

# Patterns of Foreign Investment in the Third World in the Twentieth Century<sup>1</sup>

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## INTRODUCTION

This paper studies the size and evolution of foreign investment in the third world during this century, addressing three related and essentially descriptive questions: how large was foreign investment into these countries at the start of this century, where was it large, and how has it evolved over time in Latin America? Our analysis will be presented for total foreign investment and its two components, portfolio and direct investment, and size will be judged by comparisons of foreign investment stocks primarily with two indicators; population and gross domestic (or national) product (hereafter GDP). This ultimately leads to a consideration of the degree to which these indicators serve as useful proxies for a third variable, foreign investment as a fraction of total capital—or foreign ownership of national capital.

Before we begin, let us clarify some key terms. Total foreign investment (FI) is the sum of portfolio and foreign direct investment (FDI); the former are loans paying a fixed rate of interest, while the latter involve fixed investment over which the investor maintains control. The railroad sector falls somewhere between the categories of portfolio and direct, when the

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identifying characteristic is control over production or even assuredness of interest payments. When referring to direct investment in sectors outside of railroads<sup>1</sup>, we will speak of other foreign direct investment (OFDI).

For most countries or colonies before 1950, estimates of the aggregate stocks of foreign investment are more available and reliable than estimates of annual flows of the type which are reported in balance of payments statistics; this paper will only refer to stocks of foreign investment. How we scale the investment variables will be determined by practical considerations—essentially the availability of data, as well as theoretical concerns. Population data are quite accessible. Estimates of GDP are a preferable indicator of the size of the economy, and indeed as a proxy for the capital stock, even though these data are less precisely measured. The value of exports is another obvious scalar, which could be attempted in future work.

The literature before the 1930s Depression was ill-equipped to make comparisons of foreign investment to total income, because so little was known of the latter. Even comparisons on a per capita basis were infrequent. More recently, studies providing geographically wide comparisons of per capita foreign investment at one point in time include Munro (1984), Pamuk (1987), Maddison (1989, 1990), and the ongoing work of Davis and Gallman. None of the major works of Rippy, Stone, Simon and Segal attempt such calculations. In particular, prior to the recent publication of data by UNCTAD (1997), there would appear to be very little work presenting calculations of foreign investment as a fraction of GDP for third world countries.<sup>2</sup> This is perhaps surprising, given that current-day analyses of foreign investment typically include size of the market as a major determinant. Although his interests were somewhat different from ours, in his landmark study of the Ottoman Empire, Pamuk (1987, 136) specifically considers the possibility of comparing the ratio of foreign investment to national income, but then rejects the idea as infeasible due to data limitations. Owing particularly to the work of Angus Maddison, and the recent historical work on estimating GDP to which he leads us, that view is now obsolete.

## **A GLOBAL VIEW OF FOREIGN INVESTMENT DATA**

Several disperse estimates of the amount of total foreign investment during this century are presented in Table 1. Industrial countries received most of foreign investments at the turn of the century, as is also true today. Until this decade, over half of the investments into what are now referred to as third world countries had been received by Latin America; most of that was concentrated in Argentina, Brazil and Mexico. These three countries had received nominal amounts of a similar order of magnitude to that of Canada and Australia. The United Kingdom, France, and Germany were each more important than the United States as a source of FI for the third world before WWI, when indeed the U.S. was a net debtor.

Although it is also the case today that most FDI occurs among developed countries, at the start of the century more than two thirds of FDI was sent to the third world. Latin America again emerges as the preferred area for direct investment, until the last decade or so. The table suggests that foreigners' relative preference for investing "directly" or using loans has not been constant, and that this differed by country.<sup>3</sup>

Tables 2 and 3 introduce a central theme for this paper—the smallness of the growth of real direct investment, until about 1980. In Table 2, the reference is simply a "world" price index;

**Table 1. Global Values of Foreign Investment and Foreign Direct Investment, 20th Century.**

(Data in billion current US dollars)

	1900	1914	1929	1938	1960	1971	1980	1990	1995
<b>Total Foreign Investment</b>	23	45	55	55					
<i>By Source Country</i>									
U.K.	12	20	18	23					
France	5	9	4	4					
Germany	5	7	1	10					
U.S.	1	3	15	12					
<i>By Recipient Country or Area</i>									
Developed Countries	17	33	32	29					
FI into LDCs	6	13	23	26		107	506	1338	2086
Latin America	3	9	13	11		57	250	505	768
Africa	3	4	3	4		19	123	306	353
Asia	2	7	7	11		29	129	524	960
FI: LDC as % of Total	26	28	42	47					
<b>Total Foreign Direct Investment</b>		14		26	67	172	512	1690	2811
<i>By Source Country</i>									
U.K.		7		11	11	24	74	231	303
France		2		3	4	7	20	110	181
Germany		2		0	1	7	38	152	260
U.S.A.		3		7	33	83	216	435	709
Japan		0		1	1	4	37	205	307
<i>By Recipient Country or Area</i>									
Developed Countries		5		8	37	108	314	1371	2042
FDI into LDCs		9		16	18	51	117	353	790
Latin America		5		8	9	30	62	126	278
Africa		1		2	3	9	12	36	55
Asia		3		7	6	11	39	188	452
FDI: LDC as % of total		63		66	32	31	27	20	28
<b>FDI/FI (%)</b>									
Total		31		48					
LDCs		69		62		48	23	26	38

*Sources:* for Foreign Investment: 1900-1914 Woodruff (assigning 1900 German investment the geographical distribution of 1914; 1929 from Staley (1935); 1938 from Lewis (1948); 1970-1995 summing FDI data below with loan data from World Bank's Global Development Finance, 1997. For FDI: 1914-1960, Mark Casson (1983, 87-88); 1960-1980, Stopford and Dunning (1983, Volume 3, Tables 1.2, 1.7); 1990-95, UNCTAD, World Investment Directory, 1997, annex tables B.3, B.4.

*Note:* The total for Asia includes Southern Europe and the Middle East for 1914 and 1938, and the Middle East for 1960 and 1971. Debt tables were re-calculated to include Syria, Lebanon, Iran and Jordan in Asia. The real values were calculated using the US GDP deflator. It is perhaps inevitably the case that totals by sources and by recipients are not equal; this gap was most important in Staley's data for 1929-30.

**Table 2. Real Values of Foreign Investment and Foreign Direct Investment, 20th Century.**  
(Values in billion US dollars at 1900 prices).

	1900	1914	1929	1938	1960	1971	1980	1990	1995
Total FI	23	36	26	30					
FI to LDCs	6	10	11	14		19	45	75	101
Latin America	3	7	6	6		10	22	28	37
Africa	3	3	1	2		3	11	17	17
Asia	2	5	4	6		5	11	29	47
Total FDI		11		15	16	31	45	94	137
FDI to LDCs		7		9	4	9	10	20	38
Latin America		4		4	2	5	5	7	14
Africa		1		1	1	2	1	2	3
Asia		3		4	1	2	3	11	22

*Sources:* FI and FDI from the same sources as in Table 1. US GDP deflator from Historical Statistics of the United States and the Economic Report of the President.

**Table 3. Total and Other Enterprise Investment as a Fraction of GDP, 1914-1990.**

	1900	1914	1929	1938	1970	1980	1990
FI/GDP							
Africa	133	117	24	35	23	34	74
Asia	17	40	23	26	11	15	32
Latin America	120	271	126	87	33	33	47
Total LDCs	44	89	45	41	20	24	42
OFDI/GDP							
Africa		46		14	11	6	10
Asia		14		17	3	3	10
Latin America		94		43	16	7	11
Total LDCs		38		28	13	7	15

*Sources:* Foreign Investment—Total and Other Direct—from the sources for Table 1, using Swedberg (1978) to separate railroads from FDI in 1914. With regard to GDP; for 1970-1990, third world regional and total GDP from World Debt Tables. Nominal values for the earlier years were obtained by applying the price index from the US (GNP deflator) to the real output data from Maddison (1995), Table G-2, subtracting Japan from the Asia total, and South Africa from the African total. The African total GDP for 1938 was interpolated from the reported data for 1913 and 1950.

*Note:* It should be clear that because of differences in data sources, as well as in coverage, these data will differ from those reported below. The difference will be most noticeable for Latin America, the region for which there exists a variety of estimates. Maddison's GDP data for the first half century is weakest for sub-saharan Africa.

the U.S. GDP deflator was used here, although several other indexes have been used, particularly import prices. In Table 3, total foreign investment fell relative to GDP from 1914 up to mid-century, and regained about half of the previous level by 1990. Direct investment declined at least as much as FI, and has recovered less. For Latin America, as we will discuss below, an important role was played by the virtual disappearance of foreign investment in railroads. It is the case that this was less important elsewhere.

For all the countries covered in the regressions presented below, the ratio OFDI/GDP fell from 47% in 1914 to 11% in 1970, remaining at 12% in 1990. For all developing countries, according to the recently released World Investment Report for 1997, FDI/GNP rose from 4% in 1980 to 9% in 1990, and reached 15% in 1995. For Latin America, the corresponding data are 6%, 12%, and 18%, respectively (UNCTAD, 1997, Annex Table B-6). Thus we can see that the reversal in foreign direct investment is very recent, and remains considerably below the levels attained at the beginning of the century in the third world. This result tempers the familiar image of strong contemporary growth of foreign investment, mostly because such stories do not distinguish direct from portfolio investment—and loans to many governments have certainly been rising—or merely because many observers have been content to gauge the strength of foreign investment by reference to its nominal value, which of course has been increasing.<sup>4</sup>

### **FOREIGN INVESTMENT IN THE THIRD WORLD BEFORE WORLD WAR I**

Data for 1913/14 of foreign investment for several third world areas are presented in Table 4. In per capita terms, Argentina and South Africa have very high levels, between \$200 and \$300 per person (US\$ 1900 prices), approximating those of Canada and Australia. The next largest level corresponds to Cuba and Uruguay, at \$150 to \$200, followed by a more heterogeneous group, including Chile, Mexico, Egypt, and Malaya; the high investment in these last two countries has been noted in the literature. Not surprisingly, the per capita levels of investment in China and India at three to five dollars are only one to two percent of those in the high investment countries. Colonial areas in sub-Saharan Africa are only slightly higher.

