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THE INTERNATIONAL OPERATIONS OF NATIONAL FIRMS,

A STUDY OF DIRECT FOREIGN INVESTMENT

by

Stephen Herbert Hymer

B.A., McGill University
(1955)

SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

at the

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
June, 1960

Signature of Author..... Stephen Hymer .....
Department of Economics, May 14, 1960

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Thesis Supervisor

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Chairman, Departmental Committee on Graduate Students

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14 Remington Street
Cambridge, Massachusetts
May 14, 1960

Professor Robert L. Bishop, Chairman
Department of Economics and Social Science
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

Dear Professor Bishop:

In partial fulfillment of the requirements for the degree of Doctor of Philosophy in Industrial Economics, I herewith submit the following thesis entitled:

THE INTERNATIONAL OPERATIONS OF
NATIONAL FIRMS--A STUDY OF DIRECT FOREIGN INVESTMENT.

Respectfully,

Stephen Hymer

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ABSTRACT

THE INTERNATIONAL OPERATIONS OF NATIONAL FIRMS,

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by

Stephen Herbert Hymer

Submitted to the Department of Economics and Social Science on May 14, 1960 in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Industrial Economics

The theory of international capital movements predicts that capital will move in response to differences in interest-rates. There is some questions as to whether this theory applies to direct investment, a form of capital movements in which the investor directly controls the foreign enterprise in which the investment is made. This thesis argues that the theory does not apply to direct investment and that differences in interest-rates do not explain the movements of direct investment which occur. Instead it is suggested that direct investment is capital associated with the international operations of firms and that movements of direct investment are determined by the extent of international operations. International operations refers to the ownership and the control of enterprises in one country by firms in another country. The two main problems of the thesis are to explain the extent of international operations and the amount of capital movement associated with them.

Two main causes of international operations are given in this thesis. (1) Firms control enterprises in many countries in order to remove competition between them when the enterprises sell in the same market or sell to each other under conditions of imperfect competition. (2) Firms undertake operations in a foreign country in order to appropriate fully the returns to certain abilities which they possess. They chose this method rather than an alternative method such as licensing because the imperfections in the market prevent the fullest realization of profits unless the firm exercises some control. These two causes help explain the extent of international operations, but they do not predict it exactly. The desired ends can often be achieved by other means than ownership and control--for example, in the first case competition may be removed by a collusive agreement rather than by direct control. In addition, the imperfect nature of the market sometimes implies an indeterminacy as to which of the many possible oligopolistic

ABSTRACT Continued

solutions will result. However, certain predictions are possible. One of them is that international operations, (and therefore direct investment,) will occur in a few industries throughout the world rather than in a few countries throughout all industries as one would expect if the interest-rate were the explaining factor. The empirical evidence suggests that this is in fact the case.

The amount of capital associated with international operations depends largely on the nature and extent of the imperfections in the capital market. It is therefore a very complicated subject. However one interesting generalization which appears to have empirical support may be summarized here. A certain amount of direct investment in the foreign enterprise is needed in order to acquire ownership and achieve control. Aside from the minimum amount of capital needed for this end, firms will tend to finance their international operations by borrowing from local sources in the country where the international operations occur and not through funds raised in the home country of the parent concern. In other words the movement of capital is motivated by the desire to achieve control and not by differences in interest-rates. Since firms in countries where the interest-rate is high can have international operations in countries where the interest-rate is low, direct investment can move in a direction opposite to the one implied by the theory of international capital movements.

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Table of Contents

Chapter		Page
I.	A COMPARISON OF DIRECT AND PORTFOLIO INVESTMENT	11
	The definitions of direct and portfolio investment and some empirical evidence on differences in their behavior	
	The theory of portfolio investment	
	Application of the theory of portfolio investment to direct investment	
	The theory of direct investment	
	The international operations of national firms	
	Conclusion	
II.	THE THEORY OF INTERNATIONAL OPERATIONS - PART I	37
	Introduction	
	Barriers to international operations--the advantages of firms in their home market	
	Removal of conflict as a cause of international operations	
	Diversification as a motivation for international operations	
	The possession of advantages as a cause of international operations	
	The possibility of licensing	
	Some empirical evidence on international licensing arrangements of United States firms	
III.	THE THEORY OF INTERNATIONAL OPERATIONS - PART II	65
	The many forms of international operations	
	The many sidedness of international operations	
	The international distribution of advantages and the role of historical accident	
	International operations and international trade	
	Monopoly and international operations	
	Summary	
IV.	SOME EMPIRICAL EVIDENCE ON UNITED STATES INTERNATIONAL OPERATIONS - MAINLY IN MANUFACTURING INDUSTRIES	91
	Introduction	
	Aggregate United States investment	
	Canada	
	United Kingdom	
	Western Europe	
	Latin America	
	Conclusions	

Table of Contents

Chapter		Page
V.	DIRECT INVESTMENT AND THE FINANCING OF INTERNATIONAL OPERATIONS	147
	Introduction	
	The perfect capital market	
	Barriers to capital movement	
	Other imperfections	159
	Appendix. An alternative theory of the financing of international operations	
VI.	EFFECTS OF INTERNATIONAL OPERATIONS ON INCOME	183
	Associated capital movements	
	Associated technical knowledge	
	The fact of centralized control	
	The nationality of the firm	

Index of Tables

Table	
I-1	United States Direct and Portfolio Investment Position in Selected Years, 1914-1955
I-2	United States Direct and Portfolio Investments Abroad by Area, 1929 and 1956
I-3	Area Distribution of Selected Balance Sheet Items of the Standard Oil Company (New Jersey) Fiscal Year 1958
I-4	Assets, Owner's Share, and Liabilities of Direct Investments, 1950
I-5	Area Distribution of Selected Balance Sheet Items of the Royal Dutch Petroleum Company, Fiscal Year 1958
I-6	United States Investments Abroad and Foreign Investments in the United States by Area, 1956
I-7	Total Assets and Foreign Assets of 442 Companies, with Foreign Investments of One Million Dollars or more in 1950
II-1	Summary Table of Bain's Description of Advantages of Established Firms and the Circumstances in which they Arise
II-2	License Receipts and Payments of United States Firms, and Earnings on Direct Investments by Area and Country in 1956
II-3	License Receipts and Payments of United States Firms by Industry in 1956
II-4	United States Direct Investment in all Manufacturing and in Chemicals and Allied Products, Area Distribution, 1955
III-1	National Income and United States Direct Investment by Area

Index of Tables

Table	
IV-1	Foreign Investment and Total Assets of United States Companies, 1950, by Industries
IV-2	Income from Foreign Sources as a Per Cent of Net Income for Manufacturing Companies as Reported to the United States Treasury Department, Average of Years: 1950, 1951, 1954, 1955
IV-3	Distribution of Foreign Investments by Industry and Size Categories, 1950
IV-4	Value of United States Direct Investments in Manufacturing and Petroleum Enterprises Abroad, 1950, by Major Products
IV-5	Value added in Canada for all Canadian Manufacturing Establishments and Value Added of Selected United States Controlled Establishments 1953
IV-6	Share of American Controlled and Affiliated Companies in Gross Value of Product in Canada, 1932
IV-7	Concentration Ratios and Nationality of Six Leading Firms for Selected Canadian Industries 1953
IV-8	Nationality of Firms Operating in Selected Canadian Industries in 1953 with Assets of 25 Million or Over
IV-9	Numbers Employed by all Firms and by United States Firms Operating in the United Kingdom, 1953
IV-10	Share of United States Firms in Selected United Kingdom Industries
IV-11	Importance of United States Financed Firms in British Industry
IV-12	United States Capital Invested in Selected Industries in Argentina, Brazil, Uruguay and Chile in 1934
IV-13	Sales by United States Manufacturing Companies Operating in Latin America 1955
IV-14	Industrial Distribution of Total Value of Manufactured Products in Brazil in 1956 and Industrial Distribution of Sales by United States manufacturing Companies Operating in Brazil in 1955

Index of Tables

Table	
IV-15	Industrial Distribution of Total Value of Output of Manufactured Products in Argentina, Chile, Columbia and Venezuela, and Industrial Distribution of Sales by United States Manufacturing Companies Operating in these Countries
V-1	United States Direct Investment: Earnings, Income, Receipts, Retained Earnings, Capital Outflow and Change in Investment by Industry and Area, 1946-1958

CHAPTER I

A COMPARISON OF DIRECT AND PORTFOLIO INVESTMENT

The definitions of direct and portfolio investment and some empirical evidence of differences in their behavior.

It is customary to distinguish two kinds of long-term private international capital movements--direct investment and portfolio investment. Not everyone makes the distinction in quite the same way, but there is a great deal of similarity, and basically it is a question of who controls the enterprise in which the investment is made. If the investor directly controls the foreign enterprise, his investment is called a direct investment. If he does not control it, his investment is a portfolio investment.

Control is not an easy thing to define and the dividing line between some control and no control is arbitrary. The United States Department of Commerce, for example, considers a foreign enterprise to be American controlled if it is wholly owned as in the case of a branch plant, or if 25 per cent of the equity is held by an American or group of affiliated Americans, or if 50 per cent of the equity is held by Americans even though no single group has 25 per cent. If, by this definition, the enterprise is deemed to be American controlled, all American investment in that enterprise is classified as direct investment. All other investment, i.e., investment in corporations

not controlled by Americans or investment in foreign government bonds, is classified as portfolio investment.*

The details of definition are not too important. We are concerned with why this distinction is made at all. Whatever the theory behind the distinction, the facts, at least, seem to support its usefulness. Direct investment, as defined above, has behaved quite differently from portfolio investment and this suggests that they really are two different things. The most striking example of this difference in behavior is found in the changes in the United States long term investment position since 1914.

The trend of United States long term investments in the present century is shown in Table I-1. Four points which illustrate the differences and similarities in the behavior of direct and portfolio investment may be noted.

1. By 1914 the United States had substantial direct investment but hardly any portfolio investment. In fact, at that time, the United States was a recipient of large amounts of portfolio investment.

2. In the 20's, direct and portfolio investment moved in a similar fashion, both expanding rapidly.

3. In the 30's, while portfolio investments declined drastically, direct investments declined only slightly.

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*Department of Commerce, Office of Business Economics, Direct Private Foreign Investments of the United States: Census of 1950, (Washington: U. S. Government Printing Office, 1953), pp. 4 and 37.

4. In the post-war period, there has been a rapid expansion of direct investment but only a slight increase in portfolio. It is significant that during this period, portfolio funds have flown into the United States.

So much for the historical trend. There are also some important differences in the area distribution shown in Table I-2. In 1929 the United States had about the same amount of direct investment as portfolio investment: $7.5 billion dollars in the case of direct and $8.1 billion dollars of portfolio investments. In Canada, portfolio investment exceeded direct investment somewhat. In Europe there was almost two and one half times as much portfolio investment as there was direct. In Latin America the ratio is reversed. The 1956 data also show differences in the distribution of the two kinds of investments.

More statistical evidence on the difference in behavior between portfolio and direct investment could be offered, but at this point it would hardly serve any purpose. A perfectly arbitrary two-fold classification of capital movements could also show differences in behavior and most probably would. The point is to show that there are theoretical differences which account for the discrepancy in behavior. This is a large order and what we try to accomplish is considerably less ambitious. We begin with a discussion of the theory of portfolio capital movements and then try to apply this theory to direct investment.

The theory of portfolio investment

For portfolio investment, a well developed theory exists. It is worthwhile considering it in detail for it has many similarities and contrasts to the explanation of direct investment which shall be offered. Although we shall reject the theory as the explanation of direct investment, we shall later need many of the considerations dealt with here.

The basis of the theory of portfolio investment is the interest rate. Each investor maximizes his profits by investing where returns are the highest. Under the simplest form of the theory,--where there are no risks, uncertainties, or barriers to movement,--capital will move from countries where the interest rate is low to countries where it is high until interest rates are everywhere equal. In this simple case, the theory predicts that no cross movements of capital will occur.

The theory in this simplest form is too naive. The difficulty is that when risk, uncertainty, and barriers to movement are introduced almost anything can happen. The extra empirical information needed to make predictions is very great and almost impossible to acquire.

If risk is introduced, the equilibrium condition is that equities of equal risk and equal return sell at the same price. We can now no longer easily predict the direction of the capital flow. In fact cross movements are likely to occur on two accounts. They will occur first of all because of differences in risk preference.

If the investors of one country are more conservative on the average than the rest of the world, risk-avoiding capital will flow out of the country while risk-taking capital will flow in. Even if risk preferences are the same, cross movements will occur because of the desire of investors to diversify. As a corollary, this means that the interest costs on a loan will be greater for a larger loan even if the risk on the project, as defined, for example, by the standard deviation of the expected returns, is the same as for a smaller loan. The reason is as follows: the more people invest in a particular project, the less diversified their portfolio becomes. To make up for the increased risk caused by this loss of diversification, a higher interest rate must be offered. This may be an important factor in international capital flows, for most international investment was and is concerned with large projects. It may be that these large projects can only be financed in large capital markets, where there are many investors each willing and able to take a small part. This cause rather than interest rates in general might then account for some or much of international capital movements.

If we introduce uncertainty, so that there is disagreement about what risk is involved in a given security, then cross movements will also occur merely as a result of differences in evaluation.

Even now, the task of empirical verification is indeed considerable. But there are further complications, since we have not yet taken into account barriers to movement and imperfections in

the market. The main barrier to movement, aside from government control, is the possibility of changes in the exchange rate. If the future exchange rate is uncertain, then returns to an investment in a given country are not the same for natives as for foreigners. The foreigner must consider the exchange rate he will get or, more correctly, the probability distribution of future exchange rates. When he enters this into his calculations, it might either decrease or increase the risk involved. If it increases the risk, this is an additional cost. The cost might very well work in both directions and it is therefore in principle similar to transport costs. Investors in each country might, for example, consider a 4% return abroad, as equivalent to a 3% return at home, because of exchange risk. The main point is that equilibrium does not require equalization of interest rates throughout the world. The only necessary equilibrium condition is that interest rates in any two countries not differ by more than a certain amount. Fluctuations in the interest rates can occur without eliciting capital movements unless the fluctuations are sufficiently large.

Something similar happens when there are other barriers to movement such as the high costs of acquiring information or of making transactions. Then, equivalent securities in different countries can sell at different rates because the discrepancy is not known or because the cost of removing it is too great.

The theory of portfolio investment with all the complications introduced does not provide clear-cut answers to the question of

which way capital flows. We have spent so much time pointing this out for two reasons. First, even though we shall suggest that the theory of portfolio investment does not explain direct investment, the considerations just examined turn out to be very important for the theory of direct investment. For the imperfections of the capital market which are a difficulty for the theory of portfolio investment are precisely the factors which make the study of direct investment interesting or, for that matter, relevant.

The second purpose was to justify one of the major shortcomings of this presentation. A good theory of direct investment should explain the differences in behavior between portfolio and direct investment. In order to do this we must have a theoretical explanation of portfolio investment. We have just tried to point out the great difficulties in explaining the observed behavior of portfolio investment. It is, therefore, not possible to treat here both direct and portfolio investment. Instead we shall for the most part present an explanation of direct investment and try to apply it just to that form of investment.

Application of the theory of portfolio investment to direct investment

This then is the theory of portfolio investment. Does it explain direct investment? We present here several features of direct investment which appear to be inconsistent with the interest-rate theory.

1. As the first illustration of one of the difficulties of using the theory of portfolio investment, consider the data in

Table I-3 on the national distribution of certain balance sheet items of a firm with investments in many countries.

There are three clear features. Total assets are distributed equally between the United States and the rest of the world. The liabilities of the firm are mostly in the rest of the world. Marketable securities and cash are mostly in the United States.

From the behavior of this firm what can be inferred about interest rates? This table would indicate that interest rates are high in the United States and low in the rest of the world. The table appears to apply to a firm borrowing abroad and investing in the United States. Yet the table is the 1958 balance sheet of the Standard Oil Company of New Jersey, the largest single American direct investor. The figures in the balance sheet represent about 5% of the total United States direct investment.

Nor is the behavior of Standard Oil in any sense atypical. The aggregate data on American investments also show the same features,--those American firms which invest abroad also borrow abroad. This is shown in Table I-4. It is quite evident that American controlled enterprises operating in foreign countries borrow substantial amounts abroad. In fact the total American investment of 11.8 billion dollars is only slightly more than half of the total assets of these enterprises. It is significant that most of the United States investments are in equity capital while most of the investments by foreigners are in non-equity capital. (The table underestimates this feature, for as footnote one points out part

of the foreign owners' investments are in bonds, notes and mortgages.) If this direct investment is motivated by a desire to earn higher interest abroad, this practice of substantially borrowing abroad seems strange.

It is interesting to compare the balance sheet of the Standard Oil Company of New Jersey with that of another large oil company with extensive world-wide operations,--the Royal Dutch Petroleum Company. Selected items from the 1958 annual report of this company are presented in Table I-5. The behavior of Royal Dutch is quite opposite to that of Standard Oil, for in relation to its total assets Royal Dutch borrows heavily in the United States.

Here are two companies in the same industry, one American and the other Dutch, and both of them invest and borrow in each other's countries and in other parts of the world. It is hard to explain these investments simply in terms of interest rates though it could possibly be done; perhaps whatever paradoxes there are might disappear if better information were available. The point however is that in the theory of direct investment that we propose in this thesis, the behavior we have just described is not at all strange but in fact is exactly what one would expect.

2. The differences in behavior of direct and portfolio investments discussed above in connection with the data in Tables I-1, and I-2 hint that interest rates might not account for the movements of both these types of capital. The fact that they sometimes moved in opposite directions is particularly significant. The United

States began accumulating direct foreign investments before 1914 at a time when it was still a large importer of portfolio capital. In the post-war period there have been flows of portfolio capital into the United States, while the United States has been rapidly expanding its direct investments abroad. In fact, as can be seen in Tables I-1, and I-6, in 1956, the United States was a net debtor in portfolio investments.

The existence of cross movements may indicate that the interest rate theory cannot by itself explain the movements of direct investment. The data on cross movements were in fact introduced to support this contention, but admittedly the cross movement could be explained by the existence of risk and uncertainty without contradicting the interest-rate theory and this possibility must be considered. Unfortunately, we know of no way to test the hypothesis that risk and uncertainty account for these cross movements. We shall try, however, in later chapters, to demonstrate that there is another plausible reason.

3. Another feature which makes the interest-rate theory suspect as an explanation of direct investment is the fact that most of the investment is made by firms which operate preponderantly in the United States. For these firms, foreign activities are only a small part of total activities. This is shown in Table I-7 which summarizes data on 442 companies with over one million dollars foreign investment in 1950 and accounting in total for 85 per cent of all United States direct foreign investment. For the most

part these firms are not financial companies and it is difficult to understand why non-financial firms should be doing the foreign investing for the United States. It is more reasonable to suppose that these investments have some motivation other than the interest rate and that they are connected with domestic activities of these firms. This is the basis of the explanation we shall propose.

4. Direct investment has always shown a marked industrial distribution. It is possible for capital which moves in response to differences in interest rates to be associated with particular industries,--although, in fact, portfolio capital was usually invested in government securities or very high grade bonds,--but it would be unlikely that this association would take the form that it actually does. At any one point of time, portfolio capital would be invested in particular industries, but one would expect that as conditions changed the capital invested in these industries would be withdrawn and invested in other industries and other countries. Yet the direct investments of the United States, at least, appear to be persistently associated with the same industries throughout this century. In the United Kingdom, for example, almost half of the labor force employed in United States controlled enterprises in 1953, was employed in 31 firms which were established before 1914* and as we shall, to some extent, show in Chapter IV, many of the firms with large foreign investments began their foreign

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*J. H. Dunning, American Investment in British Manufacturing Industry (London: George Allen and Unwin Ltd., 1958) p. 95.

activities a good while ago.

One would also expect that the industrial distribution of investments motivated by the interest rate would be quite different in one country than it is in another. Yet direct investment appears to be associated with the same industries throughout the world. If the investment is motivated by higher interest rates, it should move to some countries and to all industries and not, as is in fact the case, to some industries and to all countries. It is almost true that wherever there was or is oil, there was or is American direct investment and the same could be said for motor vehicles, business machinery, tires and tubes, soaps, farm machinery, and a long list of other commodities. Yet for other industries, e.g., cotton textiles, clothing, leather, printing, and primary iron and steel, the United States has almost no direct investment at all.

Furthermore, and this is very important, cross investment often occurs within industries. With one exception, in each of the industries listed above one of the large firms which operate in the United States is a foreign firm: Shell Oil, Dunlop Tire and Rubber, Moore Business Forms and now Olivetti, Lever Brothers and Massey-Hariss-Fergueson. The one exception is automobiles. It is not certain that this will remain an exception very long.

This is all the evidence we shall offer on the difficulties of using interest rates to explain direct investment. Instead we turn to proposing a different explanation.

The theory of direct investment

Why then direct investment? The important theoretical shortcoming of the interest-rate theory is that it does not explain control. If interest rates are higher abroad than at home, an investor will do well to lend money abroad, but there is no logical necessity for him to control the enterprise he lends to. If we wish to explain direct investment, we must explain control.

There are two main types of reasons why an investor will seek control. The first which I shall call direct investment of type 1 has to do with the prudent use of assets. The investor seeks control over the enterprise in order to ensure the safety of his investment. This reason applies to domestic investment as well. If the entrepreneur has no funds of his own in the enterprise he controls, his incentive not to go into bankruptcy is lessened. This is especially important in international investment where there is an inherent conflict of interest between investors of different nationality over how much reserves are to be kept in a particular currency. There also appears to be considerably more distrust in international transactions than in intra-national; and therefore more incentive for the capitalist to seek control. Whether the view that foreigners are less trustworthy than natives is in fact justified is irrelevant. All that is necessary is that investors feel that way, or that borrowers and governments feel differently about external defaults than they do about internal defaults.

The theory of type 1 direct investment is very similar to the theory of portfolio investment. The interest rate is the key factor in both. Direct investment of type 1 will substitute for portfolio investment when the distrust of foreigners is high, or when fear of expropriation and risks of exchange-rate changes are high, but its movements will still be in response to differences in the interest rate. The same objections just given to the theory of portfolio investment as an explanation of the direct investment we observe also apply to the theory of direct investment of type 1.

There is another type of direct investment that does not depend on the interest rate and which I shall call direct investment of type 2 or international operations. In this second type of direct investment the motivation for controlling the foreign enterprise is not the prudent use of assets but something quite different. The control of the foreign enterprise is desired in order to remove competition between that foreign enterprise and enterprises in other countries. Or the control is desired in order to appropriate fully the returns on certain skills and abilities.

It frequently happens that enterprises in different countries compete with each other because they sell in the same market or else because some of the firms sell to other firms. If the markets are imperfect, i.e., if there is horizontal or bilateral monopoly or oligopoly, some form of collusion will be profitable. One form of collusion is to have the various enterprises owned and controlled by one firm. This is one of motivation for firms to control

enterprises in foreign countries.

The other main motivation stems from the fact that firms are very unequal in their ability to operate in a particular industry. A firm with advantages over other firms in the production of a particular product may find it profitable to undertake the production of this product in a foreign country as well. The firm could also rent or sell its skill rather than undertake itself the foreign production. Which method it chooses largely depends on the degree of imperfection in the market for the skill. If the market is imperfect, the owner may not be able to fully appropriate the returns to the ability unless he controls its use.

These then are the two main reasons why nationals of one country find it profitable to control enterprises in another country apart from the desire to ensure the prudent use of assets. Much of the direct investment which occurs may well be the capital movements associated with the financing of these international operations of firms. The demand for American direct investment is then the demand by Americans for capital to finance their own foreign activities, this in contrast to the demand for capital by entrepreneurs of other countries for their activities.

In part the capital movement is needed to acquire a share of the foreign enterprise and thus obtain the desired control. The motivation for the investment is not the higher interest rate abroad but the profits that are derived from controlling the foreign enterprise. Aside from the minimum investment needed to acquire a

controlling interest, other international capital movements might occur in connection with the financing of the international operation. The task of Chapter V of this thesis is to explore this question of the amount of capital movement associated with international operations. The importance and interest of this subject turns out to depend entirely on the imperfections in the capital market. If capital markets were perfectly perfect, so that interest rates were identical everywhere, then firms would be quite indifferent as to where they finance, and where they finance would make no difference in the determination of interest rates or the supply of capital in each country. When imperfections are introduced, the answer to the question of how capital is associated with direct investment is not a simple one, and as was implied above in the comparison between Royal Dutch and Standard Oil (NJ), it is not independent of the nationality of the firm.

The international operations of national firms

The theory of international operations is part of the theory of the firm. It is concerned with the various relationships between enterprises of one country and enterprises of another. More particularly, it is concerned with the conditions under which an enterprise of one country will be controlled by a firm of another country or enterprises in several countries controlled by the same firm. It is a problem of determining the extent of vertical and horizontal integration of firms. The tools used to analyze international operations are the same, essentially, as those used to

analyze the firm in its domestic operations. But there are two important differences; the operations are international and the firms are national.

