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ECONOMIES OF THE WESTERN HEMISPHERE

27 March 1953

1755

## CONTENTS

	<u>Page</u>
SPEAKER--Colonel M. T. Smartt, USAF, Member of Faculty.....	1
GENERAL DISCUSSION.....	15

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1757

## ECONOMIES OF THE WESTERN HEMISPHERE

27 March 1953

COLONEL SMARTT: General Greeley, gentlemen: The title of this presentation this morning is the Economies of the Western Hemisphere. Since you have been studying the American economy throughout your course here, I will restrict my remarks to the economies of Latin America and Canada. Since economics is perhaps most easily digested when administered in small doses, I propose to further limit my remarks to three areas of the economies of Canada and Latin America which I think have a direct and important bearing on the economic potential of those countries. These are: (1) the human and natural resources base of their economies; (2) economic growth and development; and, (3) their patterns of foreign trade.

Before we go any further, let us refresh our memories on the geography of this area. It hasn't changed much since you and I studied geography in grade school.

You have the mountain ranges running up the coasts of the countries (pointing to map). The high mountains of Eastern Brazil correspond to the Appalachian range of the United States, extending into the Maritime Provinces of Canada, terminating in Baffin Island.

In South America the Amazon river system stretches some 2,000 miles for steamer traffic into the center of the continent. This corresponds to the St. Lawrence and Great Lakes system reaching into the heart of North America. We might also compare the Mississippi River of the United States running in a southerly direction with the Parana River in South America, and if you want to go one step further, you might compare the Magdalena River in Colombia, running generally northeast, with the Mackenzie River, running northwesterly, in the Northwest Territories.

There are four plateaus in Latin America that have a direct bearing upon rail and highway transportation and their construction: The Patagonian plateau in Southern Argentina; the Brazilian Highlands; and the Mexican plateau extending down the center of Mexico. Those run from about 1500 to 4000 feet in elevation. In addition to those, there is the Bolivian plateau which rises from 6 to 12 thousand feet in elevation. In addition to the mountains, the plateaus, and the numerous river systems, there also are the dense jungles of the headwaters of the Amazon and the forests of the lower Parana river area which make rail and highway construction both difficult and costly.

# RESTRICTED

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1758

When I use the term Latin America, I refer to the 20 republics of the area. That includes the 10 republics of South America, the 6 republics of Central America--commonly referred to as the banana republics, Panama, Costa Rica, Nicaragua, El Salvador, Honduras, and Guatemala; Mexico; and the three island republics of Cuba, Haiti, and the Dominican Republic. Note that the term Latin America excludes the possessions of all foreign governments.

It is important to keep in mind that this area consists of 20 individual republics. They are not alike in development, in attitudes, in aspirations, or in backgrounds.

The greater part of Latin America lies within the tropical zone and this has its ill effects on the health of the people. Coupled with the natural physical features which I have already mentioned, it constitutes a definite handicap to the economic expansion of the railroads and highways.

In several of these republics, there is a rather high percentage of people who are illiterate, unhealthy, and suffer from malnutrition. Although from 50 to 80 percent of the population in Latin America is engaged in agriculture, the area still is unable to produce enough to afford an adequate diet. Yet the rate of population growth in the area is twice the world rate. With such a high percentage of the population tied to the land, the area can make little, if any contribution manpowerwise to the economic potential of the free world.

Now a word about the natural resources of Latin America. The percentage of the total land area that is suitable for agricultural purposes is about one-half the average for Europe and one-third that of Canada, but since a substantial portion of this land is not presently in production, it does have a fair chance for agricultural expansion. However, a somewhat pessimistic view of the agricultural capability of Latin America was expressed by William Vogt, a noted American conservationist when he stated: "The land of Latin America has such a low carrying capacity and is able to produce so little wealth per thousand acres that the purchasing power of the people cannot be increased to a degree even comparable to that of European and North American countries."

The other natural resources of this area may be briefly characterized as follows: In forestry, they have large reserves but they are mostly hardwoods and for the most part economically inaccessible.

