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ABSTRACT

U.S. Tax Policy and the Overseas Activities
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by

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We present the most recent tax data (1984) on U.S. multinationals, their foreign operations, and repatriations received from their controlled foreign corporations (CFCs), and explore the ramifications of the 1986 Tax Reform Act's lowering of the corporate rate from 46% to 34%. We identify and quantify the effects on investment and financial decisions of U.S. multinationals that are attributed to the foreign tax credit and deferral. We find that the lowering of the rate has a large impact on excess credit positions, present evidence indicating that the composition of foreign source income has an important effect on such positions, find that violation of capital export neutrality is likely to be widespread, and explore the impact of repealing deferral. The data relating to financial decisions shows mixed support for current theories.

I. Introduction

By almost any measure, the international sector of the U.S. economy has grown in importance over the past three decades. The overseas activities of U.S. multinational corporations have similarly grown in importance. Commerce Department data indicate that the profits of U.S. corporations other than those in domestic industries averaged 6.1% of total corporate profits during the 1960s. This rose to 12.2% during the 1970s and 12.6% for 1980 through 1988. Recognition of the growing importance of the income generated abroad by U.S. corporations suggests a greater importance be attached to the tax treatment of such income.

In this paper, we attempt to quantify the overseas activities of U.S. multinationals and the incentives that arise from U.S. international tax policy using data obtained from 1984 U.S. tax returns. The data were sampled from three tax forms: the basic corporate tax form, the foreign tax credit form, and an information return required of controlling U.S. owners of foreign corporations. Unweighted, the sample consists of 2,587 parent corporations that filed either or both of the latter two forms. Of these, 2,082 filed for a foreign tax credit and 1,514 did not control any foreign corporations. Thus, 568 parents both filed for a foreign tax credit and controlled at least one foreign corporation. In total, the 2,587 parents reported on 23,169 controlled foreign corporations. A dataset was created that matched overall information about a parent with country specific information concerning that parent's controlled foreign corporations, branch income, and other foreign source income.[1]

Before proceeding, we present a brief overview of the structure of U.S. taxation of overseas activities of U.S. multinationals. Simply stated, the U.S. taxes the worldwide income of its corporations and offers a credit for taxes paid to other countries. As any international tax specialist can attest, this simple statement is far from the end of the story.

A U.S. corporation can set up an overseas operation either as a branch (which is not separately incorporated) or as a controlled foreign corporation (which is incorporated in the foreign country). While the income of a branch is taxable currently, the income of a controlled foreign corporation (CFC) is only subject to U.S. tax when it is repatriated to the U.S. Since a CFC can delay subjecting its income to U.S. tax by not repatriating income, this feature of U.S. international tax law is commonly referred to as deferral. The Revenue Act of 1962 restricted deferral by adding Subpart F, which subjects certain types of unrepatriated income of CFCs to U.S. tax currently, as if it had been repatriated as a dividend. Moreover, for dividend repatriations, the U.S. government subjects to tax income that is "grossed up" to include taxes paid to the foreign government.

Credit is (potentially) granted for income taxes paid to foreign governments, including taxes on branch income and the "deemed paid" taxes that correspond to the gross-up of income incurred when a CFC repatriates dividends. In addition, credit is granted for certain withholding taxes; normally, these taxes have been applied to gross income.

The credit is limited to the amount of tax that would have been paid on the income if it had been earned in the U.S. (given both the U.S. tax rate and the U.S. definition of the tax base). This creates two types of multinationals: those that receive full credit for foreign taxes paid and those that do not. The latter group is said to be in excess credit; if full credit is received the multinational is said to be in deficit of credit or excess limitation. Income and taxes from all countries are added to determine whether the limitation applies; thus, the multinational will be in excess credit if its (weighted) average foreign tax rate is greater than the U.S. tax rate. To limit the cases for which the U.S. does not collect tax because of the averaging of high and low taxed income, separate credit calculations are made for particularly high or low tax "baskets."[2]

The rest of this paper is organized as follows. The next section presents data on controlled foreign corporations, foreign branches, and other sources of foreign income received by U.S. multinationals, and presents some simple calculations of average effective tax rates over countries and industries. The third section attempts to quantify certain effects that the foreign tax credit and deferral might have on investment and financial decisions of U.S. multinationals. After providing a framework for discussion, we present data on the magnitude of relevant firm characteristics and discuss some implications of the data. Finally, the last section concludes by summarizing what we have learned from the data, suggesting future work on general questions raised by the data, and briefly discussing future work that needs to be done to analyze the major changes enacted by the 1986 Tax Reform Act.

II. Overseas Activities of U.S. Multinationals

A. Foreign Subsidiaries

We first examine the overseas activities of CFCs of U.S. multinationals. Tables 1a and 1b give certain characteristics of CFCs by country and industry, respectively, including assets, pre-tax earnings and profits, and foreign income taxes paid. Assets are reported for all CFCs (except holding companies) while earnings and profits are reported for all CFCs and for those CFCs that have positive earnings and profits.[3]

Total assets of CFCs amounted to $569 billion in 1984. Canada and the U.K. are the most popular countries for CFCs of U.S. multinationals. CFCs in Canada accounted for $98 billion, or 17 percent of total CFC assets in 1984. CFCs in the U.K. had $79 billion in assets. Many CFCs are located in other Western European countries as well, including West Germany, Switzerland, the Netherlands, and France. The Caribbean has more assets than any European country other than the U.K. and West Germany, but this number is distorted as

Table 1a

CHARACTERISTICS OF CONTROLLED FOREIGN CORPORATIONS, 1984[1] - BY COUNTRY
(Dollars in millions).

Country	Assets	E & P (Before Tax)		Foreign Income Tax	
		All	> 0	All	E&P > 0
Canada	$97,815	$10,719	$10,978	$4,216	$4,200
Latin America					
Mexico	9,852	811	966	553	544
Central America	15,750	1,198	1,362	276	264
Caribbean	42,068	1,931	2,048	175	170
South America					
Brazil	17,639	1,702	2,076	686	650
Other	13,159	622	1,192	327	312
Western Europe					
Belgium	12,539	514	734	242	261
France	20,275	1,539	1,737	793	794
Ireland	3,152	413	529	25	23
Italy	18,191	1,527	1,695	668	660
Netherlands	22,983	1,234	1,389	284	280
Spain	9,024	346	611	181	184
Switzerland	22,725	1,406	1,464	282	275
U.K.	79,370	10,959	11,323	5,707	5,621
West Germany	43,766	2,648	3,153	1,302	1,463
Other	14,455	1,111	1,274	509	508
Africa					
South Africa	4,062	320	459	272	265
Other	10,617	792	1,250	721	747
Asia					
Japan	25,175	1,977	2,037	1,066	1,064
Singapore	4,542	354	412	53	52
Hong Kong	11,837	756	802	135	135
South Korea	753	71	85	19	19
Taiwan	1,401	184	211	28	27
Middle East	2,779	151	179	25	25
Other	6,934	2,392	2,469	1,214	1,208
Oceania					
Australia	22,142	1,158	1,384	539	529
Other	1,431	126	147	65	66
Other	34,118	1,169	1,714	212	190
Total	$568,554	$48,132	$53,679	$20,575	$20,537

[1] Excludes holding companies.

Source: Authors' calculations.

Table 1b

CHARACTERISTICS OF CONTROLLED FOREIGN CORPORATIONS.
1984[2] - BY INDUSTRY
(Dollars in millions).

Industry	Assets	E & P (Before Tax)		Foreign Income Tax	
		All	> 0	All	E&P > 0
Agriculture	$911	$35	$49	$22	$20
Mining[1]	8,091	1,432	1,596	950	952
Construction	3,730	427	450	122	121
Manufacturing[1]	289,193	26,745	29,791	10,439	10,378
Food	20,721	2,515	2,682	777	769
Paper	7,171	652	695	254	244
Chemicals	54,829	6,093	6,651	2,402	2,407
Metals	19,113	1,116	1,491	412	438
Nonelectrical Machinery	52,137	7,157	7,574	2,974	2,985
Electrical Equipment	45,964	2,918	3,210	945	939
Motor Vehicles	47,530	2,447	3,258	1,255	1,195
Transportation	5,639	547	589	227	226
Instruments	11,142	1,232	1,356	476	471
Other	24,947	2,068	2,285	717	704
Petroleum	86,535	13,931	15,657	7,391	7,500
Transportation	23,696	1,105	1,256	350	335
Wholesale Trade[1]	17,115	1,011	1,124	289	240
Retail Trade	12,831	756	801	227	226
Banking	81,209	1,148	1,177	340	336
Insurance	16,808	606	681	120	119
Other	28,459	935	1,099	324	310
Total	$568,554	$48,132	$53,679	$20,575	$20,537

[1] Except petroleum.

[2] Excludes holding companies.

Source: Authors' calculations.

discussed below. In Asia, a large amount of the assets of U.S. multinationals' CFCs are in Japan and Hong Kong. Australia is home to almost all CFC assets in Oceania, while Brazil has a large amount ($18 billion) of CFC assets in South America.

A word of explanation concerning the Caribbean is warranted because of special circumstances in this region. Of the $42 billion in assets reported in the Caribbean, $35 billion are attributable to the Netherlands Antilles. The Netherlands Antilles was utilized to obtain loans indirectly through the Eurobond market until the middle of 1984. A treaty with the Netherlands allowed a U.S. parent to avoid the U.S. withholding tax on interest by borrowing from a subsidiary located in the Netherlands Antilles, which had borrowed the funds on the Eurobond market. Thus, assets attributed to the Caribbean are large in part because of loans to parents from their Netherlands Antilles subsidiaries. The U.S. eliminated its withholding tax on interest in the middle of 1984, and these assets are now decreasing as the loans mature and are paid off.

Other than manufacturing, major industries of the parents that own CFCs include petroleum and banking, which amount to $87 billion and $81 billion, or 15.3 and 14.3 percent of total assets, respectively. Within manufacturing, chemicals, electrical equipment, nonelectrical machinery, and motor vehicles industries dominate. CFC assets in these four manufacturing industries are about one third of all CFC assets.

Tables 2a and 2b give certain computations from the characteristics given in tables 1a and 1b. The average CFC tax rate is computed by dividing foreign taxes by earnings and profits for those CFCs with positive earnings and profits. Average tax rates for CFCs range from a low of 4% in Ireland to a high of 60% in Africa other than South Africa, with an average over all countries of about 38%. Other high-tax areas include Japan and Mexico, while Singapore and the Caribbean are among the low-tax regions.

Table 2a

TAX RATES AND RATES OF RETURN OF CONTROLLED FOREIGN CORPORATIONS, 1984[1] - BY COUNTRY

Country	Average CFC Tax Rate (E & P > 0)	Gross Rate of Return (E & P > 0)	Net Rate of Return (E & P > 0)
Canada	.38	.13	.09
Latin America			
Mexico	.56	.19	.11
Central America	.19	.12	.10
Caribbean	.08	.11	.10
South America			
Brazil	.31	.21	.16
Other	.26	.17	.13
Western Europe			
Belgium	.36	.09	.06
France	.46	.13	.08
Ireland	.04	.19	.19
Italy	.39	.13	.09
Netherlands	.20	.14	.13
Spain	.30	.12	.09
Switzerland	.19	.10	.09
U.K.	.50	.20	.11
West Germany	.46	.10	.06
Other	.40	.12	.08
Africa			
South Africa	.58	.22	.13
Other	.60	.25	.11
Asia			
Japan	.52	.10	.06
Singapore	.13	.15	.13
Hong Kong	.17	.11	.10
South Korea	.22	.14	.11
Taiwan	.13	.17	.15
Middle East	.14	.11	.10
Other	.49	.42	.22
Oceania			
Australia	.38	.11	.08
Other	.44	.14	.09
Other	.11	.08	.07
Total	.38	.14	.10

[1] Excludes holding companies.