Because the operations are international, many things must be taken into consideration which would not be important in inter-regional economics. Different nations have different governments, different laws, different languages and different economies; and communications between countries has, in the past at least, typically been far less than between regions within a country. Because of this, the markets of different countries are much more separate than the markets of different regions. This lack of integration can be quite important. It provides a good deal of the interest in the subject of international operations. Especially since it may be fast disappearing. In recent years, there has been a great increase in communications between nations and we may be watching the integration of the world economy or at least the economic integration of broader areas than in the past. The increased international operations may be a result of this and they may also play their part in furthering integration, just as the emergence of the national firm allegedly did in countries like the United States. We shall see. But it has not happened yet and the firms are national firms and not international firms. Their nationality is of the utmost importance, for it affects the way they behave and it affects the treatment they receive.

There are at least three senses in which a firm has a nationality. First it has a legal nationality and this determines the legal limitations on its behavior. A firm also has nationality because most of its shareholders reside in a certain nation, and, what is more important, it is committed to pay dividends in a certain currency. Last and probably least, the managers of the firm have a nationality and thus may affect their allegiance and the firm's behavior.

The difference in treatment because of nationality is well known. Nearly all countries now have restrictions, sometimes very severe, on the activity of foreign concerns. And the problem of expropriation is ever present.

The behavior of a firm depends on its nationality, partly because it is subject to control and taxation by its own government and partly because it may have nationalist sentiments. But most important is the fact that it is interested in eventually receiving its profits in its own currency. This is why there is a transfer problem. A firm will always attach a risk premium to any investment in a foreign country that it does not attach to its domestic investments. If the costs are similar, the firm will prefer, for example, to build a research center at home rather than abroad. It will also be concerned about keeping reserves in its own currency.

Conclusion

We have tried to suggest in this chapter that the interest-rate

theory does not explain the movement of direct investment from country to country. Instead we proposed that direct investments are the capital movements associated with the international operations of firms. To understand direct investment we must therefore study both international operations and their financing. The study of international operations will occupy three chapters; one to state the theory, one to derive its implications, and one to examine such empirical evidence on the subject as exists. The study of the financing of international operations will take one chapter. The final chapter will deal with some of the effects of international operations and the very limited implications of these effects for policy.

TABLE I-1

UNITED STATES DIRECT AND PORTFOLIO INVESTMENT POSITION
IN SELECTED YEARS, 1914-1955
(BILLIONS OF DOLLARS)

	1914	1919	1930	1939	1946	1956
United States investments abroad						
Direct investments	2.6	3.9	8.0	7.0	7.2	22.1
Portfolio investments	.9	2.6	7.2	3.8	5.1	7.9
Foreign investments in the United States						
Direct investments	1.3	.9	1.4	2.0	2.5	4.5
Portfolio investments	5.4	2.3	4.3	4.3	4.5	8.8

Source: 1914-1946 S. Pizer and F. Cutler, "Growth of Foreign Investments in the United States and Abroad," Survey of Current Business, XXXVI (August 1956) p. 15.

1956 U. S. Department of Commerce, Office of Business Economics, Balance of Payments: Statistical Supplement, (Washington: U. S. Government Printing Office, 1958) p. 181.

TABLE I-2

UNITED STATES DIRECT AND PORTFOLIO INVESTMENTS ABROAD
BY AREA, 1929 AND 1956
(BILLIONS OF DOLLARS)

AREA	1929		1956	
	Direct investment	Portfolio investment	Direct investment	Portfolio investment
Canada	1.7	2.0	7.5	4.3
Europe	1.3	3.5	3.5	1.7
Latin America	3.7	1.7	7.4	.8
Other	.7	1.0	3.7	1.2[1]
Totals[2]	7.4[3]	8.1	22.1	7.9

[1]International institutions accounted for .4 of this amount.

[2]Totals may not add because of rounding.

[3]Does not include direct investment of .1 in banking.

Source: 1929 C. Lewis, America's Stake in International Investments (Washington: The Brookings Institution, 1938) pp. 606 and 654.

1956 U. S. Department of Commerce, Office of Business Economics, Balance of Payments: Statistical Supplement, (Washington: U. S. Government Printing Office, 1958) p. 181.

TABLE I-3

AREA DISTRIBUTION OF SELECTED BALANCE SHEET ITEMS OF THE STANDARD OIL COMPANY (NEW JERSEY) FISCAL YEAR 1958
(MILLIONS OF DOLLARS)

	Amounts located in		
	United States	Other Countries	All Countries
Total assets	4,880	4,598	9,478
Total liabilities	979	2,042	3,021
Net assets - (total assets less total liabilities)	3,901	2,556	6,457
Cash and marketable securities (included in total assets above)	1,190	108	1,298
Net income	147	416	563
Net income as a per cent of			
1. net assets	3.8%	16.3%	8.7%
2. total assets	3.0%	9.0%	5.9%
3. total assets excluding cash and marketable securities	4.0%	9.3%	6.9%

Source: 1958 Annual Report of the Standard Oil Company (New Jersey.)

TABLE I-4

ASSETS, OWNER'S SHARE, AND LIABILITIES
OF DIRECT INVESTMENTS, 1950
(BILLIONS OF DOLLARS)

	Total Assets	United States Investments		Foreign Owners' Investment[1]	Liabilities to Foreigners[2]
		Equity Capital	Creditor Capital		
Total	22.2	9.9	1.9	2.3	8.1
AREAS					
Canada	6.8	3.0	.6	1.0	2.2
Latin American republics	7.4	3.9	.8	.3	2.4
Western Europe	4.4	1.5	.2	.4	2.3
Western European dependencies	.8	.3	.1	.2	.2
Other countries	2.8	1.1	.2	.4	1.1

Notes: [1]Includes equity in common stock and surplus, and bonds, notes, mortgages, etc.

[2]All other liabilities and reserves obtained by deducting the sum of columns 2, 3, and 4 from column 1.

SOURCE: U. S. Department of Commerce, Office of Business Economics, Direct Private Foreign Investments of the United States: Census of 1950, (Washington: U. S. Government Printing Office, 1953).

TABLE I-5

AREA DISTRIBUTION OF SELECTED BALANCE SHEET ITEMS OF THE ROYAL DUTCH PETROLEUM COMPANY, FISCAL YEAR 1958
(MILLIONS OF POUNDS STERLING)

	Europe and the rest of the Eastern Hemisphere	Western Hemisphere		Total
		United States	Other	
1. Long term assets	660	347	490	1,497
2. Current assets less current liabilities	553	113	67	773
3. Long term liabilities and minority interests	116	205	108	429
Net assets (item 1 plus item 2 less item 3)	1,097	255	449	1,801

Source: 1958 Annual report of the Royal Dutch Petroleum Company.

TABLE I-6

UNITED STATES INVESTMENTS ABROAD AND FOREIGN INVESTMENTS IN THE UNITED STATES BY AREA, 1956
(BILLIONS OF DOLLARS)

	Direct Investments			Portfolio Investments		
	U. S. Investments Abroad	Foreign Investments in U. S.	Net U. S. Position	U. S. Investments Abroad	Foreign Investments in U. S.	Net U. S. Position
Europe[1]	3.5	2.9	.6	1.7	6.2	(4.5)[2]
Canada	7.5	1.5	6.0	4.3	1.2	3.1
Latin America	7.4	.1	7.3	.8	.8	0
Other	3.7	(-)[3]	3.7	1.2	.5	.7
Total[4]	22.1	4.5	17.6	7.9	8.8	(0.9)[2]

Notes: [1]Europe is predominantly Western Europe.

[2]Figures in brackets signify negative numbers.

[3]Less than $100,000,000.

[4]Totals may not add because of rounding.

Source: U. S. Department of Commerce, Office of Business Economics, Balance of Payments: Statistical Supplement, (Washington: U. S. Government Printing Office, 1958) p. 181.

TABLE I-7

TOTAL ASSETS AND FOREIGN ASSETS OF 442 COMPANIES[1], WITH FOREIGN INVESTMENTS OF ONE MILLION DOLLARS OR MORE IN 1950
(MILLIONS OF DOLLARS)

Industry[2]	Number of Companies	Total Assets 1949	Foreign Assets 1950	Foreign Assets as per cent of total assets
Extractive, total	64	20,367	4,705	22.8
Agriculture	12	747	544	72.8
Mining and Smelting	26	6,639	881	13.3
Petroleum	26	12,981	3,280	25.3
Manufacturing, total	298	31,922	3,417	10.7
Food and kindred products	31	4,096	446	10.9
Paper and allied products	21	1,327	304	22.9
Chemical and allied products	39	5,122	387	7.6
Primary and fabricated metals	32	2,228	178	8.0
Machinery (except electrical)	50	3,718	546	14.7
Electrical equipment	19	2,960)	897	9.4
Motor vehicles and equipment	19	6,222)		
Other manufacturing	87	5,849	659	14.8
Service, trade, finance, insurance, miscellaneous, total	80	66,411	1,803	
Public utilities	27	19,206	1,085	5.7
Trade	15	2,359	316	13.4
Miscellaneous	15	1,156	155	.6
Finance and insurance	23	43,690	247	13.4
Grand total	442	118,700	9,925	8.4
Total United States direct investment (1950 Census)			11,788	

Notes: [1]These 442 companies each with foreign investments of $1 million or more, account for 85 per cent of all direct foreign investment and 93 per cent of all investments by U. S. companies.

[2]Industry classifications on the basis of the major activity abroad considering all foreign operations of the parent company together.

Source: U. S. Department of Commerce, Office of Business Economics, Factors Limiting U. S. Investment Abroad: Part 2, Business Views on the U. S. Government's Role, (Washington: U. S. Government Printing Office, 1954) pp. 52 and 54.

CHAPTER II

THE THEORY OF INTERNATIONAL OPERATIONS - PART 1

Introduction

Some enterprises in a particular country are entirely controlled by nationals of that country; other enterprises are entirely controlled by foreigners. In between these two extremes there is a wide variety of relationships. The enterprise may be a joint venture, half-owned by nationals and half-owned by foreigners; or the partnership may be unequal, either nationals or foreigners may have only a minority interest. The foreigner may have no ownership at all yet still exercise some control through a licensing agreement or a cartel. The relationship may be more subtle; tacit collusion among the enterprises is possible. The relationship then is still very real, though it does not take an overt form. The various types of relationships between business enterprises in one country and enterprises in another country make up the subject matter of international operations.

There are two dimensions to the relationship. One is the amount of control one enterprise has over another, i.e., the extent to which decisions of one enterprise are affected directly by the other enterprises: the other is the legal ownership, i.e.,

the per cent of the equity of a corporation owned by another corporation. The two dimensions are connected, though not precisely, for ownership of equity securities is one way of achieving control. If this method is used, direct investment occurs; and as was suggested in Chapter I, a substantial part of United States direct investment may very well be of this type. The financial aspects of the subject will be explored in more detail later. In this chapter we are interested in examining the control relationships.

We want to know the circumstances that cause a firm to control an enterprise in a foreign country. We distinguish two major reasons and one minor one. The two major reasons are as follows.

1. It is sometimes profitable to control enterprises in more than one country in order to remove competition between them.

2. Some firms have advantages in a particular activity and they may find it profitable to exploit these advantages by establishing foreign operations.

The minor reason which, for convenience, is discussed in between the discussion of the major reasons, is diversification. It is minor because control is not necessarily involved. But before we discuss these reasons, we shall discuss some of the barriers to international operations.

Barriers to international operations--the advantages of national firms in their home market

In the absence of special features, the enterprises operating in a country are likely to be national firms; for national firms

are likely to have advantages over foreigners. This is precisely because we are dealing with international rather than interregional economics. Though it is not always true, national economies are usually more isolated from each other than interregional economies, and communication between them is more costly. National firms have the general advantage of better information about their country: its economy, its language, its law, and its politics. To a foreigner the cost of acquiring this information may be considerable. But note that it is a fixed cost, once incurred by establishing a foreign operation it need not be incurred again.

Of a more permanent nature is the barrier to international operations arising from discrimination by government, by consumers, and by suppliers. It is not the general treatment that is important: this affects the domestic firms as well as the foreign firms, but it does not give one firm an advantage over another. What is important, is the fact that in given countries foreigners and nationals may receive very different treatment. The government discrimination can be extreme. There may be outright prohibition of foreigners or severe restrictions on the types of activity foreigners are permitted to engage in. And the danger of expropriation is usually greater for foreigners than for natives. It is hard to tell whether consumers or suppliers really care about the nationality of the firm they deal with. Sometimes it is found to be important, but little is known about this aspect of the stigma

of being foreign. Foreigners may also have disadvantages--or for that matter, advantages--because of their own government's actions. For the international operations are affected by the laws of the home country. Ford of Canada was prohibited by the United States. State Department from selling automobiles to China even though it would have been legal for a Canadian company to do so. Income from foreign operations is subject to taxation by the government of the parent concern.

Of great importance as a barrier is the exchange-rate risk. A change in the exchange rate affects nationals and foreigners quite differently. If the franc depreciates all holders of francs lose. But those planning to spend francs in France lose less than those planning to spend the value of the money in the United States; for there are some goods which are not internationally traded, the price of which in francs may not change at all or at least not by as much as the price of other goods. A company which must pay its dividends in dollars must take this into consideration when deciding to invest in France. If a firm were truly international, so that its liabilities each year in any currency were proportionate to its income in that currency, it would be no more concerned about changes in the exchange rate than American firms are concerned about devaluations of the dollar when they decide to invest in America.

There is great difficulty in studying these advantages of

national firms in their home market for they are extremely difficult to measure. This is unfortunate since they can be extremely important. It would be very interesting in any case to find out, but information on the subject is sorely lacking. So we must stop here and turn to the reason why firms, despite the disadvantages, still find it profitable to have foreign operations.

Removal of conflict as a cause of international operations

Enterprises in different countries frequently are connected to each other through markets. They compete by selling in the same market or one of the firms may sell to the other. If such a connection exists, it may be profitable to have one firm controlling all the enterprises rather than having separate firms in each country. In other words it is profitable to substitute centralized decision-making for decentralized decision-making. Whether or not this will occur depends mainly on whether the markets are perfect or not.

Take first an extreme case of horizontal competition. Suppose there are two countries and in each country only one firm because of great economies of scale in production. If international trade is possible, the situation is one of duopoly, and some form of collusion is profitable. One form of collusion is merger. If a merger occurs, competition between the two units is eliminated and total profits are increased. If we have more than two countries and more than one firm in each country, then the case is more

complicated but the principle is the same as long as two conditions are present: First, that there is competition, potential or actual, between the enterprises of the different countries; second, entry is difficult and there are only a few firms. If entry is not difficult, there is not much point in trying to control the market. Whatever increase in profits might be achieved will soon be lost because of the entry of new firms. When there are more than a few firms, cooperation becomes more difficult.

To an empirical researcher this case is difficult to handle. Suppose he finds an industry where the two conditions prevail. Then merger is possible, but not necessary. Other forms of collusion are possible. Or the firms may not collude and not achieve joint maximization. Unfortunately, there is not much theory to guide him as to which result is more likely.

Similar considerations apply when firms of one country sell to firms of another country, and where there are only a few buyers and a few sellers. In this case a bilateral monopoly situation occurs. Again merger is one form of cooperation to increase joint profit, and again it is not a necessary result.

This is probably an important reason for international operations where raw materials are involved. In many cases where international operations occur,--copper, iron ore, bauxite, aluminum, and oil,--there are only a few buyers of the raw materials; and because of technological considerations, only a few producers.

Certainly the great concern about transfer prices in taxation questions hints that sequential monopoly is involved.

In both the horizontal and vertical caseswe have outlined situations where it may be profitable to have one firm. But what will be the nationality of the firm? There is nothing inherent in the theory to determine this. Other considerations may dominate such as the particular entrepreneurs involved or the historical sequence. Suppose a new copper mine is discovered whose value is small compared to the size of the existing copper companies. One would then expect that it is easier for the copper companies to buy control of the new mine, than for the mine owners to buy control of the copper companies.

Before discussing the other major cause of international operations--i.e., the possession of advantages--it is convenient to discuss diversification as a cause of something that is not quite international operations, but is associated with it.

Diversification as a motivation for international operations

It sometimes happens that profits in one line of activity are inversely correlated with profits in another line of activity. For example, aluminum plants need large quantities of electricity. If a plant is built in an underdeveloped area where electricity is cheap, the possibility exists that the area will in the future become developed. In that case, the price of electricity will rise, profits to the aluminum producer will decline, and rents to the

electric power plants will rise. Many examples of this type of correlation are possible especially in the case of raw materials. When they occur there is a good opportunity for diversification. The fact of high negative correlation means that an investor who invests in both aluminum plants and in their power supply greatly reduces the risk of his investment. This may be one reason why firms will engage in both activities. But it is important to stress that the firm need not control the enterprise, in fact the firm need not have anything at all to do with it. The shareholders of the firm can, if they wish, stabilize their profits by buying shares of two different companies, each engaging in only one of the activities. The main reason why the firm may do it rather than leave it to shareholders may be that it has more information.

This reason for international operations does not involve control and is not really the same as the other reasons. But indubitably it plays its part and most likely it is closely associated with the removal of the competition argument just discussed.

The possession of advantages as a cause of international operations

Firms are by no means equal in their ability to operate in an industry. Certain firms have considerable advantages in particular activities. The possession of these advantages may cause them to have extensive international operations of one kind or another. The firm will in some cases license its advantages to a local firm; in other cases it will itself operate the foreign enterprise.

There are as many kinds of advantages as there are functions in making and selling a product. The firm's advantage may be that it can acquire factors of production at a lower cost than other firms. Or it may have knowledge or control of a more efficient production function. Or the firm may have better distribution facilities or a differentiated product.

Bain has carefully analyzed the types and strength of advantages in connection with his study of the conditions of entry.* His analysis is extremely relevant here with appropriate adjustments for the fact that it is used in a different context. Bain is interested in the advantages which established firms have relative to new firms insofar as these advantages determine profits. We are interested in the advantages possessed by firms of one country relative to firms of another country insofar as these determine the nationality of the firm conducting a certain enterprise. That is, we are interested in the barriers to entry, not as they apply to new firms, but as they apply to firms of a different nationality.

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*J. S. Bain, Barriers to New Competition (Cambridge: Harvard University Press, 1956). Table II-1 reproduces his summary table of the advantages possessed by firms and the circumstances in which they arise. His book contains empirical estimates of the strength of these advantages for twenty industries. Unfortunately, in the field of international operations, the kinds of advantages and circumstances that are relevant and important are not known, and it would be an extremely fruitful area of research to do for international operations what Bain has done for national. We do not do so here for many reasons and the strength and importance of our hypotheses suffer accordingly.

The advantages that a firm possesses relative to a firm of its own country may be quite different from the advantages it possesses relative to firms of another country. A firm may have advantages in a certain industry, but international operations are concerned with a certain industry in a particular country. In the foreign country, the firm is subject to all the disadvantages (or advantages) of being foreign that were discussed above. For this reason the strength of the advantages of particular firms are usually less abroad than at home.

But for other reasons a firm's advantages may be more potent abroad than at home. In the United States, a firm is subject to competition from a large number of entrepreneurs who possess equal access to general factors of production such as skilled personnel and capital. But in the foreign countries there may be an extreme shortage of entrepreneurs and skilled personnel and the capital market may be very poor. Moreover, and this is critical, the foreigner may not have access to the general fund of ability and capital in the United States because of the lack of integration in the world economy.

A skilled American might very well be willing to work abroad for an American firm while he would be quite unwilling to do so for a foreign firm. His preference might stem from his desire to ensure himself of a position in the United States should he in later years wish to return home. Other considerations of political and national allegiance might also arise.

Something similar to this may be true of the capital market. It is sometimes felt that the New York capital market,--through inertia, ignorance, or irrationality,--discriminates among borrowers of equal worth according to their nationality, even after the appropriate discounts for real special costs are made.

Because a firm possesses advantages, its business enterprise in the foreign country would be profitable. Because international operations are motivated by these profits, there can be direct investment even when there is not enough of an interest-rate difference to cause portfolio investment. Unequal ability of firms is a sufficient condition for international operations, the rest of this chapter is concerned with the fact that it is not a necessary condition.

The possibility of licensing

If a firm of one country possesses an advantage over firms of all other countries in a certain line of activity, it does not necessarily mean that the firm will have its own enterprises in foreign countries. For one thing, the firm could export the commodity in which the advantage is embodied. These cases are easily identifiable for the product is not produced abroad. A more interesting reason why the firm will not itself have a foreign operation is that the firm can often license, rent, or otherwise sell its advantage.

This is frequently the case. We find some firms with no foreign enterprises, but extensive licensing arrangements. Other firms have subsidiaries in some countries and license in other countries. Occasionally, the firm has operations abroad and licenses at home.

To study the role advantages play in explaining international operations we must examine some of the aspects which go into a firm's decision to license. We do not attempt a complete analysis. We only point out certain aspects which will be relevant in future discussions. It is important to do this because whether the firm sells the skills or whether the firm sells the product containing the skills determines to a large extent the amount of direct investment it makes.

Why does a firm use the advantage itself instead of licensing it? We can view the problem this way. The firm is a practical institutional device which substitutes for the market. The firm internalizes or supercedes the market. A fruitful approach to our problem is to ask why the market is an inferior method of exploiting the advantage, i.e., we look at imperfections in the market.

One line of thought immediately presents itself. Decentralized decision-making, (i.e., a free market), is defective when there are certain types of interactions between the firms, i.e., each firm's behavior noticeably effects the other firm's. If each

firm pursues its own interest, joint maximization may very well not occur. In this case the problem can be alleviated by central control and ownership. Under common ownership an attempt is made to maximize joint rather than individual profits. In other words, the same considerations of horizontal oligopoly and bilateral monopoly as discussed above apply here.

Consider a firm deciding whether to license its advantage in a particular industry. Suppose that in this particular industry technical considerations are such that there will be only one or, at most, a few firms in each market. If the firm attempts to license its products, it will encounter two problems which could be solved by owning the operating enterprises. In the first place it will be selling its advantage to enterprises which possess monopoly power in their markets. A sequential monopoly problem is therefore involved. Integration could then increase joint profits. The second problem of licensing arises from the difficulty of controlling price and output. To achieve maximum profits, a firm which licenses must specify the precise use to each firm and this is not always possible under the anti-trust laws. Alternatively it could let the firms compete, but this may result in a loss of profits. If the firm which possesses the advantages does not license, but instead undertakes the operations itself, there is less difficulty in achieving maximum profits. It is important to stress that both of these reasons for not licensing disappear if

there are many buyers of the advantage. It is the market impurity which leads the possessor of the advantage to choose to supercede the market for his advantage. It should also be noted that the sequential monopoly problem does not require complete control over the licensee. A minority interest will often suffice. If there is a minority interest and no direct charge for the license, the distortion problem of sequential monopoly no longer arises.

Impurities in the market are not the only kind of imperfections which are relevant here. In a world of uncertainty there may be a conflict of evaluations which make cooperation difficult. Business is risky and businessmen receive signals but not complete information. People read signals differently and so act differently even where their goals are identical. Hence there is a difficulty of reaching an agreement between the licenser and the licensee. The owner of the advantage may use it himself because his evaluation of it is different than the evaluation of other people because he has more information about his advantage and a greater incentive to use it.

Aside from causing a conflict of evaluations, uncertainty makes it difficult for buyers and sellers to achieve a satisfactory licensing contract. If the contract contains rigid provisions, changing conditions will hurt one party and benefit the other. A more flexible type of arrangement may be advantageous,--a partnership with sharing of profits for example.

A reluctance to license may also arise from the inherent danger of losing the advantage. The licensee may discover a process which substitutes for the advantage. Or he may develop consumer ties or other affiliations which gives him advantages. In this case a profit sharing arrangement will protect the possessor of the advantage.

Most of these considerations imply that it is preferable for the firms to operate itself, rather than to license. But on the other side is the very important fact that there do exist other firms in other countries with advantages of their own. It may not pay to compete with these other firms and so some form of cooperation such as licensing may arise. If there are many other firms, licensing is almost certain. But a problem arises when there are only a few firms. Here cooperation through licensing is difficult because a bilateral monopoly problem is involved. The firm may then establish foreign operations.

The considerations just outlined apply equally well to domestic as to foreign exploitation of an advantage. We should, therefore, expect great similarity in the national structure of firms and the international. However, there are differences; firms often license abroad in areas where they operate at home. The difference, of course, is due to the difference between interregional and international trade.

A firm deciding on the best method of exploiting its advantage in a country other than its own may find itself at a considerable disadvantage if it wants to establish a foreign subsidiary. In the most extreme case it might be prohibited by government from operating in that country. It then has no choice but to license if it is to get any revenue at all. Most likely its disadvantage will be less extreme. But there will be some merit in cooperating with local firms, in some form or other, if the local firms have some advantages of operating in that country. In particular, the exchange-rate risk is nearly always present if the firm undertakes the operation itself. To reduce its risk it can recruit local capital, and the only way to do this may be to allow local participation. It is interesting that the extent of local participation in United States foreign enterprises is slightly greater for those started after than for those started before the war.* But there is not enough data to tell whether this is actually due to the increased nationalism which some observers feel has characterized recent years.