The ranking of countries by the relative size of foreign investment changes markedly when, instead of per capita investment, we consider investment as a percentage of GDP. With this measure, the familiar group of countries of recent settlement—Australia, Canada, Argentina—are no longer outliers, as countries such as Brazil and Chile have comparable ratios of foreign investment/GDP. Furthermore, the ratios for Cuba, Mexico, Guatemala, and Honduras are much closer to those leaders.<sup>5</sup> Asian colonies such as Malaya and Indonesia also have similarly high levels of foreign investment, while even the low numbers corresponding to China and India are now within a factor of five or at most ten, as opposed to the earlier fifty.<sup>6</sup>

Disaggregating pre-WWI foreign investment, we note in the table that in Latin America, loans tended to be larger than foreign direct investment—as also in Australia and Canada—while this was generally not the case in Asia and Africa. In the former group, this results from loans for railroad construction, either directly through private interests, or utilizing the government as intermediary. In the other areas (India is an exception), the governments either chose not to encourage railroads, or financed their construction directly with tax revenues.

Turning to foreign direct investment outside railroads (OFDI), we see in Table 4 that, when measured relative to GDP, there is an even more drastic modification of cases where it is big or small. In Latin America, Brazil, Chile, Cuba, and Mexico all have higher levels than

**Table 4. Foreign Investment Per Capita, and as a Percentage of GDP, in 1913.**

	Per Capita, 1900 US dollars			As Percentage of GDP			
	GDP/cap	FI	Loans & RR	OFDI	FI	Loans & RR	OFDI
Argentina	107	266	216	50	248	201	47
Brazil	23	62	44	18	270	189	81
Chile	58	119	67	52	205	115	90
Colombia	38	10	7	4	27	17	10
Cuba	127	175	83	93	138	65	73
Guatemala	38	62	58	4	166	154	12
Honduras	32	50	36	13	156	114	42
Mexico	49	92	49	43	186	100	86
Paraguay	41	35	21	15	86	50	36
Peru	33	40	25	15	119	74	45
Uruguay	106	172	138	35	162	129	33
Venezuela	18	17	13	4	93	68	25
China	13	3	2	1	23	12	11
India	17	6	5	2	35	23	10
Indochina		9	5	4			
Indonesia	11	12	1	11	93	8	85
Korea				1			3
Malaya	39	58	13	45	148	33	115
Philippines	27	10	1	9	35	3	32
Taiwan			6		21		
Thailand	16	6	4	2	38	23	15
Turkey	40	40	35	5	101	88	13
Egypt	48	70	35	35	116	57	58
Algeria	47	48	33	15	102	70	32
Morocco	23	14	5	9	59	22	37
South Africa	96	210	70	140	220	73	147
Zaire		17					
British W. Africa		6	0	6			
French W.Africa		6	3	3			
French Equator. Africa		21	16	5			
Australia	344	289	217	72	84	63	21
Canada	252	375	302	73	161	135	26

Sources: See Data Appendix.

Argentina. Moreover, Canada and Australia now have rather small amounts of non-railroad FDI/GDP—around 25 percent. Malaya has the highest estimated ratio of OFDI/GDP at 115%, followed closely by Indonesia at 87%, which is the level for Chile and Mexico. Levels in India and China would now seem to lie "only" about a third and a half below those of Australia and Canada, far from the differentials of 50 or 100 which we saw initially with foreign investment per capita. Although the numbers presented in Table 4 appear with more precision than is merited, there can be little doubt that in 1914 the "countries of recent settlement" had lower levels of non-railroad FDI/GDP than did many countries or colonies now referred to as the third world.

Let us pause for a simple but important comment on the differences in rankings according to the denominator being used. As an arithmetical identity, investment divided by income is simply investment per capita divided by income per capita, so the same level of investment per capita will appear to be larger in poorer countries, and conversely. The above reversals of rankings across countries at a point in time, when moving from FI/CAP to FI/GDP, result from the greater differences in GDP/CAP than in FI/CAP. The most noteworthy example is the ratio of per capita incomes between neighboring Argentina and Brazil in 1914, which is over four, according to both Maddison (1995, 202) and Bulmer-Thomas (1994, 444). The large gaps in our Table 4 between the per capita income levels in Brazil and, say, Australia and Canada, is bigger than that of Maddison (1995); however, even using the latter's data our conclusion about the rankings of OFDI/GDP still holds.

## **A REGRESSION ANALYSIS OF THE DETERMINANTS OF FOREIGN INVESTMENT IN 1913/14**

With the goal of studying the historical determinants of portfolio and direct investment, econometric regressions were run on the data on foreign investments for 1913/14. This year was chosen because of data availability, of course, but it also should represent the maximum impact of *fin de siècle* liberalism. These results are intended to complement the vast literature on foreign investment for the post-WWII period. Utilizing a cross section avoids the problem of incorporating changes in the supply of foreign investment caused by factors in the host countries. Two sets of equations are reported here; one where the dependent variables—foreign investment and its two components, portfolio and non-railroad direct investment—are standardized by dividing by population (FI/cap, Port/cap, OFDI/cap), and then using GDP (FI/GDP, Port/GDP, OFDI/GDP).

The primary explanatory variable was per capita income (GDP/cap), reflecting a hypothesized positive link to the size of the market, paralleling the IDP research of Dunning and co-workers (Narula, 1996). That literature suggests a non-linear relationship, as higher per capita GDP eventually proxies for improved technology and higher entrepreneurial skills, leading to a relative reduction in FDI. Because it was clear that financing for railroads had been important in several countries, an indicator RR (kilometers of operational railroad divided by GDP) was used. In addition, because mineral exports were associated with higher foreign direct investment, which was captured by MIN; minerals as a fraction of total exports. With this minimal set of variables we incorporate motivations for foreign investment involving domestic market as well as foreign trade considerations. Finally, dummy variables reflecting colonial status were utilized. The literature provides conflicting hints about the expected sign on the estimated

coefficient for this variable; investment might be larger into colonies because of reduced risk in terms of the legal/institutional framework, to which a nationalist might append a story of greater ease of exploitation. However, with equal facility we could cite stories about the disappointment of defenders of colonialism, relative to the levels of investment reached, most pointedly in comparison to Argentina.

Observations were not available for at least one variable for Indochina, Taiwan, Korea, or sub-Saharan Africa, leaving us with data on 25 countries. The regressions were run as ordinary least squares; specification on "levels" actually did slightly better than semi-log or double log equations, and additive dummies produced the same results as composite variables generated by multiplying the dummies by other explanatory variables. Fortunately, this makes interpretation of the results very easy.

As can be seen in Table 5, the coefficients of GDP/cap in the regression on total investment (FI/GDP) are basically the sum of the coefficients for that variable in the equations on portfolio and other direct investment. The estimated coefficients are generally positive and statistically significant, strongly supporting the Narula/Dunning IDP story mentioned above. The point of inflection of FI/GDP is calculated to be reached when income reaches about 150 dollars per capita; a level between that of any Latin American country and Canada and Australia, as we saw in Table 4. The presence of railroads had a strong effect on portfolio investment, as expected, and had a statistically insignificant effect on direct investment, in either specification. The negative coefficient of mining on portfolio investment was not expected, and may capture an indirect effect via income and perhaps savings.

Being an independent country (dummy variable D1 equal to unity—Latin American countries, Thailand, China, and Turkey) had a statistically insignificant effect on the level of portfolio investment. However, the estimated coefficient on D1 is negative for foreign direct investment: independent status lowered OFDI/GDP by about 28% of GDP, which was about half of the average value of that variable. Following some suggestions in the literature, an additional dummy was inserted for the self-governing members of the British Empire, which did not cause major changes. Of course, independence was/is relative; it is difficult to argue that Canada was in fact less independent than Cuba in 1913, and a more nuanced representation of political status would certainly be preferable to this dichotomous dummy variable.

We can use the econometric results to discuss whether countries had more or less investment than "normal," by looking at the residuals in the above equations, which are presented in Table 6. Both specifications tend to agree on which countries are above or below average, yet the magnitude of the deviation is more accentuated in the first set of regressions. With regard to the direct foreign investment in other enterprises, the largest positive residuals occur for Malaya, Brazil and South Africa; two of the most negative ones in Chile and Peru. A very different set of countries stand out with regard to government loans and railroads; the largest positive residuals occur for Honduras, Guatemala, and Turkey, while the most negative ones are in Paraguay, Colombia and Cuba. The residual on total investment is the sum of the other two residuals, and is not reported to save space. However, notice that in over half the cases, the residuals from the regressions on portfolio and direct investment have the opposite sign. Evidently the omitted factors determining the two types of investment worked differently in the several cases.

**Table 5. Regression Results.**

Dep. Variable	Constant	GDP/cap	(GDP/cap) <sup>2</sup>	MIN	RR	D1	R <sup>2</sup>
FI/cap	-55.6 (4.31)	2.60 (9.75)	-0.47 (6.01)	-0.13 (0.48)	2.12 (3.53)	-20.1 (1.58)	0.96
Port/cap	-45.9 (2.84)	1.64 (5.04)	-0.25 (2.57)	-0.21 (2.02)	2.13 (2.59)	-7.84 (0.51)	0.84
OFDI/cap	-10.1 (1.11)	0.96 (5.11)	-0.22 (4.06)	0.57 (2.85)	-0.01 (0.01)	-12.2 (1.36)	0.70
FI/GDP	20.4 (1.43)	0.91 (3.07)	-0.30 (3.39)	-0.13 (0.42)	5.05 (7.57)	-19.6 (1.39)	0.86
Port/GDP	-9.28 (0.93)	0.49 (2.40)	-0.14 (2.27)	-0.96 (4.32)	4.26 (9.14)	9.10 (0.92)	0.86
OFDI/GDP	29.7 (2.45)	0.41 (1.64)	-0.16 (2.17)	0.83 (3.07)	0.79 (1.40)	-28.7 (2.41)	0.52

Note: Estimated 't' coefficients in parenthesis.

There were 25 observations. For ease of presentation, the coefficients of (GDP/cap)<sup>2</sup> are here multiplied by 100.