Coal reserves are extremely small. They are poor quality with little, if any, coking coal. All of them lack favorable locations with respect to iron ore and limestone deposits. Since all coking coal must be imported, its steel industry is highly dependent upon free world imports.

RESTRICTED

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1759

The water-power resources are large but the bulk of them are economically inaccessible with respect to centers of population where the power generated would normally be consumed.

In petroleum, however, the area is in a much better position. Latin America has reserves equal to one-half those of the United States. Venezuelan oil makes an invaluable contribution to the economic strength of the free world. Its importance in wartime cannot be over-emphasized. Petroleum is produced in 10 of the 20 Latin American countries. It is worthy of note, however, that two of the largest and most modernized of these countries--Argentina and Brazil--are extremely short of petroleum.

The lack of low-cost coal supplies makes oil especially vital to Latin America. Since fuels are basic to industrial development, Latin America must turn to oil; to generate electric power, to meet industrial needs for heat and power, and, to fuel trains, tractors, and highway transport. Properly developed, the oil resources of the area can provide the energy to support industrial development.

I have mentioned coal and petroleum, but what about the over-all minerals picture in Latin America? I think that this chart will give it to you at a glance.

(Chart 1)

You will note that some 15 of the minerals that are produced in Latin America are on the strategic and critical materials list of the Munitions Board. You will get a pretty good idea here of the importance of this area to the world when you consider the percentage of world production of these minerals that come from Latin America. It ranges from about 48 percent on down to 2 percent in some of the less important ones. Iron ore is just a recent development in Venezuela and obviously it shows only a small percentage of exports for 1948 but it will become increasingly important.

United States dependence upon Latin America is shown by the percentages of United States imports coming from Latin America which are shown in the second column. Without attempting to run over all of them, but just examining the percentages that are supplied for the free world and the percentages of United States imports, I think you can readily observe that the free world's economy would be severely handicapped without access to Latin American minerals. So much for the resources base.

Now something about the nature of the economy. The economy of Latin America is typically that of an underdeveloped country. It

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## CHART 1

## LATIN AMERICAN MINERALS

Mineral	Percent of World Production 1948	Percent of U. S. Imports Coming from Latin America
* Copper	24	80
* Lead	19	37
* Zinc	15	45
* Antimony	48	75
* Tin	25	23
* Vanadium	30	100
* Tungsten	13	35
Gold	5	-
Silver	48	-
* Manganese	7	18
Iron Ore	2	47
Coal	0.3	-
* Cadmium	19	-
* Chromite	6	5
* Molybdenum	4	-
* Natural Graphite	24	65
* Mercury	7	13
* Platinum	8	-
* Bismuth	33	88
Nitrogen	8	100

\* On current list of strategic and critical materials for stockpile.

depends upon its exports of raw materials in exchange for the importation of the manufactured items and processed goods. Traditionally, the European market has taken one-third of all Latin American exports. This, of course, varies between individual countries. In the early period of expansion of Latin American exports of farm products, we find that, the European population was growing rapidly; British industry increased its needs for raw materials and food; German industry had expanded, rapidly, creating an industrial population that had to be fed; in addition, the growth of the American market reduced our surplus available for export.

By 1930, however, this condition had changed materially. The European population growth was slowing down; British industry was losing ground to foreign competition and Britain was turning more and more to the Commonwealth countries whose production was growing; Germany was achieving a greater balance between industry and agriculture; and, the growing economic nationalism in European countries tended to discourage foreign imports.

This change affected Latin American development policy in two ways: First, it could no longer count on a steadily increasing export market to supply the foreign exchange needed to finance foreign purchases of both capital and consumer. Secondly, it could no longer control imports to insure the inflow of capital and consumer goods, because Europe began demanding bilateral balancing of accounts. In short, Latin America lost the economic initiative and found itself at the mercy of its customers.

World War II again demonstrated the vulnerability of the Latin American economies, especially those with heavy European exports. For example, continental Europe had taken 30 percent of Latin American exports, and of course with the outbreak of the war these markets were immediately cut off. In the postwar period export demand was heavy, primarily due to the delay of European recovery reaching pre-war levels; also to the high levels of prosperity holding American demands at high levels. Total Latin American exports rose from about 1-3/4 billion dollars in 1938 to about 6 billion dollars in 1948. But despite Marshall Plan aid, continental Europe and the United Kingdom were taking considerably less than their pre-war levels.