There is another reason why a firm looking abroad is likely to find firms with whom it is better to cooperate than compete. For many reasons international markets have been more separate from

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*U. S. Department of Commerce, Office of Business Economics, Direct Private Foreign Investments of the United States: Census of 1950 (Washington: U. S. Government Printing Office, 1953) p. 23.

each other than markets within a country. Communication in the past was poor and transport costs high. In this milieu independent local firms might arise sheltered, as it were, from the competition of foreigners. When communications improve, or when firms become sufficiently large to surmount the problems of long-distance coordination, the local firms may very well be established. Since there already is a local firm, the firm has a choice of licensing, merging, or establishing a subsidiary. Exactly what it does is not easily predicted. The answer depends on some of the considerations we outlined above and even then the outcome is not certain,--the indeterminateness of oligopoly situations recurs.

Within a country there is more integration, and it is more likely that the profit-maximizing position has been reached. In international affairs, where international economies have in the past been poorly integrated, we are more likely to be observing a transitory relationship in which licensing will be one characteristic. It is interesting that some companies begin by licensing, then acquire minority interest, and ultimately acquire control. The sequence can also work in the opposite direction. The firm may be operating abroad where it would license at home because there are no local firms to license to. This is especially likely in underdeveloped countries. Through time, in these countries, local firms may develop, the foreign operations decline, and licensing be substituted.

Another reason for the greater predominance of licensing abroad than at home is the increased possibility of dividing markets in the international economy. The reason may be because tariffs and transport cost separate markets or because anti-trust laws are more loosely applied. In this case the firm can discriminate between markets through licensing arrangements without itself establishing foreign operations.

Some empirical evidence on international licensing arrangements of United States firms

There is some empirical evidence on the extent to which firms resort to licensing in their foreign activities. It is neither very good nor very plentiful; but it does illustrate what we have been talking about. The data are presented in Tables II-2 and II-3 which show the national and industrial distribution of the receipts and payments of United States firms in connection with licensing: or more correctly, in connection with all agreements to supply patents, processes, technology, equipment under rental, and other technical and proprietary assets such as copyrights and trademarks.

Total receipts of United States companies from rents, royalties and the like from unaffiliated foreign companies were 128.4 million dollars in 1956. This amount is large compared to payments by United States firms of 22.5 million dollars but small compared to the 3,134 million dollars earnings on all direct investments. However, it is significant compared to the 858 million dollars earnings on direct investments in manufacturing (which is probably the

more appropriate figure for comparison since most licensing occurs in the manufacturing sector,) and it is especially significant in the case of certain countries.

Canada and Latin America present a similar pattern. The receipts from unaffiliated companies are completely overshadowed by earnings on manufacturing investments and receipts from affiliated companies. (The affiliated companies are branch plants and subsidiaries which probably are classified as direct investments and the receipts from these may be included in earnings on direct investment.) There are almost no payments by United States firms to firms in Canada and Latin America. As will be discussed in the next two chapters, the ratio of direct investment to national income is much higher for these countries than for the rest of the world and the share of their industries controlled by foreigners is higher. All these facts point in the same direction: there are relatively fewer native firms in Canada and Latin America able to compete with American firms, as compared to Europe. For in Europe, all these relationships reverse themselves. Receipts from unaffiliated companies are high compared to affiliated companies and compared to earnings on manufacturing direct investments. Payments to Europeans are also higher. And the share of America in European industry is, in general, less than in Canadian or Latin American industry. These facts all point to the existence of stronger local competition for American industry in Europe.

The pattern of licensing and direct investment in the rest of the world is very similar to that of Canada and Latin American countries and dissimilar to Europe. This is what one would expect. There are two exceptions: Japan which is similar to Europe in all respects and Australia where the receipts from unaffiliated firms are relatively high. For Australia, no explanation is offered. For Japan, the heavy reliance on licensing may be due to government control.

One interesting point about the industrial distribution in Table II-3 may be noted. In the chemical industry, both receipts and payments are high. This suggests that both Americans and Europeans (notably French and German) have advantages in this industry. A suggestion which is further supported by the fact that there used to be considerable foreign direct investment in the United States in chemicals, and if not for the war, there might still be. In this context it is interesting to compare the national distribution of direct investment in chemicals to the distribution of investment for all manufacturing industries. This is done in Table II-4 for 1955, the latest year for which this type of information is available. The investment in Europe, is relative to investment in all countries, proportionally less for chemicals than for all manufacturing. It is also known that European chemical firms have direct investments in other countries.* This may

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*For example, European direct investment in the chemical

reflect market sharing of some kind.

This concludes the initial statement of the theory of international operations. In the next chapter we will discuss some implications of the theory.

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industry in Brazil is as great as American investment there. See Stanford Research Institute, International Industrial Development Centre, International Comparative Studies, Investment Series 1, Brazil - Factors Affecting Foreign Investment (Menlo Park, Stanford Research Institute, 1958) p. 29.

TABLE II-1

SUMMARY TABLE OF BAIN'S DESCRIPTION OF ADVANTAGES OF ESTABLISHED FIRMS AND THE CIRCUMSTANCES IN WHICH THEY ARISE

I. Typical circumstances giving rise to an absolute cost advantage to established firms

A. Control of production techniques by established firms, via either patents or secrecy. (Such control may permit exclusion of entrants from access to optimal techniques, or alternatively the levying of a discriminatory royalty charge for their use.)

B. Imperfections in the markets for hired factors of production (e.g., labor, materials, etc.) which allow lower buying prices to established firms; alternatively ownership or control of strategic factor supplies (e.g., resources) by established firms, which permits either exclusion of entrants from such supplies, driving entrants to use inferior supplies, or discriminatory pricing of supplies to them.

C. Significant limitations of the supplies of productive factors in specific markets or submarkets for them, relative to the demands of an efficient entrant firm. Then an increment to entry will perceptibly increase factor prices.

D. Money-market conditions imposing higher interest rates upon potential entrants than upon established firms. (These conditions are apparently more likely to be effective as a source of advantage to established firms as the absolute capital requirement for an efficient entrant increases.)

II. Typical circumstances giving rise to a product differentiation advantage to established firms

A. The accumulative preference of buyers for established brand names and company reputations, either generally or except for small minorities of buyers.

B. Control of superior product designs by established firms through patents, permitting either exclusion of entrants from them or the levying of discriminatory royalty charges.

TABLE II-1 (continued)

C. Ownership or contractual control by established firms of favored distributive outlets, in situations where the supply of further outlets is other than perfectly elastic.

III. Typical circumstances discouraging entry by sustaining significant economies of the large scale firm

A. Real economies (i.e., in terms of quantities of factors used per unit of output) of large-scale production and distribution such that an optimal firm will supply a significant share of the market.

B. Strictly pecuniary economies (i.e., monetary economies only, such as those due to the greater bargaining power of large buyers) of large-scale production, having a similar effect.

C. Real or strictly pecuniary economies of large-scale advertising or other sales promotion, having a similar effect.

Source: Quoted verbatim from J. S. Bain, Barriers to New Competition, (Cambridge: Harvard University Press, 1956) pp. 15-16.

TABLE II-2

LICENSE[1] RECEIPTS AND PAYMENTS OF UNITED STATES FIRMS, AND EARNINGS ON DIRECT INVESTMENTS BY AREA AND COUNTRY IN 1956
(MILLIONS OF DOLLARS)

	License[1] Receipts of U.S. Companies from Foreigners		License[1] Payments by U.S. Companies to Foreigners	Earnings on U.S. Direct Investment	
	Unaffiliated Companies	Affiliates[2] of U.S. Companies		Manufacturing	All Industries
(1)	(2)	(3)	(4)	(5)	(6)
Canada	15.7	49.6	.9	393	701
Latin America	10.4	75.0	.3	125	1,052
Brazil	2.7	11.5	N.A.	38	79
Mexico	2.7	8.3	N.A.	37	80
Other	5.0	55.2	N.A.	50	893
Continental Europe	50.3	36.4	12.2	107	212
France	18.6	11.5	6.1	30	51
Germany	11.8	13.8	2.3	33	53
Italy	9.4	3.4	.7	9	22
Netherlands	3.0	1.1	.6	3	19
Belgium	2.2	2.0	.5	11	19
Switzerland	.4	.9	1.1	7	11
Sweden	2.1	1.2	.3	5	8
Other	2.8	2.5	.6	3	18

TABLE II-2 (continued)

	License[1] Receipts of U.S. Companies from Foreigners		License[1] Payments by U.S. Companies to Foreigners	Earnings on U.S. Direct Investment	
	Unaffiliated Companies	Affiliates[2] of U.S. Companies		Manufacturing	All Industries
(1)	(2)	(3)	(4)	(5)	(6)
Sterling Area	36.7	42.5	9.0	N.A.	N.A.
United Kingdom	28.6	22.3	8.9	139	273
Australia	5.1	7.2	)	41	67
Other	3.0	13.0	) .1	N.A.	N.A.
Other Countries	15.3	25.0	.1		
Japan	11.8	3.8	N.A.	10	23
Other	3.5	21.2	N.A.		
Total	128.4	228.5	22.5	858	3,134

N.A. Not available.

[1]Receipts and payments refer not only to licensing but to all receipts and payments in connection with agreements to supply patents, processes, technology, equipment under rental, and other technical and proprietary assets and as copyrights and trademarks.

[2]Affiliates of United States companies refer to foreign branches and subsidiaries. The receipts from affiliates do not include receipts paid by foreigners to these foreign branches and subsidiaries but remitted in the form of profits or dividends to the parent firm.

TABLE II-2 (continued)

Source: Columns 1, 2, 3, 4, J. E. Smith, "U. S. Firms Conduct Lively Technical Exchanges with Foreign Companies," Foreign Commerce Weekly, December 29, 1958, pp. 1-3.

Columns 5 and 6, S. Pizer and F. Cutler, "Growth of Foreign Investments in the United States and Abroad," Survey of Current Business, XXXVI (August 1956) p. 25.

TABLE II-3

LICENSE[1] RECEIPTS AND PAYMENTS OF UNITED STATES FIRMS BY INDUSTRY IN 1956
(MILLIONS OF DOLLARS)

	Receipts of U.S. Companies from Foreigners	Payments by U.S. Companies to Foreigners
Food, including tobacco	1.2	.2
Textiles and Allied	5.7	.5
Chemical and Allied	25.2	10.5
Rubber products	1.6	N.A.
Primary and Fabricated Metals	8.1	1.6
Machinery (except electrical)	23.2	1.3
Electrical machinery	21.0	.7
Motor vehicles and equipment	5.6	.5
Other transportation	11.0	1.8
Petroleum	8.9	.2
All other	16.9	5.2
Total, all industries	128.4	22.5

Notes: [1]Receipts and payments refer not only to licensing but to all receipts and payments in connection with agreements to supply patents, processes, technology, equipment under rental, and other technical and proprietary assets such as copyrights and trademarks.

Source: J. E. Smith, "U. S. Firms Conduct Lively Technical Exchanges with Foreign Companies," Foreign Commerce Weekly, December 29, 1958, p. 2.

TABLE II-4

UNITED STATES DIRECT INVESTMENT IN ALL MANUFACTURING AND IN CHEMICALS AND ALLIED PRODUCTS, AREA DISTRIBUTION, 1955
(MILLIONS OF DOLLARS)

	Investment in all Manufacturing[1]	Investment in Chemicals and Allied Products
Canada	2,834	311
Latin America	1,366	407
Europe	1,631	157
Other areas	491	70
Total	6,322	945

Notes: [1]Includes manufacturing operation of petroleum and mining companies.

Source: S. Pizer and F. Cutler, "Growth of Foreign Investments in the United States and Abroad," Survey of Current Business, XXXVI (August 1956) p. 22.

CHAPTER III

THE THEORY OF INTERNATIONAL OPERATIONS - PART II

In the last chapter we presented the theory of international operations. We specified two major and one minor cause and we related these causes to the form of international operations. In this chapter we try to bring the various points together in a systematic fashion that illustrates their implications. The material of this chapter is largely repetitious.

The many forms of international operations

The basis of the theory of international operations is the connection between enterprises in various countries. There are many kinds of interrelations, and the form of an international operation depends in part on which kind prevails. The various relations center on horizontal or vertical competition between the units or on the possession by nationals of one country of an advantage which they exploit in another country. The forms we observe are branch plant, wholly-owned subsidiary, majority-owned subsidiary, joint venture, minority interest, licensing arrangement, and tacit collusion.*

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*For an extensive description of the many forms--agent, representatives, branch house, fully controlled subsidiary, minority

There is no simple connection between the overt form and the underlying relation for there are many ways to achieve the same goal. We cannot be sure that a firm with 50 per cent of the stock of a company exercises more control than a firm with 25 per cent or a licensing arrangement. It would take a very detailed study of firms to specify the nature and extent of the influence. It would, I think, be a very interesting study. Much is made of control by changing forms. In these discussions there often is no explicit consideration of the many kinds of control and the many forms which can be used to achieve any one of them.

Don Cotton* has suggested an interesting hypothesis which illustrates the difference between changing form and changing the fundamental relationship. He suggests that a company forced by governments to allow greater local participation in its foreign subsidiary will overcome this change in form by enforcing more centralized decision making. Nationals of the country of the subsidiary will be participating but the decision will be made in the head office.

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interest, concession, contract, and licensing agreement--used by American firms operating in Europe in 1931, see F. A. Southard, Jr., American Industry in Europe (Boston: Houghton Mifflin Company, 1931) Chapter I.

*In the draft of a thesis being prepared at M. I. T.

The forms depend in part on the type of control desired. If the motivation is to separate markets and prevent competition between units, then the control of price and output decisions must be complete. It must also be complete if there are differences in evaluation arising from the risk and uncertainty involved. However, for the bilateral monopoly problem encountered in licensing an advantage, control is not always necessary; a profit-sharing plan (e.g., a minority interest) will often be sufficient. If both parties receive a constant share of profits, there is no conflict over what is to be maximized, and the distortion effects of charging a price for the license in excess of marginal cost (which in the case of a license is zero) do not arise.

Dunning* has found some interesting aspects of the determinants of form. He finds that United States firms sometimes relinquish part of the control of their United Kingdom subsidiaries as a condition of borrowing from British sources.** This is just one case of a more general rule; parent firms often share control of their foreign subsidiaries if there are other firms or persons who have something to contribute to the operation. This rule is also seen in another finding of Dunning's; the more similar the product

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*J. H. Dunning, American Investment in British Manufacturing Industry (London: George Allen and Unwin Ltd., 1958).

**J. H. Dunning, p. 98.

structures of the parent and the subsidiary, the more the control: the greater the necessity for local adaptation, the less the control.*

The way in which form is related to the underlying relationship is a fascinating study. And an important one too. The "firm" is a particular form of relating various activities in the economy. A study of the determinants of the forms of international operations could probably tell much about the nature of the firm and help clarify the theory of the firm. But little is known.

The many sidedness of international operations

We began this study by trying to explain the flow of direct investment. In order to do this we were led to study the international operations of firms. The most important aspect of international operations may be the capital flows associated with, but it is by no means the only aspect. Also associated with international operations is the flow of business technique and skilled personnel.

The data on these aspects are very meager. All we know of this migration of men is that there are 9,000 American citizens employed in Latin America by American companies.** About the flow of business technique we know almost nothing. The payments for the

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*J. H. Dunning, p. 98.

**United States Department of Commerce, Office of Business Economics, U. S. Investments in the Latin American Economy (Washington: U. S. Government Printing Office, 1957) p. 122.

skills of the parent firm are included in the profits it receives from its foreign subsidiary or associate. Empirically, it is not possible to separate that part of the return which is the interest on capital and that part which is payment for other services rendered.

The word "technical assistance" is not used for good reason. We presented as one theoretical motivation for control, the monopoly control of the industry. Whether the increased profits which result from the control of price and output in this connection should be classified as technical assistance is doubtful. Something similar may be true of other functions as well.

We concentrate on capital movements because of the historical tradition and because more is known about them than anything else. But they are after all only one dimension of a much broader phenomenon. When we try to measure the extent of international operations, for the purpose of testing hypothesis or determining effects, it is not the only measure we could use and perhaps not the appropriate one.

If we had the information, we could use the portion of a country's G.N.P. represented by the value added of enterprises under foreign control. This would not completely cover international operations; the difficulty of determining the extent of control and deciding which types of control should be included are formidable. In particular, we would be leaving out licensing

agreements and management contracts which are an important part of international operations. Instead of value added, we could use assets as an index of international operations. This measure is subject to the same limitations as value added plus an additional one. It assumes that capital is a measure of size and thus ignores other factors of production. Direct investment is further removed from the ideal measure. It is subject to variations arising from differences in methods of finance.

Another measure would be the annual flow between nations of certain services connected with foreign operations. This measure would include interest, profit, wages of foreigners, royalties, and consultant fees. There may be a case for including the value of exports as well. One shortcoming of this measure is the fact that to some extent an American firm will increase its profits in the United States by having foreign operations (as, for example, when the acquisition of a foreign enterprise removes the competition of imports). This increase will not be measured by the firm's income from abroad. This is an important thing to consider because one of the reasons for foreign operations is the jointness of profits of the enterprises at home and the enterprises abroad.*

In empirical work you make use of what you have. For the most part we shall use direct investment as a measure of international

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*It also implies that it would be very difficult to measure the profitability on foreign direct investments.

operations and we shall supplement it with other indices where possible. One of the purposes of the analysis of the last chapter was to indicate the theoretical connections between the various measures, and these should be kept in mind in any discussion of a particular problem of international operations.

The international distribution of advantages and the role of historical accident

At least some (and more likely most) international operations are due to the unequal ability of firms to conduct a certain activity. To explain international operations, therefore, it is important to know this distribution of ability. But we know very little about ability of firms. A good deal of what we know is contained in Bain's analysis of barriers to entry and that deals with only 20 industries and only in the United States.* In the absence of detailed information it is worthwhile examining some general features.

Why do firms of different countries have unequal ability? In part it is due to the fact that there is an unequal distribution of skills among people. The population of every country is a sample of the universe and the particular distribution of skills will vary from country to country for no other reason than this. In part it is also due to the chance discovery of a gold mine, a valuable formula, or Scotch whisky. If this were all there was,

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*J. S. Bain, Barriers to New Competition (Cambridge: Harvard University Press, 1956).

there would not be much interest in analyzing the direction of the flow of international operations. The problem becomes interesting only when the distribution of advantages is systematically unequal between countries. Then we can analyze why some countries have more international operations than others.

One would expect that firms in relatively advanced countries would in general have advantages over firms in backward countries but it is not always true and historical accident may also be involved. In the relatively advanced and rich countries there are more skilled personnel and better developed capital markets. By itself this does not give firms of the advanced countries an advantage over firms of backward countries. They have the advantage because they have better access to these factors of production for reasons discussed above, i.e., that there are reasonable and unreasonable preferences by employees and investors for companies of their own country.

Developed countries provide a better training ground for entrepreneurs. They have industries that poor countries do not have and the firms in these industries are likely to be national firms. By operating in these industries, the firms have an opportunity gradually to acquire experience and achieve size. They become "established" firms, with advantages over nationals of less developed countries.

This hypothesis that the firms which have advantages are more likely to be from advanced countries than from backward countries is consistent with the observed fact that the major exporters of direct investment are and have been the well developed countries of Europe and of course the United States. It is interesting in this context to ask what will happen with time in a particular country to the share of industry controlled by foreigners.* There is no single answer: there are some forces which increase the advantages of foreigners over local firms and some forces which decrease them: which set of forces predominates in a particular industry is a question which can only be decided by detailed study. Tending to encourage the entry of local firms are the following: (1) as the country develops, the supply of local skilled persons and capital increases; (2) as the market grows, whatever barriers introduced by economies of scale diminish in importance; (3) there is a demonstration effect,--the existence of profits induces local firms to follow the example and enter the industry. There are also forces which tend to make it more difficult for local firms to enter. The foreign firms operating in the industry may find their advantages increasing relative to new national firms through growing product differentiation, continuing research, and increasing access to factors of production. The foreign firms become even more "established."

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*To avoid misunderstanding it must be stressed that although this is an important question to the economist interested in the behavior of the economy it is not necessarily of any relevance to policy considerations.

The fact that advantages may increase brings up the question of how much historical accident is involved in international operations. Suppose a firm has an advantage and is considering establishing a foreign operation. It decides not to, perhaps because of a bad administrative decision. In the absence of its activity in the foreign country a local firm begins operations. Ten years later the local firm may be an established firm and it may no longer be profitable for the original firm to change its mind and establish a foreign subsidiary.

This consideration of historical accident comes into play whenever it is true that a firm's ability in a given year depends on its past activity. It may be important and the problem arises when we consider the distribution of United States investments. It is well known that the share of United States industry in Latin America is greater than the share of United States industry in Europe.* Is this because Europe is richer than Latin America and will it disappear as Latin America develops? It is hard to tell because Europe is both richer and older than Latin America. But in Canada we have a country that is both rich and young. The share of America in Canadian manufacturing, for example, is very high and in recent years increasing.**Canada has as large an automobile

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*To some extent this is illustrated in Table III-1.

**See Dominion Bureau of Statistics, International Trade Division, Balance of Payments Section, Canada's International Investment Position 1926-1954, (Ottawa: Queens Printer and Controller of Stationary, 1958) p. 91.

industry as Italy, yet there is no Canadian automobile firm. But, Canada is not really a good test case because of its geographical and cultural proximity to the United States. Unfortunately there are no good cases which can discriminate between the various forces which influence the pattern of international operations.* But it is an interesting question as to how much history is involved, and perhaps also an important one.

In the United States, as growth occurred, many foreign owned enterprises were taken over by Americans. But the war helped this process (through the seizure of German assets by the United States government, and the forced sale of some British assets by the United Kingdom government) and the experience may be unique. The rayon industry is an interesting case of both economic forces and history at work. Every profitable rayon venture in the United States began with some type of association with European firms.**As rayon technology in the United States reached the level of that in Europe, however, domestic firms commenced to break away from their parent or affiliated European companies."*** But the break was helped by

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*Australia and New Zealand are like Canada in that they are young and rich and English speaking. Unlike Canada they are not geographically close to the United States. As Table III-1 shows the ratio of American investment to their national income is higher than Europe. Further study of these countries might be useful.

**J. W. Markham, Competition in the Rayon Industry (Cambridge: Harvard University Press, 1952) pp. 20 and 21.

***Ibid., pp. 20, 21, 209.

the second world war during which time several German subsidiaries were taken over by the United States Government and the ownership of American Viscose sold by Courtaulds.

In England Dunning questioned 115 United States controlled firms and found that for the period 1939-1954, 63 firms claimed their share increased, 37 claimed it had remained constant, and 15 claimed their share decreased.* This shows that anything can happen. From the point of view of historical accident the following quotation is relevant:

> "The tendency for a subsidiary to develop independent of the parent concern and, in consequence, forrelationships between the two companies to become distinct, was greatly accelerated by the war, during which time such subsidiaries not only came under the control of British natives, but evolved separate product lines of their own."

International operations and international trade

The industries in which international operations occur are often industries in which international trade was or is important. The international operations frequently were established to replace exports or to produce imports. Some empirical evidence on this association of trade with international operation is available. The United States Department of Commerce reports that in 1956, 23 per cent of all United States imports came from United States controlled enterprises operating in foreign countries.** Of the total sales of

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*J. H. Dunning, American Investment in British Manufacturing Industry (London: George Allen and Unwin Ltd., 1958) p. 184.

**S. Pizer and F. Cutler, "Growth of Foreign Investments in

United States companies operating in Latin America, 43 per cent was for export, a good part of it to the United States.* In England too, international trade is an important activity of United States subsidiaries. Dunning found that though the American firms in his sample accounted for less than 3 per cent of the total number of employees in British manufacturing industries, they accounted for 12 per cent of manufacturing exports.**

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the United States and Abroad," Survey of Current Business, XXXVI (August 1956) p. 24. The per cent was more than twice as high in the selected commodities (accounting for slightly less than half of total imports) in which international operations occur.

*U. S. Department of Commerce, Office of Business Economics, U. S. Investments in the Latin American Economy (Washington: U. S. Government Printing Office 1957) p. 113. As one would expect, the per cent exported is higher for Mining and Smelting (86 per cent), Agriculture (80 per cent); and Petroleum (52 per cent); and lower for Manufacturing (6 per cent) and Public Utilities (1 per cent).

**J. H. Dunning, American Investment in British Manufacturing Industry (London: George Allen and Unwin Ltd., 1958) pp. 58, 295. The type of exporting done by American firms in England is very different from the exporting done by firms in Latin America. In Latin America it is mostly a matter of exporting raw materials to the United States and elsewhere. In England, the firms are in manufacturing industries and their exports are a replacement or a substitute for exports from the parent company.

There is good theoretical reason for this close association between international trade and international operations. In some cases, international operations occur only because there is actual or potential trade. Trade brings enterprises of one country into contact with enterprises of another country; this contact often causes conflict; and international operations are one means of resolving this conflict. There is also a close association between trade and advantages. Advantages can be thought of as factors of production. If a firm possesses an advantage in a certain activity, it is likely to export the commodity which embodies its advantages. When there is a change in cost conditions and it becomes profitable to produce abroad, this firm may establish the foreign operations, for it still has its advantages.* Not only do the advantages lead to trade but trade may lead to advantages. For through its export activities a firm may establish distribution channels or may establish a differentiated product.

This brings up the infant-industry argument which is really an infant-firm argument. It never pays to put a tariff on because the market is small, for it will only result in raising the price and making the market smaller. The thing to do is to wait until the market is large enough to support an optimum-sized plant.