Source: Authors' calculations.

Table 2b

TAX RATES AND RATES OF RETURN OF CONTROLLED FOREIGN CORPORATIONS, 1984[2] - BY INDUSTRY

Industry	Average CFC Tax Rate (E & P > 0)	Gross Rate of Return (E & P > 0)	Net Rate of Return (E & P > 0)
Agriculture	.41	.11	.07
Mining[1]	.60	.27	.11
Construction	.27	.15	.11
Manufacturing[1]	.35	.12	.08
Food	.29	.16	.12
Paper	.35	.12	.08
Chemicals	.36	.16	.11
Metals	.29	.12	.09
Nonelectrical Machinery	.39	.18	.12
Electrical Equipment	.29	.10	.08
Motor Vehicles	.37	.11	.08
Transportation	.38	.13	.08
Instruments	.35	.16	.11
Other	.31	.12	.09
Petroleum	.48	.25	.13
Transportation	.27	.10	.08
Wholesale Trade[1]	.21	.11	.09
Retail Trade	.28	.09	.07
Banking	.29	.08	.08
Insurance	.17	.06	.05
Other	.28	.09	.07
Total	.38	.14	.10

[1] Except petroleum.

[2] Excludes holding companies.

Source: Authors' calculations.

Tax rates calculated for parent industries also vary, though not quite as widely as for countries. The industry tax rates calculated using positive earnings and profits range from a low of 17% in the insurance industry to a high of 60% in mining. CFCs owned by banks had an average tax rate of 29%, while CFCs owned by petroleum firms averaged 48%.

Gross and net of tax rates of return are calculated by adding interest payments reported on the CFCs' income statements to earnings and profits and dividing by assets. Thus, the reported rates of return are those on capital (whether a return on debt or equity). The net of tax rate of return averages 10% and ranges from a low of 6% in Japan and Belgium to a high of 22% in Asian countries other than Japan, the "four tigers" (Hong Kong, Singapore, South Korea, and Taiwan), and the Middle East. Industry net rates of return are as low as 5% for CFCs owned by insurance parents and as high as 13% for CFCs owned by petroleum parents.

B. Foreign Branches

As mentioned, foreign branches of U.S. multinationals are taxed currently on their income (although a credit is given for foreign taxes paid). Tables 3a and 3b give branch income, foreign taxes on branches, and average tax rates by country and industry, respectively. Income and taxes are given for all branches and for those with positive income.

Total branch income, $14.6 billion, was less than one third of CFC earnings and profits in 1984. The largest amount of branch income was generated in the U.K., $2.6 billion. Australia, with $1.0 billion, and Canada, with $0.7 billion also had a large amount of branch income in that year. Branches in Asian countries other than Japan, the four tigers, and the Middle East had a high $2 billion of branch income, which reflects oil in Indonesia to a large extent. In Brazil, total branch income was $152 million in 1984, which compares with any European country other than the U.K.

Table 3a

CHARACTERISTICS OF FOREIGN BRANCHES OF U.S. MULTINATIONALS, 1984 - BY COUNTRY
(Dollars in millions).

Country	Branch Income		Foreign Taxes		Average Tax Rate (Branch Income > 0)
	All	> 0	All	Income > 0	
Canada	$719	$734	$462	$456	.62
Latin America					
Mexico	205	231	76	60	.26
Central America	161	180	10	8	.04
Caribbean	525	557	32	25	.05
South America					
Brazil	152	436	101	62	.14
Other	477	794	104	82	.10
Western Europe					
Belgium	31	78	6	5	.07
France	179	216	9	9	.04
Ireland	53	56	7	7	.13
Italy	174	185	30	29	.16
Netherlands	115	222	53	42	.19
Spain	134	163	28	26	.16
Switzerland	20	63	6	3	.05
U.K.	2,569	2,856	626	598	.21
West Germany	67	96	8	6	.07
Other	2,152	2,171	1,045	1,040	.48
Africa					
South Africa	41	44	32	31	.70
Other	587	674	363	296	.44
Asia					
Japan	55	243	62	60	.25
Singapore	291	306	23	23	.07
Hong Kong	160	216	15	14	.07
South Korea	30	50	17	15	.30
Taiwan	83	98	16	15	.16
Middle East	735	758	302	296	.39
Other	2,044	2,235	932	929	.42
Oceania					
Australia	999	1,027	534	531	.52
Other	12	16	4	4	.26
Other	1,803	2,340	156	126	.05
Total	$14,576	$17,044	$5,060	$4,802	.28

Source: Authors' calculations.

Table 3b

CHARACTERISTICS OF FOREIGN BRANCHES OF U.S. MULTINATIONALS, 1984 - BY INDUSTRY
(Dollars in millions).

Industry	Branch Income		Foreign Taxes		Average Tax Rate (Branch Income > 0)
	All	> 0	All	Income > 0	
Agriculture	$1	*	$0	*	*
Mining[1]	335	$347	132	$130	.37
Construction	5	*	4	*	*
Manufacturing[1]					
Food	125	203	92	84	.41
Paper	3	11	18	17	1.52
Chemicals	644	1,001	413	403	.40
Metals	117	165	54	46	.28
Nonelectrical Machinery	309	372	160	148	.40
Electrical Equipment	207	265	130	124	.47
Motor Vehicles	-23	71	30	29	.41
Transportation	5	23	14	8	.34
Instruments	38	45	21	18	.41
Other	-35	64	17	12	.19
Petroleum	6,392	6,699	3,372	3,294	.49
Transportation	170	177	36	34	.19
Wholesale Trade[1]	19	22	8	8	.35
Retail Trade	5	69	15	14	.20
Banking	5,991	7,152	441	336	.05
Insurance	96	160	47	42	.26
Other	169	188	59	52	.27
Total	$14,576	$17,044	$5,060	$4,802	.28

Source: Authors' calculations.

[1] Except petroleum.

A * indicates that information in that cell was suppressed to preserve taxpayer confidentiality.

Almost all branch income was obtained by banking ($6.0 billion) and petroleum ($6.4 billion) parents. These two industries accounted for 85 percent of branch income. Average foreign tax rates on positive branch income of these two industries were 5% in banking and 49% in the petroleum industry. The overall average tax rate is 28%. Average foreign tax rates on positive branch income vary widely by country, from 4% in France and Central America to 70% in South Africa and 62% in Canada. The average in the U.K. was 21%.

C. Other Income

Other than CFC income and foreign branch income, a U.S. multinational may receive income from unrelated overseas parties, as well as from interest, royalties, and other CFC flows that are not part of CFC income. As will be detailed later, repatriated CFC income is about $22 billion. Adding this to branch income indicates roughly $37 billion of branch and repatriated CFC income in 1984. The difference between total foreign source income as shown in tables 4a and 4b ($68.7 billion) and the $37 billion indicates that a substantial portion of foreign source income arises from other sources.

Unfortunately, the exact form of these other sources of income is difficult to detail. A brief look ahead to tables 8a and 8b indicates that about $14 billion of CFC repatriations are in the form of dividends and Subpart F income, and $7 billion take the form of interest, rent, and royalties. While these figures can be compared to those of tables 4a and 4b, deductions are not detailed by category and therefore the gap between CFC repatriations plus branch income and total foreign source income cannot be explained in detail.

Tables 5a and 5b detail foreign taxes paid on the various forms of foreign source income. While the tables make clear the taxes paid on branches, it is again difficult to separate taxes on income from sources other than branches and repatriated CFC income. For instance, a majority of taxes on dividends come from CFC income, but even an approximation

Table 4a

FOREIGN SOURCE INCOME OF U.S. MULTINATIONALS. 1984 - BY COUNTRY
($ millions)

Country	Total	Dividends	Interest, Rent, and Royalties	Other	Deductions	Branch	863(b)
Canada	$7,445	$4,354	$2,330	$1,570	-$2,291	$719	$763
Latin America							
Mexico	1,081	241	1,620	223	-1,232	205	23
Central America	922	823	224	843	-1,124	161	-5
Caribbean	2,115	1,591	499	1,343	-1,846	525	4
South America							
Brazil	1,633	1,159	1,172	120	- 987	152	17
Other	1,772	427	1,676	1,178	-2,012	477	26
Western Europe							
Belgium	425	479	390	21	- 511	31	15
France	1,455	774	992	149	- 723	179	84
Ireland	166	51	84	54	- 80	53	4
Italy	988	532	680	170	- 592	174	23
Netherlands	2,570	1,710	462	762	- 500	115	20
Spain	386	200	327	14	- 301	135	12
Switzerland	857	856	213	106	- 373	20	36
UK	11,764	7,483	2,735	2,306	-3,442	2,572	111
West Germany	2,315	1,827	990	101	- 772	67	102
Other	4,118	599	2,311	835	-1,812	2,152	32
Africa							
South Africa	477	380	159	24	- 137	41	9
Other	2,310	499	224	2,781	-1,784	587	3
Asia							
Japan	2,875	1,501	2,029	508	-1,431	55	214
Singapore	651	313	302	96	- 358	291	7
Hong Kong	482	317	242	144	- 394	160	13
South Korea	260	72	352	93	- 314	30	27
Taiwan	206	72	105	101	- 166	83	10
Middle East	1,310	461	803	3,716	-4,423	735	18
Other	3,874	1,441	542	1,596	-1,784	2,044	34
Oceania							
Australia	2,311	761	527	566	- 573	999	31
Other	90	36	67	37	- 69	12	8
Other	9,330	2,743	5,793	11,049	-12,784	1,804	726
Total	$64,190	$31,705	$27,849	$30,509	-$42,815	$14,578	$2,365

Source: Authors' calculations.

Table 4b

FOREIGN SOURCE INCOME OF U.S. MULTINATIONALS, 1984 - BY INDUSTRY
($ millions)

Industry	Total	Dividends	Interest, Rent, and Royalties	Other	Deductions	Branch	863(b)
Agriculture	$250	$112	$110	$1,073	-$1,044	$1	$0
Mining[1]	2,852	1,449	626	4,756	-4,314	336	0
Construction	312	113	30	249	- 88	5	3
Manufacturing[1]							
Food	1,746	1,413	418	280	- 518	126	27
Paper	574	431	210	77	- 182	3	35
Chemicals	5,963	4,517	1,252	996	-1,765	645	319
Metals	1,552	1,181	367	200	- 401	117	89
Nonelectrical Machinery	6,770	3,753	3,626	522	-2,038	309	600
Electrical Equipment	2,417	1,030	908	1,015	- 938	207	194
Motor Vehicle	2,388	1,868	215	315	- 608	-24	621
Transportation	597	359	202	219	- 201	5	13
Instruments	1,142	838	270	36	- 179	39	138
Other	2,049	1,288	751	1,254	-1,316	-35	107
Petroleum	18,739	9,792	2,372	8,540	-8,458	6,395	98
Transportation	2,002	540	365	2,760	-1,932	170	98
Wholesale Trade[1]	1,304	818	578	3,497	-3,620	19	11
Retail Trade	523	401	216	170	- 269	5	0
Banking	9,696	599	12,782	942	-10,568	5,991	3
Insurance	955	204	898	406	- 652	96	3
Other	2,360	998	1,709	3,201	-3,724	169	7
Total	$64,190	$31,705	$27,849	$30,509	-$42,815	$14,578	$2,365

[1] Except petroleum.