This decline in the European markets, coupled with the postwar world shortages in foreign exchange, have left Latin America with an uncertain market for its exports. It fears a continued narrowing of the European market in peacetime and its total loss in the event of war.

# RESTRICTED

1782

In the United States market, Latin America had no balance of payments problem and no bilateral balancing of accounts. The basic outlook was good. We had a growing population and large requirements for foreign materials generated by the defense production program. Dollarwise the exports to the United States increased over fivefold between 1938 and 1950. In physical volume they about doubled the 1936-1938 figure.

Demands should remain strong for traditional United States purchases from this area, such as coffee, sugar, cacao, bananas, oil, metals, wool, and hides, all of which are complementary to United States production. However, there is very little prospect of expansion to offset European losses in other foods, animal feedstuffs, and cotton since these are competitive with United States production. These losses amount to approximately 1/3 of total Latin American exports.

Trade figures for Latin America reveal an unfavorable trend in the terms of trade. This worsening of the terms of trade is a strong reason for the Latin American's drive towards industrialization of his economy. Obviously, no nation can expect to build a strong economic potential under such conditions.

How heavily the external purchasing of individual countries within Latin America depends upon a single commodity, I think, will be clearly brought home to you by this chart.

(Chart 2)

This will give you some idea of the importance of the leading export commodities of these various nations: Cuba is 90 percent dependent upon sugar; Bolivia is 65 percent dependent upon tin; Venezuela is 97 percent dependent upon petroleum, and the like. When that market is lost or goes into a depression period for that one item, you can readily see what it means to the economy of that country.

This next chart will give you some idea of the concentration of exports in Latin America by commodities.

(Chart 3)

The other chart showed the individual dependence on a single commodity by country. This is the over-all percentage of total exports of Latin America by commodities. Petroleum exports from Venezuela to the free world are 18 percent. You will note at a glance that the exports of this area are predominately raw materials, food items, and minerals. Without those exports, the economic potential of the free world would be severely handicapped.

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CHART 2

1763

## IMPORTANCE OF THE LEADING EXPORT COMMODITY (Percentage of total exports)

Item	Percent 1948
Brazil -- coffee	42
Colombia -- coffee	77
El Salvador -- coffee	80
Guatemala -- coffee	62
Haiti -- coffee	35
Costa Rica -- coffee	45
Dominican Republic -- coffee	51
Cuba -- sugar	90
Honduras -- bananas	56
Panama -- bananas	50
Venezuela -- Petroleum	97
Bolivia -- tin	65
Uruguay -- wool	37
Chile -- copper	60
Nicaragua -- coffee	45

CHART 3

## LATIN AMERICAN EXPORTS BY COMMODITIES (Percentage of total exports)

Item	Percent 1938	Percent 1949
Petroleum	17	18
Coffee	13	19
Sugar	6	10
Cotton	4	4
Meat	7	5
Cereals and linseed	12	10
Hides and skins	3	3
Oils, nuts, etc.	2	3
Wool	5	3
Minerals	14	10
Other foods	7	10
Miscellaneous	10	5
Total exports	<u>100</u>	<u>100</u>

7

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1764

Latin America's drive towards industrialization has shown some results. Manufacturing production at the present time is about 75 percent above the pre-war level. It is  $2\frac{1}{2}$  times pre-war volume in Brazil, Colombia, and the Dominican Republic. In Mexico, Argentina, and Chile it is about double pre-war levels. Despite this growth, industrialization is still in its early stages in Latin America.

While there are some notable exceptions, Latin American manufacturing is typically a high-cost operation. Few manufacturing products can compete in the world market in normal times. Food and textiles account for most of the manufactured output.

The basic resources pattern of the area explains, I think, this concentration on food and textiles. Since most of the nations of the area produce food or textiles raw materials, they naturally turn first to processing these materials. Moreover these industries require relatively small capital investment and turn out products that can be sold on the local market.