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*An interesting sidelight on this point is found in the 1950 annual report of the Caterpillar Tractor Company. The report offers as one reason for the establishment of a foreign subsidiary, "The growth of foreign business in spurious parts in place of genuine caterpillar parts". (underling supplied.)

Then perhaps a tariff may serve as a catalyst. The tariff argument may, however, apply to an infant firm. The infant firm, in the frame of reference of our paper, is a firm which is at a disadvantage but which would overcome the disadvantage through time. There is one trouble. The imposition of a tariff may result in the foreign firm establishing a subsidiary. The local firm may then never get started; must less established.

The ability of firms to substitute international operations for exports lost has implications for the balance of payments. Dollar shortages have probably had two opposing effects on American investment. Exchange restrictions and depreciations, actual and expected, tended to discourage investment. But the loss of foreign markets due to the very same exchange-rate problems tended to increase the profitability of going abroad.*

Block considered only the first, and said that the dollar shortage had blocked the very investment which would alleviate it. As proof, he pointed out that much of the direct investment since the war has been dollar oriented, i.e., went into the production of materials for sale to dollar countries or other hard-currency areas. As he put it, "the obstacles to direct investment are those obstacles arising from the dollar shortage."** But at the

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*Aside from the exchange restrictions which prevented foreign firms from taking money out of a country thus giving them no alternative but to invest it there.

**E. Block, "United States Foreign Investment and the Dollar Shortage", The Review of Economics and Statistics XXXV (May 1953)p. 154.

same time there was must soft-currency--oriented investment in manufacturing for local sales in Latin America. True manufacturing investment did not increase as fast as direct investment in oil. But very few things ever grew as fast as investment in oil. And the fact that much investment goes to Canada is nothing new, this was true in the 20's when the dollar shortage was not an important fact in investment decisions.

The annual reports of Johnson and Johnson provide an interesting example of the two effects. The literary part of the annual reports are replete with complaints of foreign governmental control, exchange trouble, unfavorable business climate abroad, etc. The reports are, in fact, almost a model list of obstacles to direct investment. However, the statements at the front of the annual reports do not prepare the reader for the figures at the back which show that the direct investment of Johnson and Johnson amounted to eight million dollars in 1946, 15 million in 1950, and 29 million in 1957.

We have not discussed the association between direct investment and trade in the usual manner which distinguishes three relations:

1. where the direct investment increases exports,
2. where the direct investment decreases imports,
3. where the direct investment does neither.

We have not treated the relation in this way because of the great difficulties involved in discovering the effect. Every investment affects the production-possibility curve of a country and the distribution of income and therefore demand. What the final impact on trade will be may have little connection with what happens in a particular industry. As a particular example of the difficulty, consider the following case. An American firm invests in a foreign country in an industry which exports. Does this mean the investment is export-increasing? Suppose the reason for the international operations was to obtain market control and to restrict output in some places. It is then possible that if the American firm had not made the investment, and, if instead, a local firm had made it, trade would be greater. We have to distinguish carefully what we are comparing. We may compare what happens if the American makes the investment to what would happen if the investment would not be made at all. Or, the relevant comparison might be with what would happen if it was made by someone else.

Monopoly and international operations

Monopoly problems pervade any discussion of international operations and direct investment.

For example, in the discussion above, there was continual mention of indeterminacy arising from oligopoly problems. In any policy discussion of direct investment one also finds that part of the debate is only meaningful if it is analyzed in terms of

imperfections and impurities of the market. Foreign firms are accused of controlling the industry, of exploiting labor or consumers, of being too big and of being too profitable. These are exactly the same charges found in the politics of anti-trust, except now there is additional passion, for the object of attack is a foreigner.

Both in theory and in fact, where international operations occur, considerations of perfect competition are not likely to apply. The theoretical points in support of this were made in Chapter II and will be only summarized here. The empirical support will be presented in Chapter IV. The first major cause of international operations given in Chapter II was the removal of conflict between enterprises in different countries which either sell to each other or sell in the same market. This conflict stems from the impurities of the market and would not arise in competitive industries. The second major cause of international operations was the exploitation of an advantage. In this case the firm usually has the alternative of licensing the advantage instead of itself establishing foreign operations. It will be recalled that many of the reasons for choosing not to license arose from the imperfect nature of the market for the advantage. These imperfections prevented the appropriation of all the returns to the advantage. When, on the other hand, there are many buyers of the advantage, many of the reasons for establishing a foreign subsidiary disappear and the alternative of licensing became more attractive.

There is also a presumption that the kind of abilities which lead to international operations will most often be possessed by only a few firms. If many firms possess this ability, then it is probably not too difficult to acquire. Local firms will then be able to acquire it, and since they have special advantages in their own country because of their nationality, they (and not foreign firms) are likely to predominate in this industry. The exception to this occurs in very backward countries. In backward countries, the natives may be so lacking in ability that they would not be able to compete successfully in industries which in advanced countries are nearly perfectly competitive, e.g., farming. Foreigners may then operate in these industries even though there are many firms in the industry. Another example is the case where large projects in a small country are financed in large capital markets because that amount of capital cannot be raised locally. There still may be many such projects and a competitive industry.

The association of oligopoly elements with international operations is important in two respects. The first is that it introduces a certain degree of indeterminacy into the extent of international operations. Repeated instances of this were encountered in the discussion of the theory of international operations and they will be encountered in any empirical investigation. An interesting and illustrative example of these problems can be found in the following two case studies of events in the early part of this century.

In the 19th century the United States exported meat to Great Britain and Europe. The advent of refrigerated shipping made it economical for Europe to switch its imports from United States to Latin America. Both British and American firms established meat packing plants in Latin America. A bitter battle resulted, but firms of both countries remained in the industry.*

Contrast this with the tobacco case. Here is Dunning's description.

> ". . . at the turn of the century, the British tobacco industry was literally 'invaded' by American capital. Restricted in its sales by a high tariff wall imposed on U. S. cigarettes, the American Tobacco Company acquired the young and prosperous firm of Ogdens, Ltd. in September 1901, and straight away launched an extensive publicity campaign to sell cheap cigarettes. The Chairman of the U. S. company at that time made no secret of his intentions, viz: 'to obtain a large share of the tobacco trade both of England and the Continent,' and he threatened to spend up to £6 million in doing just this. The reaction of the British producers was prompt for within a month of the purchase of Ogden's, thirteen of the leading tobacco companies had amalgamated and formed themselves into Imperial Tobacco Company, with an issued capital of £14 1/2 million. Then followed several months of cut throat competition between the two concerns. . ... Eventually, a market sharing agreement was reached in September 1902; Ogden's became part of the Imperial Tobacco group, which was given the monopoly of the British and Irish markets, whilst the United States and its dependencies were to be supplied by the American Tobacco Company. A new concern, the British-American Tobacco Co., Ltd., was set up to handle the remainder of the export business and was allocated factories both in the United States and in the United Kingdom. . . "**

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*L. Corey, Meat and Man (New York: The Viking Press, 1950) pp. 202-206.

**J. H. Dunning, American Investment in British Manufacturing Industry (London: George Allen and Unwin Ltd., 1958) pp. 30-31.

The second important implication of the oligopolistic nature of international operation is in the area of policy. This will not be discussed here. Instead one general point will be made. Because of the oligopolistic nature there is room for bargaining. The firm will often be receiving a return above its opportunity costs on the services it provides for its international operations. It is possible for foreign governments to tax these rents without affecting behavior. This is not a policy prescription, but to the observer it is interesting to study the negotiations between firms and governments in this bilateral monopoly situation.*

Summary

The discussion in this chapter has been long and it is appropriate here to summarize in systematic fashion the points considered. We have stated that international operations occur only under special conditions; that when they occur, many forms are possible; and that it is not always possible to predict precisely the form or the extent of international operations because of the monopolistic nature of the markets in which they evolve. We proceed with the summary by discussing various types of industries where international operations occur, some of the factors which determine the form, and the nature of the indeterminacy involved. We distinguish

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*An analysis of these problems (and especially of the 50-50 partnership solution) is found in C. P. Kindleberger, International Economics (Homewood: Richard D. Irwin, Inc., 1958) pp. 402-406. For a recent description see E. T. Penrose, "Profit Sharing Between

four pure cases. In actual industries there will be a mixture of the pure cases.

1. International operations will occur in those industries in which enterprises of different countries sell in the same market or sell to each other under conditions of imperfect competition. The form will vary; there may be collusion, tacit or overt; the enterprises might merge and become one firm; they may have a profit sharing agreement (through minority interests for example); for a time the enterprises may even compete. But if there is interdependence and if there are only a few firms so that they can recognize this interdependence, some form of accomodation will eventually occur. In an empirical investigation we would look for concentrated industries in which there is international trade. The pattern of international operations will be determined by the pattern of trade. Between countries that trade, there will be international operations; between countries that do not trade, there will be none.

2. International operations will also occur in industries where some firms have advantages over other firms. There are several subcases:

The rarest case will be the one where there is a single firm which has advantages over all other firms in the world in

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Producing Countries and Oil Companies in the Middle East," The Economic Journal LXIX (June 1959) p. 238.

the production of a particular product through, for example, its possession of a strong patent. Wherever the product is produced, the firm will have some part in its production. Its part, however, can range from a licensing agreement to complete control and it need not be the same in all countries. When the patent can be most efficiently used by many enterprises, licensing is likely to be the chosen method. If, on the other hand, industry conditions are such that there will be only one or a few enterprises in each market, a stronger form of control is more likely. The method chosen will depend partly on the firm's position at a particular point of time; for example, if it is expanding rapidly and is short of capital it may resort to a looser form of control in order to raise capital in the country of operations. The form will also depend on the particular country involved. In those countries where there are strong discriminations against foreigners, or where there are local firms with complementary skills, some form of co-operation will be likely; the relinquishment of control will be compensated for by the decrease in costs.

A more prevalent case of international operations occurs in industries where there is not one but several firms with advantages. However, it is not likely that there will be many firms. For if there are many firms, entry is probably easy and local firms with the special advantages of their nationality will predominate. The exception to this proposition will occur in those countries where the nationals are so backward that they cannot survive in any industry.

The several firms with advantages may not all be of the same country. Capable firms can arise in many countries because entrepreneurs are born everywhere, and because the history of the world is that until recently economies were quite separate and firms could develop in isolated home markets.

There is no single solution when there are a few firms. The firms will differ slightly among themselves and their pattern of development will reflect this. More important there may be some cases of market sharing. The national firms might predominate in their own market and they might divide up the rest of the world into spheres of influence. Or, they might compete in each and every market, including their home markets. In our present state of knowledge, an indeterminacy is involved where oligopoly matters are concerned. This is very important when an attempt is made to explain direct investment. Direct investment is associated with international operations--whatever indeterminacy there is in the one, there also must be in the other.

3. The third case of international operations arises from interdependence of enterprises in different countries other than the two reasons (market impurity and unequal ability) presented above. One such interdependence comes about from fact that profits in one country may be negatively correlated with profits of another country; when one goes up the other goes down. Or the profits may be independent. In either case an investor may be able to achieve

greater stability in his profits by diversifying his portfolio and investing part in each country. This investment may be undertaken by shareholders of the firm, and not the firm itself, and no control may be involved. It will probably depend on who has the better resources for acquiring information.

Reasons other than diversification may be causes of interdependence and international operations. I do not know of any that are empirically important but doubtlessly they exist and will be uncovered by further research.

4. The fourth and last case, is the case where international operations do not occur. Industries of this kind probably account for the preponderant share of the gross national product of countries. Industries with many small firms are likely to fall into this category although even here isolated cases of international operations are possible depending on the peculiar circumstances of individual firms. Industries with no international operations predominate partly because of purely economic facts and partly because of the lack of integration in the world economy. The greater the nationalism the greater the disparity in ability necessary to cause international operations. There is a vicious circle involved. For the greater the nationalism, the greater the profits must be in local currency, and this leads to greater hostility to foreign "exploitation." This concludes our summary. In the next chapter we shall present a survey empirical evidence which illustrates the arguments we have just made.

TABLE III-1

NATIONAL INCOME AND UNITED STATES
DIRECT INVESTMENT BY AREA
(MILLIONS OF DOLLARS)

Area	1953 National Income	1950 U.S. Direct Investment	
		All Industries	Manufacturing
Canada	19,482	3,579	1,897
Latin America	40,412	4,735	780
Western Europe	162,494	1,720	932
Australia and New Zealand	10,111	226	107
Other non-Communist areas	90,926	1,528	116

Source: M. H. Watkins, Estimate of World Income, 1953 (Cambridge: Center for International Studies, M. I. T. 1956)

U. S. Department of Commerce, Office of Business Economics, Direct Private Foreign Investments of the United States (Washington: U. S. Government Printing Office, 1953) p. 44.

CHAPTER IV

SOME EMPIRICAL EVIDENCE ON UNITED STATES INTERNATIONAL OPERATIONS--MAINLY IN MANUFACTURING INDUSTRIES

Introduction

The theory of international operations just presented may be plausible and it may be valid but it certainly makes the task of empirical investigation exceedingly difficult. The theory implies that the relevant units of study are particular industries and particular firms and not the aggregates of international operations. This type of information is simply not available. To make a proper study of international operations, one would need to know the industrial composition of national product for each country, the share of industry output in each country of firms of every nationality, the strength of the advantages of firms, and detailed knowledge of the structure of industries and the patterns of international trade. What we have is considerably less. The United States is the only major direct investing country which regularly publishes reasonably complete and consistent data on its foreign investments. Even here the investment data are broken down only into broad industrial categories. It is usually not possible to

estimate the United States share of production in other countries, because for most industries, total output by industry is not known. About the advantages of individual firms, almost no independent measure is available.

One can make some headway by studying individual firms and industries. But the way is treacherous. When there is little solid basis of information, any preconceived pattern can be supported by observed behavior and individual detailed studies still remain special cases.

What follows is a survey of such information as is available on United States participation in manufacturing industries in foreign countries. Most of the data is taken from government publications or from the few empirical studies which have been made. These data, taken as a whole, suggest some simple propositions which are consistent with the discussion of the last two chapters and which illustrate some of the hypotheses.

Three of the main features suggested by the survey are: (1) that American foreign operations are concentrated in a few industries and are conducted by a comparatively small number of firms; (2) in these industries, United States companies account for a large and often major share of the output in foreign countries; (3) often in these same industries where American firms have substantial foreign operations, one of the firms operating in the United States is a foreign firm. This concentration in certain

industries, the predominance of American firms in these industries, and the existence of cross investment are consistent with the prediction of the theory of international operations presented in the last chapter.

The other important feature of international operations is its association with concentrated industries. International operations of United States firms seldom occur in industries where there is a large number of firms. Moreover the firms that have international operations are large at home and their subsidiaries are large abroad. Large size and concentration are by no means the same thing, but they are empirically related.

The reader may be warned of two biases in the presentation that follows. The studies of international operations from which the data are taken were not designed with the propositions just mentioned in mind. Had they been so designed, the illustrations might be clearer and more striking. On the other hand, these sources were read by me with the propositions very much in mind, and the selection of evidence to be presented here is no doubt biased on this account. In an attempt to partly guard against this latter fault, I have made liberal use of direct quotations from the texts dealing with the subject.

Aggregate United States Investment

We present in this section some statistical evidence on the following points:

1. Certain United States industries have significantly more foreign investment than other industries. In later sections we try and show that those industries which have much investment are industries where throughout the world the share of United States firms is high.

2. A few firms in a few industries account for a substantial portion of United States direct investment.

3. The industries where there is much foreign investment tend to be concentrated industries while the industries where there is little or no foreign investment tend to be unconcentrated.

4. Most of the investing is done by large firms.

5. In at least ten industries where United States firms have foreign investments, one of the leading firms operating in the United States is a foreign firm.

It should be stressed that the data to be presented are very poor and only suggest these 5 propositions rather than in any sense prove them.

Industrial distribution

Table IV-1 shows the industrial distribution of United States direct investment as compared to the industrial distribution of the

total assets of all firms in the United States. By no means is the distribution of foreign investments equal among industries. Relative to total assets, foreign investment is high in Petroleum, Rubber, Paper, Electrical equipment, Motor vehicles, and Machinery; while it is low for other industries. However the industrial categories used are very broad and a finer breakdown might reveal other industries where foreign investment is high relative to domestic assets.

A more detailed industry breakdown is presented in Table IV-2 but it is based on less reliable data. The information in Table IV-1 is based on Census data which are reasonably complete. The information in Table IV-2 is based on Statistics of Income data which cover only those firms which claimed credit for foreign taxes and which filed statements to support their claim.* The industrial classification also differs somewhat from Table IV-1 to Table IV-2. The

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*Some idea of the coverage of statistics of income data can be obtained from the following data for 1950.

Net earnings on all United States direct investments (Census)	$1,765,900
Net receipts of income from direct investments (Census)	1,293,600
Retained earnings of foreign subsidiaries (Census)	$ 472,300
Net foreign income of all firms reported in Statistics of Income	$1,334,101

Source: United States Department of Commerce, Office of Business Economics, Direct Private Foreign Investments of the United

Census classifies investment on the basis of the activity of the foreign firm whereas the Treasury Department makes the classification on the basis of the receipient's activity. The other main difference between the two tables is that in Table IV-1 the data refer to assets while in Table IV-2 they refer to income. Because income is more subject to transitory fluctuations than assets, an average of four years, 1950, 1951, 1954 and 1955, was used for Table IV-2. There is no particular significance in the selection of dates to be omitted except that for 1952, information on income from foreign sources was not published.

Despite the lack of comparability of the data for the two tables, the pattern is similar. The data in Table IV-2 are arranged in order of percentage of income derived from foreign sources. The skewness is again evident and the order is not too different from that of Table IV-1. Petroleum, Rubber, Chemicals, and Motor Vehicles are again high; while Textiles, Apparel, Tobacco, Ordinance, Leather and Lumber are low. There are some exceptions, Food, Primary Metals, Fabricated Metals, are higher than Machinery except electrical, and Electrical machinery whereas in Table IV-1 they were lower. There is also some new information: some of the subcategories of "all other manufacturing" of Table IV-1 rank high on the list, (e.g., scientific instruments).

States, Census of 1950, (Washington: U. S. Government Printing Office, 1953) p. 35; and United States Treasury Department, Internal Revenue Service, Statistics of Income for 1950, Part 2 (Washington: U. S. Government Printing Office, 1954) p. 44.

The major investing firms

Both of these tables underestimate the unevenness of the distribution of foreign operations because both tables deal with fairly broad and somewhat heterogeneous industrial categories. It is difficult to obtain data on finer industry classifications but some indication is given by the fact that a good portion of American direct investment is made by only a few firms (as illustrated in Table IV-3). In fact, of the 3,390 million dollars of foreign investment in oil, 3,124 million was accounted for by 7 firms. In other manufacturing, the facts are not quite so dramatic but nevertheless still impressive. Total direct investment in manufacturing (excluding petroleum) was 3,831 million dollars. Eleven firms with direct investments of over 50 million dollars accounted for 1,373 million or over a third, while another 16 firms with investments between 26 to 50 million dollars had investments of 595 million, bringing the total of the top 27 investors, with foreign investments of 25 million or over, to 1,968 million or about half of the total.

Since a few firms account for so much, and since these firms are in only a few industries, it is to be expected that a finer industrial breakdown would show even more unevenness in the distribution of foreign investments than was shown in Tables IV-1 and IV-2. Table IV-3 shows which industries the 27 large foreign investors are in. It is possible to guess at the identity of these

firms by examining annual reports but it is not possible to do so with certainty. Not all firms publish data on their foreign activities. Those that do publish do not necessarily do so in a consistent fashion.

Food. The five large investors in the Food Industry with foreign investments of over 25 million are probably International Packers, The Corn Products Refining Company, the Coca Cola Company, Swift and Company, and Armour and Company. Two other firms, The H. J. Heinz Company and Wilson and Company appear to have close to 25 million. International Packers may very well have over 50 million dollars assets.

The importance of meat packing in the foreign investments of the food industry is here evident and is supported by the fact that of the 235 million dollars of United States investment in Argentina, Brazil, Uruguay, and Chile in branch plant operations in 1932, 95 million or nearly one half was in meat packing.* The meat packing industry, though not now highly concentrated, once was; and the oligopolistic struggle surrounding its foreign operations was noted above. Corn Products Refining and the Coca Cola Company are in the more concentrated segments of the food industry; Heinz is not.

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*See Table IV-12 and D. M. Phelps, Migration of Industry to South America (New York: McGraw-Hill Book Company, Inc., 1936) p. 24.

Paper. The four large investors in the paper industry are the International Paper Company with well over 50 million dollars invested in Canada and three of the following four, the Crown Zellerback Corporation, the Kimberly Clark Corporation, the Marathon Corporation, and the Minnesota and Ontario Paper Company. This industry is unlike other manufacturing industries, since the foreign investments are largely confined to Canada;* and this is probably due to natural resources location.

Chemicals. Two of the four chemical companies with foreign investments over 25 million in 1950 are two soap companies, the Proctor and Gamble Company and the Colgate-Palmolive-Peet Company. It is not possible to tell which are the other two since the large chemical firms which might have substantial foreign investments such as duPont, Union Carbide, or Allied Chemical and Dye, do not report their foreign activities in usable form. The Sterling Drug, Inc. also has close to 25 million dollars invested abroad and may be one of the large four. This illustrates the importance of pharmaceutical preparations. At least four other drug companies, Abbot Laboratories, American Home Products Corporation, Parke, Davis and Company, E. R. Squibb and Sons have foreign investments of over 10 million. The drug industry, unlike the soap industry, is not concentrated as a whole, but in individual products may be quite monopolistic.

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*See Table IV-4.

Primary and Fabricated Metals. Only one firm in Primary and Fabricated Metals had over 25 million dollars assets but it is not certain whether it is the American Radiator and Standard Sanitary Corporation or whether it is the American Can Company; both have close to 25 million dollars of foreign investment. The Crane Company also has close to 25 million and the Continental Can Company, Inc. has over 10. The Gillette Safety Razor Company (Delaware) has over 5 million and the only Primary Metals company with substantial investment seems to be the Armco Steel Corporation. This accounts for six out of the seven firms with investment of from 6 to 25 million although the coverage of this industry by the OBE Sample is not too complete as seen in Table IV-3.*

Machinery. Of the five large Machinery companies with over 25 million dollars foreign investment, two of them, the International Harvester Company and the Singer Manufacturing Company have over 50 million if not over a hundred. The other three firms are probably the International Business Machine Corporation and United Shoe Machinery Corporation, and the National Cash Register Company.

The eleven companies with foreign assets of from six to twenty-five million may be the following: the Allis-Chalmers Manufacturing Company, the Bucyrus-Erie Company, the Burrough's Adding Machine Company, the J. I. Case Company, Deere and Company, the Hoover

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*It will be recalled (Table IV-1, footnote 3) that manufacturing operations of mining and smelting companies are not included in this category.

Company (Ohio), Mergenthaler Linotype Company, the National Supply Company, the Oliver Corporation, the Otis Elevator Company (New Jersey), and Remington Rand, Inc.

The office machinery and farm machinery industries are obviously well represented.

The three large investors in the Automotive and Electrical industry are the General Motors Corporation, the Ford Motor Company, and the General Electric Company. The first two of these have over fifty million dollars invested abroad. The other large automobile firms and electrical equipment firms also have important and often substantial foreign investments.

Other industries. The six large investors in the "Other industries" category are the Eastman Kodak Company (with over 50 million), Goodyear Tire and Rubber Company, Firestone Tire and Rubber Company, United States Rubber Company (at least two of these rubber companies had over 50 million dollars assets), Lone Star Cement Corporation, and the Celanese Corporation of America.

Concentration

The industries in which foreign investments are important are concentrated ones. Certainly this is true for the Automobiles, Electrical Equipment, Rubber, Business Machinery and Office Machinery, Shoe Machinery, Sewing Machines, Photographic Equipment, Elevators, Corn Products, Soft Drinks, Soap, and Razor Blades industries, all of which have important foreign investments. This as compared

to the industries where foreign investment is noticeably absent, Natural Fiber Textiles, Apparel, Lumber, Furniture, Printing, Leather, etc. There are exceptions, of course. One striking exception is the Tobacco industry. But the story told in Chapter III suggests that this may be because of the existence of a strong foreign competitor in the Imperial Tobacco Company. In any case the association with concentrated industries is not a simple one and the statement above must be interpreted cautiously.

Size of investing firms

The firms which do the investing are also large firms. The only statistical evidence of this, aside from the fact that firms listed above are big firms, comes from Statistics of Income data. In 1954, United States firms filing statements in support of their claims for foreign tax credit, reported 1.5 million dollars of foreign income from all sources. Of this 1.1 million applied to firms with 250 million dollars assets or more.* To a limited extent, the large size of investing firms supports the contention that they dominate the industries they are in. Their size also indicates that they are firms with a successful past and are likely to be firms with advantages (one of them may even be their size) in particular activities, which advantages they exploit abroad.

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*United States Treasury Department, Internal Revenue Service, Statistics of Income 1954, Corporation Income Tax Returns (Washington: U. S. Government Printing Office 1957) p. 130.