Source: Authors' calculations.

Table 5a

FOREIGN TAXES PAID ON FOREIGN SOURCE INCOME OF U.S. MULTINATIONALS. 1984 - BY COUNTRY
($ millions)

Country	Total	Dividend	Interest, Rent, and Royalties	Branch	Other
Canada	$3,193	$2,183	$143	$462	$405
Latin America					
Mexico	489	166	216	76	31
Central America	193	159	7	10	17
Caribbean	412	164	7	32	209
South America					
Brazil	1,086	667	297	101	21
Other	473	175	81	104	113
Western Europe					
Belgium	255	223	24	6	2
France	435	381	39	9	5
Ireland	15	8	0	7	0
Italy	288	227	29	29	2
Netherlands	788	685	2	53	47
Spain	137	87	19	28	4
Switzerland	291	275	9	6	0
UK	4,598	3,787	35	626	151
West Germany	1,067	1,041	17	8	1
Other	2,033	303	662	1	23
Africa					
South Africa	269	228	9	31	0
Other	1,169	125	4	363	677
Asia					
Japan	1,074	867	115	62	30
Singapore	99	57	15	23	4
Hong Kong	56	36	2	14	3
South Korea	52	24	5	17	5
Taiwan	50	23	8	16	3
Middle East	689	19	8	302	361
Other	1,908	582	47	932	347
Oceania					
Australia	1,010	411	49	534	16
Other	32	20	7	4	1
Other	1,727	726	292	156	552
Total	$23,891	$13,652	$2,149	$5,060	$3,029

Source: Authors' calculations.

Table 5b

FOREIGN TAXES PAID ON FOREIGN SOURCE INCOME OF U.S. MULTINATIONALS. 1984 - BY INDUSTRY
($ millions)

Industry	Total	Dividends	Interest, Rent, and Royalties	Branch	Other
Agriculture	$66	$35	$14	$0	$17
Mining[1]	1,547	682	13	131	720
Construction	105	34	1	4	67
Manufacturing[1]					
Food	769	634	31	92	12
Paper	230	196	15	1	18
Chemicals	2,474	1,935	96	413	30
Metals	547	460	24	54	9
Nonelectrical Machinery	2,266	1,880	180	160	46
Electrical Equipment	560	343	59	130	28
Motor Vehicle	957	886	19	30	21
Transportation	208	166	15	14	13
Instruments	418	379	17	21	1
Other	701	572	61	17	51
Petroleum	9,921	4,403	668	3,372	1,478
Transportation	476	152	21	36	266
Wholesale Trade[1]	399	270	25	97	8
Retail Trade	184	147	17	14	5
Banking	1,329	157	706	441	24
Insurance	152	56	31	47	18
Other	582	265	132	59	126
Total	$23,891	$13,652	$2,149	$5,060	$3,029

[1] Except petroleum.

Source: Authors' calculations.

of taxes on other income is difficult because these taxes include deemed paid taxes on noncontrolled foreign corporations and involve different withholding rates on repatriations from different countries.

III. The Incentives Faced by U.S. Multinationals

In this section, we attempt to quantify certain incentives that may be created by U.S. international tax policy. We begin by framing our discussion with a brief taxonomy of the incentives that may be created. We then present data on the magnitude of relevant firm characteristics, and end by drawing out some of the implications of the data.

A. A Taxonomy

1. The Effect of the Foreign Tax Credit and Deferral on Investment Decisions

Some disgreement exists in the literature concerning whether and to what extent the foreign tax credit and deferral affect investment decisions. The traditional body of literature argues that the foreign tax credit (absent deferral) leads to capital-export neutrality for deficit of credit firms and that deferral creates an incentive for deficit of credit firms to invest abroad rather than repatriating, incurring the higher U.S. tax rate, and investing in the U.S.[4] A second school of thought, put forward by Hartman (1985), argues that the foreign tax credit (in the presence of deferral) will not affect investment location decisions.

The traditional argument concerning location decisions proceeds as follows. By definition, a multinational that is in an excess credit position is unable to obtain credit for the excess of foreign over U.S. tax. Consequently, the excess credit multinational faces the tax rate of the country in which it invests on its next dollar of investment income.[5] A deficit of credit firm, on the other hand, would face the U.S. tax rate on the margin regardless of the location of its investment if it did not defer any

income. Thus, to the extent firms are in deficit of credit and do not defer income, the U.S. foreign tax credit system fulfills the criteria for capital export neutrality. Since deferred income is subject to the foreign tax rate, deferral is thought to move the tax system away from capital export neutrality.

The Hartman argument assumes that income earned abroad is obtained from investing earnings that are already abroad that will eventually be repatriated. Assuming that deferral is possible, Hartman compares the return on repatriating now with the return on repatriation at a later date. To illustrate, suppose that there are two periods and that a deficit of credit firm decides to repatriate the foreign return on its investment after the first period. The firm must pay the U.S. tax (which is higher than the foreign tax because the firm is in a deficit of credits) on its return. In the second period, the firm will then invest the after-U.S.-tax return in the U.S., earn the U.S. return, and pay U.S. tax on the new return. In symbols, the firm will earn

$$(1) \qquad r^f(1 - t^{us}) + r^f(1 - t^{us})r^{us}(1 - t^{us}) = (1 - t^{us})r^f[1 + r^{us}(1 - t^{us})]$$

where

r^f = foreign return,

r^{us} = U.S. return,

t^f = foreign tax rate, and

t^{us} = U.S. tax rate.

If the firm repatriates in the second period rather than the first, it will pay the lower foreign tax on its return in the first period. However, when the firm repatriates the first period earnings, it will be subject to the difference between the U.S. and foreign tax rates; that is, the total tax on the first period earnings will be the U.S. rate. Meanwhile, the firm will earn the foreign return on its first period return and must pay the U.S. tax on this amount. Algebraically, the firm will earn

(2) $$r^f (1 - t^{us}) + [r^f (1 - t^f) r^f (1 - t^{us})] = (1 - t^{us}) r^f [1 + r^f (1 - t^f)].$$

Comparing (1) to (2) implies that a deficit of credit firm will invest abroad if $r^f (1 - t^f) > r^{us} (1 - t^{us})$. Thus, the investment decision of the firm is the same as it would be if no U.S. tax were applied to foreign source income. Moreover, since this is the same decision rule that an excess credit firm would use, the foreign tax credit position of the parent is irrelevant for investment decisions involving "mature" overseas activities, which are financed out of their own earnings. That is, at least for mature activities, capital export neutrality is violated to the same extent for excess and deficit of credit firms.[6]

While both the traditional and Hartman views suggest that deficit of credit firms violate capital export neutrality to the extent that income is deferred, Hartman's view is more extreme in that the foreign tax credit does not influence investment decisions at all. Moreover, Hartman's argument attaches more importance to deferral since his argument does not hold in its absence. The older body of literature holds that the foreign tax credit does matter and that capital export neutrality will be violated to a greater extent by excess credit firms.

2. The Effect of the Foreign Tax Credit and Deferral on Financial Decisions

Financial decisions of the multinational, such as whether it minimizes its taxes by having a controlled foreign corporation borrow from the U.S. parent, borrow from local sources, issue new stock, or reinvest its earnings abroad, can also be affected both by the multinational's foreign tax credit position and by deferral. As with investment decisions, the traditional and Hartman views diverge on the question of the relevance of the excess credit position of the parent.

Consider, for example, the case of a deficit of credit parent that has a CFC that is located in a country with a low corporate tax rate. The traditional school would argue that the CFC should not send dividends back to the parent if the multinational is trying to minimize taxes. A dividend that is repatriated from a country with a low corporate tax rate will bear the higher U.S. tax rate. This school would argue that the firm can do better by investing the income abroad and deferring the high U.S. rate of tax. Hartman (1985), however, would argue that the excess credit position of the parent is irrelevant. Repatriation should take place if the after-U.S.-tax return is greater than the after-foreign-tax return regardless of the foreign tax credit position of the parent.

On the other hand, the Hartman and traditional views converge at times. For instance, consider a firm with a CFC in a high-tax country that wishes to repatriate some income. To minimize its taxes, this multinational should not repatriate dividends from its high tax CFC. The multinational in this situation will pay less in taxes if it receives interest rather than dividend payments because the interest payments can be deducted from income earned in the high-tax country. Both the Hartman and traditional views would agree on this point since this is true of both excess credit and deficit of credit firms. However, the traditional view might suggest that it is especially applicable to excess credit firms since these firms pay no U.S. tax on the interest income.

B. Magnitude of Relevant Firm Characteristics

1. Excess Credit Positions

a. Magnitude

To obtain some information on the possible effects of the U.S. international tax system on U.S. multinational decision making, we first examine the extent to which multinationals that earn income abroad are in excess credit in the active income basket.[7]

While we only consider the active basket, almost all foreign source income was in this basket in 1984. Tables 6a and 6b give the proportion of positive foreign source income that is repatriated by a parent in excess credit by country and industry, respectively, for two tax rates: the 46% tax rate that existed before the 1986 Tax Reform Act (TRA) and the fully phased in post-TRA tax rate of 34%.

The U.K. accounted for nearly one fifth of foreign source income in 1984. Table 6a shows that 62% of foreign source income derived in the U.K. was associated with a multinational in excess credit in 1984. Canada, which accounted for another 12% of foreign source income, shows only 50% of foreign source income being associated with a multinational in excess credit.

Within manufacturing, the chemical and nonelectrical machinery industries account for about 10% each of foreign source income of all industries. However, 41% of foreign source income in chemicals and only 8% of foreign source income in nonelectrical machinery are associated with excess credit parents at the 1984 46% tax rate. In the motor vehicles industry, 24% of the 4% share of total foreign source income is associated with excess credit parents in 1984. Outside of manufacturing, the petroleum and banking industries have 29 and 15 percent shares of foreign source income, respectively, in 1984. These industries vary widely in the percentage of foreign source income in excess credit at a 46% tax rate: 96% of foreign source income in petroleum is associated with an excess credit parent as compared to 11% in banking.

A consequence of the lower tax rate enacted by TRA is that, given foreign tax rates and investment patterns, more multinationals will be in excess credit. A first look at the magnitude of this change can be obtained by lowering the tax rate to 34% and observing the change in the percentage of foreign source income in excess credit. The results of this exercise are also presented in tables 6a and 6b.

Table 6a

PERCENT OF 1984 FOREIGN SOURCE INCOME ASSOCIATED WITH EXCESS CREDIT PARENTS - BY COUNTRY
(Dollars in millions).