Production of the simpler types of machinery is growing. While imports still supply most of the heavy goods, their production is rising in a few of the Latin American countries. In 1951, the area produced  $\frac{1}{3}$  of its steel requirements and about 80 percent of its cement consumption. From the standpoint of industrial production, Latin America, at the present time, must be considered as a drain on the free world.

I will briefly mention some of the obstacles to large-scale industrialization throughout Latin America. Obviously, large-scale industrialization requires large-scale capital investment. If this is to be domestic capital, it must depend upon increased exports or decreased imports of consumer goods in order to divert foreign exchange for this purpose. However, the standard of living of the masses can ill afford to be reduced much lower.

In view of the growing population, it is difficult to see how large exports in the non-minerals field can be accomplished, particularly in view of the curtailed European market. The size of the domestic market makes heavy industrialization uneconomical, and the limited rail network tends to limit both the growth of the domestic market and trade between the countries of Latin America.

If development is dependent upon foreign private capital, the future is really not very bright. Many Latin American countries have failed to provide a favorable climate for foreign investments. Their rising nationalism has developed a resentment against foreign capital which has taken expression in the form of discriminatory taxes,

RESTRICTED

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1765

government monopolies, discriminatory regulatory restrictions and foreign exchange controls in many of these countries.

The theories of absolute and relative advantages, previously explained to you by Colonel Waterman, are now working for the Latin American economy. In the event of heavy industrialization, it will probably work against the Latin American economy. The area has these advantages in the production of food and raw materials. It cannot hope to readily, if ever, gain these advantages in industrial production. Its industrialization will of necessity be limited to the extent of its domestic market for many years to come.

What bearing does this drive toward industrialization have upon the economic potential of the free world? Briefly and at the risk of oversimplification I see it in this light:

First of all, Latin America is presently a supplier of foods and raw materials to the free world. They are extremely important to the free world economy. Industrialization attracts labor from both agriculture and the mines. With a reduced agricultural labor force and an increasing urban population to be fed as a result of the movement of labor to centers of industry, there will be less food available for export. Industrialization means increased consumption of raw materials at home and the diversion of manpower and capital from basic resources development to industrial development. The net result is a reduction of raw materials and food for export.

In the face of the current free world shortages of food and raw materials, particularly mineral raw materials, the impact of an accelerated industrialization program in Latin America, I think, is obvious. From the standpoint of the free world, Latin America will contribute more to the economic potential by remaining an exporter of raw materials than it will in attempting to industrialize its economy.

Now let us take a brief look at the Canadian economy. I know you are all familiar with the over-all geography of this area, but I would like to point out one or two features that have a direct bearing upon its economy.

The natural trade channels are north and south, but the international boundary between the United States and Canada provide an artificial barrier to that trade. In the west you have the high mountains, the Rocky Mountains, that tend to interfere with land transportation to the east and also to the West Coast. East of the Rockies is the great plains or prairie region. This is the great grain producing region of North America. Most petroleum geologists now agree that oil producing formations extend throughout this region

# RESTRICTED

# RESTRICTED

1766

from the Gulf of Mexico to the Arctic Ocean. This seems to be confirmed by the recent developments in the prairie provinces of Canada and the Williston Basin of Montana and North Dakota; also by the production of oil at Norman wells in the Northwest Territories, and the rich areas recently placed under exploratory contracts in the Hay River basin.

In the East, the Appalachian Range, as I have already pointed out, tends to hinder transportation to the interior, not only in the United States but in Canada through the Maritime Provinces.

There are two other geographical features that have a direct bearing on the economic development of Canada. One is the Canadian Shield, or what is sometimes referred to as the Laurentian Shield. This is a 2 million square mile horseshoe of ancient rock encircling Hudson Bay. It extends generally from a line running through Great Bear and Great Slave Lakes to just beyond the western tip of the Great Lakes, eastward to the Atlantic. That is a hard rock formation that makes the territory generally unsuitable for agriculture and extremely difficult for rail construction, pipelines, and the like. However, it is a virtual treasure chest in minerals, waterpower, wildlife, and forest reserves.