Cross investment

One of the most interesting aspects of international operations is that in many of the industries where American firms have substantial foreign operations, one of the firms operating in the United States is a foreign firm.

	Industry	Foreign Controlled Firms in the United States
1.	Oil	Shell Oil Corporation
2.	Soft Drinks	Orange Crush Ltd.
3.	Paper	Bowater Paper Company
4.	Soaps	Lever Brothers
5.	Farm Machinery	Massey-Harris-Ferguson Company
6.	Business Machinery	Moore Business Forms, Olivetti
7.	Tires and Tubes	Dunlop Tire and Rubber
8.	Sewing Machines	Necchi Sewing Machine Co.
9.	Concentrated Milk	Nestle's
10.	Biscuits	Weston's

This is not a complete list of foreign firms operating in the United States. It is restricted to those industries where American firms have foreign investments. The first eight of these cases are the very industries mentioned above where American international operations predominate. Except for Paper and Oil they are all very concentrated industries. The last two (Concentrated Milk and Biscuits) were not listed above but are also concentrated and have foreign investments. In concentrated milk, Dunning points out that the three firms which supply most of the output in England are Libby, McNeil Libby Ltd., Carnation Milk Ltd., and Nestle's. The last two of these three also are important producers of concentrated

milk in the United States.* In the biscuit industry, the National Biscuit Company, has extensive foreign operations.

The existence of cross investments is, it seems to me, impressive and not at all contradictory to the theory of international operations outlined above. But it would be difficult to explain it by a theory of portfolio investment which depends on interest rates or on profits rates in general instead of profit rates in particular, i.e., profitability to a particular firm. It appears well worth further study. It occurs often enough to be important yet not often enough to be a general rule. One would like to know if it would be possible to specify the industry conditions which lead to cross investment. In this connection it is interesting to watch the automobile industry. The leading American companies have worldwide operations. Some of the foreign firms already have investments in the United States in distribution facilities; in the future, they may have manufacturing operations as well.

The unevenness in the distribution of foreign investments which we tried to demonstrate above really proves very little. It was supposed to illustrate that certain industries have conditions favorable to international operations while other industries

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*U. S. Federal Trade Commission, Report of the Federal Trade Commission on Industrial Concentration and Product Diversification in the 1,000 Largest Manufacturing Companies: 1950 (Washington: U. S. Government Printing Office 1957) p. 153.

do not. But it did actually not show this. For American firms could control a constant per cent of all foreign industries; and yet the distribution of foreign assets would differ from the distribution of domestic assets, if the industrial composition of output was different abroad than at home. What needs to be shown is that the American share of foreign enterprise is consistently higher for some industries than for others. To do this we must turn to data on American participation in specific countries. The distribution by countries of United States direct investment in manufacturing is shown in Table IV-4. We shall discuss in turn, Canada, the United Kingdom, Other Western Europe, and Latin America. For other countries there is no usable information readily available.

Canada

Industrial distribution

Table IV-5 shows the value added in Canadian industries by all establishments and by selected United States controlled establishments. The selected United States establishments are those of enterprises controlled in the United States and with assets of over $1 million in 1953. They account for 91 per cent of the total United States investment in Canada.

The industries are ranked in descending order of American participation. It is interesting that the first seven industries where Americans control 50 per cent or more of the industry, account for

$1.1 billion value added or almost half of the total value added by American controlled enterprises. These industries are Motor Vehicles, Nonferrous Metal Smelting and Refining (aluminum, nickel, etc.,) Rubber Products, Office Machinery, Motor Vehicle Parts, Petroleum Products, and Electrical Apparatus and Supply. At the bottome of the list are Textiles, other Iron and Steel Products, Beverages, Bakery Products and Confectionary, Primary Iron and Steel, Wood Products, Clothing, Printing, Publishing and Allied. This pattern is very similar to the one we discussed above and shown in Tables IV-2 and IV-3 even though now the industries are ranked by share of Canadian industry rather than by the ratio to United States Industry. The pattern would be even more striking if some industries like Shoe Machinery, Razor Blades, Sewing Machines, Elevators, etc., were not so concentrated that they could not be shown separately because of disclosure problems.

This pattern is repeated in other parts of the world. Two important exceptions to the world pattern found in Canada might be noted. There is substantial United States investment in the Paper industry in Canada but not in the rest of the world. This is probably due to international trade considerations, for the United States imports much pulp and paper from Canada and little from other countries. As we mentioned in the last chapter international operations are often determined by the pattern of trade. It is the trade which brings about the interdependence and creates

the necessity for international operations. The other exception is in Agricultural Implements where the United States share is only 21 per cent, a figure which is lower than the one found in other countries. This is no doubt influenced by the fact that Canada is the home country of the Massey-Harris Company (now Massey-Harris-Ferguson) one of the world's leading manufacturers of agricultural equipment.

Table IV-6 shows data similar to Table IV-5, but for the year 1932. The pattern is basically the same.

Concentration

The association of international operations with concentrated industries in Canada was noted by Brecher and Reisman.

> "It is widely known that in many Canadian industries a small number of large firms account for a high proportion of output; and that many of these companies are owned and controlled by non-residents. In almost every sector of Canadian industry where there is a significant degree of non-resident investment, the average size of enterprises controlled outside Canada is considerably larger than their Canadian counterparts."*

Table IV-7 summarizes some evidence they present on concentration and non-resident control in Canada. For each of selected industry, the table shows the total value added by all establishments,

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*I. Brecher and S. S. Reisman, Canada-United States Economic Relations (Ottawa: Queen's Printer and Controller of Stationery 1957) p. 278. This quotation and the empirical evidence which follows is taken from Appendix B of this book.

the share of value added accounted for by the six largest firms, and the nationality of the six largest firms. Unfortunately, data are available only for a few industries and it is not possible to draw any general conclusions. But of the seven industries shown in Table IV-5, where United States controlled establishments account for 50 per cent or more of the value added in Canadian industry, data on concentration are available for all but one. The data in Table IV-7 do cover Motor Vehicles, Non-ferrous Metal Smelting and Refining, Rubber Products, Motor Vehicle parts, Petroleum Products, and Electrical Apparatus and Supplies. All are concentrated industries. The industry for which concentration data are not available is the Household, Office, and Store machinery industry. Its concentration is not known. It is also interesting to observe that in the twenty industries listed in Table IV-7 a United States controlled firm was the largest firm in 13 industries and the second largest in 13 industries.*

Size of foreign controlled firms

One of the striking features about the Canadian data is the high percentage of large firms which are controlled by non-Canadians. Of the 82 firms in Canada with over $25 million dollars assets in 1953 in the Petroleum, Mining, and Manufacturing industries, more

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*I. Brecher and S. S. Reisman, Canada-United States Economic Relations (Ottawa: Queen's Printer and Controller of Stationery 1957) pp. 278-285.

than half were controlled by non-Canadians. The industrial distribution and the nationality of firms in Canada with assets of over $25 million in 1953 is shown in Table IV-8.

United Kingdom

For the United Kingdom there is an excellent study of American international operations by John H. Dunning,* upon which the following discussion is based. This study covers 245 firms which Dunning believes to be all the firms in the United Kingdom in which Americans had a 25 per cent or more equity capital interest and which employed more than 100 workers in December 1953. Only 205 of these firms cooperated with Dunning and it is on the reports of these 205 firms that his data are based. Dunning believes that these firms employ between 90 per cent and 95 per cent of the total labor force of United States financial manufacturing units in the United Kingdom.**

Industrial distribution

The industrial distribution of the American firms is presented in Table IV-9, where the industries are arranged in descending order of American participation. Again we find Chemicals, Vehicles, Engineering and Shipbuilding (which includes Office and Agricultural

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*John H. Dunning, American Investment in British Manufacturing Industry (London: George Allen and Unwin Ltd., 1958).

**Ibid., p. 12.

Machinery), and Electrical Goods at the top of the list, while Textiles and Clothing are at the bottom. This table greatly underestimates the unevenness of the distribution of American investment because the industrial categories are so broad. To demonstrate this we shall quote extensively from Dunning's text in which he constantly refers to the concentration in particular industries.

These quotations will show the specialized nature of United States international operations in the United Kingdom. Unfortunately data on the American share of United Kingdom industries is presented by Dunning for only a few of the sub-industries. These estimates, though not complete in their coverage, provide support to the propositions we have been trying to establish in this chapter. The estimates of market shares are shown in Table IV-10 which should be referred to in conjunction with the discussion to follow. This table is meant to be illustrative. The omission of an industry does not imply that the American share is low, but just that data are not available. For example, some cases were omitted where Dunning states that the American firm was the largest or a prominent producer, but where he did not provide data on shares.

Chemicals and allied trades. Dunning says of this industry:

> "Of the forty-eight American firms included within our survey, forty were highly specialized in their production and were all concentrated within five main sectors of the industry, viz: -- basic chemicals, mineral oil refining, pharmaceutical preparations, cosmetics and

toilet articles and soap products. How selective U. S. investment has been is shown by the fact that these groups between them employ less than one-half the total labour force in the chemical industry."*

Even this underestimates specialization. For example within the basic chemicals industry, Dunning states:

"Only one Anglo-American Company--the Monsanto Chemical Co., Ltd. (assets £14.4 million)--might be called an all-purpose chemical supplier; with its production of over 200 basic materials which serve a wide range of industries; and this is one of the three largest manufacturers of its kind in this country. Otherwise investment in this field has been limited to the production of certain specialized materials."**

Vehicles. Dunning found that in this industry,

"American participation is solely confined to the manufacturing of motor vehicles and motor vehicle accessories and components. As far as we know, no firms of American origin are producing aircraft (though a number of subsidiaries are supplying specialized air craft components) neither is any capital evident in the bicycle or motorcycle industries."***

Engineering and Shipbuilding. Dunning states that:

"Once again, however, investment tends to be confined to a relatively small number of selective fields. There is, for example, little or no U. S. capital at present invested in the Shipbuilding and ship repairing, marine engineering, ordnance constructional engineering, electrical machinery and small arms, wireless valves and electric lamps and battery and accumulator sections of the industry, which between them account for 35 per cent of the total labour force of the group as a whole."****

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*Ibid., pp. 59-60.

**Ibid., p. 60.

***Ibid., p. 71.

****Ibid., p. 65.

Of the 77,000 employees in American firms in the Engineering and Shipbuilding industries, 27,000 were employed in two of the sub-industries Agricultural Equipment (16,000) and Office Machinery (11,000). Petroleum Field and Refining Equipment was also an important sector as well as a number of more specialized sections: Lifts and Escalators, Shoe Machinery, Sewing Machinery, Printing and Type-setting Machinery, Refrigeration Machinery, Materials Handling Equipment, Specialized Mining Equipment, Food Production Machinery, Petrol Pumps, Air-conditioning Equipment, Laundry Machinery, Road-making Equipment, Bottle-washing Machinery, Catering and Dairy Equipment.* Dunning concludes, "where there is any American representation in the engineering industry, it is an important one."**

Food, Drink and Tobacco.

> "Comprising a wide range of separate trades, this industry employed nearly one million people in December 1954. U. S. influence is once more restricted to a number of selected fields."***

Among these selected fields are, Starch, Custards, Evaporated Milk, Processed Cheese, Breakfast Ceareals, and Ready-made Cake mixes.

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*Ibid., pp. 64-70.

**Ibid., p. 71.

***Ibid., p. 75.

Metal Manufacturing and Metal Goods not otherwise specified.

> "There are no American firms in the blast furnace and wrought-iron sections, and whilst in steel manufacturing a number of important British companies . . . enjoy an exchange of technical know-how with U. S. firms, the influence of American capital is small."*

American firms have investments in the boiler industry and in the manufacture of heating appliances. Apart from this, "U. S. influence is restricted to a number of specialist fields."**

Textiles and Clothing. American participation is almost entirely concentrated in the Foundation Garment, Swim Wear, and Lingerie Section.***

Other Manufacturing Industries. For our last example to illustrate the concentration of American industry it is sufficient to point out that of the 16,500 employees listed in this industry in Table IV-9, 11,000 were in one sub-industry, namely the rubber industry.****

Concentration

The connection between concentrated industries and international operations is nowhere more clearly seen than in the data presented by Dunning. He states (without supporting evidence) that "three-quarters of the employment in U. S. affiliated firms is concentrated

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*Ibid., p. 74.

**Ibid., p. 75.

***Ibid., p. 72.

****Ibid., p. 77.

in industries where the five largest competitors supply 80 per cent or more of total output."* He also presents a very revealing table presented here as Table IV-11. This table also serves to illustrate further the specialized nature of international operations. The table shows that of the 205 thousand employees of American controlled firms, 32,000 are employed in industries where the American firm is a dominant producer, and 200,000 others are employed by firms in an industry where the American firm is one of a small number of strong producers. The predominance of oligopolistic industries is striking. The table also indicates that the American firms are large firms relative to other firms in the same industry.

Western Europe

For the rest of the world, the data are even poorer than for Canada and for the United Kingdom. The main source of information on Europe other than the United Kingdom is a study made by Southard in 1931.* It is old and not very complete, but still illuminating. Perhaps its age is not too much of a disadvantage. For it may serve to illustrate that the phenomena we have been discussing are not merely a product of recent years. On the other hand, the many

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*Ibid., p. 155.

**F. A. Southard, Jr., American Industry in Europe (Cambridge: The Riverside Press, 1931) p. xiii.

changes which have occurred in Europe, (especially in recent years in response to the advent of the common market,) stress the need for current research.

One of the interesting features about the international operations of the United States is the fact that the firms which are now the large foreign investors began their foreign operations so very long ago. In Chapter I we mentioned the fact that in Great Britain, 115,200 employees out of the total 205,000 in Dunning's sample worked for firms which were established before 1914.* Something similar may be true for Europe as a whole. Although we have no direct evidence the following quotation from Southard is relevant.

> "But it was the two decades just prior to the opening of the present century which saw a startling development, the export of capital in significant amounts by American corporations for the establishment of European plants and sales organizations, at a time when the United States was steadily importing capital. In this period the American meat packers, the Standard Oil Company, the Eastman Kodak Company, the Worthington Simpson Company, the American Radiator Company, the Western Electric Company, the National Cash Register Company, the Singer Sewing Machine Company, the General Electric Company--to name only a few--established plants in Europe which in almost every case are still actively operating."**

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*John H. Dunning, American Investment in British Manufacturing Industry (London: George Allen and Unwin Ltd., 1958). p. 95.

**F. A. Southard, Jr., American Industry in Europe, (Cambridge: The Riverside Press, 1931) p. xiii.

With the exception of the Worthington Simpson Company, and the Western Electric Company, all the other firms were on the list of the 27 manufacturing firms with investment of over 25 million discussed above. Western Electric would have been on that list were it not in public utilities and had its foreign holdings not been taken over by International Telephone and Telegraph Company.

Industrial distribution

Southard does discuss and describe the main industries in Europe where United States companies controlled enterprises are important. These industries are: (1) Electrical equipment, (2) Electric Power, (3) Telephone and Telegraph (both equipment and supplies), (4) Petroleum, (5) Automobiles, (6) Mines and Metals, (7) Motion Pictures, (8) Drugs and Chemicals, (9) Rubber Tires, (10) Phonographs, (11) Locks and Keys.

We are mainly interested in illustrating the industrial specialization and the concentrated nature of the industries where American firms have international operations. We have selected therefore those quotations from Southard which throw light on these points, i.e., we selected all quotations on the market share of United States firms in European industry. As will be seen in many cases the market shares are quite high.

The Electrical Equipment industry. The bulk of United States International Operations in this industry is accounted for by two firms, the General Electric Company and the Westinghouse Electric Company.

Southard's summary of the extent of American penetration in this industry is shown in the following quotation.

> "In England the American Companies exert a dominant influence over approximately 50 per cent of the industry. Only one large Company, the General Electric Company, Ltd., remains independent, and even it has a patent agreement with the leading American company.
>
> In Germany, American influence is dominant in one of the two great companies, while the other is financially indebted to and has an agreement with American corporations.
>
> The French industry is almost completely under American influence and direction, with only one company of importance, the Compagnie Générale Électricité, retaining independence save for a patent agreement.
>
> The European incandescent lamp industry is completely linked up with the leading American producer through patent agreements and stock ownership. Quantitative estimates of the importance of American interests in the rest of Europe are not possible, but it may be stated that the leading companies are in almost every case subject to American influence."*

Electric Power industry.

> "Only in England is a substantial portion of the industry under American control. In France and Italy American power finance corporations exert considerable influence through minority stock interests and financial support, but the industry is, nominally at least, locally controlled."**

Telephone and Telegraph Equipment industry. The International Telephone and Telegraph Corporation was in 1931 the largest of the American companies in Europe and the largest of the European companies as well. There seems to be three main groups in the

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*Ibid., p. 36.

**Ibid., p. 42

telephone and telegraph industry in Europe, and of these the American group was the largest.*

The Petroleum industry. With reference to Petroleum production in Europe, Southard states that at that time it was "largely a story of the Standard Oil of New Jersey competing with the Shell group in Roumania and with the Malapolska combine (reported to be supported by Shell) in Poland."**

In marketing of petroleum products, Southard estimates that the American companies supply from one-third of the market in France, and about one-half of the market in Germany. No data are available for the rest of Europe.***

Motor Vehicles.

> "The American motor-car producers in Europe are becoming increasingly important in comparison with the European producers. The total European output is approximately 600,000 cars per year, the bulk being confined to cars below 18 h.p., which is roughly the lower limit for American motor cars. The 110,000 American cars exported to Europe coupled with the possible 40,000 others completely assembled there, constitute a large proportion of the cars over 18 h.p. sold in Europe."****

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*Ibid., p. 55.

**Ibid., p. 60.

***Ibid., pp. 68-69.

****Ibid., p. 29.

Mines and Metals.

> "A quantitative estimate of the importance of the American metal interests in Europe is not feasible with the data available. In Poland roughly 50 per cent of the steel and an even large proportion of the zinc, and 30 per cent of the coal is under American control. In Norway the electric smelting industry, especially in Aluminum, is largely American owned. The English nickel industry is now controlled from America, while the lead and tin industry feels American influence. The remaining American investments are scattered and have little relative importance."*

The Motion Picture industry. The talking picture equipment was supplied by two groups, one of which is American. The motion picture market was up to the advent of talking pictures largely supplied by American firms. "In 1929, 75 per cent of the English, 48 per cent of the French and 33 per cent of the German market were served with American films. In many of the smaller European countries the American motion picture retained its position of dominance."**

The Drugs and Chemicals industry. In this industry, there were a large number of American firms (twenty-two) but they were small compared to I. G. Farbenindustrie.

The Rubber industry. Southard offers no estimate of market shares in the rubber industry.

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*Ibid., p. 93.

**Ibid., p. 102.

The Phonograph industry. Here the field is "divided between three groups; two American and one, now English, erstwhile American."* The Lock and Keys industry. The last industry for which Southard provides an estimate of market shares is the Lock and Keys industry where the American firm is the largest producer of locks in Europe. Southard does list other industries but no estimate of market shares of American firms is available, although in some industries, e.g., sewing machines, it may very well be quite high. But we really do not know.

Latin America

There is a 1934 study of American investments in Argentina, Brazil, Uruguay, Chile from which Table IV-12 was obtained.** This study provides information on the industrial distribution of United States Investments, but unfortunately gives no estimate of the share of American firms in Latin American industry. There is no other source from which an estimate of the share can be obtained. But a crude method of illustrating the unevenness of the distribution is possible. In a 1955 study the Department of Commerce published figures on the industrial and national distribution of the

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*Ibid., p. 108.

**D. M. Phelps, Migration of Industry to South America, (New York: McGraw-Hill Book Company Inc., 1936).

sales of American direct investments in Latin America.* These data are presented in Table IV-13. From these data it is possible to compute the percentage distribution of sales of American subsidiaries by industry and to compare the distribution with the composition of industrial output in selected Latin American countries as obtained from various sources. The procedure is crude and the results not very convincing but for what they are worth, the data for Brazil are presented in Table IV-14, and for Argentina, Chile, Colombia, and Venezuela in Table IV-15. For one industry at least, the Rubber industry, the results are clear. Relative to its importance in total industrial output, it accounts for a high share of international operations. For other industries, at least the unevenness of the distribution can be observed.

Conclusions

We have surveyed a wide variety of material from several sources. As the reader can well appreciate the data is woefully inadequate. We were trying to illustrate that the pattern of international operations (or direct investment) of the United States has certain features consistent with the theory of previous chapters. These features are based on the theory that international operations

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*United States Department of Commerce, Office of Business Economics, U. S. Investments in the Latin American Economy (Washington: U. S. Government Printing Office 1957) p. 132.

occur in some industries throughout the world rather than in all industries in some countries. The rationale of this is that international operations are a phenomenon of firms and the industries, in contrast to portfolio capital movements which depend on general conditions of a country such as the interest rate.

The data we presented did show that international operations were concentrated in selected industries and in a rough way it was shown that the industries in which international operations are important are the same in all countries. The tendency for these industries to be concentrated industries was also shown and in the case of the United Kingdom was particularly striking.

As we stated in the beginning of the chapter, empirical investigation of international operations is very difficult because it requires detailed studies of firms and industries on a worldwide basis. It is seldom possible to acquire information either in sufficient detail or having worldwide coverage. For some industries, Motor Vehicles, Tires and Tubes, and Petroleum products, enough information is perhaps available to make a study possible.* But for other industries it is very difficult. The author tried to get micro-data by examining the annual reports of 750 large

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*George Fishman, for his Bachelor's thesis at M. I. T., is making a very interesting study of the world automobile industry and the roles of individual firms. Unfortunately his thesis is not yet complete and his results could not be quoted at this time.

American manufacturing firms. The annual reports are informative but not sufficiently so. As was evident above, it was not possible to determine exactly the investment of even the 27 firms with foreign investment of 25 million dollars or over. In the absence of more consistent reporting by firms, it is not possible to acquire data from which to derive general propositions subject to reasonably reliable statistical tests. Nor does the future hold much hope for this source. Firms separate their foreign and domestic activities in reporting mainly because of the feeling that greater risk is attached to them. This tendency was accentuated by the international difficulties of the past fifteen years. As conditions improved many firms reverted to a policy of consolidating foreign activities with domestic activities. (This is particularly evident for the case of Canada; relatively few firms distinguish between their United States and Canadian in their accounting data.) An interview program might be possible were it not for the reluctance of firms to release data. In any case, the Department of Commerce is probably the only body with adequate resources, but it tends to collect data on an establishment basis whereas for international operations the firm is the relevant unit. (Because of the concentrated nature of industries with international operations, the disclosure limitations on government data is particularly restrictive.)

Even if micro-data were available, the problem of estimating market shares would be a difficult one because data on industry output in foreign countries is often non-existent. This difficulty is however being lessened with improvements in census material. The Canadian information is quite good and in the United Kingdom, Dunning was able to make considerable headway. There probably will soon be much data on direct investment in the common market. But for the rest of the world, especially Latin America, much work needs to be done. The work would, I think, be important. Studies of the structure of industries throughout the world (rather than, as in the past, within countries) would be most revealing because it would provide the economist with data on industries influenced by a wider variety of conditions than is true for industries within countries. However, as of now, these studies are rare.

This ends the discussion of the theory of international operations which has occupied us for three chapters. In the next chapter we discuss the manner in which capital is associated with international operations.

TABLE IV-1

FOREIGN INVESTMENT AND TOTAL ASSETS OF UNITED STATES COMPANIES, 1950, BY INDUSTRY
(MILLIONS OF DOLLARS)

	Foreign Investments of U. S. Companies	Total Assets of all Companies in the U. S.	Foreign Assets as a Per Cent of Total Assets in the U. S.[1]
	(1)	(2)	(3)
Products of Petroleum	3,390[2]	17,439[2]	19.4
Rubber Products	182	2,053	8.9
Paper and Allied Products	378	4,515	8.4
Electrical Machinery, Equipment and Supplies	386	4,691	8.2
Motor Vehicles and Equipment	485	8,153	6.1
Chemicals and Allied Products	513	9,659	5.3
Machinery (except electrical)	420	9,546	4.4
ALL MANUFACTURING, EXCLUDING PETROLEUM	3,831[3]	93,836	4.1
Food Products	483	12,198	4.0
All other Manufacturing*	599	25,124	2.4
Primary and Fabricated Metals	385	17,897	2.1

*All other manufacturing refers to the following:

Tobacco Manufactures	n.a.	2,362
Textile Mill Products	n.a.	6,132
Apparel and Finished Textiles	n.a.	1,554
Lumber and Wood Products	n.a.	2,069
Furniture and Fixtures	n.a.	934
Printing and Publishing, except newspapers	n.a.	2,081
Leather and Leather Products	n.a.	985
Stone, Clay, and Glass Products	n.a.	3,306
Instruments: Photographic and Optical goods, watches and clocks	n.a.	1,515
Transportation Equipment except Motor Vehicles	n.a.	2,630
Miscellaneous Manufacturing Industries, including Ordnance	n.a.	1,556

TABLE IV-1 (continued)

Notes: n.a. means not available.

[1]There exists considerable discrepancy between the definition of Column 1 and that of Column 2, and in some unknown cases, total assets of Column 2 includes some foreign assets. It is therefore not too meaningful to derive the per cent figures in Column 3. They should be interpreted as an index of the ranking of industries with respect to importance of foreign investment rather than as actual percentages.