Country	Foreign Source Income		% of FSI Associated with Excess Credit Parents (46% tax rate, FSI > 0)	% of FSI Associated with Excess Credit Parents (34% tax rate, FSI > 0)
	Total	Positive		
Canada	$7,445	$7,497	50%	86%
Latin America				
Mexico	1,081	1,142	29%	62%
Central America	922	969	23%	78%
Caribbean	2,115	2,193	34%	62%
South America				
Brazil	1,633	1,940	40%	80%
Other	1,772	2,164	41%	64%
Western Europe				
Belgium	425	683	37%	88%
France	1,455	1,530	27%	78%
Ireland	166	171	53%	73%
Italy	988	1,019	24%	80%
Netherlands	2,570	2,610	75%	94%
Spain	386	490	31%	72%
Switzerland	858	918	36%	79%
U.K.	11,809	11,956	62%	85%
West Germany	2,315	2,440	38%	88%
Other	4,118	4,295	73%	94%
Africa				
South Africa	478	500	54%	92%
Other	2,311	2,600	83%	97%
Asia				
Japan	2,875	3,039	33%	79%
Singapore	651	667	23%	55%
Hong Kong	482	539	37%	78%
South Korea	260	280	33%	59%
Taiwan	206	225	28%	54%
Middle East	1,310	1,689	56%	84%
Other	3,874	4,286	79%	91%
Oceania				
Australia	2,311	2,403	49%	74%
Other	90	101	45%	84%
Other	9,330	1,0394	33%	51%
Total	$64,190	$68,741	50%	78%

Source: Authors' calculations.

Table 6b

PERCENT OF 1984 FOREIGN SOURCE INCOME ASSOCIATED WITH EXCESS CREDIT PARENTS - BY INDUSTRY
(Dollars in millions).

Industry	Foreign Source Income		% of FSI Associated with Excess Credit Parents (46% tax rate, FSI > 0)	% of FSI Associated with Excess Credit Parents (34% tax rate, FSI > 0)
	Total	Positive		
Agriculture	$250	$261	90%	90%
Mining[1]	2,852	2,963	77%	97%
Construction	312	322	81%	81%
Manufacturing[1]	25,198	26,257	32%	82%
Food	1,746	1,816	85%	93%
Paper	574	585	73%	95%
Chemicals	5,963	6,339	41%	88%
Metals	1,552	1,597	46%	88%
Nonelectrical Machinery	6,770	6,842	08%	94%
Electrical Equipment	2,417	2,545	13%	36%
Motor Vehicles	2,388	2,552	24%	99%
Transportation	597	634	28%	33%
Instruments	1,142	1,148	45%	61%
Other	2,049	2,200	38%	66%
Petroleum	18,739	20,448	96%	100%
Transportation	2,002	2,089	25%	33%
Wholesale Trade[1]	1,304	1,338	35%	76%
Retail Trade	523	584	45%	64%
Banking	9,696	11,016	11%	42%
Insurance	955	1,041	21%	24%
Other	2,360	2,423	46%	65%
Total	$64,190	$68,741	50%	78%

[1] Except petroleum.

Source: Authors' calculations.

The initial change is seen to be quite large. The percentage of foreign source income in excess credit rises from 50% at the 46% tax rate to 78% at the 34% tax rate. Moreover, certain countries and industries change dramatically. For instance, the percentage of foreign source income associated with excess credit parents in Canada rises to 86% from 50%. In Japan, the percentage rises to 79% from 33%. Similarly, for the motor vehicles industry, the percentage rises to 99% from 24%, and nonelectrical machinery rises to 94% from 8%. These dramatic changes are sometimes caused by a single large firm switching from deficit of credit to excess credit.

It should be noted that there are several reasons why actual excess credit percentages for post-TRA years may differ from the percentages shown in Tables 6a and 6b. First, the only aspect of TRA that they reflect is the change in the U.S. statutory rate. Other aspects, such as changes in the rules for allocation of interest and other expenses and for separate foreign tax credit limitations, should increase excess credit percentages. As is discussed below, quantification of these effects is left for future work. Second, firms pushed into excess credits because of the lower post-TRA tax rate will have an incentive to reduce foreign taxes. For example, firms may increase borrowing abroad rather than in the U.S., so that interest can be deducted at the relatively higher foreign tax rate. If pushed far enough, these kinds of behavioral responses could bring some firms back into a deficit of credit position. No attempt to estimate this responsiveness is made here. The third reason that actual excess credit positions may differ from our calculations involves foreign tax reforms. Several countries have changed their corporate tax systems since the data used in this paper were collected; these countries include the U.K., Canada, and, to a lesser extent, Germany and Japan. These changes all involve reductions in corporate statutory rates; therefore, it would seem that they would reduce foreign taxes paid and the excess credit positions of U.S. firms. However, to the extent that the corporate tax bases of these countries increased, the reverse could be true. For instance, the U.S. TRA reduced the U.S. statutory rate but significantly increased

corporate tax payments, and thus the U.S. average corporate rate. Because average tax rates, not statutory rates, govern excess credit positions, the net result of the foreign tax reforms is not clear. In sum, TRA's changes in foreign tax credit rules, behavioral responses, and changes in foreign tax systems will all cause actual excess credit percentages to depart from the ones shown in Tables 6a and 6b, but the size and direction of the net effect is unclear.

b. The Influence of the Composition of Foreign Source Income on Excess Credit Positions

Most commonly, researchers view an excess credit firm as one that operates in countries with corporate tax rates greater than the U.S. rate. While this is certainly true to some extent, a high corporate tax rate should not be taken too literally as the cause of an excess credit position. Other causes of excess credits should also be given consideration.

In particular, the composition of a multinational's foreign source income will have important effects on excess credit positions.[8] That is, since certain types of repatriated income are deductible from corporate taxes, the importance of the local corporate rate will be diminished. These types of income, including interest, rents, and royalties, may be subject to withholding taxes in lieu of the foreign corporate tax. These taxes are normally placed on gross income, although they are often reduced, or even eliminated, by treaty. Withholding taxes may cause excess credit positions if they are high or deficit of credit positions if they are low.

The role of different tax rates on various components of foreign source income is similar to the familiar across-country averaging feature of an overall credit system.[9] To illustrate, consider a multinational that repatriates X dollars of income from country x which has a tax rate of t^x and Y dollars from country y which has a tax rate of t^y. To determine whether the limitation applies, the firm computes the weighted average foreign tax rate

(3) $$\frac{t^x X + t^y Y}{X + Y}.$$

If the ratio given in (3) is greater than the U.S. tax rate, the limitation applies and the firm is in excess credit. Clearly, a firm can earn income in a high-tax country and not be subject to U.S. tax if it has enough income in a low-tax country. The way in which the composition of foreign source income affects a firm's excess credit position can also be illustrated with equation (3); for this case, X and Y represent two components of foreign source income. If one component is highly taxed, the multinational may be able to avoid paying U.S. tax by averaging high and low taxed repatriations.

To detail the composition of foreign source income, we follow the division of foreign source income reported on a firm's foreign tax credit form:

(4) FSI = Dividend + IRR + Other - Deductions + Branch + 863(b)

where

FSI = net foreign source income.

Dividend = gross dividend income (inclusive of gross-up).

IRR = gross income from interest, rents, and royalties.

Other = other gross income.

Deductions = deductions from gross income.

Branch = taxable branch income, and

863(b) = section 863(b) income.

Gross dividend and section 863(b) income require some explanation. When a dividend is repatriated, its gross value (gross of foreign income taxes paid) becomes subject to U.S. tax. Thus, dividend income inclusive of the gross-up is equivalent to before-tax income associated with repatriated dividends. Section 863(b) income refers to section 863(b) of the Internal Revenue Code, which divides income arising from production that takes place

partly at home and partly abroad between domestic and foreign sources. Typically, this would involve a product manufactured in the U.S. that is sold abroad. Section 863(b) rules that 50% of the income from this transaction may be counted as foreign source.

We also compute the effective tax rates for each category given in (4) by dividing taxes paid on each component (including withholding taxes) by gross of tax income (each computed for only positive values of income). While most tax rates are straightforward, the tax rate on dividends is the more complicated and requires some explanation. When dividends are repatriated, the U.S. government treats a portion of the CFC's earnings and profits as repatriated income and "deems" that foreign taxes have been paid on that income. The foreign tax that corresponds to gross dividend income thus includes income taxes "deemed paid" on the portion of earnings and profits that the U.S. government treats as repatriated. In addition, any withholding tax that the foreign government levies on the repatriated dividend should also be included when computing the foreign tax associated with dividend repatriation. (Both types of tax are eligible for foreign tax credits.) In computing the foreign tax rate on repatriated dividends, we have therefore added deemed paid taxes to withholding taxes on dividends and divided by grossed up dividend income.

More explicitly, the tax rate on repatriated dividends is equal to

$$(5) \qquad t^d = \frac{T^D + T^W}{D^*}$$

where t^d denotes the effective tax rate on repatriated dividends, T^D denotes deemed paid taxes, T^W denotes withholding taxes, and D^* denotes grossed-up dividend income. It is useful to state each of these terms more explicitly:

$T^D = (Dt^f E)/[E(1 - t^f)]$,

$T^W = t^w D$, and

$D^* = D/(1 - t^f)$,

where

D = repatriated dividends,

E = before-tax earnings and profits,

t^f = foreign tax rate, and

t^w = withholding rate on dividend repatriations.

Substituting the explicit formulas into (5) and rearranging reveals that our computation of the effective tax rate on repatriated dividends is equal to:

(6) $$t^d = t^f + t^w + t^f t^w .$$

Even if a firm repatriates only dividends, it is clear from equation (6) that the use of statutory foreign tax rates will not result in a proper assessment of whether a firm has excess foreign tax credits.

Tables 7a and 7b provide a breakdown of foreign source income and the effective tax rates on its components by country and industry, respectively. We report each of the components as a percent of foreign source income (net of deductions). Equation (4') repeats equation (4), but gives the average proportion of foreign source income below each component:

(4') $$\text{FSI} = \underset{1}{\text{Dividend}} + \underset{.49}{\text{IRR}} + \underset{.43}{\text{Other}} - \underset{.48}{\text{Deductions}} + \underset{-.67}{\text{Branch}} + \underset{.23}{\text{863(b)}} \quad \underset{.04}{}$$

Equation (4'') gives the average tax rates for each category:

(4'') $$\text{FSI} = \underset{.34}{\text{Dividend}} + \underset{.43}{\text{IRR}} + \underset{.08}{\text{Other}} - \underset{.09}{\text{Deductions}} + \underset{0}{\text{Branch}} + \underset{.28}{\text{863(b)}} \quad \underset{0}{}$$