The other geographic factor that I mentioned is the adverse flow of the rivers. With the exception of the St. Lawrence, which flows generally east or northeast into the Atlantic, and the Nelson River which cuts across the rich agricultural land of the prairies, emptying into Hudson Bay at Churchill, the bulk of the rivers generally flow northward into the cold Arctic, thereby adversely affecting their utility as inland waterways.

These two factors, while a hindrance, have also forced the development of an extensive rail system in Canada. In terms of rail-miles-per-capita, Canada exceeds the United States on the order of 3 1/3 to 1.

Well, let us take a brief look at the resource base of the Canadian economy. Its human resources consist of about 11 1/2 million, highly literate, healthy, intelligent people. It has a highly productive labor force of 5 million, of which only 17 percent are engaged in agriculture. The program of selective immigration of displaced persons following World War II has greatly strengthened the labor force in those areas of specific skill shortages.

Her efficiency in agricultural production enables her to channel a large labor force into raw material and industrial production which makes a substantial and important contribution to the over-all economic potential of the free world.

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The proportion of land suitable for agriculture is twice that of Latin America, and considerable virgin territory is available for expansion when the need arises. Despite great strides made in other branches of the economy, agriculture is still the chief source of exports and the mainstay of the national economy. About one-half of all agricultural production in Canada reaches the export market.

In world production, Canada ranks fourth in meat, third in wheat and oats, second in barley, and first in processed and dried milk. Her fisheries are among the most extensive in the world. Canada has extensive stands of softwoods and she is a heavy exporter of lumber. She leads the world both in the production and export of wood pulp and pulp wood. In short, Canadian agriculture makes an irreplaceable contribution to the economic potential of the free world bloc. Her production will become of even greater importance if the projected reduction in Latin American exports of food items materializes.

Canada has huge water-power resources. Potential power that could be developed is about 65 million horsepower, of which approximately 1/5 is currently developed. With a population of a little over 1/4 that of the United Kingdom, she uses almost the same amount of electricity. Ninety-five percent of all electric power in Canada is hydro-generated. The installed capacity of 1 horsepower per capita far exceeds the ratio in the United States.

The rate of development of electric power is an excellent indicator of the growth of the Canadian economy and it has an important bearing upon the productivity of labor, about which I will speak in a few moments. Hydro-electric capacity increased from 8 million horsepower in 1939 to 10 million in 1946, and for the last six years it has been increasing at an annual rate of 700,000 horsepower. Developments currently under way and projected will continue this rate of development to the end of the decade.

The present capacity is approximately 1 1/2 million horsepower, and while it is adequate for immediate uses, there is little reserve for expansion. It is for this reason that Canada is so anxious to get under way with the development of electric power in the international section of the St. Lawrence River.

Canada has sizeable coal reserves, slightly larger than those of Poland and a little over one-half those of the United Kingdom. However, they are relatively of low quality and mostly not economically accessible to centers of industry and population. Coal in Nova Scotia does support a small steel industry using iron ore from New Foundland. Canada produces about 40 percent of its coal requirements and imports the balance from the United States.

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In the short space of some six years since the discovery of oil at Leduc in Alberta in 1947, extensive drilling has developed proven reserves of about 1.7 billion barrels, and this beyond any doubt is just the beginning. Almost the whole area between the Rocky Mountains and the Canadian Shield, about which I spoke, extending from the northern portion of the Prairie provinces to the Arctic Ocean--some 650,000 square miles--consist of sedimentary rocks that are potentially oil bearing. Proven reserves of natural gas have reached a point at which the government of Alberta has recently granted a permit for its movement across Provincial borders for the first time in large-scale quantities. It will go by pipeline to the Pacific Coast.

This development of petroleum has already gone far enough to transform the economy of a considerable portion of Alberta. A 50 million dollar plant to produce acetic acid and other chemicals from natural gas and petrol-byproducts is under construction at Edmonton. Pulp will be brought by rail from British Columbia in order to manufacture cellulose acetate which is used for rayon and as a plastic.

Canadian petroleum makes an important contribution to the economic strength of the free world to the extent that it reduces the Canadian demand upon other free-world sources in peacetime; in time of war it reduces the demand for tankers required to import that petroleum and the naval escort for those tankers at a time when tonnages are generally at a premium.

