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POTENTIAL ECONOMIC VULNERABILITY OF JAPAN.

1936 - 1937

Comdr. H. Hoogewerff

DEPARTMENT OF INTELLIGENCE
Naval War College,
Newport, R.I.
January 1937.

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POTENTIAL ECONOMIC VULNERABILITY OF JAPAN.

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HISTORICAL BACKGROUND

One of the oldest of modern nations, JAPAN conducted intermittent trade with ASIA from very early times, but the first contact with Western Civilization was through the Portuguese in 1542; the Dutch followed 40 years later. These countries enjoyed a lucrative trade for some years, until 1641, when the ruling Shogun closed JAPAN to all foreign intercourse, except for very limited concessions to the NETHERLANDS and CHINA

From this time on HOLLAND had the monopoly of European trade until Perry's famous visits in 1858 and 1859.

In the latter years, Mr. Harris, American Consul General, concluded a commercial treaty with JAPAN. At the same time GREAT BRITAIN secured similar privileges; and other nations followed shortly thereafter.

The Shoguns were still loath to become involved with Occidental Civilization, but, after the Restoration of 1867, NEW JAPAN plunged into a program designed to place her on a plane of material equality with the States of the Western World.

During the half century preceding 1910, the nation experienced political and economic upheavals equivalent to the European Reformation, Rennaissance and Industrial

Revolution. These latter events extended through several centuries but, almost overnight, JAPAN was transformed from a Mediaeval State, with a feudal society, into a modern country.

The rapidity of this transformation is illustrated by the fact that even today one may find men who in their youth battled with the two-handed sword of the Samurai.

During the 150 years before the Restoration in 1867, the number of inhabitants remained almost stationary - - about 30,000,000, but with the modernization came a corresponding increase. Between 1875 and 1914, the population nearly doubled, and in recent years has risen at the rate of over 1,000,000 annually. (1)

JAPAN Proper is an island empire of very limited area. It is frequently compared to the BRITISH ISLES; but, unlike the latter, nineteenth century JAPAN had no colonies to serve as an outlet for its surplus population, nor had it the raw materials required by modern industry. It was lacking particularly in iron and coal and had no tropical agricultural products.

These factors served as strong incentives for territorial expansion if the rapid industrial development of the Empire was to be effected.

In 1895 CHINA ceded FORMOSA to JAPAN; in 1910 KOREA

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(1) The present population is 70,150,000.

was annexed. MANCHUKUO is only nominally independent and more and more of CHINA is coming under the Empire's sphere of influence.

The establishment of modern manufacturing and military organizations forced the country into world markets, as a buyer of basic commodities which could only be purchased by foreign credit and the ability to export.

Foreign trade increased rapidly and steadily from about 1886 to 1914 and then rose tremendously during the World War.

As a natural adjunct to her growing overseas trade, the nation has, since the Russo-Japanese War, become a maritime power of the first rate.

Despite the industrial expansion, some 50% of her people are still dependent upon the land for their livelihood. The small area available for agriculture - about 18% of the total land of the home islands - has been developed almost to its limit; and, with the growing population, it appears that JAPAN must continue her industrial expansion. This is particularly true, as the Japanese are loathe to leave the home land, do not have the pioneer spirit, and cannot compete with Asiatics, insofar as low standards of living are concerned.

Such expansion will require more markets for her manufactured products, as well as heavy imports of raw materials.

General Economic Situation.

In attempting to analyze JAPAN's economic position for war,

many authorities and reports have been consulted. Frequently such sources of information disagree, especially as to actual figures. Consequently, when numbers are mentioned her, they should be considered only as reasonable estimates and are not to be taken as exact.

Furthermore, there are many intangible factors. Science is rapidly providing substitutes for more and more materials that previously have been considered basic necessities; and we must not fail to take into account the peculiar characteristics of the Japanese people, who are intensely patriotic and frugal; and, while not inventive, they are quick to copy processes developed by other peoples.

Theoretically, MANCHUKUO, and certain other parts of NORTHERN CHINA, are not a part of the JAPANESE EMPIRE, but JAPAN exercises a de facto control in time of peace, and in war their resources will probably be available to her. Consequently, from an economic viewpoint, the EMPIRE may be regarded as consisting of three parts:

1. JAPAN Proper, including SOUTHERN SAKHALIN.
2. Japanese holdings and spheres of influence on the ASIATIC Mainland.
3. Japanese outlying islands -- the LOOCHOOS, FORMOSA, and the MANDATES.

The economic characteristics of the Home Islands are excessive production of manufactured articles and a shortage of important raw materials, including food-stuffs. The outlying

possessions have a surplus of certain raw materials, with but few manufacturing industries.

(1) FINANCE.