[2]Total Assets of all companies in the U. S. in the petroleum industry includes products of coal. Foreign investments of this industry includes non-manufacturing operations but does not include products of coal.

[3]Excludes manufacturing operations of mining companies.

Source: Column 1. U. S. Department of Commerce, Office of Business Economics, Direct Private Foreign Investments of the United States, Census of 1950 (Washington: U. S. Government Printing Office, 1953) p. 44.

Column 2. U. S. Federal Trade Commission and U. S. Securities and Exchange Commission, Quarterly Industrial Financial Report Series--For All United States Manufacturing Corporations, First Quarter 1950 (Washington: U. S. Government Printing Office, 1950).

TABLE IV-2

INCOME FROM FOREIGN SOURCES[1] AS A PER CENT OF NET INCOME[2]
FOR MANUFACTURING COMPANIES AS REPORTED TO THE UNITED
STATES TREASURY DEPARTMENT,
AVERAGE OF YEARS: 1950, 1951, 1954, 1955

	Income from Foreign Sources as Per cent of Net Income[3]
1. Petroleum and coal products	21.80
2. Rubber products	10.52
3. Chemical and Allied products	3.67
4. Food and kindred products	3.62
5. Motor vehicles and equipment, except electrical	3.28
6. Scientific instruments, photographic equipment, watches and clocks	3.00
7. Stone, clay and glass products	2.63
8. Primary metal industries	2.65
9. Fabricated metal products, except ordnance, machinery and transportation equipment	2.42
10. Electrical machinery and equipment	2.29
11. Machinery, except transportation equipment and electrical	2.14
12. Paper and allied products	2.10
13. Transportation equipment except motor vehicles	1.62
14. Printing, publishing and allied industries	1.45
15. Furniture and fixtures	1.17
16. Other manufacturing	1.10
17. Beverages	.89
18. Textiles--mill products	.54
19. Apparel and products made from fabrics	.54
20. Tobacco manufactures	.46
21. Ordnance and accessories	.34
22. Leather and products	.30
23. Lumber and wood products, except furniture	.17

TABLE IV-2 (continued)

Notes: [1]Income from Foreign Sources refers to income reported by firms filing statements (Form 1118) in support of credit claimed for foreign taxes paid.

[2]Net Income refers to net income before tax for all returns.

[3]As in Table IV-1, these numbers are best thought of as indexes of rank rather than actual percentages.

Source: Calculated from data published annually by the Internal Revenue Service of the United States Treasury Department in Statistics of Income, Part 2, Corporation Income Tax Returns, Years used were 1950, 1951, 1954, and 1955.

TABLE IV-3

DISTRIBUTION OF FOREIGN INVESTMENTS BY INDUSTRY AND SIZE CATEGORIES, 1950
(MILLIONS OF DOLLARS)

Industry	Companies having foreign investments[1] (in millions of dollars) of: 1 - 5		6 - 25		Over 25		Total: All Companies[1]		Total of 1950 Census[2]
	No. of Companies	Value of Investments	No. of Companies	Value of Investments	No. of Companies	Value of Investments	No. of Companies	Value of Investments	Value of Investments
Petroleum	10	27	9[3]	129	7[4]	3,124	26	3,280	3,390
Manufacturing, total	192	439	79	1,010	27[5]	1,968	298	3,417	3,841
Food	9	25	17	212	5	209	31	446	483
Paper Products	12	25	5	70	4	209	21	304	378
Chemical	21	43	14	170	4	174	39	387	512
Primary and Fabricated Metals	25	54	7[3]	124	--		32	178	385
Machinery	34	78	11	137	5	331	50	546	420
Automotive and Electrical	26	60	9	121	3	716	38	897	871
Other	65	154	16	176	6	329	87	659	782

TABLE IV-3 (continued)

Notes: [1]The individual firm data were compiled by the Office of Business Economics of the Department of Commerce from the Census of Direct Foreign Investment of 1950. The complete survey covered 442 firms (the data presented here are only those for manufacturing and petroleum), each with foreign investments of one million dollars or more. These 442 firms account for 85 per cent of all direct foreign investment and 93 per cent of all investments by U. S. companies.

[2]There are some differences in industrial classification in totals shown for companies and the published totals of the 1950 census. Census totals were derived by classifying each foreign organization of a U. S. parent company separately according to the major activity of the unit. The companies data were classified on the basis of all foreign operations of the parent company together.

[3]Includes one company with foreign investments of more than $25,000,000.

[4]Includes seven companies with investments of over $51,000,000, accounting for a total foreign investment of $3,124 million.

[5]Includes eleven companies with investments of over $51,000,000, accounting for a total foreign investment of $1,373 million.

Source: U. S. Department of Commerce, Factors Limiting U. S. Investments Abroad, Part 2, Business Views on the U. S. Government's Role (Washington: U. S. Government Printing Office, 1954) pp. 48 and 54.

TABLE IV-4

VALUE OF UNITED STATES DIRECT INVESTMENTS IN MANUFACTURING[1] AND PETROLEUM ENTERPRISES ABROAD, 1950, BY MAJOR PRODUCTS (MILLIONS OF DOLLARS)

	All Areas Total	Canada	Latin American Republics	United Kingdom	Other Western Europe	Other Areas
Petroleum	3,390	418	1,408	123	301	1,140
All Manufacturing[1]	3,831	1,897	780	542	390	222
Food Products	483	227	158	36	28	34
Paper and Allied Products	378	367	5	1	4	1
Chemicals and Allied Products	512	198	205	54	21	34
Rubber Products	182	59	60	21	10	32
Primary and Fabricated Metals	385	249	22	66	44	4
Machinery except electrical	420	204	13	108	67	28
Electrical Machinery, equipment and supplies	387	141	79	79	74	14
Motor Vehicles and equipment	485	160	83	103	88	51
All other manufacturing	599	292	155	74	54	24

Notes: [1]Excludes manufacturing operations of petroleum and mining companies.

Source: S. Pizer and F. Cutler, "Growth of Foreign Investments in the United States and Abroad," Survey of Current Business XXXVI (August 1956) p. 22.

United States Department of Commerce; Office of Business Economics, Direct Private Foreign Investments of the United States, Census of 1950 (Washington: U. S. Government Printing Office, 1953) p. 44.

TABLE IV-5

VALUE ADDED IN CANADA FOR ALL CANADIAN MANUFACTURING ESTABLISHMENTS AND VALUE ADDED OF SELECTED UNITED STATES CONTROLLED ESTABLISHMENTS 1953 (MILLIONS OF DOLLARS)

Industry	Valued Added By All Canadian Establishments	Value Added By Selected United States Controlled Establishments	Share of U.S. Controlled Establishments in Total Value Added Per Cent
Motor Vehicles	274	266	97
Non-ferrous metal smelting and refining	310	259	84
Rubber Products	173	138	80
Machinery, Household, office and store	53	33	61
Motor vehicle parts	141	87	61
Petroleum products	160	93	59
Electrical Apparatus and Supplies	457	231	50
Soaps, Washing compounds and cleansing preparations	50	24	49
Paints, varnishes and lacquers	57	26	46
Other non-ferrous metal products	88	40	46
Other chemicals and allied products	260	108	41
Grain mill products	90	36	41
Medicinal and pharmaceutical preparations	62	24	38
Pulp and paper	600	219	37
Brass and copper products	60	19	32
Machinery, industrial and machine tools	157	49	31
Sheet metal products	104	33	31
Heating and cooking apparatus	52	16	30
Canning and processing	132	38	28
Other paper products	167	46	28
Toilet preparations	19	5	26
Hardware, tools, and cutlery	85	20	23
Miscellaneous manufactures	155	34	22
Agricultural implements	79	17	21
Castings, iron	85	16	19
Aircraft and parts, railway rolling stock and other transportation equipment	547	98	18
Non-metallic mineral products and other products of petroleum and coal	292	49	17
Dairy products	121	21	17
Other food industries, tobacco and tobacco products and leather products	459	69	15

TABLE IV-5 (continued)

Industry	Value Added By All Canadian Establishments	Value Added By Selected United States Controlled Establishments	Share of U.S. Controlled Establishments in Total Value Added Per Cent
Textile products except clothing	299	42	14
Other iron and steel products	308	43	14
Beverages	299	35	12
Bakery products and confections	224	25	11
Primary iron and steel	217	16	7
Wood products	577	30	5
Clothing (textiles and furs)	415	12	3
Printing Publishing and allied	364	3	1
Total	7,993	2,319	29

Notes: Selected United States controlled establishments refers to all manufacturing establishments of United States controlled enterprises with an aggregate investment in Canada of $1 million or more. The 309 manufacturing enterprises falling within this category covered 91 per cent of the total investment of all United States controlled enterprises.

Source: Dominion Bureau of Statistics, Canada's International Investment Position 1926-1954 (Ottawa: Queen's Printer and Controller of Stationary, 1958) p. 43 and pp. 92-93.

TABLE IV-6

SHARE OF AMERICAN CONTROLLED AND AFFILIATED COMPANIES IN GROSS VALUE OF PRODUCT IN CANADA, 1932

Industry	American Controlled or Affiliated Companies	
	Per Cent of Total Canadian Gross Value of Product Supplied (Per Cent)	Capital Employed (Millions of Dollars)
Automobiles and trucking; automobile parts and accessories	82	51.9
Electrical apparatus	68	57.2
Rubber products	65	44.1
Medicinal and pharmaceutical preparations; soaps, washing components; toilet preparations	56	20.8
Non-ferrous metals not elsewhere specified--including aluminum, brass, copper, lead, tin, zinc, and their products, precious metals, jewelry and dental work	50	26.6
Non-metallic minerals, including asbestos and its products; graphite and carbon, petroleum products, building materials	44	75.5
Agricultural implements, industrial machinery, office and household machinery	42	37.0
Miscellaneous manufactures--including brooms and brushes, household equipment, personal equipment, scientific and professional equipment	41	16.6
Pulp, paper and lumber	34	266.0
Chemicals and allied products not elsewhere specified--including coal tar and its products; industrial chemicals and gas; fertilizers; paints, pigments and varnishes, inks, dyes and colors	31	33.8
Iron and its products not elsewhere specified--including boilers, tanks and engines; railway rolling stock; heating and ventilating; wire and wire goods; sheet metal products; hardware and tools	25	53.8
Flour and cereals; prepared grain foods and confectionary	15	29.2

TABLE IV-6 (continued)

Industry	American Controlled or Affiliated Companies	
	Per Cent of Total Canadian Gross Value of Product Supplied (Per Cent)	Capital Employed (Millions of Dollars)
Furnaces and rolling mills; castings and forgings	12	32.6
Vegetable products not elsewhere specified--including fruit and vegetable preparations; liquors and cerated waters, sugar and its products	11	18.7
Animal Products--including fish curing and packings; leather and leather products; wood products; dairy products	11	21.0
Wood and paper products not elsewhere specified--including paper goods; printing, publishing, and lithography; furniture, wooden containers; wood working and turning	8	21.6
Textiles--including preparations of textile fibers; silk and silk goods; hosiery and knit garments and personal furnishings; embroidery, and lace work	8	26.9
All manufacturing	24	833.3

Source: H. Marshall, F. A. Southard Jr., and K. W. Taylor, Canadian-American Industry (New Haven: Yale University Press, 1936) Table V, facing page 24.

TABLE IV-7

CONCENTRATION RATIOS AND NATIONALITY OF SIX LEADING FIRMS FOR SELECTED CANADIAN INDUSTRIES 1953

Industry	Value Added by all Firms ($ mill)	Value Added of Six Largest Firms as a Per Cent of Total Value Added (per cent)	Nationality of Six Largest Firms			
			Canadian	U.S.	Other	Total
Petroleum						
Crude Petroleum	241	68	1	5	0	6
Petroleum refining	301	93	1	4	1	6
Mining Smelting and Refining						
Nickel-copper	244	100	3	3	0	6
Lead-Zinc	89	86	4	1	1	6
Copper Gold	114	86	4	2	0	6
Iron ore	35	100	3	3	0	6
Aluminum[1]	---	---	0	1	0	1
Asbestos	72	94	3	2	1	6
Gypsum	5	97	2	3	1	6
Manufacturing						
Pulp and paper	641	46	4	1	1	6
Chemicals						
(1) Fertilizers[2]	40	92	2	2	1	5
(2) Acids, Alkalies and Salts	79	63	1	3	2	6
Elec. App. Supplies	463	52	2	4	0	6
Primary iron and steel	217	84	5	1	0	6
Automobiles	176	97	0	6	0	6
Rubber goods	149	77	1	5	0	6
Railway Rolling stock	117	84	2	3	1	6
Primary Textiles						
(1) Synthetic fibres[3]	47	100	0	3	1	4
(2) Exc. synthetic	70	90	6	0	0	6
Agricultural Implements[4]	49	91	2	2	0	4

Notes: [1]Only one firm in this industry.
[2]Data on nationality available for only five of the six firms.
[3]Four largest producers only.
[4]Data on nationality available for only four of the six firms.

Source: I. Brecher and S. S. Reisman, Canada-United States Economic Relations, (Ottawa: Queen's Printer and Controller of Stationary, 1957) Appendix B, pp. 278-285.

TABLE IV-8

NATIONALITY OF FIRMS OPERATING IN SELECTED CANADIAN INDUSTRIES IN 1953 WITH ASSETS OF 25 MILLION OR OVER

	Number of Firms in Canada with Assets of 25 Million or over in 1953 in Selected Industries			
	All Nationalities	Canadian Controlled	U. S. Controlled	Controlled in other Countries
Total	82	38	38	6
Petroleum	13	2	9	2
Mining	14	7	7	0
Manufacturing	55	29	22	4
Pulp and Paper			6	
Chemicals			4	
Electrical Apparatus and supplies			2	
Automobiles and parts			4	
Rubber Goods			2	
Agricultural Machinery			1	
Aluminum			1	
Synthetic Textiles			1	
Meat Products			1	

Source: I. Breecher and S. S. Reisman, Canada-United States Economic Relations (Ottawa: Queen's Printer and Controller of Stationary, 1957) Appendix B. pp. 285-287.

TABLE IV-9

NUMBERS EMPLOYED BY ALL FIRMS AND BY UNITED STATES FIRMS OPERATING IN THE UNITED KINGDOM, 1953

	No.	U.S. Firms Employment	All Firms Employment	U. S. Firms Share of Total Employment (Per Cent)
Precision Instruments	9	16,200	138,300	11.7
Chemicals and Allied Trades	48	31,300	498,800	6.3
Vehicles	6	56,000	1,121,900	5.0
Engineering and Shipbuilding	67	77,000	1,604,000	4.8
Electrical goods	10	13,600	329,200	4.1
Food, Drink, Tobacco	13	16,400	844,100	1.9
Metal Manufactures	11	8,400	551,100	1.5
Wood, Cork, Paper and Printing Manufactures	7	4,400	300,400	1.5
Other manufactures	25	16,500	1,212,310	1.4
Metal goods--not otherwise specified	2	2,500	491,300	.5
Textiles and Clothing	7	3,900	1,604,000	.2
	205	246,200	8,732,00	2.8

Source: J. H. Dunning, American Investment in British Manufacturing Industry (London: George Allen and Unwin Ltd., 1958) p. 58.

TABLE IV-10

SHARE OF UNITED STATES FIRMS IN SELECTED UNITED KINGDOM INDUSTRIES

Industry	Estimated Share of United States Firms in United Kingdom Industry (Dunning's Terminology)
Chemicals and Allied Trades	
Carbon black	three-quarters
Phenol plastics	substantial
Petroleum refining	one-third
Pharmaceutical products	one-fifth to one-half
antibiotics	all
Toilet preparations and Cosmetics	one-half
Vehicles	
Motor vehicles	two-fifths
Engineering and Shipbuilding	
Agricultural machinery[1]	60 to 70 per cent
Calculating machines and cash registers	one-half to two-thirds
Typewriters	one-half
Shoe machinery	almost all
Sewing machinery	almost all
Refrigerators	one-third to one-half
Electric switches	two-thirds
Food, Drink and Tobacco	
Starch	practically all
Custards	largely
Evaporated milk[2]	greater part
Processed cheese	three-quarters
Breakfast cereals	all
Chewing gum	most of
Metal Manufactures and Metal Goods not otherwise specified	
Domestic boilers	60 per cent
Nickel	100 per cent
Razor blades	90 per cent
Cigarette lighters[3]	100 per cent

TABLE IV-10 (continued)

Industry	Estimated Share of United States Firms in United Kingdom Industry (Dunning's Terminology)
Textiles and Clothing	
Foundation garments	two-thirds
Other manufacturing industries	
Talking picture apparatus	40 per cent
Vehicle tires	two-fifths
Cinematic films	90 per cent
Roll films	two-fifths
Abrasives	40 per cent

Notes: [1]Two American firms and one Anglo-Canadian Firm -- Massey-Harris-Ferguson.

[2]Two American firms and one Swiss firm -- Nestle's.

[3]Market share refers to years before 1946 when the Ronson patent expired.

Source: J. H. Dunning, American Investment in British Manufacturing Industry (London: George Allen and Unwin Ltd., 1958) pp. 60-78.

TABLE IV-11

IMPORTANCE OF U. S.--FINANCED FIRMS IN BRITISH INDUSTRY

GROUP A U. S. Firm the Dominant Producer	GROUP B [1] U. S. Firm One of a Small Number of Strong Producers	GROUP C U. S. Firm One of a Number of Producers Of Modest Size
12 firms employing 32,000 people	136 firms employing 200,000 people	57 firms employing 14,000 people
Products supplied include:	Within such an industrial structure U. S.-financed firms are the largest producers of e.g.:	Products supplied include:
Sewing Machines*	Domestic Boilers	Proprietary Medicines
Boot and Shoe Machinery	Breakfast Cereals	Beauty and Toilet Preparations
Starch	Synthetic Detergents	Industrial Instruments
Carbon Black	Foundation Garments	Petroleum Refinery Equipment
Cinematic Films*	Printing and Typesetting Machinery	Machine and Hand Tools
Motor Vehicle Tyre Valves	Oil Drilling Equipment	Cigarettes
	Road-making Machinery	Foundation Garments
	Sparking plugs	Cotton Textiles
	Roll films	
	Lifts and Escalators	
	Safety Razors and Blades	
	Typewriters	
	Cash Registers	
	Calculating Machines	
	Refined Platinum	
	Commercial Refrigerators	
	Vacuum Cleaners	
	the second largest producers of e.g.:	
	Motor-cars	

TABLE IV-11 (continued)

GROUP A U. S. Firm the Dominant Producer	GROUP B U. S. Firm One of a Small Number of Strong Producers	GROUP C U. S. Firm One of a Number of Producers Of Modest Size
12 firms employing 32,000 people	136 firms employing 200,000 people	57 firms employing 14,000 people
	Agricultural tractors and implements Rubber Tyres Abrasives and Grinding Wheels Canned Milk Canned Foodstuffs Soft Drinks Home Refrigerators Electronic Industrial Instruments Alarum Clocks Portable Electric Tools Excavating Equipment	
	and the third largest producers of e.g.:	
	All-purpose Chemicals Rubber Tyres Refined Petroleum Hardboard	

*Subject to foreign competition.

[1]Also included in Group B are firms supplying ethical specialties, telephone equipment, pneumatic tools, petrol pumps, bottle-washing machinery, cat and dog food, motion picture sound projection equipment and electric washing machines.

Source: J. H. Dunning, American Investment in British Manufacturing Industry (London: George Allen and Unwin Ltd., 1958) pp. 156-157.

TABLE IV-12

UNITED STATES CAPITAL INVESTED IN SELECTED INDUSTRIES IN ARGENTINA, BRAZIL, URUGUAY AND CHILE IN 1934 (MILLIONS OF DOLLARS)

Industry	United Capital Invested
Meat Packing	94.6
Petroleum	55.1
Miscellaneous[1]	29.8
Automobiles and tires	26.5
Construction (Materials, including cement)	21.4
Food (other than meat packing)	3.3
Phonographs and Radios	2.1
Pharmaceutical	1.7
Total[2]	234.6

Notes: [1]In this group 25 million dollars are accounted for by the following seven firms; General Electric Company, Brazilian Traction, Light and Power Co., Ltd., Pullman Standard Car Export Corporation, E. I. duPont deNemours and Company, Consolidated Chemical Industries Inc., National Lead, W. R. Grace and Co.

[2]Total may not add because of rounding.

Source: D. M. Phelps, Migration of Industry to South America (New York: McGraw-Hill Book Company, Inc., 1936) p. 24.

TABLE IV-13

SALES BY UNITED STATES MANUFACTURING COMPANIES
OPERATING IN LATIN AMERICA 1955
(MILLIONS OF DOLLARS)

	Argentina	Brazil	Chile	Colombia	Cuba	Mexico	Venezuela	Other Countries	Latin America Total
Food	214	110	(1)	8	33	22	13	17	416
Chemicals and allied products	81	48	6	25	27	129	13	14	342
Rubber products	42	51	6	5	9	23	6	7	149
Metals and non-electrical machinery	12	32	1	3	0	23	6	1	77
Electrical machinery	37	32	5	(1)	0	34	0	5	113
Motor Vehicles and equipment	21	56	8	0	0	70	46	14	214
All other manufacturing	32	28	27	28	14	16	10	40	196
All industries	438	357	53	69	83	316	93	98	1,507

Note: (1) Less than $500,000.

Data given cover only companies reported in special survey. These companies account for 90 per cent of the operations of all companies in Latin America.

Source: U. S. Department of Commerce, Office of Business Economics, U. S. Investments in the Latin American Economy (Washington: U. S. Government Printing Office 1957) p. 132.

TABLE IV-14

INDUSTRIAL DISTRIBUTION OF TOTAL VALUE OF MANUFACTURED PRODUCTS IN BRAZIL IN 1956 AND INDUSTRIAL DISTRIBUTION OF SALES BY UNITED STATES MANUFACTURING COMPANIES OPERATING IN BRAZIL IN 1955

Industry as defined for		Per Cent Distribution of Sales by United States Companies	Per Cent Distribution of Total Value of Manufactured Products in Brazil
Sales of United States Firms	Total Value of Manufactured Products in Brazil		
Food	Food, Beverages, and Tobacco products	31	26
Chemicals and Allied products	Chemicals and Pharmaceuticals	13	14
Rubber products	Rubber and products	14	3
Metals and non-electrical machinery	Metallurgy and machinery	9	13
Motor Vehicles and equipment	Transportation equipment	16	3
Electrical machinery	Electrical equipment	9	4
All other manufacturing	All other manufacturing	8	37
Total		100	100

Source: 1. Distribution of Sales of United States Companies are derived from data in Table IV-13.

2. Per cent distribution of total value of manufactured products in Brazil, Stanford Research Institute, International Industrial Development Centre, International Comparative Studies, Investment Series I, Brazil-Factors Affecting Foreign Investment (Menlo Park: Stanford Research Institute 1958) p. 9.

TABLE IV-15

INDUSTRIAL DISTRIBUTION OF TOTAL VALUE OF OUTPUT OF MANUFACTURED PRODUCTS IN ARGENTINA, CHILE, COLUMBIA AND VENEZUELA, AND INDUSTRIAL DISTRIBUTION OF SALES BY UNITED STATES MANUFACTURING COMPANIES OPERATING IN THESE COUNTRIES

Industry as Defined for		Argentina		Chile		Columbia		Venezuela	
		Percent Distribution of		Percent Distribution of		Percent Distribution of		Percent Distribution of	
Sales of U.S. Companies	Value of Production for Economy	Sales of U.S. Companies	Total Value of Production	Sales of U.S. Companies	Total Value of Production	Sales of U.S. Companies	Total Value of Production	Sales of U.S. Companies	Total Value of Production
Food	Foodstuffs and Beverages	49	20	(1)	30	12	42	14	44
Chemicals and Allied products	Chemical and Pharmaceutical products	19	8	11	8	36	7	14	2
Rubber products	Rubber products	10	2	11	2	7	4	6	3
Metals, Machinery (Electrical and non-electrical) and Motor Vehicles and Equipment	Metals and their Manufacture, machinery and vehicles	16	23	26	16	4	6	52	0
All other manufacturing	All other manufacturing	7	47	51	44	41	41	10	51
	Total[2]	100	100	100	100	100	100	100	100

(1) Less than one per cent
(2) Totals may not add up to 100 per cent because of rounding.
(3) Data on sales of United States Companies are for 1955. Data for distribution of value of output are for 1955 for Argentina and Venezuela but for 1952 for Chile and 1953 for Columbia.

Source: Sales of United States Companies are derived from data in Table IV-13.

Distribution of total value of product are from United Nations, Economic Commission for Latin America, Economic Survey of Latin America 1956 (New York: United Nations 1957) p. 78.

CHAPTER V

DIRECT INVESTMENT AND THE FINANCING OF INTERNATIONAL OPERATIONS

Introduction

Chapter I argued that the interest-rate theory of capital movements, much as it might apply to portfolio investment, was not in itself adequate to explain direct investment. Instead, it was suggested that direct investment was capital associated with international operations and that to understand the movement of direct investment we had first to explain international operations. International operations, as it were, provided the demand for direct investment. This point is important because the demand for capital for international operations behaves differently than other demands for capital. Direct investment therefore can and does behave differently than portfolio.

