ROA-Based Estimates of Income Shifting by U.S. Multinational Corporations

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This analysis is intended to assist the IRS in its effort to quantify the compliance problem caused by the income shifting activities of U.S. Multinational Corporations (MNC's). It is based on the theoretical work of Dr. Donald J. Rousslang, Office of Tax Analysis, U.S. Treasury,[1] and an extension by Prof. Thomas D. Schultz, Ph.D., Case Western Reserve University.[2] Rousslang (1997, p. 933) provides empirical evidence that "U.S. manufacturing MNC's shifted between $5.0 billion and $7.7 billion in pretax income from their domestic operations to foreign manufacturing subsidiaries in 1988."

For purposes of this paper, income shifting is defined as the recognition of income as being earned in a country other than its true source. Because income shifting is generally accomplished by means of internal transfer pricing and cost allocations, the practice is difficult to observe directly and challenging to quantify. Recent estimates based on data from the Bureau of Economic Analysis suggest that the magnitude of income shifting has grown exponentially. In "Data Show Dramatic Shift of Profits to Tax Havens," Martin Sullivan estimates that 58 percent of the foreign profits of U.S. MNC's are reported by nonbanking controlled affiliates in 18 tax havens. Sullivan concludes that U.S. MNC's are "shifting tens of billions of dollars of their profits to such tax havens." He infers the cause comes from "the greater incentive for income shifting (because of lower foreign tax rates), and the widely recognized means for income shifting (such as the aggressive use of cost-sharing arrangements)." In conclusion, he cautions, "it would be foolish to assume anything other than that Treasury has many billions of dollars on the line."[3] Additional estimates of income shifted abroad range from $75 billion to $156 billion annually.[4]

Rousslang's income shifting model is based on the assumption that an MNC will, on average, earn the same marginal after-tax rate of return on its investments across jurisdictions in a competitive equilibrium.[5] Concurrently, firms that face lower tax rates in foreign jurisdictions have an incentive to shift income to the foreign jurisdiction because they may defer paying U.S.

tax on the foreign source income until repatriation (perhaps indefinitely). While MNC's face nontax motivations to shift income across tax jurisdictions, outbound shifting results in a reduction in the tax liability paid to the home country.

To mitigate double taxation of repatriated foreign income, the related U.S. income tax can be offset by a foreign tax credit (FTC) subject to limitation. Because the credit cannot exceed the amount of U.S. tax on repatriated income, firms facing relatively high foreign tax rates are often referred to as being in an "excess credit" position. The U.S. tax on repatriations of "excess credit" firms is generally offset in full by the FTC.[6] Firms facing relatively low foreign tax rates are not bound by the limitation and are referred to as being in an "excess limit" position. The amounts repatriated by "excess limit" firms are generally subject to a residual U.S. tax.

In the presence of abusive income shifting, one would observe lower domestic after-tax returns (and higher foreign after-tax returns) for outbound shifters, the focus of this analysis. By measuring an MNC's return on investment as its after-tax return on long-term assets (ROA), an estimate of the magnitude of pretax income shifted in time period *t* ($xPTI_t$) is calculated using the following formula:

$$xPTI_t = \frac{K_d\, fPTI_t(1-r_f) - K_f\, dPTI_t(1-r_d)}{K_f(1-r_d) + K_d(1-r_f)}$$

K_d	=	domestic long-term assets
K_f	=	foreign long-term assets
$dPTI$	=	reported amount of domestic pretax income
$fPTI$	=	reported amount of foreign pretax income
$?_f$	=	average foreign tax rate
$?_d$	=	average domestic tax rate

$xPTI_t$ is the amount of pretax income that must have been shifted to produce the observed after-tax ROA's across jurisdictions assuming the true after-tax ROA's are equal. $xPTI_t$ is positive for outbound shifters and negative for inbound shifters. The algebraic derivation and discussion of this formula are provided in Schultz (2003).

Tax Return Data

Tax return data used to estimate the amount of pretax income shifted come from the 2001 "Corporation Income Tax Returns" study (Form 1120) and

from Form 5471 "Information Return of U.S. Persons With Respect To Certain Foreign Corporations." While the Corporations file is based on Form 1120, it also contains 13 variables from Form 1118 ("Foreign Tax Credit—Corporations"), which have been aggregated across "income baskets."

