ Yoshida was a diplomat of high standing, a future Japanese Prime Minister, and a friend of Baron Ito, the Chairman of the Nippon Mining Company. He made it clear that the Japanese government deemed the export embargo to be a 'de facto discrimination against Japan' especially when considered against all the factors involved such as the total export of Australian iron ore, the consuming countries involved, the quantity consumed in Australia and the fact that Japanese interests were largely behind the Yampi Sound Company development.⁷⁷ Sir Robert Craigie, Yoshida's British counterpart in Tokyo, was equally disappointed in the Australian measure. Craigie reported that the Australian initiative was strengthening the tendency of a section of Japanese opinion to align themselves with those in Italy and Germany who argued that the only way that the 'have-not' states could ensure adequate supplies of raw materials would be to take them by military force.⁷⁸ Craigie did not recommend any immediate compromise but hoped that at a later stage, if Japan adopted a reasonable attitude, Australia might consider as an act of grace allowing the export of 'relatively small supplies of iron ore from South Australia'.⁷⁹ None of these recommendations were accepted. When Woolnough completed another survey in conjunction with the states in 1940, the second survey supported his original recommendations.

Conclusion—the Motivations for and Legacy of the Embargo

The iron ore export embargo instituted by the Lyons Government in 1938 lasted for more than two decades on the basis of a report from W.G. Woolnough that Geoffrey Blainey has described as 'dubious even in the light of the facts on his desk in 1938'.⁸⁰ This article has supported the conclusion of M.E. Causer that the motivation for the Commonwealth in putting the embargo in place was dislike of Japanese control through Brasserts of the iron ore resources at Yampi Sound. Had the deposits been developed by Australian or British capital with some of the proceeds exported to Japan, there may not have been any embargo.

The Japanese demonstrated that the rationale for the ban provided by Woolnough was dubious; but Woolnough's report nonetheless exercised a powerful influence over policy for two decades. Why then did the ban last so long and what were its longer-term effects? One reason for the longevity of the embargo was the interest of BHP in maintaining it. In 1938 Essington Lewis had tried his utmost to argue against the imposition of the embargo so as to be able to continue an export trade in iron ore and

scrap iron with Japan and other countries. However, after the imposition of the embargo, BHP settled into a period when it had cornered the market on the accessible high-grade iron ore deposits in both South Australia and Yampi Sound. From these deposits it had more than enough iron ore for its own needs, no incentive to search for more, and every inducement to prevent competitor mining and industrial companies forming in Australia. BHP's level of comfort with the ban after the end of the Second World War is demonstrated in the struggle to relax the embargo in 1960.⁸¹

In that year, when the federal Department of National Development made cautious recommendations to relax the iron ore export embargo, Prime Minister Robert Menzies insisted that the Minister for National Development, Bill Spooner, should first consult the Australian iron and steel industry.⁸² Essington Lewis's successor as BHP Chairman, Colin Syme, discouraged any change in federal iron ore policy. He argued to Spooner that easing the export embargo was unlikely to re-establish an export trade in iron ore,⁸³ and he reinforced this argument by pointing out that BHP was then importing some additional iron ore from New Caledonia.⁸⁴

BHP's position on the iron ore embargo in the 1950s was a source of considerable irritation on the part of its competitors. One such competitor was Maurice Mawby, a former head of Consolidated Zinc, and head of Conzinc Riotinto of Australia (CRA) from 1963. In 1964, Mawby was seeking permission from the Commonwealth and Western Australian Governments to develop deposits in an area in the Pilbara first identified by mining entrepreneur, Lang Hancock in the 1950s. Mawby argued forcefully to Menzies that BHP's purpose was to prevent any large mining/industrial company forming that would rival BHP from being established in Australia.⁸⁵ This exchange with Menzies took place after BHP tried to take advantage of Menzies' relaxation of the export ban, by seeking a permit to export from Yampi Sound before the new Pilbara operators could develop the newly discovered deposits. In Mawby's opinion BHP had conducted little mining exploration in Australia in the 1950s, while continuing to publicise that Australia had no surplus iron ore for export.⁸⁶ It was no accident that the first large mining concern to develop a large-scale mining operation in the Pilbara, following the much smaller enterprise at Mount Goldsworthy, was not BHP but a joint arrangement between CRA and the American company, Kaiser Steel. Thus, while Rupert Lockwood was incorrect in pointing to BHP as behind the Commonwealth iron ore export embargo in 1938, he was right to argue that the Australian company came to see the ban as beneficial to its interests.