JAPAN at present, is not in a strong financial position. Her outstanding national debt at the end of 1935 exceeded ten billion yen. Her two outstanding foreign loans are a 6 1/2 % issue and a 5 1/2 % issue which in December, 1936 were selling at 96 and 80 as contrasted to UNITED STATES low interest bonds (2 7/8 %) which are selling at 103.

Her budget expenditures for the fiscal year 1936-37 are expected to be around 2,287,000,000 yen, an increase of 63,000,000 yen over the previous year. Much of this increased expenditure has gone to the military and for special operations in ASIA. (1) To date, she has largely met the requirements of her budget by taxation.

In addition to the national budget, local governmental expenditures increased four-fold between 1914 and 1934, and today taxes represent almost 20% of her total income.

Farm debts, in particular, are steadily increasing and most of the assets of rural, semi-governmental agriculture and industrial banks, are tied up in farm loans that cannot be liquidated.

It is interesting to note that some 23% of the country's

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(1) Appropriations for defense purposes account for at least 47% of the total budget.

entire banking capital is vested in three concerns (Mitsui, Mitsubishi and Sumitomo), while five others account for an additional 30%.

Although last year JAPAN Proper had an apparent favorable trade balance of 26,800,000 yen, if the estimated invisible trade balance is considered, the Empire's adverse trade balance was around 59,000,000 yen.

It therefore does not appear that JAPAN could count on obtaining large foreign loans in the event of war with a major power. She would apparently have to depend upon exports for her foreign credits.

(2) INDUSTRY.

The conditions under which modern Japanese industry came into being were quite different from those of the WESTERN HEMISPHERE.

Before the Revolution of the 1860's the entire economic life of the country was shaped to the needs of the ruling classes, who despised mercantile pursuits and only tolerated them as a means of increasing their own revenues. Trading was greatly restricted and industry was, in general, limited to special crafts that ministered to the personal needs of the ruling classes.

After the Revolution, undertakings were established, and operated by the State, until they could be transferred to private enterprises. The majority of these then passed into the

hands of a few centralized family concerns which enjoy special government support, so that nearly 70% of all Japanese trade and industry is now in the hands of 15 great houses.

In certain spheres, notably mining and heavy industry, the government has retained important direct interests. For example, in the steel industry, the State's control predominates, as some 51% of JAPAN's total output of steel, and 80% of her output of pig iron, are provided by the newly formed Japan Iron Manufacturing Company, in which the government holds 83% of the stock.

The antagonism of the military and peasantry towards the great industrialists springs from the idea that their political power has been used for selfish purposes and not for the good of the nation. It is believed that the present ascendancy of the military element in national affairs will lead to a curtailment of their influence, and thus to a greater measure of direct state control over economic life.

The industrial progress of JAPAN has been uneven. Her pre-eminence in certain branches of light manufacturing is in marked contrast to her backwardness in many of the so-called basic industries. This has been due to the lack of ores and fuel which, to date, has rendered heavy industry, as a whole, unprofitable. This situation is now changing, due to her determination to insure national self-sufficiency. Her lack of fuel and ores is being corrected by her control of increased areas on the ASIATIC Mainland.

However, there is at present but little private capital

available to finance further development in heavy industries, and these industries depend largely upon government purchases and subsidies.

ENGLAND has been called a nation of shopkeepers, JAPAN is a nation of workshops. The great majority of her industrial undertakings are turned out in small establishments, of which there are hundreds in TOKYO and thousands in OSAKA. The manufacture of many of her exports, such as pottery, toys, knitted goods, and umbrellas are farmed out to householders in the interior. Over 64% of the industrial workers are either operating on their own or are employed in concerns with five or less employees.

Electric power is cheap and plentiful. It is supplied by turbines harnessed to JAPAN's torrential mountain-fed rivers, and it is practically impossible to find a village so remote that it has no electricity.

Today the textile industry, including cotton, silk, rayon and wool, accounts for about one-half of her total exports. In 1934, cotton textiles, for the first time, displaced raw silk as her leading export.

Other major activities are: ship-building, fishing, mining and the manufacture of electrical machinery.

The per capita value of her industries is still much less than that of the UNITED STATES, GREAT BRITAIN, or GERMANY, but her production - which in 1928 represented 2½% of the total world production - is now estimated to be 3 7/10% of that total.

This rapid expansion, considered in conjunction with her increased manufactured and raw material output in the World War, indicates the possibility of greatly increasing the domestic output in existing industries, as well as operating new ones.

Last year, for the first time, JAPAN produced sufficient steel. It is believed that war demands for steel could be met by domestic production, provided the raw materials were available and accepting the fact that some of her steel might be of inferior quality.

Ship-building is well developed. There are 20 private building yards, in addition to 4 of the naval stations, which are regularly engaged in warship construction. With the trade routes open, or with the necessary reserves of raw materials, it is probable that, after 6 months of intensive preparation, she could turn out some 700,000 tons annually (of which about 250,000 tons could be warships).