In summary, the Tax Year 2001 data include returns with tax periods ending during the 12-month period—July 1, 2001, through June 30, 2002:

- 139,096 Forms 1120
- 103,197 Forms 5471
- 8,104 unique EIN/Tax Periods with Form 1120 and at least one Form 5471

Reporting and Transcription Error Filters

Unlike Form 1120 data from the Corporate file, data from Form 5471 have not had the benefit of systematic validity checks and transcription quality control. To mitigate the effect of reporting and transcription errors, two filters were employed that are based on the income to assets and tax to assets ratios. Form 5471 records were deleted if the absolute value of taxes paid exceeds total assets or if the absolute value of earnings and profits exceed five times total assets. The first filter resulted in excluding 1,253 observations (1.2 percent of the 103,197), and the second resulted in excluding an additional 5,706 (5.5 percent) observations. The remaining 96,238 observations were matched to Form 1120.

Matching Form 5471 to Form 1120

William B. Trautman (LMSB:SRPP Stoneham; see Acknowledgments) matched EIN's from Form 5471 to Form 1120 of the "ultimate" parent in the 2001 Corporate file using the TC590 file and the Form 851 Affiliations Schedule. Based on these EIN matchings, the 96,238 usable Forms 5471 were matched to the Form 1120 of 8,079 ultimate parents (25 fewer than the match without error filters).[7]

For the 318 parents filing more than one Form 1120 during the period, the first filed return was selected (excluding the later short-period return), leaving 7,761 parents. Almost 20 percent (1,549) of the 7,761 parents are foreign-controlled corporations (FCC's). These firms have different incentives to shift income across jurisdictions; so, they have been set aside for future study. Our empirical analysis starts with the remaining 6,212 parents and their subsidiaries.

Empirical Analysis

This section provides descriptive statistics on the 2001 population of U.S. MNC's, defined to include U.S. corporations filing a Form 1120 that is associated with a Form 5471 filed by a foreign subsidiary. The descriptive statistics are followed by estimates of the pretax income shifted by all firms, firms reporting assets in the U.S. and abroad, and firms reporting assets but excluding those with a domestic or foreign net operating loss (NOL). First, the calculation of pretax income and income tax liability is described.

Pretax Income

Our implementation of Rousslang's income shifting model is based on the differential between the reported domestic after-tax rates of return and foreign after-tax rates of return on long-term assets. As a first step, we must define both U.S. and foreign pretax income and the tax attributable to that income, and then, we consider measures of investment in long-term assets.

Conceptual Issues Related to "Pretax Income" and "Income Tax"

We considered using Schedule M-1 "book" income. However, it is unclear how much, if any, foreign source income is included on Schedule M-1, Line 1.[8] Even though prior research has relied on M-1 income (for example Mills and Newberry, 2001), we are reluctant to use this measure in a study that depends on separately stating domestic and foreign-source income.

Mills and Plesko (2003, p. 866) discuss issues related to using Schedule M-1 book income in detail. Their conclusion leads us to rely on taxable income:

> "We conclude that the current M-1 does not provide sufficient detail to inform existing users (IRS and other Government analysts) about book-tax reconciliations to effectively evaluate compliance risks and perform other analyses."

Further, Boynton and Mills (2004) provide evidence of misreporting on Schedule M-1 and discuss the advantages in the prospective Schedule M-3.

In summary, we use U.S. taxable income (less repatriated foreign income) as our measure of domestic pretax income.[9]

The associated measure of U.S. tax liability is the sum of Form 1120, Line 31, "Total tax" (after credits) and Form 1120, Schedule J, Line 6a, "Foreign Tax Credit," multiplied by the ratio of domestic taxable income to total taxable income. That is, we use U.S. tax attributable to domestic taxable

income (excluding any U.S. tax attributable to repatriated foreign source earnings) as described in more detail below.

For foreign pretax income, we considered using book income from Form 5471, Schedule C, but, given our decision to use domestic taxable income, we decided to use "earnings and profits" from Schedule H (grossed up by foreign taxes paid). Calculation detail for foreign pretax income is also described below.

Derivation of Domestic Pretax Income and Tax Attributable to Domestic Income

Domestic Pretax Income:	Form 1120, Line 30, "Taxable income" less Form 1118, Schedule A, Line 12, "Total Income or (Loss) Before Adjustments" (repatriated foreign income)
Domestic Tax:	Form 1120, Line 31 "Total tax" (after credits) plus Form 1120, Schedule J, Line 6a, "Foreign Tax Credit" the sum multiplied by Form 1120, Line 30, "Taxable income" less Form 1118, Schedule A, Line 12, "Total Income or (Loss) Before Adjustments" (repatriated foreign income) divided by Form 1120, Line 30, "Taxable income"