Table 7a

COMPOSITION OF AND EFFECTIVE TAX RATES ON FOREIGN SOURCE INCOME, 1984[1] - BY COUNTRY

Country	Average Effective Tax Rate on All Foreign Source Income	Dividends		IRR		Other		Deductions	Branch		863(b)
		t	% of FSI	t	% of FSI	t	% of FSI	% of FSI	t	% of FSI	% of FSI
Canada	.43	.50	58%	.06	31%	.25	21%	- 31%	.62	10%	10%
Latin America											
Mexico	.39	.66	22%	.13	150%	.09	21%	-114%	.26	19%	2%
Central America	.20	.19	89%	.03	24%	.02	91%	-122%	.04	17%	1%
Caribbean	.18	.09	75%	.01	24%	.01	63%	- 44%	.05	14%	0%
South America											
Brazil	.53	.58	71%	.25	72%	.11	7%	- 60%	.14	9%	1%
Other	.21	.39	24%	.05	95%	.09	67%	-114%	.10	27%	1%
Western Europe											
Belgium	.37	.47	113%	.06	92%	.01	5%	-120%	.07	7%	4%
France	.28	.49	53%	.04	68%	.02	10%	- 50%	.04	12%	6%
Ireland	.09	.15	31%	.00	50%	.00	33%	- 48%	.13	32%	2%
Italy	.28	.43	54%	.04	69%	.01	17%	- 60%	.16	18%	2%
Netherlands	.30	.40	67%	.00	18%	.06	30%	- 19%	.19	4%	1%
Spain	.27	.44	52%	.06	85%	.04	4%	- 78%	.16	35%	3%
Switzerland	.30	.32	100%	.04	25%	.00	12%	- 44%	.05	2%	4%
U.K.	.38	.50	63%	.01	24%	.06	20%	- 29%	.21	22%	1%
West Germany	.44	.57	79%	.02	43%	.01	4%	- 33%	.07	3%	4%
Other	.47	.51	15%	.29	56%	.02	20%	- 44%	.48	52%	1%
Africa											
South Africa	.54	.60	80%	.06	33%	.02	5%	- 29%	.70	9%	2%
Other	.45	.25	22%	.02	10%	.24	120%	- 77%	.44	25%	0%
Asia											
Japan	.35	.58	52%	.06	71%	.06	18%	- 50%	.25	2%	7%
Singapore	.15	.18	48%	.05	46%	.03	15%	- 55%	.07	45%	1%
Hong Kong	.10	.12	66%	.01	50%	.02	30%	- 82%	.07	33%	3%
South Korea	.18	.34	28%	.01	135%	.05	36%	-121%	.30	12%	10%
Taiwan	.19	.32	35%	.07	51%	.03	49%	- 80%	.16	40%	5%
Middle East	.39	.04	35%	.01	61%	.10	284%	-338%	.39	56%	1%
Other	.44	.40	37%	.08	14%	.21	41%	- 46%	.42	53%	1%
Oceania											
Australia	.42	.54	33%	.09	23%	.03	25%	- 25%	.52	43%	1%
Other	.31	.53	40%	.11	74%	.02	41%	- 76%	.26	13%	8%
Other	.16	.26	29%	.05	56%	.05	20%	-137%	.05	19%	8%
Total	.34	.43	49%	.08	43%	.09	48%	- 67%	.28	23%	4%

[1] % of FSI is of net foreign source income (after deductions).

Source: Authors' calculations

Table 7b

COMPOSITION OF AND EFFECTIVE TAX RATES ON FOREIGN SOURCE INCOME, 1984[1] - BY INDUSTRY

Industry	Average Effective Tax Rate on All Foreign Source Income	Dividends		IRR		Other		Deductions	Branch		863(b)
		t	% of FSI	t	% of FSI	t	% of FSI	% of FSI	t	% of FSI	% of FSI
Agriculture	.25	.31	45%	.12	44%	.02	429%	-418%	*	*	*
Mining[1]	.52	.47	51%	.02	22%	.15	167%	-151%	.37	12%	0%
Construction	.33	.30	36%	.03	10%	.27	80%	- 28%	*	*	*
Manufacturing											
Food	.42	.45	81%	.07	24%	.03	16%	- 30%	.41	7%	2%
Paper	.39	.45	75%	.07	37%	.01	13%	- 32%	1.52	1%	6%
Chemicals	.39	.43	76%	.08	21%	.02	17%	- 30%	.40	11%	5%
Metals	.34	.39	76%	.06	24%	.02	13%	- 26%	.28	8%	6%
Nonelectrical Machinery	.33	.50	55%	.05	54%	.08	8%	- 30%	.40	5%	9%
Electrical Equipment	.22	.33	43%	.06	38%	.02	42%	- 39%	.47	9%	8%
Motor Vehicle	.37	.47	78%	.09	9%	.04	13%	- 25%	.41	- 1%	26%
Transportation	.32	.46	60%	.07	34%	.06	37%	- 34%	.34	1%	2%
Instruments	.36	.45	73%	.06	24%	.02	3%	- 16%	.41	3%	12%
Other	.32	.44	63%	.08	37%	.04	61%	- 64%	.19	- 2%	5%
Petroleum	.48	.45	52%	.28	13%	.16	46%	- 45%	.49	34%	1%
Transportation	.22	.28	27%	.06	18%	.09	138%	- 96%	.19	8%	5%
Wholesale Trade	.30	.33	63%	.04	44%	.03	268%	-278%	.35	1%	1%
Retail Trade	.31	.37	77%	.08	41%	.03	33%	- 51%	.20	1%	0%
Banking	.11	.26	6%	.06	131%	.02	10%	-109%	.05	62%	0%
Insurance	.14	.27	21%	.03	94%	.04	43%	- 68%	.26	10%	0%
Other	.23	.26	42%	.08	72%	.04	136%	-158%	.27	7%	0%
Total	.34	.43	49%	.08	44%	.09	50%	- 67%	.28	27%	4%

[1] % of FSI is of net foreign source income (after deductions).

A * indicates that information in that cell was suppressed to preserve taxpayer confidentiality.

Source: Authors' calculations.

The discussion of equation (3) suggests that, in addition to across-country averaging, the composition of foreign source income and therefore averaging across types of income may be an important determinant of excess credit positions. Tables 7a and 7b show clearly the variation in tax rates over types of income and the resulting average effective tax rates on foreign source income. For instance, Mexico is characterized by a high tax rate of .66 on dividend repatriations, but multinationals repatriate only a small proportion of income via dividends from Mexico; the averaging across types of income results in an overall tax rate of .39 for Mexico. Ireland's low tax rate is seen to stem from zero tax rates on interest, rent, and royalties and other income, which are also the forms taken by many repatriations from Ireland. In Japan, the tax rate of .35 results from the averaging of a high tax rate on dividend repatriations and low tax rates on interest, rents, and royalties and other income.

Moreover, a comparison of the average tax rates of tables 7a and 7b to the average CFC tax rates of tables 2a and 2b shows the possibility for error from using the wrong tax rate to measure excess credit positions. For instance, the average tax rate on foreign source income in Mexico is .39 while the average CFC tax rate for Mexico is .56. Similarly, in Japan, the average tax rate on foreign source income is .35 while the average CFC tax rate in Japan is .52.

2. Deferral

a. Magnitude

We turn next to the extent to which U.S. tax on income earned abroad is deferred. Income that is repatriated or treated by Subpart F as if it had been repatriated is subject to U.S. tax. Other income is deferred. To obtain a measure of income on which U.S. tax is deferred, we subtract income that was repatriated either through dividends or by Subpart F from the after-tax earnings and profits of controlled foreign corporations.[10]

The residual is our measure of deferral. (Income that is repatriated in the form of interest or rent, royalties, and license fees is already deducted from after-tax earnings and profits.)

Tables 8a and 8b give deferred income as a percent of earnings and profits (with and without interest, rent, and royalties) and as a percent of foreign source plus deferred income. Overall, deferred income of CFCs is substantial. It is 68% of CFC earnings and profits, 57% of earnings and profits plus interest, rents, and royalties, and 36% of total foreign source plus deferred income. Deferral varies markedly across countries and industries. As a percentage of foreign source plus deferred income, the range across countries is 17% in South Africa to 79% in Ireland. Over industries, banking defers only 13% while deferral in the construction industry is 74% of foreign source plus deferred income. Even within manufacturing the range is substantial, with the nonelectrical machinery industry deferring 35% of foreign source plus deferred income and electrical equipment deferring 55%.

b. The Effect of Deferral on a Multinational's Foreign Tax Credit Position

Deferral alters a multinational's foreign tax credit position since it changes a firm's foreign source income and therefore its weighted average foreign tax rate. However, the direction of the change is ambiguous. To illustrate, let equation (3) be denoted t^{wa}, which represents the firm's weighted average foreign tax rate, and totally differentiate to obtain

$$(7) \qquad dt^{wa} = (t^{x} - t^{wa})(dX/(X + Y)) + (t^{y} - t^{wa})(dY/(X + Y)).$$

We can use equation (7) to illustrate the effect that repeal of deferral would have on the firm's weighted average foreign tax rate. If we first assume that the multinational has deferred income in only country x (so that $dY = 0$), repeal of deferral, which increases the foreign source income of country x, will increase the firm's weighted average tax rate

Table 8a

REPATRIATED AND DEFERRED INCOME HELD BY CONTROLLED FOREIGN CORPORATIONS, 1984[1] - BY COUNTRY
(Dollars in millions.)

Country	After-Tax E & P + Interest + Rent[2]		Repatriated Income					Deferred Income[3]	Deferred Income as % of[3]		
	E&P>0	All	Dividends	Subpart F	Interest	Rent	Total		E & P	E & P + Interest + Rent	Deferred + Foreign Source Income
Canada	$7,523	$7,345	$1,738	$113	$231	$611	$2,693	$5,335	78%	72%	45%
Latin America											
Mexico	747	499	106	13	172	69	360	483	87%	65%	56%
Central America	1,203	1,045	582	351	76	47	1,057	459	42%	38%	40%
Caribbean	2,287	2,179	135	1,068	415	8	1,627	827	44%	36%	46%
South America											
Brazil	1,464	1,111	520	34	80	16	650	1,105	77%	75%	47%
Other	957	395	290	13	47	53	405	679	77%	71%	48%
Western Europe											
Belgium	710	541	203	66	128	140	536	312	65%	44%	38%
France	1,413	1,261	390	40	87	428	945	584	61%	41%	32%
Ireland	536	417	39	10	5	25	79	468	93%	87%	79%
Italy	1,274	1,126	301	7	31	236	575	757	73%	59%	49%
Netherlands	1,391	1,375	216	140	149	277	781	897	81%	65%	49%
Spain	508	281	134	0	33	83	251	301	70%	59%	57%
Switzerland	1,347	1,309	139	338	86	99	661	777	65%	58%	56%
U.K.	6,701	6,346	2,614	133	552	542	3,841	3,265	57%	49%	24%
West Germany	2,306	2,091	780	55	247	497	1,578	957	56%	42%	31%
Other	1,125	970	237	59	102	267	664	538	69%	48%	18%
Africa											
South Africa	244	110	167	0	9	51	227	81	42%	33%	17%
Other	518	104	377	143	26	6	552	347	69%	67%	39%
Asia											
Japan	1,404	1,347	504	69	14	422	1,008	548	56%	39%	20%
Singapore	405	348	265	32	10	37	345	244	68%	60%	40%
Hong Kong	928	912	197	110	267	24	599	485	73%	52%	57%
South Korea	79	64	20	0	0	12	33	46	69%	59%	42%
Taiwan	194	168	31	0	2	10	42	153	83%	79%	75%
Middle East	190	219	52	1	40	54	147	112	71%	59%	46%
Other	1,310	1,231	124	1	20	33	178	1,162	92%	89%	36%
Oceania											
Australia	1,141	947	205	42	145	183	575	653	76%	57%	26%
Other	100	82	20	0	4	16	42	64	77%	64%	51%
Other	1,678	1,133	415	555	133	43	1,146	935	61%	56%	38%
Total	$39,682	$34,958	$10,801	$3,394	$3,112	$4,289	$21,596	$22,575	68%	57%	36%

[1] Excludes holding companies.

[2] Includes only repatriated interest and rent, royalties, and license fees as detailed on Schedule M of Form 5471.

[3] Computed only for firms with positive E&P after tax.

Source: Authors' calculations.