The facilities for repair and overhaul of all types of vessels should be adequate, although extensive work of this nature would reduce her building capacity from the above estimated maximum.

In many other heavy industries JAPAN is not, at present, fully equipped to supply the requirements for a lengthy major war; and, under such conditions, she would require imports of munitions and heavy machinery.

Transportation and Communications.

The Japanese Merchant Marine is the third largest in the world. On December 31, 1935, it totalled 3,128,000 gross tons of metal-hulled, machine-driven vessels of 2,000 tons and over.

Since 1932 the Government has been carrying out a systematic policy of scrapping obsolete merchant ships and replacing them with comparatively large sized vessels.

This project has been carried out by the so-called "ship improvement" plans, the third of which is now under way. These plans grant a Government subsidy of 50 yen (per ton) and the construction is to total 400,000 tons of ships, of over 4,000 tons displacement and speed of over 13 knots. On 1 January, 1936, JAPAN had 94,000 tons of merchant shipping under construction.

She now has 23 tankers totalling 270,500 tons, 9 of which have been built within the past 3 years and have some 18 knots speed.

These plans resulted in diminishing the number of tramp and coastwise steamers, thus causing an influx of foreign ships and a general price raise in freight rates. The government is now laying greater stress on these smaller types.

At present nearly 90% of the EMPIRE's sea trade is carried in her own bottoms, and her shipping profits form a large portion of the invisible income that helps to make up for, and at times overcome, her normally unfavorable trade balance. (1)

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(1) The US carried 35.7% of its own foreign trade in American ships.

GREAT BRITAIN occupies second place in the carriage of Japanese goods; the UNITED STATES ranks third, followed by NORWAY, GERMANY, FRANCE and DENMARK. In war the above nations, that were neutral, would no doubt carry a larger share and operations of a belligerent conducted against such neutral shipping might well lead to controversies with the countries concerned.

The Japanese railroads are governmentally operated and are adequate, and her commercial aviation is satisfactorily organized. However, both of these activities are inconsequential, when judged by the magnitude of those in the UNITED STATES.

The EMPIRE is well advanced in all forms of rapid communication; the radio, telephones and telegraphs are under the direct control of the Government and are operated efficiently.

(3) RAW MATERIALS.

An example of Japanese frugality is evident in the far from luxurious national diet. This consists principally of rice, barley, wheat and other cereals, soya beans, roots and tubers, fish and very small quantities of meats, sugar and dairy products.

For a number of years the Government has been attempting to accustom the people to a more balanced ration, and it is claimed that the progress made in the last 50 years has added 1/2" to the average height of the Japanese.

Despite the limited area of the tillable land in the val-

leys, there is ample grazing available in the highlands. YEZO, in particular, is well suited for cattle, sheep and fruit growing; but it is difficult to induce the people to shift from the small farms, located in the crowded sections of the islands. (1)

JAPAN - if FORMOSA, KOREA and MANCHUKUO are available - is self-supporting in foods for a long war. If FORMOSA is cut off, she is dangerously deficient in sugar; and should MANCHUKUO not be under her control she would be seriously deficient in wheat, millet, fertilizers and the vital soya bean. MANCHUKUO, in turn, must be supplied with rice, barley and sugar.

At this time, therefore, JAPAN may be considered to be self-sustaining in food, especially as she is known to have some two-years reserve of rice, and no doubt reserves of other staples. Her diet in war might not have its normal balance, but food should be available in sufficient quantities to carry on.

Aside from food, JAPAN Proper lacks most of the basic raw materials required for war. In mining products she is self-sufficient only in copper, chromite, sulphur, mica and probably coal. As for clothing, silk alone is produce in adequate quantities.

However, a country may be lacking in natural domestic resources of raw materials, but if such commodities can be obtained from contiguous areas, the lines of communications to

(1) Scandinavians brought over to teach natives dairy business now control this activity.

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JAPAN'S RAW MATERIAL SUFFICIENCY

Home Islands	Japanese Controlled ASIATIC Area.	TAIWAN and MANDATES.	CHINA
Copper	Grains	Sugar	Iron ore
Chromite	Soya Beans	Phosphates	Potash
Mica	Vegetable fertilizer		Hides & Leather
Sulphur	Hemp and Jute		Manganese
Coal	Magnesite		Antimony
Coke	Zinc		Tin
	Aluminum		Gypsum
	Tungsten		
	Talc & Soapstone		
	Fluarspar		

Materials Required in Small Tonnage

Platinum	Tin
Silver	Cryolite
Mercury	Nickel
Antimony	Cork

which are controlled by the country concerned, their procurement presents no strategic difficulties. Furthermore, there are many materials which might well be strategic, but, due to the relatively small tonnage, can be acquired in sufficient reserve prior to hostilities; or, due to their small bulk, can be imported during war, unless the country is subjected to an absolute blockade.