Variables: *FI* is total foreign investment, *Port* is portfolio investment—including loans to the government as well as financing for railroads, *OFDI* is direct foreign investment in other enterprises, *cap* is population, *GDP* is gross domestic product in U.S. dollars at 1900 prices, *MIN* is the share of mining exports in total exports, *RR* is kilometers of railroads in operation in 1913, divided by GDP, and *D1* is a dummy variable equal to 1 if the area were an independent country—all of Latin America, China, Thailand, and Turkey.

**Table 6. Observed and Residual Levels of Port/GDP and OFDI/GDP**

	Port/GDP			OFDI/GDP		
	Observ	Resid1	Resid2	Observ	Resid1	Resid2
Argentina	201	35	-6	47	-4	-11
Brazil	189	-154	-14	81	86	35
Chile	115	16	4	90	-41	-33
Colombia	16	-24	-22	10	-22	-10
Cuba	65	-45	-26	73	22	33
Guatemala	154	14	42	12	-16	-20
Honduras	114	38	43	42	25	19
Mexico	100	-18	-8	86	13	23
Paraguay	50	-46	-27	36	3	10
Peru	74	19	0	45	-47	-20
Uruguay	122	-3	4	33	-18	-9
Venezuela	68	3	-15	25	50	0
China	12	236	-1	11	91	4
India	25	6	-18	10	-30	-36
Indonesia	8	251	-1	85	-53	22
Malaya	33	-22	5	115	12	36
Philippines	3	-20	-19	32	-21	-11
Thailand	23	161	-2	15	20	-8
Turkey	88	17	29	13	-23	-13
Egypt	58	-32	15	58	-7	5
Algeria	70	-44	4	32	-32	-24
Morocco	22	30	6	37	-10	-4
South Africa	73	-34	-3	147	52	32
Australia	63	-11	-4	21	3	13
Canada	135	34	14	26	-11	-33

Source: Author's calculations, based on equations reported in Table 5.

Note: *Observ* is the measured value, *Resid1* is calculated as the residual from the first set of equations in Table 5 divided by GDP/capita; *Resid2* is the residual from the second set of equations.

## LONG TERM TRENDS IN LATIN AMERICA

Let us proceed to analyze in more detail the long term trends in Latin America. The data for these countries are presented in Table 7, and illustrated in Graphs 1 and 2, which suggest a characterization of the long term trend as a U shaped curve, hitting a low point at mid-century, with differing subsequent degrees of recovery. The initial high point of investment per capita was about 1913, while that of investment/GDP occurred prior to 1900, arithmetically reflecting the increase of per capita income during those years. We recall Marichal's recent (1994, 8) reaffirmation of the characterization of the period 1880-1914 as a "golden age" of foreign capital in Latin America.<sup>7</sup> Note that exclusion of Argentina has only a marginal effect on the size and timing of the initial phase, indicating that this U-shaped pattern was not merely the result of numerical dominance by a relatively large Argentina.<sup>8</sup> The more recent upswing in total investment per capita has nearly regained the levels achieved at the start of the century. However, because the long term trend of real per capita income has been positive, especially after WWII, the comparison of foreign investment to real income causes the more recent figures to be lower than did the comparison of foreign investment with respect to population; perhaps the image of a flat reverse S is more appropriate than that of a U, for OFDI/GDP in Graph 2. Inevitably, there are differences in the time paths across countries. Without pretending an exhaustive examination of the individual cases, note that the high levels in Argentina and Uruguay decline quickly after 1900, as population continues growing rapidly but investment slows. Real per capita foreign investment in some of the Latin American countries peaks in 1913, while in others (Chile, Colombia, Honduras, Venezuela), its growth continued through to 1929 or later.

For a fuller understanding of the twentieth century experience in the receiving countries, it is necessary to disaggregate direct from portfolio investment, and to separate out railroads. In the 1990s, governmental loans comprise 75% of the regional total, other direct investments are still about 25%, and of course the foreign presence in railroads has disappeared. However, as is clear from Table 7, these components have evolved along quite distinct paths.

The stock of loans to governments (and other portfolio funds), relative to either population or GDP, traces a marked U-shape during this century, hitting a low point at mid-century.<sup>9</sup> Explanations for this decline are not hard to find. Several major borrowers removed themselves from the picture after WWI due to internal changes of a political nature. In particular, Mexico had been in default since 1913, due to factors associated with its Revolution, and would remain so until WWII. In terms of the lenders, Britain's macroeconomic situation changes drastically after WWI, and the much reduced volume of new loans in the 1920s was mainly directed toward continental Europe (Atkin 1977, 154). Neither France nor Germany was in a position to fill that breach in the non-European periphery. Loans from the United States did rush into Latin America during what is now known as the dance of the millions, only to be caught in the financial collapse accompanying the 1930s depression. As recounted in Marichal (1989), most Latin American governments subsequently entered into default during the 1930s Depression. Argentina was the major exception, although Venezuela had no government debt, and the fact that Haiti, Honduras, and Nicaragua did not default may be related to their being occupied by U.S. military forces.

The level of outstanding governmental loans was quite low in 1950, and for several years foreign aid was the major new source of funds. The subsequent increase in loans<sup>10</sup> during the

**Table 7. Foreign Investment in Latin America, Twentieth Century**

(Per capita data in 1900 US dollars; other data are percentages of GDP).

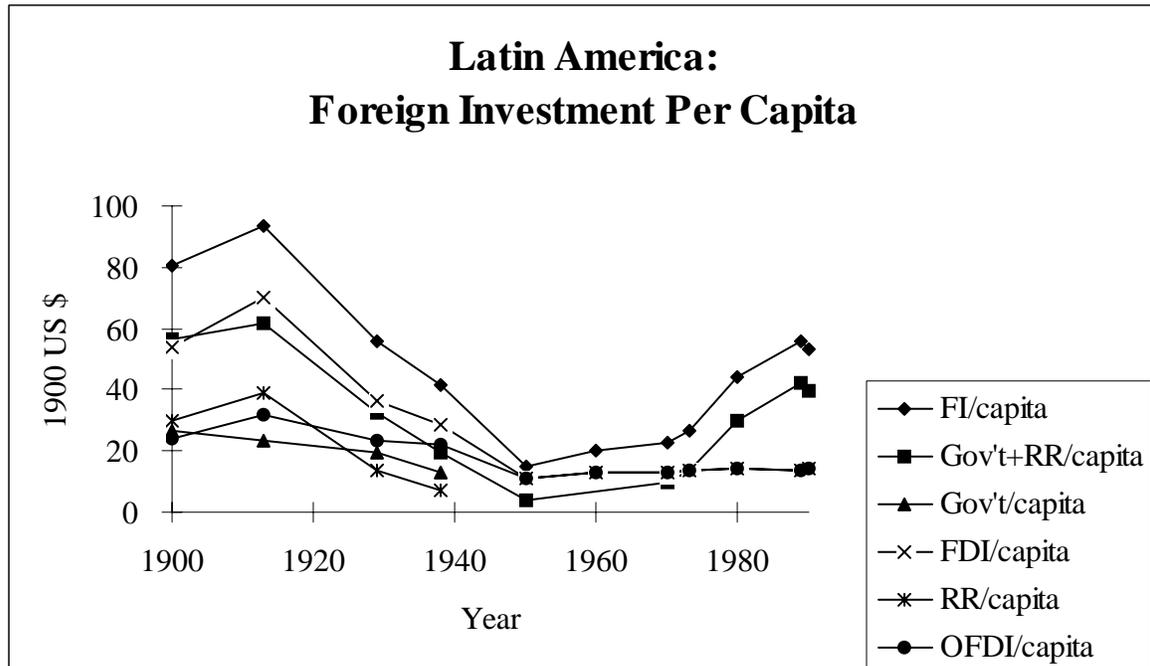
	1900	1913	1929	1938	1950	1970	1973	1980	1990	1995
<b>Total</b>										
FI/capita	71	88	56	42	15	23	27	69	71	86
FI/GDP	234	223	115	82	23	21	22	42	57	57
Loans/GDP	87	59	40	26	6	9	11	36	47	41
FDI/GDP	146	164	76	56	17	12	11	6	11	16
OFDI/GDP	73	80	48	43	17					
<b>Total minus Argentina</b>										
FI/capita	52	68	45	34	15	22	27	67	68	81
FI/GDP	201	213	117	80	27	23	24	42	58	60
Loans/GDP	73	52	40	28	7	10	12	36	47	43
FDI/GDP	128	161	77	52	20	13	12	6	11	17
OFDI/GDP	73	93	56	47	19					
<b>Argentina</b>										
FI/capita	290	266	140	104	16	28	30	94	117	152
FI/GDP	357	248	112	87	12	14	14	43	53	42
Loans/GDP	140	75	39	20	5	7	7	36	46	33
FDI/GDP	216	173	73	67	7	7	6	7	6	9
OFDI/GDP	69	47	29	30	8					
<b>Brazil</b>										
FI/capita	40	62	28	23	7	13	21	60	56	75
FI/GDP	209	270	92	70	18	17	20	39	37	39
Loans/GDP	122	107	51	51	6	8	10	31	28	24
FDI/GDP	87	164	40	19	12	9	10	8	9	15
OFDI/GDP	35	81	28	12	13					
<b>Chile</b>										
FI/capita	74	119	131	122	47	54	48	96	119	136
FI/GDP	174	205	156	163	49	38	34	49	103	70
Loans/GDP	62	70	66	55	18	26	29	46	68	43
FDI/GDP	113	136	90	107	31	12	5	3	35	26
OFDI/GDP	66	90	76	95	29					
<b>Colombia</b>										
FI/capita	22	10	16	19	15	18	18	24	34	38
FI/GDP	73	26	34	35	24	19	18	24	55	41
Loans/GDP	10	9	12	19	6	12	12	21	45	28
FDI/GDP	63	17	22	16	18	8	6	3	9	13
OFDI/GDP	52	10	20	16	na					
<b>Cuba</b>										
FI/capita	123	175	165	104	43	na	na	na	na	na
FI/GDP	102	138	204	170	47	na	na	na	na	na
Loans/GDP	49	22	18	22	4	na	na	na	na	na
FDI/GDP	53	116	186	148	43	na	na	na	na	na
OFDI/GDP	33	73	146	121	39					
<b>Guatemala</b>										
FI/capita	44	62	31	34	na	9	8	21	26	25