Table 8b

REPATRIATED AND DEFERRED INCOME HELD BY CONTROLLED FOREIGN CORPORATIONS, 1984[1] - BY INDUSTRY
(Dollars in millions)

Industry	After-Tax E & P + Interest + Rent[2]		Repatriated Income					Deferred Income[3]	Deferred Income as % of[3]		
	E&P>0	All	Dividends	Subpart F	Interest	Rent	Total		E & P	E & P + Interest + Rent	Deferred + Foreign Source Income
Agriculture	$35	$19	$8	$0	$1	$4	$13	$25	82%	70%	66%
Mining[1]	699	566	407	114	43	41	605	328	51%	47%	19%
Construction	360	339	103	45	15	19	183	208	63%	58%	74%
Manufacturing											
Food	2,152	2,036	506	199	145	153	1,002	1,309	68%	61%	49%
Paper	599	562	137	27	24	14	328	310	69%	52%	45%
Chemicals	4,938	4,543	1,556	498	229	623	2,906	2,647	62%	54%	39%
Metals	1,216	932	496	136	154	74	860	690	65%	57%	38%
Nonelectrical Machinery	6,627	6,359	1,410	434	84	2,092	4,020	2,996	65%	45%	35%
Electrical Equipment	2,501	2,231	490	192	69	189	941	1,808	79%	72%	55%
Motor Vehicle	2,301	1,396	885	242	155	48	1,331	1,376	63%	60%	38%
Transportation	426	383	150	32	30	33	246	246	67%	58%	39%
Instruments	1,066	942	257	141	21	165	583	562	63%	53%	40%
Other	1,798	1,629	373	139	72	206	789	1,196	75%	66%	31%
Petroleum	8,333	6,737	3,064	545	177	19	3,806	5,451	67%	65%	29%
Transportation	1,047	909	132	217	66	88	503	630	68%	60%	58%
Wholesale Trade	912	827	268	71	56	49	444	709	80%	78%	62%
Retail Trade	639	583	75	120	10	44	249	428	73%	67%	63%
Banking	2,381	2,456	192	90	1,632	15	1,929	646	77%	27%	13%
Insurance	580	501	58	39	13	3	112	480	85%	83%	58%
Other	1,070	1,007	236	115	113	283	746	531	66%	50%	52%
Total	$39,682	$34,598	$10,801	$3,394	$3,112	$4,289	$21,596	$22,575	68%	57%	36%

[1] Excludes holding companies.

[2] Includes only repatriated interest and rent, royalties, and license fees as detailed on Schedule M of Form 5471.

[3] Computed only for firms with positive E&P after tax.

Source: Authors' calculations.

if the tax rate of country x is greater than the weighted average rate. With deferred income in more than one country, the effect of the repeal of deferral on the weighted average tax rate will depend on the relative change in foreign source income in each country as well as the tax rate differential. The reasoning for this is fairly clear. Given fixed foreign taxes, repeal of deferral must result in a fall in the firm's weighted average foreign tax rate since the firm now has more foreign source income. However, creditable foreign taxes will also rise; thus, the direction of any change in the firm's average foreign tax rate is ambiguous.

Nevertheless, the Hartman and traditional views discussed earlier suggest certain effects from repealing deferral. In particular, since the Hartman view conjectures that a multinational's foreign tax credit position is irrelevant to its decision to defer, repeal of deferral would not have substantially different effects on excess and deficit of credit firms. Thus, the Hartman view suggests that the proportion of foreign source income in excess credit should remain largely unchanged after repeal of deferral. The traditional view, on the other hand, conjectures that low-taxed income is more likely to be deferred than high-taxed income. Thus, according to the traditional view, repeal of deferral would result in a large increase in low-taxed foreign source income relative to high-taxed foreign source income.

Tables 9a and 9b present, by country and industry, average foreign tax rates with and without deferral as well as the percent of foreign source income in excess credit in the two situations.[11] Overall, average foreign tax rates change very little. The overall average tax rate is 34% with deferral and would be 32% in the absence of deferral. However, the overall proportion of foreign source income in excess credit decreases significantly, from 50% to 35%, after repeal of deferral. This latter observation is consistent with the traditional rather than the Hartman view.

Table 9a

DEFERRAL, AVERAGE TAX RATES, AND EXCESS CREDIT POSITIONS, 1984 - BY COUNTRY

Country	Average Tax Rate		Percent of Foreign Source Income in Excess Credit	
	1984 Law	Repeal of Deferral	1984 Law	Repeal of Deferral
Canada	.43	.38	50%	32%
Latin America				
Mexico	.39	.37	29%	17%
Central America	.20	.18	23%	16%
Caribbean	.18	.15	34%	19%
South America				
Brazil	.53	.39	40%	14%
Other	.21	.20	41%	22%
Western Europe				
Belgium	.37	.32	37%	16%
France	.28	.31	27%	19%
Ireland	.09	.05	53%	7%
Italy	.28	.31	24%	12%
Netherlands	.30	.26	75%	43%
Spain	.27	.26	31%	14%
Switzerland	.30	.23	36%	8%
U.K.	.38	.37	62%	49%
West Germany	.44	.41	38%	18%
Other	.47	.45	73%	67%
Africa				
South Africa	.54	.52	54%	38%
Other	.45	.44	83%	75%
Asia				
Japan	.35	.37	33%	18%
Singapore	.15	.13	23%	19%
Hong Kong	.10	.12	37%	30%
South Korea	.18	.18	33%	7%
Taiwan	.19	.16	28%	15%
Middle East	.39	.37	56%	47%
Other	.44	.44	79%	52%
Oceania				
Australia	.42	.40	49%	35%
Other	.31	.32	45%	28%
Other	.16	.15	33%	28%
Total	.34	.32	50%	35%

Source: Authors' calculations.

Table 9b

DEFERRAL, AVERAGE TAX RATES, AND EXCESS CREDIT POSITIONS, 1984 - BY INDUSTRY

Industry	Average Tax Rate		Percent of Foreign Source Income in Excess Credit	
	1984 Law	Repeal of Deferral	1984 Law	Repeal of Deferral
Agriculture	.25	.26	90%	86%
Mining[1]	.52	.49	77%	70%
Construction	.33	.28	81%	43%
Manufacturing[1]				
Food	.42	.31	85%	25%
Paper	.39	.35	73%	58%
Chemicals	.39	.33	41%	21%
Metals	.34	.30	46%	9%
Nonelectrical Machinery	.33	.31	8%	3%
Electrical Equipment	.22	.23	13%	4%
Motor Vehicles	.37	.31	24%	0%
Transportation	.32	.31	28%	20%
Instruments	.36	.33	45%	14%
Other	.32	.28	38%	20%
Petroleum	.48	.47	96%	79%
Transportation	.22	.22	25%	17%
Wholesale Trade[1]	.30	.24	35%	19%
Retail Trade	.31	.29	45%	30%
Banking	.11	.11	11%	11%
Insurance	.14	.14	21%	16%
Other	.23	.23	46%	28%
Total	.34	.32	50%	35%

[1] Except petroleum.

Source: Authors' calculations.

3. Interest and Dividend Repatriations

Finally, we examine the magnitude of interest and dividend repatriations from CFCs to their excess or deficit of credit parents. Tables 10a and 10b detail interest and dividend repatriations by country and industry, respectively. Dividend repatriations totalled $10.3 billion and interest repatriations totalled $2.5 billion in 1984.[12]

The U.K. and Canada have the highest amount of dividend repatriations. Most of the dividends repatriated from the U.K. are to excess credit parents and a majority of those from Canada are to deficit of credit parents. Overall, excess credit firms received just over 50% of dividend repatriations. Among the countries from which a small amount of dividends were repatriated are Ireland, South Korea, and Taiwan.

The industries with the most dividend repatriations are petroleum, chemicals, and nonelectrical machinery. Of these, petroleum dividends go almost entirely to excess credit parents and account for over half of dividend repatriations to excess credit parents, while a majority of dividends in the chemicals and nonelectrical machinery industries go to deficit of credit parents. The smallest amount of dividend repatriations went to the agriculture, insurance, and retail trade industries.

Interest repatriations were received largely by deficit of credit parents in 1984; deficit of credit parents accounted for 86% of the total. The U.K. and the Caribbean were associated with the highest levels of interest repatriations. A large amount of interest was also repatriated from Hong Kong, which ranks just above Canada. As with dividends, Ireland, South Korea, and Taiwan had very low repatriations of interest.

Interest repatriations were dominated by the banking industry in 1984, which accounted for about 60% of the total. Moreover, banking is heavily in deficit of credits, which partially explains the high proportion of interest repatriations associated with deficit of credit parents. Other than banking, petroleum and chemicals parents received the most

Table 10a

CFC DIVIDEND AND INTEREST REPATRIATIONS, 1984[1,2] - BY COUNTRY
($ millions)

Country	Dividend Repatriations			Interest Repatriations		
	Excess Credit	Deficit of Credit	Total	Excess Credit	Deficit of Credit	Total
Canada	$733	$1,000	$1,733	$86	$126	$212
Latin America						
Mexico	42	42	84	5	129	134
Central America	184	393	577	11	51	62
Caribbean	48	84	132	34	372	406
South America						
Brazil	351	156	507	6	11	17
Other	111	127	238	12	20	32
Western Europe						
Belgium	56	106	162	6	111	118
France	127	239	365	6	70	75
Ireland	21	17	39	0	5	5
Italy	83	204	287	5	16	21
Netherlands	47	142	189	9	52	61
Spain	56	76	131	1	27	28
Switzerland	56	71	127	12	48	59
U.K.	1,974	553	2,527	59	416	475
West Germany	316	430	745	27	154	181
Other	78	142	220	2	89	92
Africa						
South Africa	93	65	158	2	4	6
Other	322	41	363	1	10	11
Asia						
Japan	224	279	503	2	11	13
Singapore	22	165	186	3	6	9
Hong Kong	110	87	197	2	235	235
South Korea	5	16	20	0	0	0
Taiwan	3	28	31	0	1	1
Middle East	6	45	51	30	1	31
Other	75	46	120	2	17	19
Oceania						
Australia	104	93	197	22	92	114
Other	12	7	19	1	3	4
Other	152	244	396	13	101	114
Total	$5,409	$4,896	$10,305	$360	$2,177	$2,537

[1] Computed only for firms with positive E&P after tax.

[2] Excludes holding companies.

Source: Authors' calculations.

Table 10b

CFC DIVIDEND AND INTEREST REPATRIATIONS, 1984[2,3] - BY INDUSTRY
($ millions)

Industry	Dividend Repatriations			Interest Repatriations		
	Excess Credit	Deficit of Credit	Total	Excess Credit	Deficit of Credit	Total
Agriculture	$8	$0	$8	$0	$1	$1
Mining[1]	230	154	385	9	22	32
Construction	11	93	103	13	1	14
Manufacturing[1]						
Food	387	111	498	36	63	99
Paper	119	16	135	15	2	17
Chemicals	649	858	1.508	76	44	120
Metals	226	239	465	19	76	94
Nonelectrical Machinery	145	1.223	1.368	12	37	49
Electrical Equipment	387	61	448	5	48	53
Motor Vehicle	220	567	786	1	94	95
Transportation	46	85	130	22	7	29
Instruments	145	109	254	0	17	18
Other	181	184	366	14	43	57
Petroleum	2.851	69	2.920	47	100	147
Transportation	37	89	126	0	54	55
Wholesale Trade[1]	5	253	258	0	18	18
Retail Trade	4	70	74	1	9	10
Banking	2	188	190	17	1.505	1522
Insurance	31	26	58	1	11	12
Other	49	175	224	72	23	95
Total	$5.409	$4.896	$10.305	$360	$2.177	$2.537

[1] Except petroleum.