Now a word about the metallic minerals. The surface of Canada's mineral resources is just beginning to be scratched. Yet it leads the world in the production of nickel, asbestos, and the platinum group metals. It ranks second in zinc, gold, cadmium, and selenium; third in silver and magnesium; and fourth in copper and lead. On top of this, recent discoveries of large new deposits of copper, lead, and zinc, uranium, and iron ore are currently under extensive development and will soon be in production. The United States and the Western European economies are becoming increasingly dependent upon Canadian mineral production. Without it, I think the economic strength of both the United States and the rest of the free world would be seriously weakened.

Now a word about Canada's economic growth. Recent comparisons of productivity suggest that the output per man-hour in Canada has increased faster during the last two decades than in either the United States or Great Britain. Over the period 1931 to 1949 the compound rate of growth of GNP per man-hour is put at 3 percent per annum. In the United States over a comparable period, 1929 to 1950, this rate of growth has been 2 percent. This GNP per man hour figure, however, should not be confused with the over-all GNP of 3 percent per year with which you are already familiar.

# RESTRICTED

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1769

Such a productivity is no doubt partially attributable to the rate of investment--investment in modern equipment, plant and electric power. Investment as a proportion of Gross national product has steadily increased from a little over 13 percent in 1939 to 23 percent last year. The real volume of investment valued in constant 1939 dollars has increased three-fold in Canada since 1939.

Canada is a prime example of what can be accomplished in the way of large-scale expansion in basic materials when dependence is placed upon efficiency per worker rather than large-scale increases in the labor force.

The tremendous material resources of Canada, coupled with her accelerated development and small population, demand that she maintain a healthy foreign trade as an outlet for her products. In fact, foreign trade is the backbone of her entire economy. In 1951, about 19 percent of the entire GNP was exported. This compares with about 10 percent in the United Kingdom which we look upon as one of the leading traders of the world. Actually, Canada ranks fourth in world trade and she was only bumped out of third place by France last year. Unlike the individual Latin American countries her economy is not solely dependent upon a single crop or commodity.

In 1938 a third of the Canadian exports went to the United States and 40 percent to Great Britain. With the outbreak of war, this pattern began to change, and today we are each other's best customers. I think that the general pattern of trade can best be shown by this chart.

(Chart 4)

Without going into an analysis of it, I would just like to call your attention to the preponderance of Canadian trade with the United States, both imports and exports, and the over-all percentage that exists within the Western Hemisphere. Before World War II, when the pound sterling was fully convertible, this balance of trade was not a serious problem. Canada could settle its United States trade deficit by selling sterling in New York. But after the war, it could not do that and by 1947 Canada had drained its dollar reserves to the point where Parliament found it necessary to enact the Emergency Exchange Conservation Act, purely an emergency measure. This gave the Minister of Finance authority to place restrictions on imports from the United States and to control the flow of U. S. dollars out of the country. But as conditions improved these restrictions were gradually relaxed and the last of them were removed in January, 1951.

Even though increased purchases from the United States created a net deficit in 1951, foreign capital inflow was so substantial that

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1770

## CHART 4

### CANADIAN TRADE -- 1951 (Percentage distribution by countries)

Country	Percent Exports	Percent Imports
Commonwealth countries:		
United Kingdom	16.1	10.3
Australia	1.3	1.1
India	.9	1.0
Union of South Africa	1.3	0.1
Other	2.6	5.3
Total	<u>22.2</u>	<u>17.8</u>
Foreign countries:		
United States	58.7	68.9
Latin America	5.6	6.7
Europe	9.4	4.3
Other	4.1	2.3
Total	<u>77.8</u>	<u>82.2</u>
Total, all countries	<u>100.0</u>	<u>100.0</u>
Dollar value (In millions)	3,914.4	4,084.8

# RESTRICTED

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1771

Canada continued to be in a healthy foreign exchange position. This is substantiated by the fact that in October of 1951 all foreign exchange controls were abolished. It is further substantiated by the rise in the Canadian dollar in relation to the United States dollar. It reached par in February of last year and currently is commanding a premium on the free market. The last I saw a day or two ago I think it was about 101.85 or thereabouts. Canada is now one of the few nations where foreign exchange dealings can proceed unaffected by government regulations.