FI/GDP	133	166	73	63	na	12	11	24	61	40
Loans/GDP	39	13	9	17	0	5	4	15	38	25
FDI/GDP	94	153	63	46	na	8	7	9	23	15
OFDI/GDP	7	12	19	46	na					
Honduras										
FI/capita	43	50	51	28	na	18	17	35	43	39
FI/GDP	156	156	119	88	na	38	35	64	148	141
Loans/GDP	112	114	33	27	1	12	14	61	134	125
FDI/GDP	44	42	87	61	na	26	22	4	14	16
OFDI/GDP	43	42	87	61	na					
Mexico										
FI/capita	54	92	67	44	14	18	22	77	85	116
FI/GDP	133	186	128	79	17	12	14	35	57	97
Loans/GDP	20	23	45	16	7	7	9	30	44	70
FDI/GDP	113	163	83	63	10	5	5	4	14	27
OFDI/GDP	52	86	50	39	8					
Paraguay										
FI/capita	24	35	17	na	na	11	11	30	30	31
FI/GDP	65	86	36	na	na	18	18	25	47	43
Loans/GDP	23	12	5	na	7	14	13	21	39	29
FDI/GDP	42	74	31	22	na	5	5	5	7	14
OFDI/GDP	6	36	15	22	na					
Peru										
FI/capita	44	40	31	24	12	20	24	49	53	69
FI/GDP	168	119	64	46	22	22	24	52	67	62
Loans/GDP	0	10	20	16	7	12	14	48	63	53
FDI/GDP	168	110	44	30	14	10	10	5	4	10
OFDI/GDP	50	45	27	16	11					
Uruguay										
FI/capita	242	165	76	67	25	21	22	66	93	95
FI/GDP	294	155	67	59	18	13	14	24	67	41
Loans/GDP	142	71	34	32	10	10	11	17	55	32
FDI/GDP	153	83	33	27	8	3	3	7	12	9
OFDI/GDP	83	33	14	27	10					
Venezuela										
FI/capita	30	17	58	49	62	73	65	169	102	90
FI/GDP	224	93	105	73	55	36	39	44	79	59
Loans/GDP	76	36	1	0	0	6	12	42	70	49
FDI/GDP	148	57	104	73	55	30	27	2	8	10
OFDI/GDP	85	25	99	73	56					

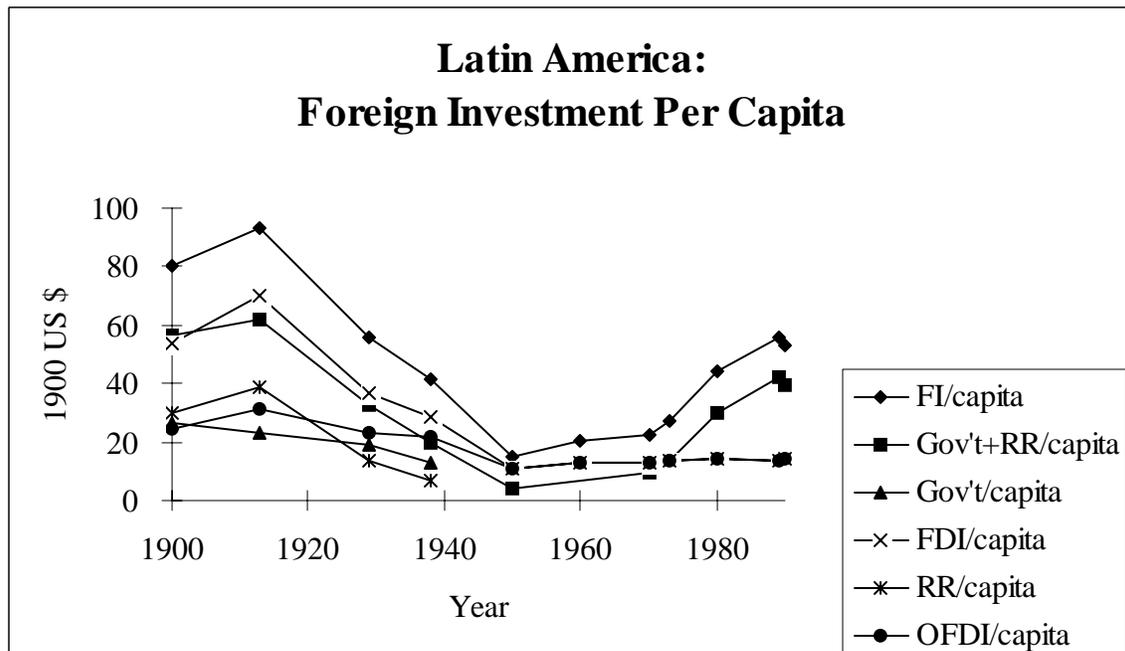
Sources: See data appendix.

na- not available

Graph 1. Latin America: Foreign Investment per Capita



Graph 2. Latin America: Foreign Investment/GDP



1970s and 1980s is also familiar, particularly as a proximate cause of "The Third World Debt Crisis." We should probably avoid asserting that these loans were relatively higher or lower in 1913 than they were in 1990, not only because our two indicators give slightly different results, but also because the social cost of macroeconomic adjustments to a decline in capital inflows has changed over time, about which virtually nothing is known.

However, with regard to foreign investment in railroads, the story is quite different. This declined relatively—and eventually absolutely—both because the host countries' domestic savers and entrepreneurs (including their governments) learned the railroad business and displaced the foreigners, and also because the growth of railroad lines was stymied, by 1930 or earlier, by the exhaustion of good routes and the expanded use of the motor car. The U.S. had invested significantly in railroads only in Canada, Mexico, and Central America, and the governments of the first two countries had already progressed significantly in the purchase of those investments by the mid-1920s (Dickens 1938, 20). British railroad ownership, which was larger and more widespread geographically, also declined during this period, and her last major holding in this sector in Latin America was purchased by Argentina's Perón in the late 1940s.

Finally, let us turn to the behavior of foreign investment in sectors outside of railroads and government loans, i.e. those we are calling other foreign direct investment. The price adjusted per capita level of other direct investment in 1900 was only about a third higher than the level it consistently maintained after 1950, having reaching a somewhat higher plateau in 1913-1929. Big growth occurred in some familiar cases, each related to an exported raw material, Chile (mining), Cuba (sugar), Venezuela (petroleum). In Mexico, increased investment in petroleum counterbalanced the reduction of other investment due to the Revolution. The data for the post-WWII era reflect well-known political changes, such as events in Cuba, Chile, and Peru, associated with the names Castro, Allende/Pinochet, and Velasco Alvarado, respectively. Note that the implicit model before 1950 is that of FDI growth determined by availability of an exported natural resource; foreign investment into manufacturing, for domestic markets, came after WWII, while foreign investment into export-oriented manufacturing awaited the 1970s.

While foreign direct investment per capita was flat in Latin America after 1950, it actually declined when measured as a fraction of GDP, as can be seen in Graph 2. There was a fall of two thirds between 1929 and 1950, which was again cut in half subsequently. Once again, note that although the cross sectional ranking of countries varies tremendously depending on the use of population or GDP as the scalar, the longitudinal stories which these two indicators provide are quite similar until after about 1960, when per capita income begins to grow appreciably.

The question arises as to what were the trends in investment before the turn of the century. Unfortunately, the investment data for France and Germany are not sufficiently detailed, the first decent set of estimates of investment from the U.S. is for 1897, GDP estimates disappear, and even population censuses become scarce as we move back towards mid-century. Nevertheless, the data for the United Kingdom in Stone (1987) indicate the existence of different broad sectoral patterns of investment characterizing the three decades before 1900. There was a gradual relative shift away from government loans, toward especially railroads, as is well known. Moreover, the relatively higher levels of per capita investment in Uruguay and Argentina characterize the data back through 1875, at least. Peru had earlier achieved a high level of investment (essentially foreign loans), as a lingering effect of the boom in guano exports.

Investments into Uruguay and Cuba peak in 1895. Stone's data do not depict that same story for Argentina, but would if he had followed Rippey (and his source, the South American Journal) in the treatment of one large loan.<sup>11</sup>

One standard comparison for Latin America is the cases of Australia and Canada. Data on Canada is illustrated in Graph 3. One basic similarity with Latin America is the mid-century relative decline in foreign investment relative to population or GDP; another is the smallness of investment into sectors other than government and railroads; and a third parallel is the relative constancy of (non-railroad) FDI/GDP. Canada's experience with foreign investment in railroads was closer to that of Brazil and Chile than that of Argentina or Peru, in that foreigners had an important role in the early phases, but had been displaced by nationals by about 1925. One difference we would highlight here is the rise of FDI/GDP in Canada during the 1920s, due to investments from the United States, when that ratio fell in Latin America, and apparently stayed constant in Australia. Graph 3 also depicts for Canada the different paths of total and direct foreign investment over the century. There is a relative constancy of OFDI/GDP, so the decline total investment results from a corresponding decline in portfolio investment between 1929 and 1950. Peering back before the official series begin in 1926, and even earlier than the respected Viner-Knox estimates of foreign investment over 1900-1926, we also see in Graph 3 that OFDI/GDP was relatively constant, as well as a suggestion of two peaks in the ratio foreign investment/GDP, one in 1895—during another recession, to be sure—and the second in 1913, at the end of a remarkable expansion.<sup>12</sup> Patching together disparate sources for Australia generates a similar pattern, in which foreign direct investment as a fraction of GDP remains slightly larger than in Canada, although still smaller than in Latin America. Of course, today both Canada and Australia are major sources of both direct and portfolio foreign investment, but pursuit of this topic would take us too far afield.<sup>13</sup>