[2] Computed only for firms with positive E&P after-tax.

[3] Excludes holding companies.

Source: Authors' Calculations

repatriations in the form of interest. While two-thirds of interest repatriations to petroleum parents went to parents in deficit of credit, the same proportion went to excess credit parents in the chemicals industry. As with dividend repatriations, the smallest amount of interest repatriations went to the agriculture, insurance, and retail trade industries.

C. Implications of the Data

1. Net U.S. Tax on Foreign Source Income With and Without Deferral

Several implications can be drawn from the data. First, we compute the net U.S. tax on foreign source income. The U.S. Treasury will collect tax from foreign source income only if the parent is in deficit of credit. Further, even for deficit of credit firms, only the excess of the U.S. tax rate times foreign source income over creditable foreign taxes will be collected.[13] As Table 11 details by industry, this calculation yields $6.4 billion in U.S. tax liability in 1984 on $64 billion of foreign source income, or an effective U.S. tax rate on foreign source income of 10% for 1984. The lowering of the U.S. tax rate causes more firms to be in excess credit, thus decreasing the effective U.S. tax rate on foreign source income. With no behavioral responses, the data suggest that the 1986 Tax Reform Act's lowering of the U.S. corporate tax rate to 34% would have decreased the net U.S. tax on foreign source income to $2.6 billion in 1984, reducing the effective tax rate on foreign source income to 4%. As a percent of foreign source income plus deferred income, net U.S. tax on foreign source income would have been about 3%.

The repeal of deferral (as we have defined it) would have increased net U.S. tax on foreign source income in 1984 to $10.6 billion at a 46% tax rate and to $4.5 billion at a 34% tax rate. Since total foreign source income would have increased to $86.7 billion, this suggests effective tax rates on foreign source income of 12% and 5%, respectively.

Table 11

NET U.S. TAX ON FOREIGN SOURCE INCOME, 1984 - BY INDUSTRY
($ millions)

Industry	46% U.S. Corporate Tax Rate	34% U.S. Corporate Tax Rate
Agriculture	$9	$6
Mining[1]	40	9
Construction	21	13
Manufacturing[1]		
Food	33	9
Paper	21	9
Chemicals	271	62
Metals	106	24
Nonelectrical Machinery	720	56
Electrical Equipment	524	237
Motor Vehicles	126	5
Transportation	61	11
Instruments	117	45
Other	238	111
Petroleum	48	20
Transportation	439	268
Wholesale Trade[1]	117	59
Retail Trade	59	29
Banking	2,837	1,329
Insurance	251	163
Other	338	170
Total	$6,375	$2,637

[1] Except petroleum.

Source: Authors' calculations.

It should be noted that these calculations do not include tax on the stock of past deferred income, take no account of foreign and domestic allocations, and do not include behavioral responses.

2. Investment Decisions

A second implication of the data concerns investment location decisions of U.S. multinationals. If all firms faced the U.S. tax rate on the margin (as a deficit of credit firm would if there were no deferral), capital export neutrality would be achieved; that is, taxes would not alter firms' investment location decisions. If firms face the foreign tax rate on the margin, capital export neutrality will be violated (presuming some differentiation in tax rates), and an inefficient allocation of capital is likely to result.

Table 12 attempts to quantify the percentage of CFC earnings that would face the foreign (or local) tax rate on the margin if these funds were invested abroad. Both the Hartman and traditional views agree that earnings of excess credit firms plus deferred earnings of deficit of credit firms would face the local tax rate on the margin if invested abroad. However, the Hartman contention goes even further to suggest that all earnings of mature firms (whether excess or deficit of credit) would face the local tax rate if invested abroad. To obtain the total amount of CFC earnings and profits that would face the foreign tax rate on the margin if invested abroad, we neglect the Hartman portion of the story and add CFC earnings and profits of excess credit firms to the deferred income of deficit of credit firms. Overall, our calculations indicate that a very large 82% of earnings and profits appear to face foreign tax rates on the margin. Moreover, the percentage is quite large for all countries; only Central America and the Caribbean show less than 70% of earnings and profits facing the local tax rate, and even these countries have more than 50% facing the local tax rate. On this score, the magnitude of the difference between the Hartman and traditional views is relatively small.

Table 12

CFC EARNINGS THAT WOULD FACE THE LOCAL TAX RATE IF INVESTED ABROAD[1] - BY COUNTRY
(Dollars in millions)

Country	E & P Facing Local Tax Rate on Margin			% of E & P Facing Local Tax Rate on Margin
	Excess Credit	Deficit of Credit	Total	
Canada	$3,581	$2,376	$5,957	88%
Latin America				
Mexico	153	366	519	93%
Central America	342	283	625	57%
Caribbean	243	772	1,014	54%
South America				
Brazil	693	602	1,295	90%
Other	281	484	765	86%
Western Europe				
Belgium	146	247	393	82%
France	343	383	726	76%
Ireland	60	428	487	96%
Italy	251	588	839	81%
Netherlands	330	617	946	85%
Spain	173	182	355	83%
Switzerland	243	634	877	74%
UK	3,651	1,514	5,165	90%
West Germany	597	681	1,278	75%
Other	300	317	617	79%
Africa				
South Africa	83	56	139	71%
Other	305	126	431	86%
Asia				
Japan	234	469	704	72%
Singapore	65	210	274	76%
Hong Kong	199	331	530	79%
South Korea	13	37	51	76%
Taiwan	11	145	156	85%
Middle East	36	79	115	73%
Other	919	302	1,221	97%
Oceania				
Australia	375	408	783	91%
Other	36	39	75	91%
Other	557	572	1,129	74%
Total	$14,221	$13,246	$27,467	82%

[1] Excludes holding companies.

Source: Authors' calculations.

3. Financial Decisions

Finally, the data have implications concerning the financial decisions of multinationals. We outline below three decisions concerning interest and dividend repatriation that a multinational may confront, and explore whether multinationals' decisions are consistent with tax-minimizing behavior. For the first two decisions, deferral could lower a multinational's taxes if that multinational has a deficit of credits. For the last decision, interest repatriation may be preferable to dividend repatriation from a tax-minimizing standpoint.

a. Dividend Repatriation Versus Deferral[14]

Consider a CFC that is owned by a deficit of credit parent. How should profits be sent back to the parent in order to minimize taxes? One alternative is to pay the parent dividends. In the traditional view, if the foreign corporate tax rate is lower than the U.S. rate, the firm would not minimize its taxes by paying the dividend and incurring the U.S. tax rate. Rather, the firm can defer its extra U.S. tax liability, generating a return on the unpaid U.S. tax.

Using the average CFC tax rate as a guide, Table 10a suggests that 14% of dividends were paid to parents that are in a deficit of credits from CFCs located in countries with low effective tax rates. Table 13, which presents, by country, the effective CFC tax rates and dividend payout ratios by excess credit and deficit of credit firms, provides some additional information concerning dividend repatriation patterns. The current tax-minimizing hypothesis suggests that we might observe lower than average dividend payout ratios from CFCs located in low-tax countries to deficit of credit parents. A cursory look at the low-tax countries in the Caribbean and Ireland shows lower than average dividend payout ratios. However, there are some interesting exceptions, notably Singapore.

Table 13

CFC DIVIDEND REPATRIATIONS AND THE FOREIGN TAX CREDIT, 1984[2] - BY COUNTRY

Country	CFC Tax rate	Dividend Payout Ratio[1]		
		Excess Credit	Deficit of Credit	Total
Canada	.38	.20	.31	.25
Latin America				
Mexico	.56	.28	.15	.10
Central America	.19	.54	.52	.53
Caribbean	.08	.20	.05	.07
South America				
Brazil	.31	.51	.21	.35
Other	.26	.40	.21	.27
Western Europe				
Belgium	.36	.38	.32	.34
France	.46	.37	.39	.38
Ireland	.04	.36	.04	.08
Italy	.39	.33	.26	.28
Netherlands	.20	.14	.18	.17
Spain	.30	.32	.30	.31
Switzerland	.19	.23	.07	.11
U.K.	.50	.54	.27	.44
West Germany	.46	.53	.39	.44
Other	.40	.26	.30	.28
Africa				
South Africa	.58	1.11	.58	.81
Other	.60	1.06	.21	.72
Asia				
Japan	.52	.95	.38	.51
Singapore	.13	.34	.56	.52
Hong Kong	.17	.55	.19	.30
South Korea	.22	.34	.30	.31
Taiwan	.13	.26	.16	.17
Middle East	.49	.16	.37	.32
Other	.14	.08	.13	.09
Oceania				
Australia	.38	.28	.19	.23
Other	.44	.32	.16	.23
Other	.11	.27	.25	.26
Total	.38	.38	.26	.31

[1] Computed for CFCs with positive after-tax earnings and profits.

[2] Excludes holding companies.

Source: Authors' calculations.

b. Interest Repatriation Versus Deferral

A second alternative for a CFC is to pay its deficit of credit parent interest. If the CFC is located in a low-tax country with a low withholding tax on interest, deferral again minimizes taxes in the traditional view. Again, rather than paying the extra U.S. tax on the interest payment, the CFC can use deferral to generate a return on this amount.

Tables 10a and 10b reveal that a large proportion of interest repatriations were made to deficit of credit parents. While the banking industry accounts for a large proportion of these, elimination of the banking industry still leaves 66% of interest repatriations made to deficit of credit parents. Further evidence concerning the effect of foreign tax rates on interest repatriation can be obtained from Table 14, which gives interest payout ratios by country and by excess credit position. A comparison of high-tax country payout ratios to the average shown in Table 14 yields mixed results. While the U.K., West Germany, and Mexico are high-tax countries that show a higher than average interest payout ratio, Japan, the Middle East, and Africa are high-tax regions that show a lower than average ratio.

c. Interest Versus Dividend Repatriation

Finally, we discuss interest versus dividend repatriations. If a CFC is located in a high-tax country, dividend repatriations should be supplanted by interest repatriations. If the CFC borrows from its U.S. parent, it can deduct the interest from its foreign income (thereby foregoing the high foreign tax) and pay either no U.S. tax (for the case of excess credit firms) or the lower U.S. tax (for the case of deficit of credit firms).

Using the above reasoning, we would expect that the ratio of interest to dividend repatriations would be higher for high-tax countries. Table 15 does not reveal the expected pattern. While Mexico is a high-tax country with a high interest to dividend

Table 14

CFC INTEREST REPATRIATIONS AND THE FOREIGN TAX CREDIT, 1984[2] - BY COUNTRY

Country	CFC Tax rate	Interest Payout Ratio[1]		
		Excess Credit	Deficit of Credit	Total
Canada	.38	.02	.04	.03
Latin America				
Mexico	.56	.03	.32	.24
Central America	.19	.03	.07	.06
Caribbean	.08	.14	.23	.22
South America				
Brazil	.31	.01	.02	.01
Other	.26	.04	.03	.04
Western Europe				
Belgium	.36	.04	.33	.25
France	.46	.02	.11	.08
Ireland	.04	.00	.01	.01
Italy	.39	.02	.02	.02
Netherlands	.20	.03	.07	.05
Spain	.30	.01	.11	.07
Switzerland	.19	.05	.05	.05
U.K.	.50	.02	.20	.08
West Germany	.46	.05	.14	.11
Other	.40	.01	.19	.12
Africa				
South Africa	.58	.02	.02	.03
Other	.60	.00	.05	.02
Asia				
Japan	.52	.01	.01	.01
Singapore	.13	.05	.02	.02
Hong Kong	.01	.01	.50	.36
South Korea	.22	.00	.01	.01
Taiwan	.13	.00	.00	.00
Middle East	.49	.84	.01	.20
Other	.14	.00	.05	.01
Oceania				
Australia	.38	.06	.19	.13
Other	.44	.01	.07	.04
Other	.11	.02	.10	.07
Total	.38	.03	.11	.08

[1] Computed for CFCs with positive after-tax earnings and profits.