By way of a very brief summary, I would like to make a comparison of the economies of these two areas within the framework of the points that I have covered here.

First, the human resources. From the standpoint of health as it affects economic potential of the two countries, there is no comparison. The health standards of Canada are far superior to those of Latin America. The accelerated birth rate in comparison to the ability to feed that population places Latin America at a distinct disadvantage in comparison to Canada.

With reference to natural resources, both areas make important contributions to the economy of the free world. However, the development of resources is proceeding at a much more rapid pace in Canada. Industrializationwise, Canada is still young but it is growing rapidly. Latin America is making some progress but it is much less advanced. For example, with one-tenth of the population of Latin America, Canadian steel production is twice that of Latin America.

In international trade, both economies are heavily dependent upon foreign trade, but unlike Latin America, Canada is not critically dependent upon a single crop or commodity.

With this brief summary, gentlemen, I leave you to draw your own conclusions concerning the relative contribution of these two areas to the over-all economic potential of the free world.

COLONEL SMARTT: Before I entertain questions, somebody asked about this nitrogen element. The item that we actually import is the nitrates, but the Bureau of Mines tells me that they report all of that in the form of the element of nitrogen rather than nitrates.

QUESTION: You mentioned the slow growth of industrialization in South America. Can you mention some of the factors influencing that growth?

RESTRICTED

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1772

COLONEL SMARTT: I think perhaps one that I have already mentioned is the political instability and the growing nationalism of those countries. While they want to industrialize, they don't want foreigners to come in and do it for them; they want it to be their own. The power for capital formation within Latin America is relatively weak so that they have to depend upon foreign capital. You can't industrialize on a large scale without large-scale investments, and large-scale investment funds are not available within the area itself. So until those conditions change and they make it more attractive, they will not get large-scale private American investment in many of the countries. It is true American capital in general is developing oil in Venezuela. There is an attractive situation there; also in the large iron ore deposits.

A certain amount of capital is going into Brazil. But by and large, American investors are holding back somewhat on large scale investments.

There is one other factor that influences industrialization, that is the limitation on markets. If you will look at the area of Latin America you will see it is one great area of 160 to 165 million people, but remember in South America it is not one country; there are 10 individual republics. There is the same problem there of shipping across borders as there is in Western Europe, with those small, cut-up areas.

QUESTION: In one of the areas we are studying, we ran across the fact that Western Europe is now over-bought for wood, coal and grain from Eastern Europe. Canada seems to be pretty well off there. To what extent do you think that might be adjusted to make them less dependent on Eastern Europe?

COLONEL SMARTT: It comes back to the same old problem of the dollar shortage between the United States and Canada and Western Europe. We have the lumber; we could supply the lumber to them; but after all, we don't work for our health. We want to be paid for it. If they don't have the dollars, they can't get it.

QUESTION: You mentioned the growing nationalism of these countries, which has kept American capital from going down there. I am thinking of copper. Has there been any tendency toward more nationalization in some of these other industries that might have a deterring effect on American capital going down there?

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COLONEL SMARTT: Well, you had tin in Bolivia and banana plantations of American Fruit Company in Guatamela recently. One of the American copper companies has recently gone into large-scale development of low-grade ores in Chile, by getting together with the Government. The biggest factor in most of these countries is that they welcome American capital but they still want 51 percent control within the country.

QUESTION: You mentioned that Latin America could best aid the free world by producing agricultural products and by mining rather than going into industry. I was under the impression that these places should be industrialized so as to produce more agricultural products and be more efficient in the mining process. There is a conflict there. Will you explain it?