We have discussed so far the causes of international operations, but we have not discussed how international operations lead to direct investment. In this chapter we turn to this problem of the relation of capital movements to international operations. In particular we try to explain the empirical phenomenon presented in Chapter I; namely that the United States companies finance only part (53 per cent to be exact) of the capital needs of their

international operations from the United States--the rest is financed through local sources in the country where the operations occur. Moreover most of the capital which comes from the United States is invested in equity capital which implies control while most of the capital borrowed in the foreign country is creditor capital which does not usually involve control.

In the discussion of the causes of international operations, capital played an important role in two quite opposite senses. First as a cause of international operations and second as a cause of not having international operations. Capital was a cause of international operations because one of the advantages possessed by American firms over firms of other nationalities was cheaper capital. This was especially true where large blocks of capital were needed to finance large indivisible investments. On the other hand, an American firm might have a disadvantage in acquiring capital and this might lead it to license instead of operating itself. When a firm licenses, it is the foreigner who supplies the capital.

There is empirical evidence that both phenomena occur at the same time, i.e., in some instances American firms have cheaper sources of capital and in other instances, more expensive sources. This is not at all strange. It occurs because there is no single interest rate in a country; rather there are many interest rates; in fact, there may be one for each firm. This feature of capital

markets is extremely important; for the relationship of direct investment to international operations is largely determined by the imperfections which lead to fractured capital markets.

There are two questions to be answered. First, how does a particular firm decide how much to finance in each country? Obviously it borrows in the cheapest market. But what is the cheapest market? This is a complex question and it is not simply a matter of which country has the lowest interest rate. Second, given a method of financing, i.e., given a decision of how much to borrow in each country, what impact does this have on the world distribution of capital and the world interest rate?

The importance and interest of both of these questions arises from imperfections in the capital market. This is in contrast to portfolio investment where the pure theory really depends on a perfect market.

The perfect capital market

Consider a really perfect capital market--perfect certainty, perfect information, no transactions costs or barriers to movement--where everyone can borrow as much as he wants at the same interest rate. This is the type of market usually used for theories of the interest rate. For if the assumptions of perfection are dropped, analysis becomes extremely difficult and complex.

In such a market, given tastes, production possibilities, and initial distribution of wealth, the interest rate is determined and

the volume of capital movements between markets (in our particular case between countries) is determined. This model is the basis for the familiar treatment of international capital movements into which some imperfections gradually are introduced. It is a very fruitful approach.

What becomes of the two problems of international operations in this model? The first problem of how much the firm raises in each capital market becomes meaningless. It is all one market and the interest rate is the same anywhere. But this is a trivial observation.

More significant, whichever way the firm finances, it won't make any difference. How much it borrows in one market will be irrelevant to the determination of interest rates and net flows of capital. These depend only on total supply and demand. If the firm planning to invest in London borrows in London, this action raises the interest rate there and capital flows into Great Britain. If the same firm had borrowed in New York to finance its investment in London, then capital would flow into the United States. The final interest rate and the net flow of capital will be the same in both cases.

This is true even if the firm is not indifferent to where it borrows. Suppose arbitrage is not costless; i.e., there are certain costs in bringing a borrower and lender together. There will then be regularly established markets where brokers provide services

for a fee. The firm might get better service in New York where it is better known, and so it might finance there. Or some countries may have no capital market at all; e.g., in the 19th century and to some extent even now, Canadians used the facilities of New York in lieu of their own capital markets, i.e., Canadian borrowers borrowed in New York while Canadian lenders lent in New York. But this does not greatly affect world interest rates or the net flows of capital. The firm chooses to borrow in the financial center where it gets the best service. By borrowing in this center, the firm raises the interest rate and capital flows in from other centers. The flow of capital between centers insures that interest rates will be identical throughout the world. The firm's choice of capital market affects the gross movements of capital but not the net movements and not the interest rate.

This may be what the world is like. In the 19th century capital appeared to move along channels. There was specialization--the major capital exporters lent to certain countries and certain industries. This shows up in the gross figures, but it might not have been important in explaining net movements. Not that the gross figures are not important, for the use of the facilities in London are a savings to the Commonwealth countries. It is just that the effect of gross movements on the international allocation of resources may be different than the obvious one.

This makes empirical investigation very difficult. Suppose interest rates are low in London and New York but high in India and Brazil. To equalize interest rates, capital must flow out of the first two countries and into the second two. But even if there are only slight advantages to specialization, it may be that the United States lends to Brazil and not to India while England lends to India and not to Brazil. If this is not sufficient to bring about equality in interest rates, the United States might lend some to India or lend to England which in turn would lend to India. The result may be equilibrium but the regression analysis will show that capital flows between London and Brazil are not sensitive to differences in interest rates between these two countries. There are two ways of getting around this. If you still want to use capital flows between two countries as independent variables, then you must make them a function not merely of interest rates but of all other capital flows. In other words, the flow from London to Brazil depends on differences in interest rates and on the amount that the United States lends to Brazil. This means that you will have more explanatory variables than independent variables and since the number of years where data is available are very few, statistical investigation is almost impossible.

The other method would be to use net inflows or outflows for each country as the independent variable, i.e., ignore how much goes where, and use interest rates in all other countries as

independent variables. But now to return to the main theme.

It was important to go through this simple analysis in detail in order to make certain exactly what we are trying to explain. We observe in the world a large volume of direct investment. If we wish to know the effects on interest rates, and if markets are perfect, the gross flows would, for the most part, be irrelevant. It is the net flows which would be important.

As was pointed out in the introductory chapter, there do in fact exist cross movements, and Europe's investments in the United States in direct plus portfolio equals America's investments in Europe in direct plus portfolio. We must therefore be careful in interpreting the meaning of the empirical results. Now we introduce imperfections which make the gross flows important.

Barriers to capital movement

Let us drop the assumption that there are no barriers to movement between countries. There certainly are barriers--costs are high, information poor, and, there is always the risk of exchange-rate changes. Under these conditions interest rates do not have to be equal for equilibrium to exist. They can differ by the cost of movement. Capital will flow only when the interest rates differ by more than the costs of movement.

In this model, gross movements are important. If the firm borrows in London, the interest rate in London will rise as before, but this will not necessarily bring forth a flow of capital into Great Britain.

Not only are gross flows important, but the question of where the firm finances is meaningful: for now interest rate can differ from country to country. But this does not mean that the firm always borrows in the country where interest rates are lowest. On the contrary, under certain plausible conditions, the firm will always find the cost of capital lower in the country where it is making the investment; i.e., any firm in any country, investing in a foreign country, will find it cheaper to borrow in the foreign country than to borrow in its own for the foreign investment. With reference to its operations in Holland, Standard Oil will try to borrow in Holland rather than the United States; with reference to its operations in the United States, Royal Dutch Shell will borrow in the United States.

Behind this assertion is the bold assumption that the barriers to mobility are the same for the firm as for the capital market. We shall discuss this in a while; for the moment assume that it is true. We are continuing on the assumption that the only imperfections or impurities in the market are the barriers to mobility. For the firm to find interest rates more expensive abroad than at home, the foreign interest rate must exceed the domestic interest rate by more than the cost of movement. If the cost of movement is the same for the firm as for the capital market, this is impossible. Movements of portfolio capital will always insure that the interest rate abroad never exceeds the domestic interest

rate by more than transport costs. The firm will always find the interest rate abroad properly discounted for costs of movement at the most equal to the domestic rate and never greater. It therefore will tend to borrow abroad, except in the borderline case, where under present assumptions, it would be indifferent.

What validity is there in the assumption that barriers are the same for firms as for the capital market? This should be true where exchange-rate risks are involved. The risk should be the same. But it is not clear in two other respects: (1) the fear of irresponsible borrowing is less when you are lending to your subsidiary than when you are lending to a foreign government or to a firm not under your control. (It could, on the other hand, be greater because foreign governments may be more hostile in some instances to direct than to portfolio investment.) (2) the transactions costs of international finance (especially the cost of information) are less to the firm than to the market because the firm is, so to speak, on the spot. This is especially true for small transitory fluctuations. A firm like Standard Oil (N. J.) with extensive international operations and with continual international financing will be able to afford large-scale research and might find it profitable to arbitrage deviations from equilibrium. But this really is not at all a clear case. A firm except when it is very large, should have no comparative advantage in financing transactions whereas financial institutions and banks should--and

banks do have worldwide affiliations. However, there is some truth in the assertion of a firm's ability to arbitrage. This is indicated by the fact that unaffiliated Americans make investments in the foreign operations of American firms. In 1950 United States investment in American controlled enterprises was 11.8 billion.* About 90 per cent of this investment was supplied by the controlling companies. The other 10 per cent (1,121 million dollars) was supplied by American persons unaffiliated with the controlling enterprise. The investment of these unaffiliated persons is similar to portfolio investment. This suggests that American companies with international operations are able to finance some of their foreign operations in United States capital markets; something which foreign firms have typically not been able to do in recent years. But the unaffiliated investment occurs mainly in Canada. The area distribution is as follows:

Canada	769 million
Latin America	247 million
Europe	34 million
Other	70 million

*This figure and the ones to follow are taken from U. S. Department of Commerce, Office of Business Economics, Direct Private Foreign Investments of the United States: Census of 1950 (Washington: U. S. Government Printing Office, 1953) pp. 21 and 22.

The fact that the unaffiliated investment is mostly in Canada where there is substantial United States portfolio investment suggests that the arbitrage done by American firms with international operations is in fact limited.

It is important to stress that what we have been discussing applies only to the financing of foreign assets. With respect to its domestic assets, there is no exchange risk or international transaction costs involved. But it could be argued that when Standard Oil (N. J.), for example, is borrowing in a foreign country, it will get a particularly favorable interest rate because foreigners wish to invest not in the foreign subsidiary but in the whole company. But the local investor could have done this by purchasing shares of Standard Oil in New York. Or maybe he could not, for there may be government restrictions.

The hypothesis just suggested, namely, that firms find capital costs cheaper abroad than at home, may not seem too convincing or too important. Its main purpose is not to explain why American firms do in fact borrow abroad to some extent to finance their foreign operations. This might be explained by special circumstances rather than general conditions. What has to be explained is why firms operating in foreign countries do not lend abroad. If a firm establishes a foreign operation and if capital costs are high abroad, why does it not arbitrage between the two capital markets by lending abroad aside from its operations? In fact, this

does not seem to happen. The foreign operations of firms are restricted typically to special lines of endeavor similar to the activities they conduct at home. One seldom finds firms which have subsidiaries in underdeveloped countries expanding into diverse and unrelated lines. This type of behavior is consistent with a theory in which the foreign investment is motivated by the "profit" of controlling a foreign enterprise and not consistent with a theory in which higher interest rates are the motivating factor. Hence, the importance of the hypothesis under discussion about the influence of barriers to mobility on financing.

If we analyze the hypothesis further, it can also explain why firms do not diversify their foreign investments even when they do not borrow abroad. At first this seems strange. If a firm does not borrow abroad for its foreign operations, and Aramco borrows very little in Saudi Arabia, then one might argue that capital costs must be higher in this foreign country than in the United States and that Aramco could profitably go into international banking. But it must be remembered that there are two interest rates involved. One is the interest rate at which you can borrow and the other is the interest rate at which you can lend. The borrower's interest rate is always higher than the lender's interest rate and the difference between the two is transactions costs. The size of the transactions costs and the difference in interest rates depend on the degree of development of the capital market. In well

developed markets it is very low, but in regions where capital markets are poorly developed, and a good deal of foreign operations take place in such regions, the differential is high.

The theory of portfolio investment applies to the lender's interest rates. The equilibrium conditions are that the rate at which a capitalist can lend in a foreign country will not exceed the rate at which he can lend at home, due allowance for barriers to international mobility. If we assume these barriers to be the same for firms as for the capital market, then we should expect not to find non-financial firms lending money abroad. When we are dealing with well developed economies, the lending and borrowing rates are very close together. Therefore, the same logic which implies that firms will not lend abroad also implies that they will either borrow abroad or be indifferent. But for regions of underdeveloped capital markets the case may be quite different. Here the borrowing rate may be quite in excess of the lending rate, so much so that it pays a firm to borrow at home for its international operations while at the same time it does not pay it to lend abroad. This is the type of phenomena which seems to occur and it most clearly illustrates the difference between direct and portfolio investment.

Other imperfections

The arguments given above provide an explanation for why companies borrow abroad to finance their international operations.

But this reasoning would imply that if the company borrows abroad it should do so for all its capital needs and not for just part of them, as is the fact the case. We now turn to the reasons why companies do not finance 100 per cent of their foreign assets abroad but supply some of the capital themselves. The existence of transactions costs creating a spread between borrowing and lending rates may be one of the reasons although it is certainly not the only one. The transactions costs will not be the same for all types of borrowing. We can order different types of liabilities in ascending transactions costs. Certain current liabilities, taxes payable, wages payable, and accounts payable involve almost no transactions costs because the borrower and the lender are in direct contact through their everyday business activities. The firm will most certainly take advantage of some of these opportunities to borrow. (On the other hand, the interest rate on wages, for example, might be very high because workers are poor and do not have access to borrowing. They might accept substantially lower wages if paid daily rather than monthly.) Next in order of transactions costs would be bank loans; after this come bonds and equities. In underdeveloped countries the transactions costs on bonds and equities may be extremely high because of the absence of any local capital market; for the reason one would expect to find that firms operating in these countries rely mostly on current liabilities and bank loans for whatever financing they do.

Because of the increasing transactions costs the firms may not finance all its needs abroad but borrow some in its home county where its transactions costs are lower.

There are other reasons why firms will not borrow 100 per cent of their liabilities abroad on foreigners' operations. To explain these reasons we must move further away from the perfect model with which we began. In particular, we must drop the assumption that, aside from transactions costs, firms can borrow as much as they want at a given interest rate, or what probably amounts to the same thing, drop the assumption of perfect certainty and the absence of risk. Dropping this assumption leads to increased interest costs with increased borrowing and also leads to the problem of control.

Empirically there is little to justify an assumption that a firm can borrow as much as it wants at a given interest rate. The differences in interest rates on first, second, and third mortgages may be taken as an example of rising interest rates. The explanation of rising interest rates is probably the existence of risk and uncertainty. The probability that a firm will earn $\underline{x}$ dollars on a project is usually much greater than the probability that it will earn $\underline{2x}$ dollars. The firm cannot guarantee all of its liabilities equally well; therefore, there is a range of priorities on claims to income by investors and a concomitant range of riskiness.

The rising rate of interest may affect the firm's decision how much to borrow in each country. Suppose the rate on prime loans is equal in both countries. Only a fraction of the firm's foreign operations will be considered prime loans. On these prime loans the cost is the same in both countries; but the fraction considered prime may not be the same in both countries and the increase in costs because of increasing risks may rise faster in one country than in the other. One would expect it to rise slower in a large capital market than in a small one; i.e., it is easier to borrow $100 million dollars in New York than in Guatemala. For the per cent of his portfolio that each investor would have to commit to this particular loan would be greater in Guatemala than in New York. Therefore, it would be riskier for Guatemalians than New Yorkers and the interest rate would rise more quickly. Obviously this is important in those cases of international operations where large fixed investments are required. In these ventures only a very small fraction could possible be financed locally. For these industries, the rate of direct investment to total assets will be higher than for other industries lacking this feature.

The connection between control and financing is very important for international operations. For as an entrepreneur's borrowings cover more of his income, he usually has to give up control. Suppose an entrepreneur undertakes an investment project where the expected annual return is $10 per year and the cost of the investment

is $100. If the interest rate is 5 per cent per year the discounted value of the income stream is $200. The entrepreneur, however, would not usually be able to find someone willing to lend the $200 in return for the right to the income, for the capitalist would have little security. The entrepreneur, since he has nothing at stake in the enterprise, would have little incentive to use his assets in the best interest of the lender. The lender will therefore want some control. But in direct investment, the very reason for a firm going abroad is to control the enterprise; it finances part of the operation in order to maintain the control.

The entrepreneur, in deciding how much to borrow abroad, must consider not only the interest costs of the borrowing, but also the dimunition of profits which will result if he gives up some control. For if the entrepreneur borrows the full $200 in our example, his relation to the foreign enterprise would be that of a consultant. It was stressed in Chapters II and III that in some instances this would be less profitable than controlling the foreign operation. What the firm seeks by making the direct investment is the extra profits resulting from control. In order to obtain this control it will have to finance part of the enterprise itself.

The extra profit, it may be recalled, came mainly from the substitution of centralized for decentralized decision making. This enabled the entrepreneur to overcome the conflict of interest which

arises from competition between the firms in an imperfect market, or the conflict of the use to be made and the price to be charged for the advantage that is to be exploited. In this context it is easy to see why potential local investors will be particularly anxious to acquire control and why the entrepreneur will be reluctant to relinquish it. For example, the entrepreneur might want to control an enterprise in a foreign country because it is a potential competitor of a firm he owns in another country. If he achieves control over both enterprises, then total profits will be increased. But the incremental profits are joint profits and they cannot be allocated to either enterprise. An investor who participates in only one of the ventures without control can be prevented from acquiring these extra profits which will be arbitarily attributed to the other enterprise. He therefore will be reluctant to purchase equity shares in the enterprise but would prefer fixed income securities unless he can acquire control.

This problem comes up most dramatically in cases where vertical integration is involved. The accounting transfer price is arbitrary and profits can be allocated to either enterprise. Governments of oil-producing areas have realized this to some extent and are requesting to share in the total profits of oil companies, not just the profits on crude. The profits on crude are arbitrary because of the impurities in the market which is one of the reasons for international operation. This is just an example. A similar

argument will apply in nearly all cases of international operations, since the conflict of interest is an inherent part of international operations. It is the conflict of interest which necessitates the direct investment by foreclosing the possibility of borrowing 100 per cent of the needed capital from local sources.

It may be helpful to summarize the arguments just made. The summary might clarify the choice between licensing and controlling and also the effect of changing the interest rate in a country on the amount of direct investment in that country.

We have tried to show that the firm will nearly always find it cheaper to borrow abroad because the basic interest rate abroad is at most equal to the interest rate at home plus the costs of the barriers to movement. However the firm will not be able to borrow 100 per cent of the capital needed and also maintain control because of the rising interest rates brought about by the increasing transaction costs and increased risk.

The lower the interest rate abroad, the less the borrowing costs and the more profitable the international operations. This implies that total assets controlled abroad will be greater, but the amount of direct investment in these assets will typically be less.

In one sense the lower interest rate abroad will increase the amount of direct investment in the country. The firm always has the opportunity of licensing, i.e., there is a certain amount of

revenue the firm can obtain without any investment. The lower the interest rate abroad, (and the more profitable the operation) the less likely is the firm to choose a policy of licensing and hence the more likely is it that a direct investment will occur.

We have so far introduced a few major imperfections in the capital market and analyzed their implications for the amount of capital associated with international operations. There are numerous other complications which could also be introduced into the model. Firms have connections with financial intermediaries in their own country which they do not at first have abroad. At the outset of their international operations they may rely on their domestic sources until they establish relations with new sources. There are also other factors which encourage local borrowing. As a consequence of its foreign operations, a firm may acquire accounts receivable from local customers. Local banks will probably be more willing to accept these as collateral for loans than will banks in the firm's home country. Another reason for local borrowing is the fact that there are limits on how much a firm can borrow in one year. The marginal cost of capital in the short run to a rapidly expanding firm may be much higher than "the interest rate" in its country. For this reason a firm which wishes to enter many foreign markets at once may borrow locally in each market very heavily, even if this means licensing when control would be preferable. Later the firm may invest more in its foreign operations

and acquire control.

The number of possible imperfections which could be introduced is very large but it would be pointless to continue introducing them. The problem is not so much a theoretical problem as an empirical one. Since there is so very little empirical knowledge, it is almost meaningless to discuss the varied possibilities.

Instead, we may use what we have already discussed to ask the following important question: does direct investment move from countries where the interest rate is low to countries where it is high?

Insofar as capital is the advantage which leads to international operations, the answer is yes. But when other advantages and other motivations for control are the causal factors of international operations, the answer is "not necessarily." It can easily happen that a firm in a country where the interest rate is high finds it profitable to make a direct investment in a country where the interest rate is low for the purpose of acquiring control of an enterprise in that country. Empirically, this may not occur very often, if there is an association between low interest rates and advanced technology. But even when the capital flow associated with international operations is in the direction of higher interest rates, it will only partly result in the most efficient allocation of world resources. For the amount of capital accompanying international operations is limited basically to the amount needed for control.

The fact that the lower the interest rate abroad, the more will be borrowed locally and hence the less direct investment is (in a weak sense) a movement in the right direction; i.e., the direction of equalizing interest rates. But against this must be placed the consideration that when interest rates abroad are high, the firm may resort to licensing and in this case there is no investment at all.

Appendix to Chapter V

An Alternative Theory of the Financing of International Operations

We have assumed throughout this thesis that basically the same considerations apply to foreign as to domestic operations. We have merely applied the theory of the firm to the special problems resulting from international operations, without assuming any new behavioral postulates. All that was changed were the structural conditions.

Not everyone has taken this view. Some have asserted that a firm behaves quite differently with respect to its foreign operations. In fact, they assert that the firm behaves quite irrationally. The most extreme statement of this view is found in Barlow and Wender's study. The following quotations will make their position clear.

> "United States companies typically prefer to begin operations in a foreign country in a modest fashion with a small dollar investment. They expand the business within the country through reinvestment of local earnings to the greatest extent possible. They regard their foreign earnings much as a man does his winnings at the race track in that they are much more willing to utilize them than fresh dollar capital for additional foreign investment. United States investment almost always has priority over foreign investment for funds available for expansion."*

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*E. R. Barlow and I. T. Wender, Foreign Investment and Taxation (Englewood Cliffs: Prentice-Hall Inc., 1955) p. 161.

Their explanation of how a man regards race track money is as follows:

> "A man may have $1,000 he has won betting on horses and a five dollar bill tucked away in his wallet, which he brought with him to the track. He will think nothing of wagering five dollars or $10 to $100 from the profits he has made; whereas he might with some reluctance spend the five dollar bill he originally brought with him to the races. The gambling profits are not really money in the opinion of the gambler as long as he continues to gamble. In a story by Damon Runyon, a many kept his "eating money" in one pocket and his "race track money" in another. The race track money was regarded as working capital possessed of a quite different value from the "eating money."
>
> Many companies regard the earnings from their foreign activities in much the same way. They are more willing to risk them in subsequent expansion abroad than fresh capital from the United States."*

Barlow and Wender's statement is the most clear. Other writers have offered a similar behavioral postulate, i.e., a distinction between retained earnings and new capital though they have not put their case quite as explicitly. For example, the following quotation from Mrs. E. Penrose, and especially the last phrase, seems to imply something similar to the Barlow and Wender thesis.

> "But a preference for expansion through retained earnings is becoming increasingly characteristic of the modern corporation, and of particular interest from the point of view of foreign investment is the situation, especially favored by American firms, in which the parent company holds all, or nearly all, of the equity and permits the subsidiary to expand with its own earnings."**

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*Ibid., pp. 165-166.

**E. T. Penrose, "Foreign Investment and the Growth of the Firm," Economic Journal LXVI (June 1956) p. 220.

More explicit is Mr. Arndt's statement:

> "The policy of American companies, well exemplified by General Motors holders, appears to have been to retain and reinvest almost all profits for the first few years of a project and then settle down to a 50/50 ratio in their distribution policy."*

It is hard to tell exactly what these hypotheses mean. I interpret them as saying that investment decisions for foreign operations are based on the actual amount of profit made abroad. This is in contrast to a rational model where an investment decision is based on: (1) expected profits on investment abroad; (2) expected profits on investment at home; (3) cost of raising new capital both at home and abroad. In other words, the rational firm, at appropriate intervals, considers worldwide investment opportunities and worldwide sources of funds and with this information maximizes total profits. The rational firm does not consider foreign profits as "race track" money. The decision to invest is the same whether the money is earned (or borrowed) in the United States or abroad. (Excepting of course the adjustments required by special risks and costs involved in converting currencies.)

The rational and irrational model do however come very close in certain respects. (1) If actual profits are viewed as an indicator of expected profits, there will be an association of actual

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*H. W. Arndt, "Overseas Borrowing--The New Model," Economic Record, XXXIII (August 1957) p. 247.

profits and investment. (2) If there are special tax laws or exchange restrictions, which place a high cost on remitting income, decisions may be different for blocked funds than for new funds.

The idea that reinvested earnings are different than new borrowings, if true, might be important. Barlow and Wender use it as one of the elements to justify their proposals on taxation policy to affect the flow of direct investment. One of the requisities of a successful plan is that "It should fit in with the natural tendency of companies to expand out of foreign earnings . . ."* Exactly how it should fit in is not clearly specified.

But the treatment of reinvested earnings has another special implication which, strictly speaking, is not necessarily implied in the "race track" view, but which, I suspect, has the same foundation. Frequently, analysts of balance-of-payments statistics speak of new investments just covering interest (or profit) payment. In doing this, they usually commit the fallacy of tying up one item of a balance sheet to another. It is a fallacy because all items are indirectly connected and it is not proper to pick out any two for special attachment, unless a particular case of a direct connection can be made. If new direct investments are associated with old profits, then such a connection has been made and it is important

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*E. R. Barlow and I. T. Wender, Foreign Investment and Taxation (Englewood Cliffs: Prentice-Hall Inc., 1955) p. 227.

to spell it out exactly. If the irrationality hypothesis is right, then one almost would be able to assert that new direct investment will never exceed earnings; if this were true it would be important.