This latter class of commodities, in which JAPAN is not, naturally self-sufficient, includes: drugs, precious metals, mercury, cryolite, antimony, tin, nickel and cork. None of these are required in any large quantities and, furthermore, she is reputed to have large reserves of these necessities.

As long as JAPAN retains control of the JAPANESE, YELLOW and EAST CHINA SEAS, commodities readily obtainable in KOREA, MANCHURIA and CHINA, provided these regions are allied, friendly or, in the case of CHINA, even neutral - present no great economic weakness.

MANCHUKUO can fill JAPAN's war requirements in jute, magnesite, talc, soap-stone, wheat and the vital soya bean. This latter commodity is not only an important item for food, but it is also used for animal fodder and fertilizer and is required for the manufacture of 60% of the glycerine necessary for explosives, as well as in the manufacture of leather, restoratives, soap, paints, water-proofing, and as a substitute for rubber, petroleum and celluloid.

Hemp, zinc, fluorspar and aluminum are available in KOREA.

There is considerable coal in JAPAN Proper, MANCHUKUO, KOREA, FORMOSA and SAKHALIN. Japanese coals are poorly suited to the manufacture of metalurgical coke and, while sufficient coking coal could be produced in JAPAN, its poor quality would handicap the steel industry. However, it is estimated that she could be self-sufficient in coal and coke for a considerable time in war, even were her access to ASIA interrupted.

In addition to the iron resources of the Empire, JAPAN has extensive rights to mines in CHINA and MANCHUKUO and is energetically exploiting her holdings in the latter state.

However, the quality of the ore produced in MANCHUKUO is not sufficiently high to meet all of JAPAN's needs and she would probably find it necessary to call on the iron ore resources of CHINA, particularly in SHANTUNG. If CHINA were hostile, JAPAN would no doubt seize these mines by force. (1)

Conservation methods include the establishment of a reserve of ore, of about 1,500,000 tons, and the setting aside of certain mines to be worked only in time of war. It is estimated that JAPAN Proper would be self-sustaining in iron ore for at least a year and that therefore her deficiencies could be met largely by the expansion of mining operations in the Empire, MANCHUKUO and CHINA, using methods that are too costly in time of peace.

Authorities differ greatly as to JAPAN's needs in mangan-

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(1) Projectiles and armaments require the highest type of steel.

ese. She has, however, been importing this essential commodity greatly in excess of her immediate requirements, and unquestionably has a large reserve. Many authorities consider that she has little cause to worry about this item, and it appears certain that with Chinese manganese available she could be self-sufficient for a considerable time.

JAPAN normally imports some 40,000 tons of POTASH, which usually comes from the UNITED STATES, GERMANY and SPAIN. GERMANY and FRANCE account for about 80% of the world's production, but the RUSSIAN output is rapidly increasing, and in time of war CHINA and RUSSIA could supply all the potash required by JAPAN.

PHOSPHATES.

Phosphates and other fertilizers are so intimately connected with the manufacture of explosives that they must be considered for this purpose, as well as for agriculture. However, the Japanese chemical industry has progressed so rapidly that she is now considered capable of manufacturing all required explosives and war chemicals, provided cotton and glycerine are available.

JAPAN, with MANCHUKUO, is sufficient in vegetable fertilizers, but imports over 500,000 tons of phosphates annually. This article is important for her intensive cultivation of crops as well as for war-time needs. Her normal supply comes from AFRICA, the UNITED STATES and the MANDATES. The nearest sources

are the MANDATES, STRAIT SETTLEMENT, RUSSIA, NAURU, and MARKATEA ISLANDS. The PELEWS would be able to supply all of JAPAN's needs, if necessary. Should this island, as well as the more remote areas, be cut off, the effect in time could not fail to be serious.

KEY STRATEGICAL MATERIALS.

JAPAN's annual requirements in ASBESTOS are around 10,000 tons, which she imports mainly from the UNITED STATES, CANADA, and RUSSIA. Her domestic production is small. Other sources are AFRICA and EUROPE. However, RUSSIA could supply the needed amount, and this item is not required in any large tonnage.

We will now consider the raw materials essential to JAPAN in war, which she must acquire probably from a distance, and in more or less large quantities. Such a list includes:

(1) Cotton
(2) Wool
(3) Rubber
(4) Lead
(5) Petroleum and Petroleum products.

COTTON.

The supply of raw cotton appears to be vital to JAPAN's economic existence, not only for war necessities such as explosives and clothing, but also to carry on her large export trade in cotton textiles and tissues, which in 1935, represented

20% of her total exports and was therefore a most important item in maintaining her foreign credit. (1)

JAPAN obtains over 40% of her raw cotton from the UNITED STATES, and if that country were cut off she would, at present, have to depend upon INDIA, EGYPT, CHINA and BRAZIL. (2)

JAPAN is estimated to have a two-years reserve of raw cotton on hand, and it has been stated that she hopes, by intensive cultivation of cotton in CHINA, to become independent of the UNITED STATES in 5 years. (This is most questionable).