A related question is to what extent the export embargo contributed to what has been described as the 'doldrums' for Australia's mining industries in the first part of the twentieth century, up to about 1960.⁸⁷ More particularly, but for the iron ore export embargo, could the period from 1938 to 1960 have been distinguished by the beginnings of the large-scale Western Australian iron ore export industry that would not actually develop until the 1960s? The period from 1938, after the embargo, to 1960 was one during which vast deposits of iron ore, coal, bauxite and natural gas remained undiscovered and undeveloped. An hypothesis raised by some historians is that these mineral and energy resources could have been accessed before 1960, and boosted Australian living standards and prosperity during that period when Australia's economic growth was less than in it was either in the period up to 1890 or the period after 1960.⁸⁸ Comparing the economic

history of the United States and Australia, these historians single out the laws and regulations that governed minerals policies in explaining the former's superior economic performance compared to Australia's from the end of the Western Australian gold rushes to 1960.⁸⁹ The Commonwealth's iron ore export embargo, which fostered a belief that Australia was not abundantly endowed with minerals, is the perfect example for these historians of such misguided regulation.

Government policy is not, however, the only explanation for the 'doldrums' of Australian mining in the early part of the twentieth century.⁹⁰ Other explanations adduced by historians for Australia's relatively poor performance in mining in that period include the generally lower prices of minerals, the small scale of mining operations, the withdrawal of British capital from Australia in the 1920s, the impact of the Great Depression and the poor state of industrial relations in mining industries.⁹¹ How important among all these factors, then, was mining regulation, such as the export embargo, and the associated belief if fostered about the scarcity of Australian mineral deposits? It undoubtedly played a part. For example, mining regulations in Western Australia after 1938 gave no assurance to prospectors that the discoverers of iron ore could keep what they found. Deposits were to be awarded not to the discoverer, but to the company that promised to bring manufacturing to Western Australia.⁹²

However, there is reason to support the argument of economic historian Ian McLean that the minerals boom that began in the 1960s was unlikely to have taken place earlier if there were no iron ore ban. Australia, unlike the United States, exported a large proportion of its mining output overseas. To establish a new iron ore export industry Australia needed large markets and the means of transporting the ore from inhospitable areas in the Pilbara to its destination. After the disruption of the Pacific War it would not be until the 1960s that the Japanese steel industry was large enough to provide the markets for large-scale exports of iron ore and the mechanism for financing them.⁹³ Long-term agreements for the coal industry, later replicated for iron ore, emerged out of Australian-Japanese discussions in the wake of the Australia-Japan Commerce Agreement of 1957.⁹⁴ These long-term agreements gave the new Pilbara mining companies the collateral to obtain loans from financial institutions to build mines, ports and railways. Until the early 1960s, mining companies were dubious about railways being an economical method of transporting iron ore over hundreds of kilometres to the coast.⁹⁵ Hamersley Iron pioneered the first such long railway in 1964–65 and its initial bid for the Mount Goldsworthy operation was premised on hauling the iron ore in trucks rather than by rail.⁹⁶ The rail lines constructed in the Pilbara from mine to port and the super-tankers and bulk-ore carriers that carried the ore to Japan were products of the 1960s and not earlier. It was thus a combination of post-war industrialisation in Asia, developments in transportation, the invention of the long-term contract and new methods of finance that contributed to pressure to relax the iron ore embargo in 1960 and then to the successful establishment of an iron ore export industry.⁹⁷

However, the forces arrayed against relaxing the ban, namely the Australian iron and steel industry and Commonwealth agencies such as the Prime Minister's Department, could easily have kept the embargo in place longer. If this had happened, the Australian iron ore companies that emerged in the 1960s might well have lost out to other countries

in South East Asia and South America. The Australian iron ore export industry may then have developed more slowly and uncertainly. Overturning such a long-established policy as the iron ore embargo was substantially due to the policy advice of the Secretary of the Department of National Development, Sir Harold Raggatt, who had, ironically, been a protégé of W.G. Woolnough.⁹⁸ In 1960 Raggatt had to surmount a still pervasive belief that Australia's iron ore reserves were limited (the Woolnough view), by devising a staged relaxation process that encouraged discovery.⁹⁹ Another obstacle to be overcome was a strong view on the part of the Western Australian Government, held since the stopping of the Japanese enterprise at Yampi Sound, that Western Australian deposits, such as Koolyanobbing in the Yilgarn area, should be the backbone of a Western Australian steel industry.¹⁰⁰ In 1960, ministers and officials in Western Australia still looked on iron ore exports as being limited and as an adjunct to industrial development.¹⁰¹ It was not until the great 'discoveries' in the Pilbara a few years later that the Western Australian Government saw fully the potential for what would in time become Australia's greatest export industry. One other legacy of the embargo was that Australian governments in the early 1960s were determined to use their power over licensing to make sure that the companies mining the ore should not be controlled by the Japanese.¹⁰² It was not until the late 1960s that governments were prepared to tolerate a degree of Japanese equity in the operations at Robe River.