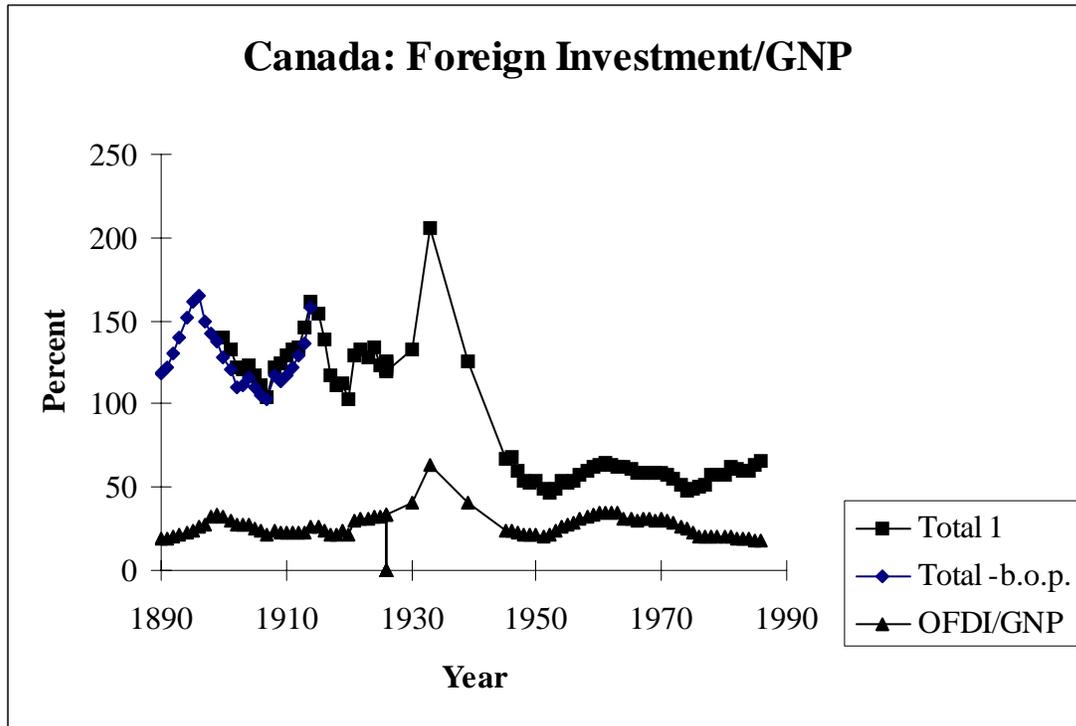
### **THE DEGREE OF FOREIGN OWNERSHIP OF THE TOTAL CAPITAL STOCK**

The evidence reviewed indicates a widespread fall in the ratio of foreign direct investment to GDP during the first half of this century. Can we infer that foreign ownership of the means of production also decreased? Some estimates are presented in Table 8, which support a correlation between measured trends in FDI/GDP and in FDI/capital stock. With regard to Latin America, the ECLA work of the mid-1950s estimated the real values of both foreign investment (including loans) and the domestic capital stock (including residences and inventories) for several countries, and suggests a decline in this ratio for the region as a whole, from 25% in 1929 to 11% in 1950, with a slight recovery to 12% in 1955. The table indicates that such a decline was widespread, although its timing varied; Mexico's high point came later than did Argentina's, and this may also have happened in Chile.

In terms of levels of foreign ownership in 1914, there were marked differences, with Argentina, Mexico, Egypt, Indonesia and South Africa having ratios which were two or three times that of Canada, while those of Australia and India were again much lower. Comparing the ratios of OFDI/K, Mexico and Chile had higher foreign ownership than Argentina, whose level was about the same as Brazil's, and not much higher than Colombia's. Indications are that Honduras also had a higher ratio of FDI to total capital stock.<sup>14</sup>

As a complement to the above mentioned work on Latin America, data was sought on capital stocks and FDI for the post-1950 period, which had been generated using reasonably

Graph 3. Canada: Foreign Investment/GDP



**Table 8. Foreign Direct Investment as Percentage of the Domestic Capital Stock, 20th Century.**

<b>Argentina</b>	1900	1913	1929	1940	1950	1957		
FI/K	52	28	19	20	6	6		
FDI/K	36	24	16	17	6			
OFDI/K	12	7	6	10	6			
FDI in RR/K	18?	16	11	7				
<b>Brazil</b>		1913	1929	1940	1950			
FDI/K		17	15	8	3			
OFDI/K		7	10	7	3			
<b>Chile</b>			1929	1940	1950			
FDI/K			33	26	19			
OFDI/K			30					
<b>Colombia</b>			1929		1950			
FDI/K			8		5			
<b>Honduras</b>			1929	1949	1950	1955		
FDI/K			26	14	15	17		
<b>Mexico</b>	1902	1910	1930	1940	1950		1970	1985
FDI/K	26	43	43	22	10		9	13
OFDI/K	14	26	27	15				
<b>Latin America</b>			1929	1940	1950	1955		
FI/K			25	17	11	12		
<b>India</b>		1913	1929	1939	1950	1960	1970	1975
FDI/K		9	9	11	2	2	1	0
<b>Indonesia</b>		1913		1939				
OFDI/K		53		52				
<b>Australia</b>	1900	1914	1929	1938				
FDI/K	9	7	8	6				
<b>Canada</b>	1900	1914	1926	1930	1951	1960	1970	1980
FDI/K	36	28	12	15	8	13	12	7
OFDI/K	17	10	12					
<b>Egypt</b>	1902	1914	1929	1938				
OFDI/K	44	50	24	18				
<b>South Africa</b>		1913		1936	1956		1970	
FDI/K		66		42	16		13	

Sources: For the Latin American countries, the foreign investment estimates use the sources in Table 7 above. The sources for the capital stock estimates are: Argentina, the mimeographed appendix to UN-ECLA (1958); Brazil, capital stock from Goldsmith (1986); Chile, for 1929 from Jara Letelier and Muirhead (1929, 210), and UN-ECLA/CEPAL (1954); Colombia, EN-ECLA, 1957; Honduras, Tosco (1957); Mexico, data in Alanís Patiño (1943) recalculated to eliminate land and financial assets, together with more recent estimates cited in Twomey (1993). Latin America: Ganz (1959, 232). India. FDI: 1913 follows Howard's estimate, reported in Svedberg (1978, 774); FDI for 1929-1939 from Goldsmith (1983, 78) which uses the estimates of Rao and Shenory as adopted by Bose; 1950-1975 from Reserve Bank of India (1964 and 1985). Capital stock estimates (fixed capital) for 1913-1939 are based on Bina Roy's estimates, 1950-1975 are official data, all reported in Goldsmith (1983). Indonesia: 1914 FDI from Callis (1942), domestic assets for the private corporate sector from à Campo (1995), for the government from CEI Vol. 2 p. 24 (book value), augmented by 20% for Indonesian non-corporate farms, and another 20% for residences; for 1938, private sector business assets from Hart (1942, 44-45), government assets from CEI Vol. 2 p. 24, augmented by 20% for residences. Almost all FDI in Indonesia was non-railroad. Australia: FDI from sources mentioned in the Data Appendix; capital stock estimates described in the Appendix. Egypt: foreign investment from Crouchley (1938); estimates of capital stock sum data estimated from Radwan (1974) for irrigation, rural dwellings, livestock, and machinery, and industrial machinery, plus estimates of urban buildings, from Issawi (1947, 57-59) and railways from the 1913 Annuaire Statistique and Issawi. South Africa: FDI 1913 and 1936 from Frankel (1938), 1956 and 1970 from Statistical Abstract. Capital stock from Franzsen and Willers (1959), and de Jager (1973). Canada: FDI 1900 and 1914 combining the unpublished estimates for the U.K. of Davis and Gallman with those for the U.S. from Lewis (1938). Both sources allow separation of funds for railroads. Subsequent years from CIIP. Capital stock 1900-1913 estimated as discussed in the appendix. 1926-1990 from Statistics Canada, Fixed capital flows and stocks adjusting upward the 1926 and 1930 figures for residences, using the ratio of total to non-residential for 1936.

similar methodologies. Two recent published estimates of the real value of capital stock are those of Hofman (1992) and King and Levine (1994). Calculations for Latin America comparing annual real growth rates of total capital stock and total or U.S. originating foreign direct investment are presented in Table 9. For Mexico and Brazil, the real value of the stock of foreign direct investment essentially grows as fast as the total stock of capital; for Argentina, Chile,<sup>15</sup> Colombia, Ecuador, Peru and Venezuela, the latter grows faster. When the comparison is restricted to direct investment originating in the United States, for the period 1950-1989 (for which the data are more homogeneous), calculations also indicate that the domestic capital stock grew faster than FDI for all the countries.

### **WHAT DETERMINED LONG TERM TRENDS IN FI/GDP AND FDI/GDP?**

The long term trends of portfolio and direct investment in Latin America differed markedly. We will limit our discussion to direct investment. Evidently factors in both the sending and the receiving countries contributed to this evolution.

The downward secular trend of foreign direct investment in Latin America clashes with an expectation, bolstered by our regression exercise, of a positive link between FDI and per capita income. Conventional wisdom attributes the decline of FDI to nationalist policies which were part of a general rejection of Manchesterian liberalism in Latin America, and in several other third world areas which received independence after WWII. The heterogeneity of policy approaches followed by individual countries, in Latin America as elsewhere, cautions against the attribution of that fall simply to nationalist policies,<sup>16</sup> however strong in specific contexts. For example, the list of nationalizations of American enterprises in Sigmund (1980) lists actions in only four countries of the region for the period 1900-1950, and only in Mexico were sizeable amounts involved. Similarly, Korbin (1980) notes that the post-WWII nationalizations/expropriations were concentrated, at least numerically, in the early 1970's, by when virtually all of the relative decline of FDI had occurred.<sup>17</sup> In one of the best-known cases of expropriation, that of Mexico's petroleum sector in 1938, the book value of the affected assets amounted to less than one third of the total FDI in the country, and about five percent for the entire region. The nationalizations in Cuba during 1959-61 affected a larger US\$ one billion, which was about 10% of US FDI in Latin America, and a smaller amount of FDI from all countries. Thus, the relative decline in FDI was not caused by expropriations.

The largest effects of what are called nationalist policies relate not to expropriations but to purchases, and not of banana plantations or exploitative mines, but of railroads. Recall that this had proceeded significantly before WWI in Mexico, Brazil, and Chile. Argentina's big shift happened in the late 1940's to be sure, with the purchase of British held railroads, but this was untypical. One might further conjecture that several other instances of reduction of FDI occurred as a result of either reduced government subsidies for priority infrastructure, or heightened intervention in this sector to reduce excess profits of "natural monopolies." Such actions should not be attributed to increased nationalism, but rather increased governmental ability to regulate certain activities which previously had attracted high foreign investment.