WOOL.

JAPAN's annual peace-time requirements of WOOL are about 120,000 tons, and her war-time demands should be approximately the same. Normally, she imports 95% of her supply from AUSTRALIA and the remainder from SOUTH AFRICA and the ARGENTINE. AUSTRALIA and NEW ZEALAND account for some 38% of the world's production; EUROPE (less RUSSIA), 17%; ARGENTINE, 11%; RUSSIA 11%; SOUTH AFRICA, 9%; and the UNITED STATES, 10%. JAPAN produces no wool and MANCHUKUO and CHINA but little. However, as previously stated, her efforts to increase the wool supply in these latter countries is progressing and she is reported to have a large reserve.

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(1) This, however, was a drop from 24% in 1934.

(2) A shift from medium staple cotton (U.S.) to short staple (Indian) would require alterations to machinery.

RUBBER.

The Empire produces no rubber, and the annual requirements are estimated at some 70,000 tons, as in addition to domestic consumption JAPAN exports considerable manufactured rubber goods. For war purposes only, 35,000 tons should suffice.

Practically all the rubber in the world comes from the EAST INDIES, MALAY STATES, INDIA, INDO-CHINA and BRAZIL, with small amounts in MEXICO, NORTHERN SOUTH AMERICA, the PHILIPPINES and AFRICA. Although JAPAN is reported to have a large reserve, if her communications to the South and West were severed it appears that she would experience a grave shortage of this material in a prolonged war. (1)

LEAD.

JAPAN has lead in small quantities, but normally imports some 70,000 tons from the UNITED STATES, CANADA and INDIA. Other sources are AUSTRALIA, EUROPE, BRUMA and RUSSIA. The latter country could supply some 30% of JAPAN's requirements.

PETROLEUM AND ITS DERIVATIVES.

Although coal still retains the dominant position as a power producer in JAPAN, its relative importance, as compared with hydro-electric power and oil, is decreasing every year. Furthermore, the dependency of the Navy on oil is increasing.

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(1) Japan imports large quantities of old rubber, such as tires etc., and reworks this material.

The very limited oil resources of JAPAN (including FORMOSA, KOREA and MANCHUKUO), therefore, are of the utmost concern to the government, which is constantly endeavoring to encourage domestic production, acquire new areas capable of producing oil, and has now practically assumed control of the entire industry. (1)

Despite these efforts, the success, to date, has not been great, as JAPAN's annual production of petroleum is about equal to the daily production of the UNITED STATES.

All details concerning oil are difficult to obtain, but it is certain that a remarkable development of domestic refining has occurred in the past few years, and domestic production of all petroleum derivatives is constantly on the increase.

In 1935, 60% of the derivatives used in JAPAN were refined domestically, but much of these were made from imported crude oil. Her ability to produce gasoline is important, due to the difficulty of carrying reserves of this fuel.

JAPAN is also pressing experiments and actual production of oil by liquification of coal. The Fushun Shale Oil Company is now constructing a second plant, to be completed in 1938, when their annual output is expected to reach 350,000 tons; and KOREA is counted upon to produce 50,000 tons annually, commencing next April.

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(1) Large oil fields are reported to exist in SZECHUAN and Shensi Provinces of NORTHERN CHINA, which is no doubt one reason for JAPAN's efforts to control that region.

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PETROLEUM SITUATION OF JAPAN
(in tons)

(1) Domestic production of crude	(1935)	594,945
Imports of crude and derivatives	(1935)	4,362,485
Total supplied.	(1935)	4,957,430
(2) Gasoline produced in JAPAN	(1935)	450,000
Gasoline imported	(1935)	506,000
Total supplied	(1935)	956,000

ESTIMATED RESERVES

Crude and fuel in civilian storage	1,750,000	Gasoline	475,000
Crude and fuel in naval storage	2,600,000	Gasoline	270,000
Total in storage (1 Jan 1936)	4,350,000		745,000

(3) Estimated commercial consumption crude and fuel	3,700,000
Estimated naval consumption crude and fuel	500,000

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(1) Including JAPAN, FORMOSA, MANCHURIA and SAKHALIN.

(2) Largely derived from imported crudes.

(3) An unknown percentage of this went into storage.

In 1935, the total production of crude and fuel oil (including shale) from SAKHALIN and MANCHUKUO was estimated at 595,000 tons. This is her maximum output to date.

Her minimum annual requirements of all forms of oil probably total approximately 3,000,000 tons, of which the Navy, in war, would, it is estimated, require at least 1,000,000 tons. (1) The Navy has some 2 1/2 million tons of oil in storage, and civilian reserves, under the new law, should amount to about 1 3/4 million tons.

(4) FOREIGN TRADE.