Also for the same reasons, namely the view that retained earnings are second-class money, profitability of foreign investment is sometimes measured by taking the ratio of profits in a given year to original investment excluding retained earnings. This is one of the measures cited by Mrs. Penrose, and by this measure General Motors earned a profit rate of 560 per cent in Australia. This measure of profit appears to have so little justification that it is hardly appropriate even to compute it.

The empirical evidence on this topic is presented in Table V-1. This table shows the following five items for industries and areas and for aggregate direct investment: (1) earnings, (2) income receipts, (3) retained earnings, (4) capital outflow, and (5) changes in investment. The terminology is the Department of Commerce's and requires some explanation. Earnings refer to total earnings on direct investment. Income receipts refers to dividends and other incomes remitted from the foreign subsidiaries. Retained earnings is the difference between earnings and income. Net capital outflow refers to the difference between capital outflow and capital inflow. These outflows and inflows are the changes in investment financed by means other than retained earnings. Changes in investment is the sum of net capital outflow and retained earning

and is equal to the change of the indebtedness to Americans of their subsidiaries or affiliates operating abroad.

This method of classification implies a certain theory of what a direct investment is. This theory is not the same as the one we presented above. Of the five items, only two of them appear in the annual balance of payments accounts. Income receipts from abroad (and not earnings) are treated as credits; and capital outflow (and not retained earnings) are treated as debits. The justification of this procedure is difficult to comprehend. It would seem that in the relationship of a firm to its wholly-owned subsidiary, the difference between retained earnings and capital outflow is arbitrary and inconsequential. However, as was shown above, there are theories which view the difference between retained earnings and capital outflow as meaningful and apparently the Department of Commerce shares this view. It should also be noted that investments refer to the United States share of the equity and debt of the foreign subsidiaries and not to the total assets of the subsidiary. I would argue that it would be more appropriate to treat all assets of the foreign subsidiary as United States investment and to offset this by a liability for borrowing in the foreign country. This would more closely approximate the legal status of the assets as well as the economic facts. As I have tried to point out in this thesis, and especially in this chapter, the theory of international operations is concerned with the

distribution of total assets abroad. It is the desire to control these assets that induces the direct investment.

The first thing to notice in Table V-1 is that in the aggregate and for every year total earnings on United States investments exceeds the change in investment, sometimes substantially and sometimes by only a little. This is the same as saying that funds remitted from abroad (income receipts) exceed funds sent abroad. (Net capital outflow.) The reader may observe that this phenomenon is not true for all countries or for all industries for all years. There is no point in noting the exceptions since I know of no theory and no data to explain them.

What does this phenomena signify? It signifies that if analysis is restricted to income receipts and capital flows, i.e., if other effects of international operation on imports and exports are ignored, international operations from 1946 to 1958 have provided a net gain of foreign exchange for the United States. Is this important? It is if there is a connection between the two. But if there is no connection, why should these two items be singled out for comparison? There is, of course, a connection in the sense that if all international operations and capital movements were abolished, both income and capital inflow would disappear from balance of payments accounts. But this does not mean that the balance of payments of the United States would deteriorate. To know whether this would happen one would require information on all the

effects of international operations. Also, if there is no other connection, the fact loses much importance because it does not imply that in the future the same phenomenon will again appear.

We have not yet considered the gambling money thesis. This thesis argues that there is a certain relationship between total earnings and retained earnings. However, as the table shows, this relation varies from industry to industry and from country to country.* Once again I do not point out these variations because I have no theory to explain them. They may well be caused merely by accounting procedure. One case however is interesting. It will be seen that in manufacturing, earnings are divided (very approximately but more so than in other industries) between income and retained earnings in about a 50/50 ratio. This is especially interesting when we compare retained earnings to net capital outflow. Net capital outflow shows very severe drops in 1949, 1953, and 1958--three recession years. These drops occurred without any drop in foreign earnings and without any great fall-off in retained earnings. This might be an indication that there is something quite different about retained earnings (old money) and capital outflow (new money.) However, as we show presently, the

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*It also might be noted that in Canada, in the postwar period, foreign controlled firms have distributed as dividends a higher per cent of their income than have non-foreign controlled firms. See: Dominion Bureau of Statistics, Canada's International Investment Position 1926-1954 (Ottawa: Queens Printer and Controller of Stationary, 1956) pp. 60-61.

difference in behavior could also be explained without proposing a theoretical difference between the two types of capital flows.

The distinction between retained earnings and new borrowings makes sense when you are dealing with the relation of a firm to the capital market. It does not make sense when you are dealing with the relation of a firm to its subsidiary except as an arbitrary accounting device. Suppose the accounting rules were as follows:*

1. Capital outflow is equal to the excess of intended investment over profits when such an excess exists.

2. Income receipts are equal to the excess of earnings over the intended change in the amount invested when such an excess exists and when both are positive.

3. Capital inflow occurs when the firm disinvests and is equal to the excess of the firm's disinvestment over its profits.

The principles are illustrated in the following table. In the table we consider a number of enterprises each making $1 profit. The table illustrates the effect on the accounting books of various investments ranging from a positive investment of $3 to a disinvestment of $3.

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*Using same Department of Commerce definitions as were used before.

	Firms Numbered							Aggregate of Firms	
	1	2	3	4	5	6	7	1-6	2-7
1. Earnings	1	1	1	1	1	1	1	6	6
2. Change in investment	⁄3	⁄2	⁄1	0	-1	-2	-3	⁄3	-3
3. Income receipts	0	0	0	1	1	1	1	3	4
4. Retained earnings	1	1	1	0	0	0	0	3	2
5. Capital outflow	2	1	0	0	0	0	0	3	1
6. Capital inflow	0	0	0	0	-1	-2	-3	-3	-6
7. Net capital flow 5 ⁄ 6	2	1	0	0	-1	-2	-3	0	-5

This table indicates for any given investment what retained earnings, income receipts, etc., will be for foreign enterprises making $1 profit. The essentials would be the same if we considered firms making various amounts of profit. Suppose we continue with our example and we estimate the aggregate figures. That is, we are assuming that the earnings of the foreign enterprises are all 1 dollar and we wish to know what the aggregate flows would be when the decision to invest is changed. Compare two different cases: in both six enterprises are involved, each makes $1 profit, and aggregate profits are therefore $6. In case I, entrepreneurs are prone

to invest abroad. The largest investor plans to invest $3, the next one $2, and so on until the sixth investor, who plans to disinvest $2. In this case columns 1-6 apply, and aggregate investment as shown in column 8 of the table is $3. In case II, the entrepreneurs are wary of foreign operations, and each entrepreneur decides to invest one dollar less than in the previous case. Now the largest investor invests 2 rather than 3, and the smallest disinvests 3 rather than 2. Columns 2-7 apply, and aggregate investment is now minus 3, a change of 6.

Look at retained earnings and net capital outflow. Retained earnings have shifted from 3 to 2, a change of only 1. But net capital outflow has shifted from 0 to -5, a change of 5. This is similar to the type of behavior we observed above in the time series of American direct investment. Yet it occurs without regard to any 50 per cent rule or any other non-trivial rule relating income, retained earnings and investment. It is caused by purely arbitrary accounting devices. This, I suggest, is an equally plausible interpretation of the data. Of course it does not disprove the "race track" (or 50/50) rule. I am not sure that a rule based on so little theory needs disproving. However, before leaving I should make clear that I do not in any sense mean to imply by this brief treatment that there is nothing worth studying in the dynamics of financing international operations. There certainly is; but I have nothing useful to suggest.

TABLE V-1

UNITED STATES DIRECT INVESTMENT: EARNINGS, INCOME, RECEIPTS, RETAINED EARNINGS, CAPITAL OUTFLOW AND CHANGE IN INVESTMENT BY INDUSTRY AND AREA, 1946-1958
(MILLIONS OF DOLLARS)

		1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
All industries	Earnings	832	1,239	1,607	1,519	1,769	2,244	2,295	2,218	2,364	2,810	3,134	3,330	2,954
	Income receipts	589	869	1,064	1,112	1,294	1,492	1,419	1,442	1,725	1,912	2,160	2,313	2,198
All areas	Retained earnings	243	370	543	407	475	752	876	776	644	898	974	1,017	755
	Net capital outflow	230	749	721	660	621	528	850	721	664	779	1,839	2,072	1,094
	Change in investment	473	1,119	1,264	1,067	1,096	1,280	1,726	1,497	1,308	1,677	2,813	3,089	1,849
Areas														
Canada	Earnings	210	298	395	393	440	417	421	467	469	591	701	641	568
	Income receipts	134	178	201	251	294	236	223	208	237	293	341	367	368
	Retained earnings	76	120	194	142	146	181	199	259	232	298	360	274	200
	Net capital outflow	47	39	88	100	287	240	420	387	385	300	544	584	398
	Change in investment	123	159	282	242	433	421	619	646	617	598	904	858	598
Latin America	Earnings	347	521	675	475	631	901	902	722	714	870	1,052	1,166	763
	Income receipts	281	414	488	377	522	652	599	570	590	678	840	915	627
	Retained earnings	66	107	187	98	109	249	303	152	125	192	212	251	135
	Net capital outflow	71	457	333	332	40	166	277	117	88	193	612	1,104	288
	Change in investment	137	564	520	430	149	415	580	269	213	385	824	1,355	423

TABLE V-1 (continued)

		1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Areas														
Western Europe	Earnings	129	160	193	203	262	300	303	316	384	474	485	547	532
	Income receipts	64	81	93	93	111	119	127	143	186	255	277	311	325
	Retained earnings	65	79	100	110	151	181	174	173	198	219	208	236	207
	Net capital outflow	23	46	64	36	119	62	-8	51	50	139	456	254	173
	Change in investment	88	125	164	146	270	243	166	224	248	358	664	490	380
West European Dep	Earnings	42	78	115	132	95	118	154	182	180	206	220	239	n.a.
	Income receipts	20	31	70	98	98	109	126	131	141	164	175	205	n.a.
	Retained earnings	22	47	45	44	-3	9	27	49	39	42	45	34	n.a.
	Net capital outflow	5	55	71	29	14	1	-5	82	-4	-4	35	66	n.a.
	Change in investment	27	102	116	73	11	8	22	131	35	38	80	100	n.a.
Other areas	Earnings	104	182	232	315	340	508	515	531	622	669	676	737	n.a.
	Income receipts	91	165	212	292	269	376	344	390	571	522	527	515	n.a.
	Retained earnings	13	17	20	23	71	132	172	143	50	147	149	222	n.a.
	Net capital outflow	84	152	165	163	161	59	166	84	145	151	192	64	n.a.
	Change in investment	97	169	185	186	232	191	338	227	195	298	341	286	n.a.
Industries														
Mining and Smelting	Earnings	72	111	135	112	145	215	204	149	183	276	356	281	219
	Income receipts	64	99	121	86	112	159	159	101	154	195	262	220	182
	Retained earnings	8	12	14	32	33	56	45	48	29	81	89	61	37
	Net capital outflow	-6	36	37	51	87	100	278	243	109	48	95	177	184
	Change in investment	2	48	51	83	110	156	323	291	138	129	184	238	321

TABLE V-1 (continued)

Industries		1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Petroleum	Earnings	234	404	606	562	629	900	1,015	997	1,029	1,229	1,406	1,623	1,307
	Income receipts	182	302	453	490	555	696	677	759	935	1,026	1,148	1,259	1,204
	Retained earnings	52	102	153	72	74	204	338	238	94	203	258	364	102
	Net capital outflow	186	451	448	448	248	93	248	408	277	369	1,139	1,332	600
	Change in investment	238	553	601	520	322	297	586	646	371	572	1,397	1,696	702
Manufacturing	Earnings	305	434	553	566	623	690	644	675	722	823	858	852	873
	Income receipts	157	234	251	307	357	331	287	314	346	383	390	461	471
	Retained earnings	148	200	302	259	226	359	357	361	376	440	468	391	402
	Net capital outflow	36	107	118	16	192	190	211	-53	111	173	268	370	175
	Change in investment	184	307	420	275	418	549	568	308	487	613	736	761	577
Other industries	Earnings	221	290	313	279	372	438	432	396	436	483	521	574	555
	Income receipts	186	234	239	235	270	305	296	267	291	308	361	373	341
	Retained earnings	35	56	74	44	102	133	136	129	145	175	160	201	214
	Net capital outflow	14	155	118	145	94	145	113	124	168	189	336	192	135
	Change in investment	49	211	192	189	196	278	249	253	313	360	496	393	349

Source: 1946-1949 -- S. Pizer and F. Cutler, "Foreign Investments and Income" Survey of Current Business XXXIV (November 1954) p. 6.

1950-1956 -- U. S. Department of Commerce, Office of Business Economics, Balance of Payments Statistical Supplement (Washington: U. S. Government Printing Office 1958) pp. 138-151.

1957 -- S. Pizer and F. Cutler, "Private Foreign Investments Near $37 Billion" Survey of Current Business XXXVIII (September 1958) p. 15.

1958 -- S. Pizer and F. Cutler, "Capital Flow to Foreign Countries Slackens" Survey of Current Business XXXIX (August 1959) p. 25.

CHAPTER VI

EFFECTS OF INTERNATIONAL OPERATIONS ON INCOME

It is almost impossible to evaluate the effects of international operations on world income and its distribution between countries. A direct investment changes production possibilities, income distribution, and prices. There are difficult theoretical problems in evaluating these changes and our knowledge of empirical conditions is almost nil. All we attempt to do in this chapter is illustrate certain facets of the problem which arise directly out of the analysis we have presented. It is important to stress that these are merely isolated partial-equilibrium considerations. By themselves, they provide no guide for policy; in a broader theory which may someday be developed, they may be useful.

The analysis is based on four aspects of international operations.

1. The capital usually associated with international operations.
2. The advantages or technical knowledge sometimes associated.
3. The fact of centralized rather than decentralized control.
4. The nationality of the controller.

Since most of the points made have already been discussed in earlier chapters, we shall at times be brief.

Associated capital movements

We begin with the associated capital movements, because this aspect has traditionally received the most attention and not because it is necessarily the most important feature. In fact, a case could be made that it has received too much attention. It certainly causes a great deal of trouble.

Some of the hostility to direct investments, especially in underdeveloped countries, is a psychological hostility to foreign "capital," hostility which neglects the other equally important side of international operations, entrepreneurship. The international flow of managerial and entrepreneurial skills might be greatly increased if there was not the fear of expropriation generated by this hostility. The economics might not be changed, but the suggestion is made that international operations would be psychologically more palatable to underdeveloped nations if a new form was used on the theme of the management contract--a form where capital is not involved. It is not easy to find an acceptable form because the motivation of the capital movement is control, and the new form must somehow also solve the conflicts of interest discussed in Chapter II. And the real cause of hostility may be the control even though the hostility is now directed against the form. But some feasible forms may be developed.

The beneficial effects of direct investment on the allocation of the world's capital are limited. The motivation for the movement

is generally control, not interest differentials. The amount of capital that moves is therefore limited and it may move in the wrong direction, i.e., to places where the interest rate is low. To some extent, the lower the interest rate abroad the more the capital flow or, in any case, the greater the number and the larger the size of international operations. For the lower the interest rate abroad, the more local borrowing is possible, and the more profitable the operations. If local borrowing is not possible, the investment may not even occur. The firm may choose instead to license. For this and other reasons, it is usually inappropriate to consider direct investment as a substitute for portfolio investment. in the task of allocating the world's capital.

An increase in direct investment is sometimes suggested as a means of solving balance-of-payments difficulties. This brings up transfer problems, both the "transfer in" problem, when the investment is made, and the "transfer out" problem when dividend payments are made or capital is repatriated.

First the "transfer in" problem. Does the establishment of an international operations generate an increase in demand for imports greater than, equal to, or less than the supply of foreign exchange resulting from the associated capital flow. The analysis of this problem is very complex. We will restrict ourselves to a few points. It is nearly always certain that the amount of new investment generated by the international operation exceeds the capital

inflow. This is for two reasons. First, companies typically borrow some of the capital needed for their operations from local sources in the country where they are establishing the enterprise. Secondly, there are accelerator effects. The establishment of the enterprise leads directly to increases in the demand for other commodities, and investment by natives is required to produce these commodities. The fact that the investment exceeds the capital inflow tells us only a little about the effect on the balance of payments. What happens to imports depends on the income generated by the investment and on the marginal propensity to import. About these, little can be said in general except to point out that the propensity to import of a direct investment is probably higher than for the economy as a whole. In fact it often happens that the amount of direct investment is exactly equal to the amount of imports directly associated with the international operations. This happens for example when a company provides technical knowledge in return for an equity interest and the enterprise is otherwise financed locally. The company in this case furnishes capital in the form of the discounted value of the productivity of its technique, but the capital furnished exactly equals the import and no free foreign exchange is provided.

The "transfer out" problem applies not only to dividends and repatriation payments but also to royalty and rental payments. In fact, it applies to all payments for all imports. The problem is

basically one of giving up resources for the imported service or good and it does not matter much which particular service or good you are paying for. The difficulty of paying for what you buy is common to all; the important question is do you get more than you pay. In particular, the question boils down to this; does the increase in income in a country resulting from international operations exceed what it must pay for these operations in terms of rents, royalties, interest and profit. A little later we shall touch lightly upon this problem but the situation is really too complex to handle with our present knowledge.

But even if the increase in income exceeds the costs, there is another meaning to the transfer problem which is relevant. This basically involves a question of timing. There is a certain cost associated with moving along the production-possibilities curve and changing from a surplus balance of trade to a deficit. This cost is far greater if the adjustment is made in a short period of time than if it is made gradually. It therefore makes quite a difference if there is some force at work which causes the repayments to cluster in a short period. The crisis caused by a simultaneous decision on the part of a large number of creditors to take their money out can be quite severe.

The important question is whether such a clustering is likely to occur. This seems to be the real significance of the compound interest games one encounters so often. If new investment each

year exactly equals service payments on old investment, aggregate investment will grow at the compound interest rate. This, as is most familiar, is an exponential equation and it goes up very quickly. But no matter how impressive the rise, the percentage change at each and every point is still only the interest rate. The decision for a country each year (if countries can and do make such decisions) is the same: if the interest rate is 3 per cent, the question is whether the productivity that would be lost by repatriating the loan does or does not exceed the 3 per cent: if it is more than 3 per cent, then it certainly pays to "borrow the interest." The decision is exactly the same at all points, and the fact of exponential growth is irrelevant.

What may be relevant is the possibility that a crisis will occur which will force the country to pay back all its borrowings at one time. This can be costly (though often the burden is shifted by the borrower to the lender). Such a crisis did develop in the 30's, though significantly it was more important for portfolio investment than for direct investment. (To repatriate a direct investment you must sell the enterprise; in times of crisis you usually cannot get very much for it, and if you do find a buyer his purchase helps to decrease internal spending and thus facilitates the transfer.) Not much can be said about whether international operations are subject to violent fluctuations because we know so little about the mechanisms involved. Probably it is a fruitful area of research.

Associated technical knowledge

Usually ability and technique accompany international operations. But it is not a necessary condition. The motive of control may be the removal of conflict between enterprises which sell in the same market or which deal with each other. Or the motive may be diversification. The firm making the direct investment need not have any advantage; all that is required is market impurity in the first case and negative covariance in the income of enterprises of different countries in the second case.

Where an advantage is involved, the important question is how much does it cost, relative to what it is worth. The cost may very well exceed its value if, for example, consumer's tastes are not considered a legitimate criteria of worth. Aside from this, competition provides a check on the amount the firm receives for its advantage. In the long run it can get no more than the difference between its ability and the ability of other firms. But this is not the complete case, for there are problems of change in advantages through time. Does an enterprise increase its advantage through time because of its gain in experience and in consumers' acceptance? Or does the firm lose its advantages because of the demonstration effect and the consequent attraction of new competitors? In some cases one happens and in some cases the other. What the net effect of international operation may be is not known. But in cases where the advantages increase through time (and the

profitability of the firm along with them) there may be an infant-firm argument for subsidizing a local company. This may be the rationale of the policy of some countries to enforce a greater recruitment of local personnel than the company desires.

The receiving country is interested not only in whether the benefits are less than costs, but also in knowing whether the costs are as low as they can be. The significant aspect of most advantages is that marginal costs are close to zero. They are certainly less than the price paid for them. There is no, or little, marginal cost in utilizing a patent, or information, or a brand name, or most other advantages one could name. In most cases the price paid for the advantage, though less than the benefit derived from them, is greater than the cost of the advantage. There is room for bargaining, and the study of this bargaining relation is fascinating; but we have little to add on this subject.

The fact of centralized control

The fact that two enterprises in different countries are controlled by the same firm sometimes leads to a situation closer to marginal-cost pricing and sometimes farther away.

In the case of horizontal integration, the difference between price and marginal cost will most likely be greater when there is centralized control than decentralized. If the rest of the world were perfectly competitive, this would mean decrease in world welfare. Since there are in fact monopoly elements everywhere, the

effect of monopoly pricing in one part of an industry is unknown. As to how the gains and losses of monopoly control are distributed between countries, the best answer is that it depends; I do not think that there is a general presumption one way or the other.

Vertical integration presents quite a different aspect. Here the motivation of control is to solve a bilateral-monopoly problem. This is only of importance where sequential monopoly is involved. The removal of sequential monopoly results in a closer approximation to marginal-cost pricing.

Here a little more can be said about the distribution of the gains. Suppose country A produces and entirely exports a raw material which is processed further and sold to consumers in country B. If the industry is monopolistic in both countries, then vertical integration will benefit consumers in B by lowering prices. The firm will also benefit because total profits will be greater. Country A will enjoy an increase of production in its commodity, but its total revenue may fall or rise depending on what share it receives of the profits of the new, vertically-integrated firm.

The fact of centralized control may lead to an improvement in the worldwide use of resources in a sense quite different than the one just discussed. The connection between markets is often quite imperfect. The international operations may serve to integrate previously remote markets. A firm operating in many countries may be expected to react more quickly to changing conditions in a par-

ticular country, that is, more quickly than the market. This is because of the better communications within a firm.

This may particularly effect the international flow of capital and the transmission of business cycles. As we saw in Chapter IV, American foreign investment was sensitive to American business cycles. This is because the firm is subject to worldwide influences on its sources and uses of funds. For the same reason, of course, the United States is more sensitive to foreign business cycles. The sensitivity depends not primarily on the fact of foreign control but on the fact of international operations. Greater interdependence is precisely what to expect for greater integration; it is the price paid for it and it is probably what makes integration of nations difficult to achieve.

The existence of international operations may change tariff policy of some countries and this brings up the question of the nationality of the firm.

The nationality of the firm

It is fitting to end this chapter and the thesis on the subject of the nationality of the firm. For this has been an important element in all our analyses. Is the behavior of the firm affected by its nationality? In general, one would expect not. Firms are firms; they maximize profits and therefore should behave roughly the same way. But there are important exceptions, and basically they stem from the risks of operating in a foreign country, although there are other things as well.

Since the shareholders of an American firm expect to be paid in dollars, the firm must worry about converting its foreign profits into dollars. This will effect$ its behavior. For example, it will tend to keep its liquid assets in its own country. On any particular aspect of its enterprise, e.g., research labs, head offices, etc., if the costs are the same in both countries or almost the same, the firm will choose to locate at home or abroad.

The selection of its personnel may be biased. If a firm is hiring potential executives, it will reasonably expect that someday it will wish to bring the employee to its head office. If the prospective applicant is a foreigner who will not or cannot give up his citizenship or residence, he is less likely to be acceptable than a national.

The nationality of the firm may also effect capital flows. Suppose that in each capital market there is a bias against lending to foreigners. If this is true, then, for example, the American owners of an American firm will view their opportunity cost of their investment as the profit they could earn by investing in another American firm. Consider a firm with operations in Canada and the United States, and suppose the Canadian activities become unprofitable and it is decided to liquidate the enterprise. It may be that because of bias in the capital market the place where the capital will be transferred to will be influenced not only by profit considerations but by nationality. If citizens of the United States

own the firm, the money will be invested in a United States firm. If citizens of Canada own the firm, the money might be invested in a Canadian firm. How true this will be and how important depends on the nature and extent of imperfections in the capital market about which we know little.

Lastly, the effect on tariffs. If a United States industry is "threatened" by cheap foreign imports, the reaction of firms in the industry will be quite different if these firms have international operations. We can see this quite clearly in tariff debates at present. In some industries some of the firms operate abroad while others do not. When a tariff is proposed the difference in attitudes of the two kinds of firms is striking. However, this is a simplification; the interests of a firm in a tariff are more complex than that, and a firm like Singer with extensive international operations will complain about Japanese imports. But on the whole, international operations tend to make firms free traders. In the absence of international operations firms are either gainers from exports or losers from imports (or neither) and this effects their stand on free trade. But a firm with international operations is in both positions at the same time.

This is a hopeful note to end on for those who look forward to an integrated world economy. The fact of having international operations may lead firms to become international rather than national.

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