It is important to recognize that the largest investor in Latin America had been Britain, not the United States, and that the absolute reduction in the former country's presence was part of a much larger process of relative decline on a global scale, one of whose visible symptoms was the use by Latin Americans—and others, such as in Egypt or India—of sterling balances to

**Table 9. Annual Growth Rates of Foreign Direct Investment and the Capital Stock.**

	<b>1970-1989</b>		<b>1950-1989</b>	
	Total FDI	Total Capital	US FDI	Total Capital
Argentina	-0.4	2.7	0.9	3.7
Brazil	7.3	7.8	3.7	8.5
Chile	13.2	1.7	-2.6	3.3
Colombia	4.1	4.9	1.7	4.2
Ecuador	2.2	6.0	4.2	n.a.
Mexico	5.8	5.6	3.0	6.5
Peru	-0.2	4.0	0.5	n.a.
Venezuela	1.7	5.7	-3.2	6.5

Sources: Author's calculations. Total FDI from UNCTC (1994a), based on national sources. US FDI from US Department of Commerce 1960 and Survey of Current Business 1992, deflated by US GDP deflator. Capital stock from Hofman (1992), except for Ecuador and Peru, for which the source is King and Levine (1994).

Note: the time period for Argentina is 1976-1989, and for Chile it is 1981-1989. For the second column, the time period is 1973-1989. The data in Hofman and King and Levine was originally expressed in per capita terms. The series chosen from Hofman is non-residential physical capital, while that from King and Levine would appear to include residential capital.

purchase U.K. held bonds, especially during the 1940's.

Another mistaken notion of nationalist policies driving out FDI relates to the widespread use of high tariffs to stimulate import substituting industrialization during the middle third of the century. But this nationalism should have had the opposite effect on FDI, at least according to the theory of tariffs as attractors of direct investment, for which Canada is a prime example. Moreover the current neo-liberal rejection of nationalistic import substitution policies has not led uniformly to increases in foreign investment, as recently documented by Bleischowsky and Stumpo (1995).

Without denying the political element, we will search for economic explanations of the decline in FDI, adopting a strategy of going beyond national macroeconomic variables such as interest rates and exchange rates, to more sector specific variables, what economists call an industrial organization approach, whose extension into the study of foreign investment has been led by John Dunning, e.g. UNCTC (1988). For example, it is well known that the sectoral composition of outward FDI from the United States has gone through several distinct cycles; the pre-WWI predominance of infrastructure and services was ceded to raw materials—agriculture, mining and petroleum—which after WWII was surpassed by manufacturing. Investment in services is once again on the rise. Many commentators explain the recent decline in U.S. investment as resulting from the country's corporations loss of a competitive edge compared to entrepreneurs from host countries or other investing countries. Petroleum is an important case; in several countries these enclaves have been replaced by joint ventures or other licensing arrangements. In most other primary products, such as rubber, sugar, or non-ferrous metals, the decline in the technological advantages of developed country entrepreneurs is even starker. An appropriate example from the pre-WWII period is the substantial decline in U.S. investments in Cuba, which is attributed (U.S. Department of Commerce 1956, 10) to financial problems of the depression, and led most pointedly to the sale of sugar mills to Cuban nationals. Another obvious case would be railroads, where the foreign position was eaten away not only by nationalistic governments but by motorized vehicles, which enabled the small domestic entrepreneur to finance a truck, or indeed to provide the family's transportation needs with an automobile. Technology and administrative styles have evolved such that firms do not need to invest as much overseas in order to profit from their firm specific advantage, and so the FDI will not result in as large a transfer overseas of funds, nor indeed the creation of as many jobs. Some new types of investment follow strategies which reflect less the branch plant mentality of U.S. manufacturers, and return to a modernized version of the holding company, such as the *sogo shosha* and *keiretsu*.

The agricultural sector certainly has its own unique dynamic. The infamous Latin-American examples of foreign controlled plantation crops such as bananas, henequen, or sugar, were obviously not representative of the region's non-export oriented agriculture, and have disappeared with modernization of the countryside. Another broad example emphasizing sector specific characteristics would be the relative growth and capital deepening of the service activities, which, as we will show below, typically have a much smaller foreign involvement than other sectors of the domestic economy. The gradual displacement of foreign investors by domestic entrepreneurs, from the private or public sectors, was quite important in social infrastructural activities—not only railroads, but also electricity, telephones, harbors, etc.

One finds, scattered in the literature, different studies of foreign ownership in individual

Latin American countries, which often focus on specific sectors. Important recent examples on Brazil and Mexico are Fritsch and Franco (1991) and Peres Nuñez (1990), respectively. They suggest that the cases of relative increases of foreign ownership are not generalized throughout the entire economies, but rather are limited to certain sectors, such as manufacturing or mining, and even to specific subsectors, such as pharmaceuticals and motor vehicles. Incidentally, this vision of a limited sectoral extension of foreign ownership also informs one of the key analyses of "dependent development," Evans (1979).

A very useful set of official measurements of foreign ownership and control comes from Canada.<sup>18</sup> As shown in Graph 4, for the economy as a whole, foreign ownership of non-residential capital declined between the late 1920s and the 1950s, rose slightly during the 1950s and 1960s, and has fallen since the early 1970s. While there were fluctuations in the estimated ratio of direct foreign investment to the capital stock prior to 1926, they pale in size compared to the variation of portfolio investment depicted in the earlier graphs.<sup>19</sup> The official Canadian data on foreign direct investment illustrate very well how markedly different were the level and evolution of ownership ratios by economic sectors. Graph 5 illustrates that the overall trend in the foreign presence is an average of several quite disparate sector specific changes; foreign control of manufacturing and minerals has risen since WWII, while that in service sectors is lower and follows a declining trend. Less complete data from Australia provide a similar message. My analysis of the situation in Mexico, summarized in Graph 6, actually portrays more extreme sectoral variations. Indeed, the combination of marked sectoral differences not only in foreign ownership ratios but also of growth rates in capital—in favor of services—leads to the paradoxical situation, in Canada and perhaps elsewhere, of small increases in foreign ownership in each sector being overwhelmed by the faster growth of the sectors with low foreign participation, so that the ownership ratio for the entire economy is measured as falling.

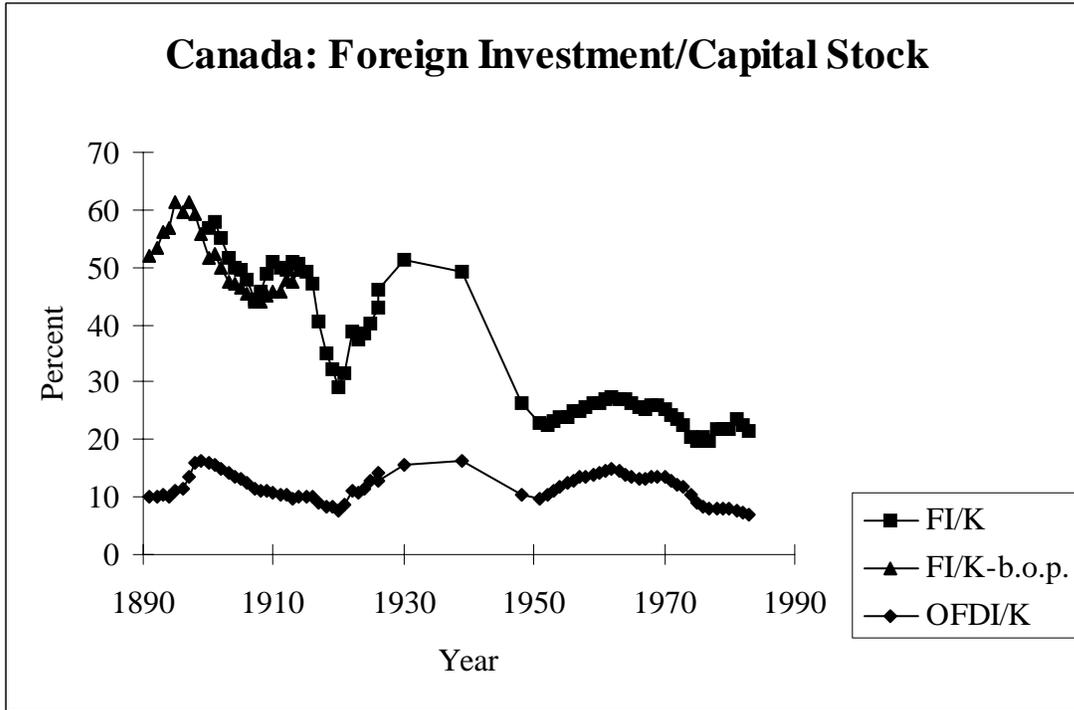
## CONCLUSIONS

The long-term U shaped pattern of foreign investment relative to income was seen to arise predominantly because of changes in loans, or to direct investment in railroads. The general trend of direct foreign investment has been downward, relative to income and probably, total capital stock. The contemporary policy implication would be that factors reducing direct foreign investment, such as a more rapid transfer of technology in product cycles, the spread of non-majority ownership linkages such as joint ventures, the relative growth of sectors such as services, and perhaps trade liberalization, are outweighing factors increasing foreign direct investment, such as the relaxation of foreign investment restrictions and privatization of state owned enterprises. Moreover, the divergence in the trends of different types of foreign capital argues in favor of sector-specific explanations, something beyond macro variables such as interest rates, savings propensities, or exchange rates. The dramatic reversal of pre-WWI country rankings, responding to the shift from investment per capita to investment over GDP, fundamentally implies that the key question is not where was investment large, but why did income levels vary so much.