In the case of a limited Island Empire, industrialization is of no significance without foreign trade. This is especially true in JAPAN, as her domestic consumption of industrial output is quite limited.

The Empire's foreign trade for 1935 continued its upward trend, and the total value of this trade was approximately $1,427,000,000 -- about 1/3 that of the foreign trade of the UNITED STATES. A most noteworthy fact was that JAPAN's imports of raw materials exceeded her exports of such commodities by some 1,397,000,000 yen, and accounted for more than 60% of her total imports.

Japan's foreign trade by Areas in 1935 was distributed as follows:

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(1) The Japanese Navy now consumes about 500,000 tons of fuel oil annually.

NORTH AMERICA	28%
SOUTH ASIA, EAST INDIES and PHILIPPINES	21%
EUROPE	15%
MANCHUKUO and KWANTUNG	13%
CHINA and ASIATIC RUSSIA	6½%
AFRICA	5%
OCEANIA	4½%
CENTRAL AND SOUTH AMERICA	4%
Others	3%

It must be borne in mind that most of the Japanese manufactured exports are essentially cheap commodities and are sold to countries with a low standard of living.

JAPAN's foreign trade is very roughly estimated as prepresenting 20% of her total business, while the foreign trade of the UNITED STATES, although much larger, constitutes but some 8% of that country's total business. (1)

Because of the importance of this trade to JAPAN and the geographical and economic features of the Empire, there are extensive outer sea areas, the protection of which is of great importance to her economic life, as well as an inner area where control is vital to her very existence.

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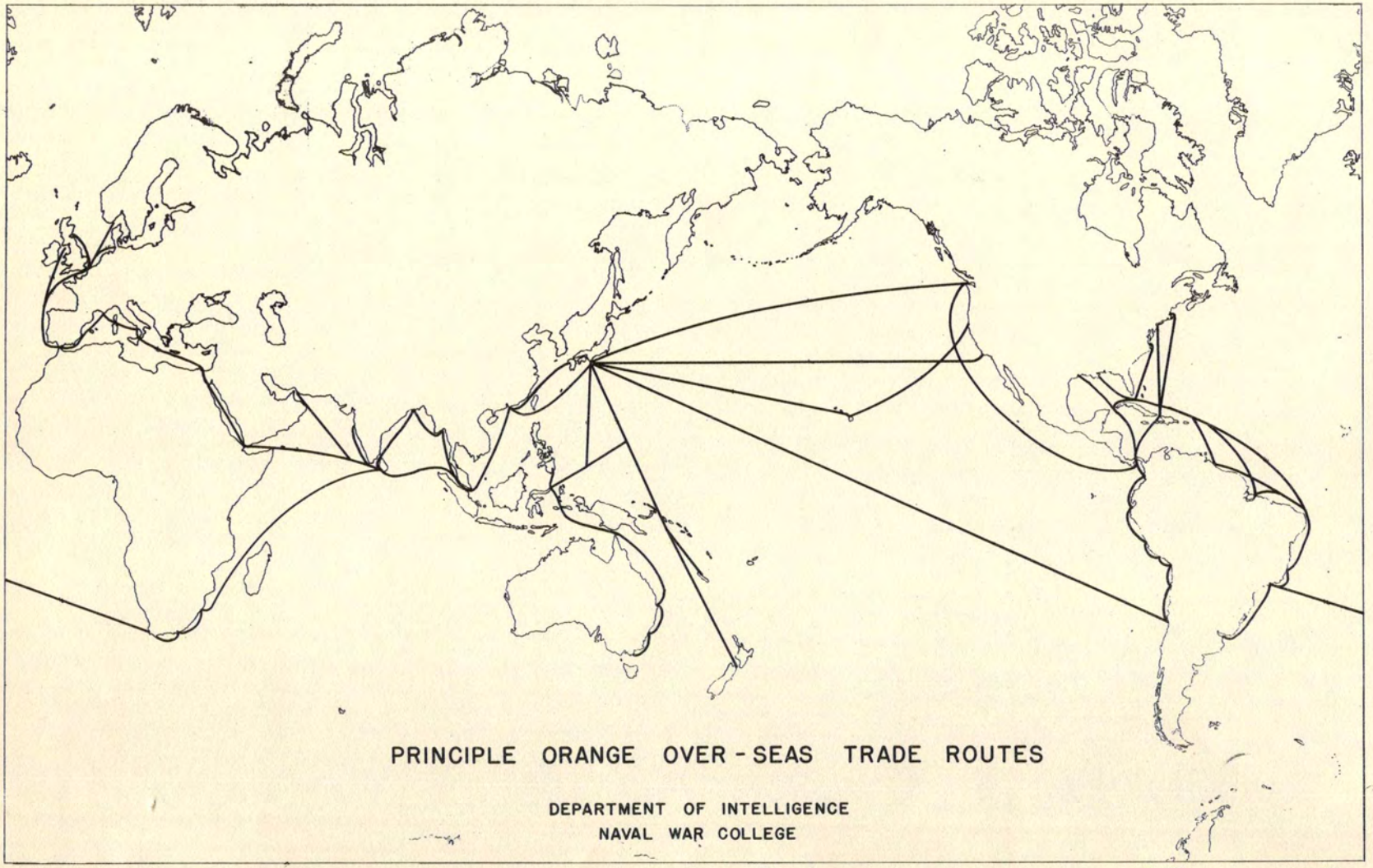
(1) Department of Commerce letter of 27 April 1935 (Mr C.K. Moser, Chief of Far Eastern Section).