Endnotes

¹ Geoffrey Blainey, *The Rush that Never Ended: A History of Australian Mining*, 4th Edition, Melbourne University Press, Carlton, 1993, p. 337.

² M. E. Causer, 'The 1938 Iron Ore Export Embargo: the Commonwealth Government's Motivations and Objectives', M. Com thesis, Faculty of Commerce & Economics, University of New South Wales, Sydney, 2000, p. 6.

³ See E.M. Johnston-Liik, George Liik and R.G. Ward, *A Measure of Greatness: the Origins of the Australian Iron and Steel Industry*, Melbourne University Press, Carlton, 1998.

⁴ N.R. Willis, 'The Growth of the Australian Iron and Steel Industry', *The Geographical Journal*, vol. 115, no.4, April-June 1950, pp. 208-18.

⁵ Memorandum from W.R. Hodgson to R.G. Casey, 13 December 1937, R.G. Neale (ed), *Documents on Australian Foreign Policy, Volume I, 1937-38*, (hereafter *DAFP* vol. I) Australian Government Publishing Service, Canberra, 1975, p. 241.

⁶ *Ibid.*

⁷ BHP Co., *A Job Well Done: The Koolan Island Achievement*, BHP Minerals, Perth, 1992, p. 3.

⁸ 'Yampi Sound Iron—Story of the Negotiations', *The Western Mail*, 26 December 1935.

⁹ 'Iron Ore at Yampi—Exploitation Scheme—Jap Mission Here', *The Daily News* (Perth), 4 January 1935.

¹⁰ 'Yampi Sound Deposits', *Smith's Weekly*, 26 October 1935.

¹¹ 'Connolly, Sir James Daniel (1869-1962)', in Bede Nairn and Geoffrey Serle (eds), *Australian Dictionary of Biography*, vol. 8, Melbourne University Press, Carlton, 1981, pp. 90-1.

¹² *Ibid.*

¹³ *Ibid.*

¹⁴ *The Telegraph* (Brisbane), 17 October 1935.

¹⁵ Cablegram from Lyons to Bruce, and Page, 7 April 1938, *DAFP*, vol. 1, p. 318.

¹⁶ See for example Blainey, *The Rush that Never Ended ...*, p. 337; Kosmas Tsokhas, *Beyond Dependence: Companies, Labour Processes and Australian Mining*, Oxford University Press, Melbourne, 1986, p. 96; Kosmas Tsokhas, "'Trouble Must Follow": Australia's Ban on Iron Ore Exports to Japan in 1938', *Modern Asian Studies*, vol. 29, No. 4, October 1995, pp. 871-92; and Richard West, *River of Tears: the Rise of the Rio Tinto-Zinc Mining Corporation*, Earth Island Limited, London, 1972, pp. 91-2.