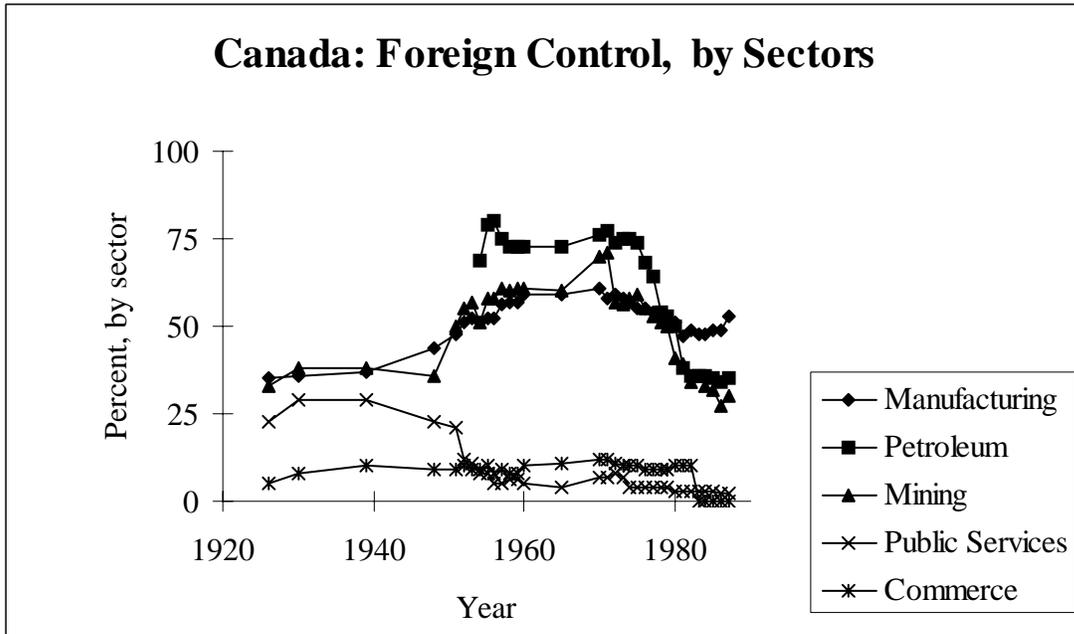
## DATA APPENDIX

### LATIN AMERICA

Graph 4. Canada: Foreign Investment/Capital Stock



Graph 5. Canada: Foreign Control, by Sectors



Graph 6. Mexico: Foreign Control, Total and by Sectors



**GDP:** The core of the estimates is UN-ECLA (1978), which collects from national sources estimates for the period up to 1976, and presents them in real terms, both national currency and U.S. dollars (1970 prices). For earlier years, GDP was estimated from population and GDP/capita. The sources for the latter were: Maddison (1995) for Chile and Peru, 1900-1913; for Brazil and Colombia, 1900-1929; and Venezuela, 1900-1938; Bulmer Thomas (1994) for the period 1913-1929. A one percent rate of growth of percapita income was assumed for Honduras (1900-1913), and Paraguay (1900-1929). For Mexico, the pre-1938 estimates of Cardenas (1987) were used. Current value estimates of NNP for Cuba were also taken from Mitchell (1993), and deflated by the US CPI. Cortés Conde (1994) provided an estimate of Argentina's real GDP from the period from 1875. For the period after 1973, I used the current dollar values of GDP from several issues of the World Bank's World Debt Tables, and its successor, Global Development Finance.

**POPULATION:** Estimates provided in the Statistical Abstract of Latin America, Volume 28, for the period from 1900; for early years this author's calculations, using rates of growth calculated from official censuses, reported in the same source. 1995 population from the 1997 World Development Report.

**FOREIGN DEBT OF THE GOVERNMENT:** For 1900, estimated as the sum of that from France, in Rippy (1948) and from the U.K. from Stone (1987), averaging the data for 1895 and 1905—note that Lewis (1938) does not indicate any portfolio investment for the U.S. for 1897. For 1913, UN-ECLA (1965, 16). For Mexico for 1900 and 1911, data from Turlington (1930; 229, 246). For 1929; data from UN-ECLA (1965, 27), and, for Cuba, Rippy (1959) and U.S. Department of Commerce (1960, 16), for 1928 and 1930, respectively. For 1938, data from Lewis (1948), and for Venezuela, Marichal (1989). For 1950-1960; data from UN-ECLA (1965, 203), reporting results of Avramovic and the IBRD. The data for 1950-1960 are composed mainly of short term debt (export credits, etc.), so that the tables in the text actually understate the decline in long term lending during this period. The 1950 datum for Cuba taken from Truslow (1951, 636). For 1970 and subsequently, the data are those of the World Bank's World Debt Tables, for "Long term debt," (LDOD).

**FOREIGN DIRECT INVESTMENT:** From the United Kingdom: up through 1928, data from Rippy (1959), and UN-ECLA (1965, 9). For 1938, data from Lewis (1948). For 1950 Bank of England (1950) and Mikesell (1955, 10)—the former referring to 1948, and the latter to 1951. Colombia in 1950 from United Nations (1955, 65). Subtotals for railroads and non-railroads from Rippy, and various issues of the South American Journal for 1928 and 1938. The breakdown of Peruvian investments into railroads and others follows Rippy (1959, 69) in assigning most of the Peruvian Corporation's investment into the railroad sector. For 1938, UK holdings in railroads in Brazil, Chile and Peru were extrapolated from the values for 1929 and 1950. From the U.S.; 1897 through 1929, from Lewis (1938) supplemented by UN-ECLA (1965, 32) and US Department of Commerce (1960). Data for 1911 in Mexico from D'Olwer (1965); his data for French investment (p. 1115) were added to the sums from the U.K. and the U.S. for 1900. For 1938, Lewis (1948). For 1950, US Department of Commerce (1960). For 1960 and 1970, the source for US FDI is the Survey of Current Business; an effort was made to use the most recently revised data. 1902 and 1913 business and railroad investments from France were taken from Rippy (1948). Most of French investment was in bonds which, being non-indexed, lost most of their value during and immediately after WWI. Subsequently, the French had little

interest in investing in Latin America. For total private foreign investment was calculated summing the separate totals for the U.K., the U.S., and France, for the period up through 1950. The 1960 total was expanded up from the U.S. total, using the average of the U.S. to total investment in 1950 and 1971. For 1971-1978, data were used from UNCTC (1983, 1988) and UNCTAD (1993, 1994); the total for 1980 was estimated on the basis of the countries given on p. 129 of UNCTC (1988). Data for the total for Latin America and the Caribbean for the 1980s from UNCTAD (1993) and earlier numbers of the World Investment Report. Individual country totals for the 1980s from UNCTAD (1994a and 1994b). Linear extrapolation was used to approximate totals for reference years. Current U.S. dollar values for GNP, foreign investment, etc. were deflated to a base of 1900 using the US GNP deflator.

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*Argentina*: For years prior to 1900, data on book value of railroads from Tornquist (1919), in "gold" pesos. No price deflator for the period before 1900 was available, which imparts a bias partially avoided by the use of the gold pesos. Cortés Conde (1994) provided an estimate of real GDP from the period 1875-1935. For the period after 1900, the source of estimates of capital stock (total, railroads, residential, etc.), as well as real GDP and foreign ownership, is UN-ECLA (1958), including the mimeographed statistical appendix. *Honduras*: Tosco (1957). *Mexico*: Twomey (1993). The methodology for the calculations for the estimates on capital stock were rather country-specific. The basic source for railroad lines open was the various series in International Historical Statistics, edited by B. R. Mitchell.

#### **AUSTRALIA AND CANADA:**

GDP: *Australia*: from Butlin (1962). *Canada* from Historical Statistics of Canada and Urquhart (1986). Pre-WWII GDP in Australia and Canada converted at exchange rates of 4.86 and 1.0, respectively.

FOREIGN INVESTMENT: *Australia*: For 1900 and 1914 calculated by me from Davis and Gallman (1994), and their unpublished tables generously provided by Lance Davis. For 1929/30, the source is the League of Nations Balance of Payments 1931-32, which noted that the datum for long-term private investment "... is [not] very firmly based." The 1938 estimate from Lewis (1948), for which all transport is included in government and portfolio investment. Subsequent data are the official estimates, appearing in the Annual Bulletin of Foreign Investment and its subsequently named publications. *Canada*: 1900-1913 total FI from Viner (1975; 99, 303). Graph 3 presents an alternative estimate of foreign capital from 1890-1926, based on the balance of payments estimates in Urquhart (1993, Table 14). For Canada from 1926 on, data from Historical Statistics of Canada. For OFDI, the period before 1926 in Graphs 3 and 4 sum my estimates from the U.K. and the U.S. For investments from the U.K., Paterson (1976, 49 "paid up capital") for the period up to 1914, and a linear extrapolation from that year up to 1926, for which the datum is from Canada's International Investment Position 1968-70, p. 110, excluding government and railroads. For pre-1926 investments from the United States, the various estimates from Lewis (1938), including an extrapolation (1870-1897) which assumed investments were zero in 1870. Graph 5's data of foreign ownership and control in Canada are taken in various issues of Canada's International Investment Position; note that the total stock of capital in the denominator in Graph 4 is larger than the sum of the stocks of capital in the various sectors in Graph 5, due to the exclusion from the latter (in CIIP) of certain services, such as government and community activities.

POPULATION: *Australia*: from Maddock and McLean (1987). *Canada*: from Historical Statistics of Canada.

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*Australia*. Butlin (1962) provides estimates of real investments—total and in railroads—from 1861, as well as for real GDP. The capital stock for railroads was calculated according to the above described procedure, and the total capital stock accumulated annual investments to an initial capital stock assumed with a capital output ratio of three, and a 3% depreciation rate. *Canada*. 1890-1926 were estimated using the current value investment data—total and railroad—in Urquhart (1986, 16), which were deflated by the implicit deflators for manufacturing and non-manufacturing investment, and railroads in Statistics Canada Fixed capital flows and stocks (1978; 331, 339). Initial values for total and railroad capital stock in 1870 were guesstimated using a capital output ratio of 3, and the average capital/mile for the late 1890s, respectively. To these stocks were summed the annual investments, incorporating an annual depreciation rate of 4%. These numbers were then joined with the official net capital stock data from Fixed capital flows and stocks (1978 and 1983), for the period starting in 1926 for non-residential capital. Official estimates of the value of residential housing start only in 1936; for the period 1926-36 these were projected up from the official data on net non-residential stock, using the ratio for that variable in the official data for 1936. A published estimate of the real capital stock in railroads is presented in Green (1986, 802), which was kindly clarified for me via personal communication by that author, who indicated that his resulting series only roughly agrees with the 1926 value in the official Statistics Canada data, so that estimate was not used.