PRINCIPLE ORANGE OVER-SEAS TRADE ROUTES

DEPARTMENT OF INTELLIGENCE
NAVAL WAR COLLEGE

M-88 B37 175 Aug. 1936

JAPANESE TRADE ROUTES.

It is obvious in war that a nation's shipping will not follow peace-time paths, because of economic and strategic factors; but these trade routes show the areas that JAPAN must reach to maintain her ordinary trade and to obtain many important commodities.

A large portion of JAPAN's trade comes over the short sea routes in the CHINA and YELLOW SEAS. Her imports of coal, iron ore, rice and beans follow these tracks, and the trade routes to EUROPE, AUSTRALIA and ASIA converge into these areas.

The principal long distant routes used by JAPAN are across the PACIFIC to NORTH AMERICA and via SINGAPORE and SUEZ to EUROPE. These are, in a sense, alternative routes, and neither by itself is vital.

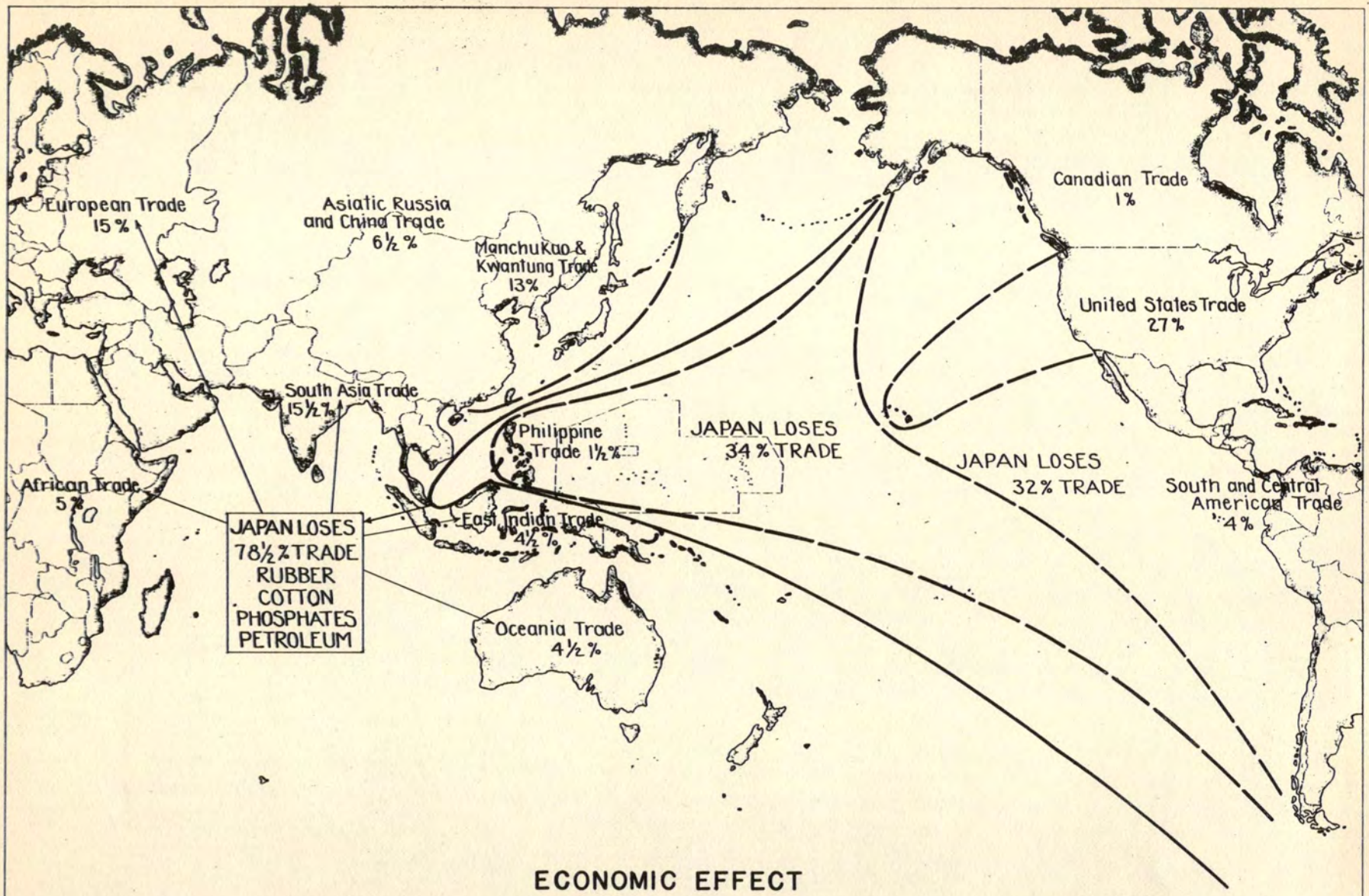
The CHINA, YELLOW and JAPANESE sea lanes are vital. There is no other road for many essential supplies.