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- ¹⁷ Defence Minute, 'Iron Deposits at Yampi Sound W.A., Development with a View to Sale of Exports to Japan', 14 February 1934, NAA: A816, 19/304/120.
- ¹⁸ Defence Minute, 'Iron Ore Deposits at Yampi Sound Western Australia', 29 March 1935, NAA: A816, 19/304/120.
- ¹⁹ *Ibid.*
- ²⁰ *Ibid.*
- ²¹ Letter from the Pastoralists' Association of Western Australia to the Minister for External Affairs, 11 February 1935, NAA: A425/142, 41/4789.
- ²² Cablegram, Lyons to Bruce, 10 December 1935, NAA: A461/10, B373/1/3 part 1.
- ²³ Department of External Affairs, 'Japanese Activities in Yampi Sound', 4 December 1936, NAA: A601, 763/43/1.
- ²⁴ Cablegram from Lyons to Bruce, 7 April 1938, *DAFP*, vol. 1, p. 320.
- ²⁵ Letter from Lyons to Premier of Tasmania, 30 December 1936, NAA: A461/8, D373/1/3.
- ²⁶ *Ibid.*
- ²⁷ Letter from Torao Wakamatsu, Japanese Consul-General in Sydney to Lyons, 5 April 1938, *DAFP*, p. 312.
- ²⁸ Cablegram from Lyons to Bruce, 7 April 1938, *DAFP*, vol. 1, p. 318.
- ²⁹ Statement by Senator George Pearce, 22 May 1937 quoted in Rupert Lockwood, *War on the Waterfront: Menzies, Japan and the Pig-Iron Dispute*, Hale & Iremonger, Sydney, 1987, p. 123.
- ³⁰ See *DAFP*, vol. 1, note 1, p. 181.
- ³¹ Cabinet Minute, 'Iron Ore Export from Yampi Sound', 28 July 1937, *DAFP*, vol. 1, p. 181.
- ³² Cablegram from Lyons to Bruce, 2 August 1937, *DAFP*, vol. 1, p. 181.
- ³³ Cablegram from Bruce to Lyons, 4 August 1937, *DAFP*, vol 1, pp. 182-3.
- ³⁴ Letter, Yons to Thomas Paterson, Minister for the Interior, 5 August 1937, NAA: A461, E373/1/3.
- ³⁵ 'Lloyd, Eric Edwin Longfield (1890-1957)', John Ritchie (ed.), *Australian Dictionary of Biography*, vol. 15, Melbourne University Press, Carlton, 2000, pp. 104-6.
- ³⁶ *Ibid.*, p. 105.
- ³⁷ Longfield Lloyd to Murphy, 6 October 1937, *DAFP*, vol. 1, pp. 234-5
- ³⁸ *Ibid.*
- ³⁹ Letter from F.G. Shedden, Secretary of the Department of Defence to W.R. Hodgson, Secretary of the Department of External Affairs, 6 December 1937, *DAFP*, vol. 1, pp. 237-9.
- ⁴⁰ *Ibid.*, p. 239.
- ⁴¹ Memorandum by Hodgson for R.G. Casey, Minister in Charge of Development, 13 December 1937, *DAFP*, vol. 1, pp. 240-2.
- ⁴² *Ibid.*, p. 241.
- ⁴³ *Ibid.*
- ⁴⁴ Memorandum of Interview held at Commonwealth Offices, Melbourne, on 9 March 1938 between Joseph Lyons and Essington Lewis, 9 March 1938, NAA: A1608, C47/1/4 part 2.
- ⁴⁵ Geoffrey Blainey, *The Steel Master: Essington Lewis*, Macmillan, South Melbourne, 1971, pp.139-40.
- ⁴⁶ Memorandum of Interview held at Commonwealth Offices, Melbourne, on 9 March 1938 between Joseph Lyons and Essington Lewis, 9 March 1938, NAA: A1608, C47/1/4 part 2.
- ⁴⁷ Causer, *The 1938 Iron Ore Export Embargo*, p. 70.
- ⁴⁸ *Ibid.*
- ⁴⁹ See Lockwood, *War on the Waterfront*, Ch. 9.
- ⁵⁰ 'Iron Export Ban; In No Wise Justified; Japanese Protest Bearing upon Trade Relations', *The West Australian*, 16 April 1938.
- ⁵¹ See Lockwood, *War on the Waterfront*, Ch. 9.
- ⁵² W.G. Woolnough, 'Report on the Technical Aspects of Iron Ore Reserves in Australia', 14 April 1938 (a revised version of the paper presented to Cabinet a month previously in March 1938), *DAFP*, vol. 1, p. 351.
- ⁵³ *Ibid.*
- ⁵⁴ *Ibid.*, p. 352.
- ⁵⁵ *Ibid.*
- ⁵⁶ Cablegram from Page to Lyons, 13 April 1938, *DAFP*, vol. 1, p. 328.
- ⁵⁷ Cablegram from Lyons to Page, 18 May 1938 with text of announcement of embargo on 19 May, *DAFP*, vol. 1, pp. 347-8.
- ⁵⁸ Cablegram, Lyons to Bruce, 17 March 1938, *DAFP*, vol. 1, p. 279
- ⁵⁹ Lyons Letter to Torao Wakamatsu, *DAFP*, vol. 1, 29 March 1938, p. 308.
- ⁶⁰ *Ibid.*
- ⁶¹ Cablegram Bruce to Prime Minister's Department, 31 March 1938, *DAFP*, vol. 1, p. 311.