[2] Excludes holding companies.

Source: Authors' calculations.

Table 15

THE RATIO OF INTEREST TO DIVIDEND REPATRIATIONS AND THE FOREIGN TAX CREDIT, 1984[2] - BY COUNTRY

Country	CFC Tax rate	Ratio of Interest to Dividend Repatriations[1]		
		Excess Credit	Deficit of Credit	Total
Canada	.38	.12	.13	.12
Latin America				
Mexico	.56	.11	3.08	1.55
Central America	.19	.06	.13	.11
Caribbean	.08	.72	4.41	3.08
South America				
Brazil	.31	.02	.07	.03
Other	.26	.11	.16	.14
Western Europe				
Belgium	.36	.12	1.05	.73
France	.46	.04	.29	.21
Ireland	.04	.00	.31	.14
Italy	.39	.06	.08	.07
Netherlands	.20	.19	.36	.32
Spain	.30	.02	.36	.21
Switzerland	.19	.20	.67	.46
U.K.	.50	.03	.75	.19
West Germany	.46	.09	.36	.24
Other	.40	.03	.63	.42
Africa				
South Africa	.58	.02	.06	.04
Other	.60	.00	.25	.03
Asia				
Japan	.52	.01	.04	.03
Singapore	.13	.14	.03	.05
Hong Kong	.17	.02	2.70	1.21
South Korea	.22	.00	.03	.02
Taiwan	.13	.00	.03	.03
Middle East	.49	5.34	.02	.61
Other	.14	.03	.36	.16
Oceania				
Australia	.38	.21	.99	.58
Other	.44	.05	.42	.19
Other	.11	.08	.41	.29
Total	.38	.07	.44	.25

[1] Computed for CFCs with positive after-tax earnings and profits.

[2] Excludes holding companies.

Source: Authors' calculations.

repatriation ratio. the Caribbean. which is a very low-tax region. has by far the highest interest to dividend ratio. Similarly. Japan is a high-tax country but has a very low interest to dividend repatriation ratio.

IV. Summary, Conclusions, and Suggestions for Future Work

In this paper. we have used data from U.S. tax returns to quantify the overseas activities of U.S. multinationals and shed some light on the empirical significance of certain theoretical incentive effects of the U.S. tax system. Our data shows that U.S. mutinationals derive a significant amount of income from both CFCs and foreign branches. though income of CFCs was over three times as great as income of foreign branches in 1984. A large amount of foreign source income also comes from CFC flows that are not part of CFC income and from unrelated overseas parties.

We found that 50% of foreign source income was in excess credit in 1984 and that the 1986 Tax Reform Act is likely to increase this percentage substantially. to 78% with no behavioral responses. While a high corporate tax rate is usually associated with excess credit positions. we investigate the effect of the composition of foreign source income on excess credit positions. The composition of foreign source income presents a situation similar to the one of income averaging across countries that is inherent in an overall credit system. Our calculations of the components of foreign source income show that both dividend and deductible forms of repatriations are major components of foreign source income. Moreover. the high effective tax rates on dividends and low effective tax rates on interest and other forms of deductible repatriations present a ripe environment for averaging behavior. A comparison of the average tax rate on foreign source income with the tax rates on the composition of that country's foreign source income suggests that the composition of foreign source income has a strong influence on a multinational's foreign tax credit position.

At a theoretical level, the effect of the foreign tax credit and deferral on investment location decisions is controversial, as there are at least two competing theories. Nevertheless, both theories are consistent with the data that indicate that a substantial proportion of income earned abroad would face the local tax rate on the margin if it were invested abroad: the magnitude of the difference between the two theories is relatively small on this score. This suggests that violation of capital export neutrality is likely to be widespread. However, the magnitude of the efficiency loss that could result has never been measured.

Deferred income was substantial in 1984, but repeal of deferral would have had a very small effect on both the overall effective U.S. tax rate on foreign source income and the overall average foreign tax rate. At a 34% corporate rate, the effective rate on foreign source plus deferred income would have risen from 3% with deferral to 5% after repeal of deferral. The overall average foreign tax rate falls from 34% with deferral to 32% after repeal of deferral. However, the proportion of foreign source income in excess credit falls significantly after repeal of deferral, from 50% to 35%, which is consistent with the traditional view of the incentives provided by deferral.

The data on financial decisions raises a number of questions. The most basic of these are why multinationals repatriate, and, once a decision has been made to repatriate, why one form of repatriation is used rather than another. As in domestic taxation, it is important to determine whether taxes influence debt versus equity financing for overseas affiliates of U.S. multinationals. A more detailed examination of particular countries may be necessary to understand the financial decisions of multinationals.

We have explored some of the ramifications of the 1986 Tax Reform Act by using a 34% tax rate as well as a 46% rate. However, our analysis was lacking in several respects, and we close by suggesting how the data can be used to explore more carefully the ramifications of the 1986 TRA. Perhaps the most glaring problem with our analysis is that

we did not consider behavioral responses to the lower tax rate. These might occur in investment location decisions, repatriation decisions, and financial decisions such as the firm's choice between debt and equity financing. Moreover, several other countries are reacting to the U.S. reforms with tax reforms of their own, and this aspect should always be kept in mind, although the effect of foreign tax changes is less clear than it at first appears.

In addition, although the lowering of the U.S. rate is certain to lead to the major effect, other aspects of the 1986 TRA also deserve attention in future work. In particular, rules for allocating interest and research and development expenses to foreign source income can have a significant impact on foreign tax credit positions. We have also dealt with a single basket, the active income basket, which contained most foreign source income in 1984. However, TRA's large increase in the number of baskets may have some effect in preventing the averaging of high and low tax income. Changes in Subpart F to further restrict deferral should also be investigated. These changes in the law and the unanswered theoretical and empirical questions concerning investment location and financial decisions suggest that the study of international tax issues will provide a large number of important research questions in the future.

Footnotes

[1] The matching process aggregated CFCs for a particular corporation by "type" of CFC within a particular country. That is, type x CFCs of company y in country z were aggregated. Four types of CFCs were defined: CFCs that had the same industry classification as the parent, wholesale companies, holding companies, and other CFCs. This aggregation process resulted in 13,163 aggregate CFC records.

[2] The Tax Reform Act of 1986 substantially increased the number of baskets. In addition to the DISC dividends, foreign trade income of a FSC, distributions from a FSC, and all other income baskets, TRA expanded the section 904(d) interest income basket to include all passive income and added four new baskets: high withholding tax on interest (defined as 5% or more), financial services income, shipping income, and dividends from each noncontrolled foreign corporation. This last basket potentially creates a large number of new baskets since the credit on dividends from each noncontrolled foreign corporation must be computed separately.

[3] Some CFCs own other CFCs. This can cause double-counting of income (due to dividends paid by one CFC to another) and assets. To correct for this problem, holding company CFCs were excluded. The remaining double-counting should be small because, in the remaining sample, the ratio of dividend flows between CFCs and total CFC earnings and profits is on the order of .08.

[4] The traditional view has been expressed by Horst (1977), Bergsten, Horst, and Moran (1978) and Caves (1982).

[5] A multinational can carryover (for five years) or carryback (for two years) its excess foreign tax credits. Thus, the multinational may not face the tax rate of the foreign country even if it is in excess credit in any given year.

[6] Hines (1988) argues that the U.S. tax system affects the after-tax return on foreign assets and that the 1986 Tax Reform Act greatly reduced this effect.

[7] We have defined a parent to be in excess credit if its effective foreign tax rate is greater than or equal to the U.S. tax rate. The effective foreign tax rate is defined as total foreign creditable taxes divided by foreign source income if foreign source income is greater than zero (i.e. there are no overall foreign losses) and worldwide income is greater than foreign source income (i.e. there are no domestic losses). If worldwide income is less than or equal to foreign source income (i.e. there are domestic losses), the effective foreign tax rate (for the purpose of determining the firm's foreign tax credit position) is defined as total foreign creditable taxes divided by worldwide income, provided that worldwide income is greater than zero.

[8] Another possible cause of excess credit positions other than the corporate tax rate may be the difference between the U.S. and foreign tax base (because, for instance, of favorable U.S. depreciation rules). We do not try to ascertain the differences in tax bases in this paper, although Hines (1988) suggests that these differences may be important.

[9] The "per-country" foreign tax credit proposed in the Treasury and Administration versions of tax reform would have eliminated this averaging.

[10] As Muten (1983) has suggested, the repeal of deferral would raise a number of difficult practical problems. While we ignore many of these, we must, of course, define deferred income. Our method treats losses as zero deferred income. This is consistent with the so-called "Subpart F" method of repealing deferral. The "branch" method of repealing deferral would allow profits and losses of a multinational's CFCs to offset each other, which would lower the amount of deferred income. (See the proposal for eliminating deferral in U.S. Treasury, 1978.)

[11] As defined, the effect on the proportion of foreign source income in excess credit is ambiguous even if the direction of change in the average foreign tax rate is known. For instance, given a lower average foreign tax rate, the amount of foreign source income in excess credit will rise but, since there is more foreign source income, the proportion in excess credit may fall.

[12] Both of these figures are computed for firms with positive after-foreign-tax income (computed according to U.S. laws). Including those firms with losses increases interest repatriations to $3.1 billion and dividend repatriations to $10.8 billion, as shown in tables 8a and 8b. Both sets of figures exclude holding companies.

[13] Our calculations in this section neglect domestic losses.

[14] This section is only meant to be suggestive. For a much more thorough examination of dividend repatriation behavior, see Hines and Hubbard (1989).

Bibliography

Bergsten, C. F., T. Horst, and T. Moran. 1978. American Multinationals and American Interests. Washington: Brookings Institution.

Caves, Richard. E. 1982. Multinational Enterprise and Economic Analysis. Cambridge: Cambridge University Press.

Hartman, David. E. 1985. "Tax Policy and Foreign Direct Investment." Journal of Public Economics. 26:107-121.

Hines, James R. 1988. "Taxation and U.S. Multinational Investment." In L. H. Summers, ed., Tax Policy and the Economy, vol. 2.

Hines, James R. and R. Glenn Hubbard. 1989. "Coming Home to America: Dividend Repatriations by U.S. Multinationals."

Horst, Thomas. 1977. "American Taxation of Multinational Firms." American Economic Review. 67:376-389.

Muten, Leif. 1983. "Some Topical Issues Concerning International Double Taxation." In S. Cnossen, ed., Comparative Tax Studies: Essays in Honor of Richard Goode. Amsterdam: North-Holland.

U.S. Treasury. 1978. The President's 1978 Tax Program: Detailed Descriptions and Supporting Analyses of the Proposals.