SUMMARY OF JAPAN'S ECONOMIC POSITION FOR WAR.

For actual use in war JAPAN requires relatively few essential raw materials in large quantities that cannot be obtained from areas within her immediate zone of control.

We see that COTTON is produced in sufficient quantities in INDIA (though this is a short staple); (1) RUBBER in the NETHERLAND EAST INDIES and MALAY STATES; LEAD in BURMA and AUSTRALIA; WOOL in AUSTRALIA; and last, and most important,

(1)As JAPAN has a large reserve of cotton, there should be time for her to arrange for supplies of this item elsewhere than from the AMERICAN CONTINENT.



ECONOMIC EFFECT
OF
ENEMY CONTROL OF SEA AREAS

(1935 TRADE FIGURES)

Department of Intelligence
Naval War College

CONFIDENTIAL

August 28,1936. Comdr. Hoogewerff.

M-89 [illegible]

oil in BORNEO.

FORMOSA can supply sugar and the MANDATES phosphates.

Should there be a proloned major conflict, it is doubtful if JAPAN could be self-sufficient indefinitely in all products of heavy industry. Nevertheless, predicated on the supposition that in a war with the UNITED STATES her major activities would be confined to the ASIATIC and WESTERN PACIFIC areas, it is believed that JAPAN could be self-sustaining in industrial output for a considerable time.

STRATEGIC IMPLICATIONS.

Let us now consider the economic pressure that could be brought to bear upon JAPAN by enemy control of certain sea areas, with especial reference to a BLUE-ORANGE war.

In the latter contingency, JAPAN would automatically lose about 27% of her normal foreign trade, and it would seem that but a small portion of such loss could be compensated for by increased commerce with other nations. At first glance, this would not appear to have a serious effect, as JAPAN has an unfavorable trade balance with our country, and all essential materials are available elsewhere. There is one important item to remember however. -- The UNITED STATES buys approximately 90% of all the raw silk output of JAPAN, and the loss of her chief silk buyer could hardly be compensated for in new markets. True, the raw silk industry is declining in importance, but the silk production, according to several auth-

orities, is the only thing that keeps the Japanese farmer from complete indigence.

Should the UNITED STATES cut off all of the AMERICAS, JAPAN would lose but an additional 5% of her trade and could still obtain all essential materials. In fact, if she were denied the entire PACIFIC and her trade with EUROPE and AFRICA severed, she would still be able to obtain the necessary raw materials, provided the powers controlling ASIA remained neutral and she had access to the supplies of that continent and to the oil of the EAST INDIES.

If, in addition, INDIA and the EAST INDIES were cut off, her present sources for cotton, rubber, lead and oil, in adequate quantities, would be lost. However, as a last resort, there would remain: War reserves, substitutes, and the production of EASTERN ASIA.

Therefore, in terms of material procurement, it is possible that JAPAN could sustain for some time a defensive war with only her home islands and the Eastern Coast of ASIA available to her. But even here in her own inner sphere of control she faces grave problems. Can she be sure of keeping peace in CHINA, KOREA and MANCHURIA and of wringing from these areas their maximum output? Will RUSSIA remain neutral? Will the Trans-Siberian Railway be at her disposal - especially for oil?

The answers to the latter questions would directly influence JAPAN's freedom of action and apportionment of fighting strength and might easily destroy her present apparent favorable

position for war with a Western Power.

This, however, is not the whole picture for any extended period. To maintain her growing population in reasonable prosperity she must continue exports of industrial output; this requires foreign markets, as well as imports of raw materials. Exports are further essential to retain her foreign credits for purchase of raw materials and to furnish other required financial support.

Even though JAPAN were certain that her ASIATIC sphere of control would serve her industrially for war, she is ultimately dependent upon the markets of the world. She is not, like Victorian ENGLAND, supreme on the Seven Seas, but is open to strangulation of blockade.

The cutting off of a large portion of her world trade in war would mean a difficult and dangerous readjustment of her industrial life, not only for the period of hostilities, but for an indefinite time thereafter.

An appeal to arms against the UNITED STATES might well jeopardize all of the industrial greatness that she has, so painfully, won.