- ⁶² Letter, from Torao Wakamatsu, Consul-General in Sydney to Lyons, 11 April 1938, *DAFP*, vol. 1, pp. 326-7.
- ⁶³ Cablegram Lyons to Bruce, 7 April 1938, *DAFP*, vol. 1, p. 319.
- ⁶⁴ *Ibid.*
- ⁶⁵ *Ibid.*, p. 320.
- ⁶⁶ Cablegram from Bruce to Lyons, 19 April 1938, *DAFP*, vol. 1, p. 336.
- ⁶⁷ *Ibid.*
- ⁶⁸ *Ibid.*
- ⁶⁹ Cablegram from Page to Lyons, 1 May 1938, *DAFP*, vol. 1, p. 340.
- ⁷⁰ Note verbal by Torao Wakamatsu, Japanese Consul-General in Sydney, 8 September 1938, *DAFP*, vol. 1, p. 421.
- ⁷¹ *Ibid.*, p. 422.
- ⁷² Note by K. Fujimura, 20 August 1938, *DAFP*, vol. 1, pp. 425-8.
- ⁷³ *Ibid.*, p. 426.
- ⁷⁴ *Ibid.*, p. 427.
- ⁷⁵ Note verbal by Torao Wakamatsu, Japanese Consul-General in Sydney, 8 September 1938, *DAFP*, vol. 1, p. 423.
- ⁷⁶ Letter from Bruce to Lyons, 18 June 1938, *DAFP*, vol. 1, p. 382.
- ⁷⁷ Note by Bruce of Conversation with Yoshida, 14 June 1938, *DAFP*, vol. 1, pp. 382-4.
- ⁷⁸ Cablegram from Craigie to UK Foreign Office, 25 June 1938, *DAFP*, vol. 1, p. 380.
- ⁷⁹ *Ibid.*, p. 381.
- ⁸⁰ Blainey, *The Rush that Never Ended*, p. 337.
- ⁸¹ David Lee, 'Reluctant Relaxation: The End of the Iron Ore Export Embargo and the Origins of Australia's Mining Boom', *History Australia*, vol. 10, no. 3. 20143, pp. 149-70.
- ⁸² Cabinet Decision 722, 31 March 1960, NAA: A4940, C3063 part 1.
- ⁸³ Letter from Syme to Spooner, 2 April 1960, NAA: A4940, C3063 part 1.
- ⁸⁴ *Ibid.*
- ⁸⁵ Letter from Maurice Mawby to Menzies, 13 October 1964, NAA: A1209, C3063 part 2.
- ⁸⁶ *Ibid.*
- ⁸⁷ See D.R. Doran, 'An Historical Perspective on Mining and Economic Change', in L.H. Cook and M.G. Porter (eds), *The Minerals Sector and the Australian Economy*, Allen & Unwin, Sydney, 1984, pp. 37-84.
- ⁸⁸ Ian McLean, *Why Australia Prospered: the Shifting Sources of Economic Growth*, Princeton University Press, Princeton, 2013, pp. 170-1.
- ⁸⁹ Paul A. David and Gavin Wright, 'Increasing Returns and the Genesis of American Resource Abundance', *Industrial and Corporate Change*, vol. 6, no. 2, 1997, pp. 203-45.
- ⁹⁰ Doran, 'An Historical Perspective on Mining and Economic Change'.
- ⁹¹ McLean, *Why Australia Prospered*, pp. 171-2.
- ⁹² Blainey, *The Rush that Never Ended*, p. 339.
- ⁹³ See discussion between G. Paul Phillips, Department of Trade, and Ambassador Yoshida, 24 March 1960, NAA: A1313, 1957/2017 part 1 and record of discussion between McEwen and officials of the Japanese Export Promotion Agency, 21 January 1959, NAA: A1313, 1960/389 part 1
- ⁹⁴ Don Fitch, 'Review of Japanese Trade Agreement-Coal', February 1960, NAA: A1313, 1959/2017 part 1.
- ⁹⁵ William Walker, 'The Genesis of Heavy Haul Freight Railroads in the Pilbara', *Journal of Australasian Mining History*, vol. 13, October 2015, pp. 198-222.
- ⁹⁶ Alan Trengove, *Adventure in Iron: Hamersley's First Decade*, Stockwell Press, Mont Albert, 1976, p. 25.
- ⁹⁷ See David Lee, *The Second Rush: Mining and the Transformation of Australia*, Connor Court, Redland Bay, 2016, Chs 2 and 3, and Bradon Ellem, *The Pilbara: From the Deserts Profits Come*, UWA Publishing, Perth, 2017.
- ⁹⁸ 'Raggatt, Sir Harold George (1900-1968)', John Ritchie and Diane Langmore (eds), *Australian Dictionary of Biography*, vol. 16, Melbourne University Press, Carlton, 2002, pp. 47-8.
- ⁹⁹ 'The Man who Made it All Possible', *Canberra Times*, 1 February 1965.
- ¹⁰⁰ 'Yampi Embargo—State's Claim on Australia', *West Australian*, 13 March 1939.
- ¹⁰¹ See, for example, letter from Premier of Western Australia, David Brand, to Menzies, 20 October 1960, NAA: A1209, 1961/36 part 1.
- ¹⁰² Submission from Spooner to Cabinet, 20 May 1963, NAA: A4940, C3063 part 2.