**AFRICA and ASIA:**

GDP: *Algeria* and *Morocco*: Amin (1966, 104), deflating francs from 1955 to 1900 by dividing by 350, and then converting to dollars at 3.7francs/\$. For Morocco in 1914, estimated by projecting backwards from 1920. *Egypt*: 1913 Issawi (1963, 34). *South Africa*: Mitchell (1995). *China*: derived the dollar figure for 1970 in World Debt Tables and the output index in Maddison (1995). *India*: GDP from Goldsmith (1983), based on Sivasubramonian's unpublished estimates; real NDP from Roy (1979). *Indonesia* (Netherlands Indies): Real GDP from Van der Eng (1992) (oil at shadow price), set to a value of 1913 GDP projecting backwards using these price and output data, and Polak's nominal income estimates for 1921 and 1927, from Van Laanen (1989, 45). *Korea* and *Taiwan*: Gross Domestic Expenditure from Kimura (1989). *Malaya*: from Zimmerman (1962). *Philippines*: linking the 1950 nominal GDP with the output data from Maddison (1995) and the US price index. *Thailand*: estimated using the nominal value for 1938 from Mitchell (1982), and projecting backwards using the output indices from Sompop (1989, 251). *Turkey*: Eldem's estimate of 1913 GDP, for the country's current boundaries, is reported in Hansen (1991, 308).

POPULATION: For African countries/areas; Frankel (1938), Gifford and Louis (1971), McEvedy (1978). *Egypt* from Hansen (1991, 43). The series in Maddison (1995) was utilized for *China, India, Indonesia, Philippines, Thailand, and Turkey*. For *Malaysia* and *Indochina* (Viet Nam), Mitchell (1982).

FOREIGN INVESTMENT: *Algeria* and *Morocco*: Marseille (1977, 388). *Egypt*: foreign debt and securities from Crouchley (1938, 273), data for Suez (assumed here to be entirely foreign held) from Radwan (1974, 279). *South Africa*: from Frankel (1938), using the breakdown of FDI

reported by Paish for 1910—see Wilkins (1977). British colonies in east and west Africa from Frankel (1938). Foreign investment of other British Africa from Latham (1978, 53). French Colonial Investment (a total incorporating all of AOF, AEF, the Maghreb, Madagascar, Indochina and others) in real terms (1914 francs), from Marseille (1984, 105). Converted to 1914 dollars at 3.7F/\$, and deflated to 1900\$ by dividing by 1.26. French investment in Sub-Saharan Africa, from Frankel (1938, 150), which is consistent with Marseille (1977, 388). *China*: Remer (1933) in current US\$. *India*: Goldsmith (1983). *Indochina (Viet Nam)*: in 1914 francs from Marseille (1977, 388). *Indonesia, Malaya, Philippines and Thailand*: from Callis (1942), excluding investment by resident Chinese, which ranged between 20 and 40% of the totals reported for the late thirties. *Turkey*: debt and foreign investment for the Ottoman Empire in 1913 from Pamuk (1987).

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*South Africa*: Data on national and railroad capital stocks, and nominal railroad and nominal GDP, from Franzsen and Willers (1959). It is unfortunate that these calculations have not been reworked since then. *India*: Accumulated capital outlay for railroads, and railway mileage, from the beginning in 1853, from Morris and Dudley (1975). The price index used to deflate railroad investments was the investment deflator from Roy (1979), and a 2.5% deflation rate was applied. Real capital from Roy (1996), corrected for all India and inventories as in Goldsmith (1983). *Indonesia*: Investment in railroads is provided in Volume 3 of Mansvelt and Creutzberg (1977). There are apparently only two price indexes available, for rice and exported products; I have followed van Laanen (1989) in using these two and Sauerbeck's index, equally weighted.

#### **OTHER COUNTRIES:**

*Japan*. Elaborate estimates of national capital and railroad capital stocks (net, as well as gross), are presented in Volume 3 of Ohkawa et al., (1966). Real GDP from Mitchell (1982). *United Kingdom*. Estimates on net capital stock, national and railroad, from Feinstein (1988). Real GDP from Mitchell (1988). *United States*: Net stock in railroads given in Ulmer (1960, Table C-1), and Fishlow (1966, Table 6). National wealth and its subaggregates from HSUS. Real GDP for years not covered in the Historical Statistics of the United States from Berry (1968). Other Prices: Implicit GNP deflators for the *United Kingdom* were calculated from the data in Mitchell (1982), and for the *United States* from the Historical Statistics of the United States and the Economic Report of the President.

#### **ENDNOTES**

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1.. Unfortunately, the classification of a loan as for general purposes of the government, or for some sector such as the railroads is very difficult in practice. An excellent example is the listing of loans to Mexico which Turlington (1930, Chapter VII—"Growth of the Foreign Debt") provides for the last few years of the *Porfiriato* in Mexico. Some money went to pay past due railway subsidies, most of the loans were refinancing of previous debts, and a significant part of the internal debt ended up in the hands of foreigners as the government's credibility improved.

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The amounts of the loans were greater than the actual capital inflow, because the loans were priced below par, as well as due to commissions. Another example is the 68 per cent gap between Davis and Huttenback's (1986, 40) minimum and maximum totals for foreign investment from the United Kingdom over the period 1860-1914.

2.. Kuznets, in Modern Economic Growth, provided some turn of the century estimates for what are now called developing economies. More recently, Bagchi (1975, 159) pointed out that the low per capita investment by the British in pre-WWI India was significantly due to poverty in India, but he fails to pursue this idea. Similarly, Dernberger (1975, 28) criticizes studies using data on per capita foreign investment stock, suggesting the preferability of either national income or total domestic investment.

3. Challenging an early stereotype of pre WWI foreign investment dominated by passive, rentier participants, Svedberg (1978) estimates that 44-60 per cent of foreign investment into third world countries in 1913/14 was direct investment (including directly controlled railroads); overall Latin America was about average, the fraction was lower in India, Turkey, and Africa, and higher in China and southeast Asia.

4.. For example, UNCTAD (1993, Chapter 4) discusses the question of the growth of foreign direct investment during the 1980s, concluding that it represented a "bulge in the trend." This analysis was done using global totals, and it is unclear if price changes were taken into consideration, much less any consideration of size of markets.

5.. These comparisons are obviously sensitive to the estimates of 1913 levels of GDP; there is general agreement on the population totals, but less is known about per capita income. My data parallels the estimates of Bulmer-Thomas (1994), my figure for Cuba is higher, and for Chile is lower than his. Maddison (1995) presents data for 7 countries in Latin America whose rank and dispersion is similar to that of Bulmer-Thomas. In addition, Maddison has data for several other third world countries, and for the industrial countries. His tables report smaller differences between industrial and developing countries than those arising from market based exchange rates, familiar from the ICP type work.

6.. Curiosity leads to look for the corresponding data for some other countries. Russian external debt and railroad bonds totaled 12.8 billion rubles in 1913 (Miller 1926, 118), and another 2 billion in private enterprises (Lyashchenko 1949, 715); with the NNP estimated to have been 20.3 billion rubles (Gregory 1982, 57), the ratio of total foreign investment to NNP was 73 percent. Japan's foreign loans and outstanding bonds was 1.97 billion yen in 1913 (Lockwood 1954, 255), which was 39 percent of the GNP of about 5 billion yen (Mitchell, 1982). The world's biggest debtor in 1913 was the United States, for whom total external obligations were 17% of GNP (down from 25% in the 1870s), only one fifth of which was direct investment (HSUS Series F-1 and U-40). In 1994 the same country had the world's largest amount of obligations, amounting to some 47% of our GNP; of this nearly one fifth is (inward) direct investment, and about the same amount is "Foreign Official Assets" (Survey of Current

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Business, June, 1995).

7.. The dating in Stallings (1987) of the cycles of United States lending to the region is slightly different, responding to the later emergence of the U.S. as a capital exporter, compared to Europe.

8.. This U-shaped pattern was noted, but not further analyzed, by Maddison and Associates (1992) in their studies on Brazil and Mexico.

9.. Arguably the most innovative recent work on portfolio investment flows links host and home country factors by focusing on demographic characteristics (Taylor and Williamson, 1994); an obvious extension of our work is to test the applicability of that explanation—which was based on the case of Argentina—to other Latin American countries.

10.. During the last decade or so, there has been an appreciable inflow of capital into so-called emerging stock markets, for which good data are not available.

11.. This is £100 million in *cedulas* to the Argentine National Mortgage Banks, see Stone (1987, 163). Rippy of course followed the South American Journal, a major business publication. The £100 million is more than a fifth of the total attributed to Argentina, and nearly a tenth of the total for the region.

12.. The standard methodology of estimating investment totals before 1900 involves accumulating yearly flows. These are available in the balance of payments tables in Urquhart (1986) either as the (negative of the) current account balance, or the long term capital inflow, in Davis Gallman (1994) or in Simon (1970); they provide consistent stories of these two peaks of foreign investment in 1895 and 1913.

13. Even before WWI Canada had become a source of investment funds, and entrepreneurship, in Latin America, a subject explored with much interest in Armstrong and Nelles (1988).

14. The data for Honduras was generated at the same time as the other ECLA studies summarized by Ganz, et al., in a similar format, but did not result in a publication such as the Analyses and Projections... It should be noted that although there were railroads in the country, these were owned by the banana companies, and the amounts were incorporated in that sector's totals.

15.. The calculated growth rate of total foreign direct investment in Chile is unacceptably high, and would appear to arise from the adoption of a new registration system in 1974. This judgement is supported by the U.S. data, although it is known that the external sources of funds has diversified recently.

16.. Nationalist rhetoric does not necessarily lead to a reduction in foreign presence. Chapter 3 of

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Twomey (1993) highlights the contrast between post-revolutionary nationalist rhetoric in Mexico and the gradual opening of the manufacturing and service sectors to foreigners.

17. Using similar statistical sources, Williams (1975) presents data indicating that during the period 1956-1972, about 15% by value of FDI in Latin America was nationalized. Cuba and Chile accounted for about 2/3 of that total.

18.. In point of fact, the Canadian source (CIIP) distinguishes between ownership and control; non-controlling equity purchases are included only under ownership. This distinction was important for the period up to about 1950, and was only important in railroads. The first year covered by CIIP, 1926, was after the reorganization of the railroads, involving government purchase of two unprofitable lines. It would be very difficult to determine control of the Canadian railroads before that time.

19. One technical detail of Graph 4 should also be noted. The rise in the economy-wide level of foreign control, which is reported in CIIP, is predominantly due to that source's exclusion of certain services, such as education, the government, and community buildings. Using the more inclusive estimate of capital from FCFS indicates the relative constancy of foreign ownership, as shown in the Graph.

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