COLONEL SMARTT: Colonel Van Way questioned that one conclusion I made, too, pointing out that it has been the history of the United States that as we industrialized we also increased our production and became more efficient. I think in the long run that will probably prevail in Latin America as it has in other countries. But with their labor force for that, there will initially be a drain from both agriculture and mining. Eventually, as they get under way and produce enough machinery to industrialize and make their farms more modern and more efficient, get more tractors and the like, they can build up agricultural production with a reduced labor force. Until they reach that point, there will be a drop in agriculture and mining production. With the present shortages existing in the free world, I think, purely from the standpoint of the free world bloc, it is highly desirable that they concentrate on increasing agricultural and mineral production rather than concentrating on industrialization.

I was asked during the break to comment a little further on the petroleum situation. While Canada at the present time has proven reserves proven by actual drilling, of 1.7 billion barrels, there is still a good prospect for expansion. There is no question but what it will proceed. The only thing that prevents Canada from meeting all of her domestic demands at the present time is not production but transportation.

There is at the present time--finished in 1951--about a 1150 mile pipeline from Edmonton to Superior on the Great Lakes.

# RESTRICTED

1774

They are beefing that up with pumping stations to increase the flow. The oil currently goes from there by tanker to Sarnia, the main refineries in Canada outside of those in Montreal. The Montreal refineries get their oil by imports, mostly from Venezuela. That comes in by a 100-mile pipeline from Portland, Maine, to Montreal.

There are plans recently announced for the extension of the pipeline from Edmonton on to Sarnia and if that goes through, they will be able to add additional pumping stations where they might be able to meet their total oil requirements.

There is also an oil pipeline under construction from Alberta to Vancouver, the transmountain pipeline. This is for oil and is in addition to the one I mentioned for natural gas.

At the present time, the producing wells are only producing about 40 to 60 percent of their capacity due to the limited transportation facilities. They cannot compete with imported oil by sea on a price basis by shipping by rail those long distances.

Economically, it would be to the advantage of both the United States and Canada if Canada never became fully self-sufficient in oil. Economically, both countries would be better off if Canada depended upon domestic consumption for their own needs in the western half of the prairie provinces, exported the surplus to deficit areas in the Northwest United States, and depended upon imports into the Eastern part of Canada from the U. S. Politically, we will probably never do that. We could attain our self-sufficiency with Venezuelan oil and United States oil and Canadian production. There is no doubt in my mind but what the Western Hemisphere could drop the curtain and be entirely self-sufficient petroleumwise, without the Far East. But so far as the free world bloc is concerned, they would have to depend upon Middle East petroleum.

If they ever run out of actual oil resources, liquid petroleum, there are tar sands along the Athabasca River in northern Canada. In drilling they have found they extend down 300 feet or more. The province of Alberta ran a pilot plant to try to devise a means of extracting petroleum from tar sands. They have developed a method, but so far it is not economical. It can't compete with flowing oil. But if we ever run short in

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1775

the Western Hemisphere, there is no question that technology will develop that. It may be a little more expensive, but under present surveys of available tar sands there are sufficient reserves. On the basis of the extraction we have gotten so far, there is a 300 billion barrel reserve there.

QUESTION: Are those pipelines in the Edmonton area operated in the wintertime or is that a part-year operation? I was wondering if they could run crude through the pipeline in cold weather.

COLONEL SMARTT: I am rabid on that so I don't mind talking about it. That project is going forward. It hasn't died on the vine. That rail line is about half completed, and under present plans and projected rate of progress, by 1955 they will be shipping 10 million tons of iron ore a year from Labrador. It is capable of an expansion to 20 million tons if there is a market for it.

This iron ore may reach the U. S. by either of two routes. It can either come around the Gaspé Peninsula and go in through the Atlantic Coast ports with a rail haul into Pittsburgh, Gary, and Youngstown, or it can move up the St. Lawrence river. If they do not put in the St. Lawrence waterway, it would go by deep draft vessel up to Montreal. From there it would have to be transshipped in shallow draft lake vessels to negotiate the locks and get into the lakes; or be transshipped by rail. Both of those are expensive.

It is to the advantage of American steel interests as well as many other segments of both the Canadian and American economy to put in the St. Lawrence waterway. Sure it is going to hurt the railroads perhaps. But the over-all advantage to the security and the economy of this country far outweighs a few special interests. I think it should go in without question.

Gentlemen, it is about five after 12, so we will close the discussion.