Derivation of Foreign Pretax Income and Tax Attributable to Foreign Income

Foreign Pretax Income:	Form 5471, Schedule H, Line 5(d) "Current earnings and profits" plus Foreign Tax Paid as described below
Foreign Tax:	Form 5471, Schedule E, Line 8(d), "Income, War Profits, and Excess Profits Taxes Paid or Accrued" (Total)

Measures of Long-Term Assets

Theory calls for a measure of the fair market value of the investment in long-term assets. In the absence of fair market values, we consider public financial

statements from *CompuStat* and Form 1120, Schedule L, balance sheet. Given that we cannot separate domestic and foreign assets by jurisdiction in public financial statements, we use Schedule L.[10] We also note that Mills, Newberry, and Trautman (2003) recently compared *CompuStat* and Schedule L balance sheet data:

> "We also present balance sheet differences for the first time. On its face, this should not be interesting because the instructions to Form 1120 direct taxpayers to report their book balance sheets on Schedule L. However, we find that Schedule L reports more assets and liabilities than the financial statement balance sheet on *CompuStat*. The amount of the difference has grown substantially at the end of our sample period, 1997 and 1998."

Notwithstanding this apparent lack of conformity to generally accepted accounting principles, we use Schedule L, Lines 10 through 14 for long-term assets: buildings and other depreciable assets, depletable assets, land, intangibles, and other long-term assets. Rousslang points out that historical cost may understate the value of older assets; so, we do not reduce historical cost by accumulated depreciation or depletion.

Investment in foreign long-term assets comes from Form 5471, Schedule F, Lines 8 through 12. These match the long-term assets categories from Form 1120 and again are not offset by accumulated depreciation or depletion. Assets classified as "Goodwill," "Organizational Costs," and "Patents" are aggregated as "Intangibles." Negative or missing values for assets on Schedule F were recoded as zero.

Calculation of ROA and ETR

After-tax ROA is defined as the ratio of pretax income, less the attributable tax, to long-term assets. ROA is coded as missing for firms with less than $1.0 million in assets to avoid extreme values of ROA.

Effective Tax Rate (ETR) is defined as the ratio of income taxes paid to pretax income. ETR is coded as missing if the absolute value of pretax income is less than $50 thousand.

Firm Level Descriptive Statistics and Shifting Estimates

The tables report the mean and sum of domestic and foreign long-term assets, pretax income, and tax liability. They also report the weighted average (aggregate) effective tax rate and after-tax return on assets. The last row reports the

estimate of pretax income shifted (positive values are outbound, negative values are inbound).

All Firms

Table 1 provides descriptive statistics for the 6,212 MNC's in the study population. They have domestic long-term assets averaging just over $1 billion. The mean domestic pretax income is $31.0 million with taxes of $10.5 million. The mean domestic ETR is 11.3 percent; however, the weighted effective ETR is a more relevant 34.1 percent.[11]

- The weighted after-tax domestic ROA is only 1.7 percent

We believe that the low ROA reflects the sharp decline in corporate profits in 2001.

Foreign long-term assets average $328 million, and the average foreign pretax income is $24.1 million. The average foreign tax paid is $6.2 million. The weighted foreign ETR is 25.9 percent.[12]

- The weighted after-tax foreign ROA is 5.4 percent

The large differential between foreign and domestic ROA comes as no surprise given that foreign earnings are 78 percent of domestic earnings, while foreign assets are only 28 percent of domestic assets.

Table 1--Descriptive Statistics--All Firms (Excluding Foreign Controlled Corporations)

Millions of U.S. dollars (except ETR and ROA)

	n	Mean	Sum	WtdMean
Domestic long-term assets	6,212	1,187.0	7,373,841	
Domestic pretax income	6,212	31.0	192,266	
Domestic tax	6,212	10.5	65,483	
Domestic ETR	6,153	0.113		0.341
Domestic ROA	5,808	0.046		0.017
Foreign long-term assets	6,212	327.9	2,037,151	
Foreign pretax income	6,212	24.1	149,416	
Foreign tax	6,212	6.2	38,669	
Foreign ETR	6,029	0.083		0.259
Foreign ROA	2,773	-0.093		0.054
Shifted Pretax Income	5,937	14.7	87,101	

Given the observed difference between foreign and domestic after-tax ROA's and ETR's, and assuming that true after-tax ROA's were equal, our model estimates that U.S. MNC's must have shifted $87 billion of pretax income abroad net of income shifted into the U.S.

We report this estimate of income shifting with some reservation. We are particularly concerned about the impact of firms reporting no foreign assets and those reporting net operating losses (NOL's). Note that the income shifting estimate is based on only 5,937 of the 6,212 firms. We urge that more weight be given to the estimates based on more homogeneous populations in the following sections.

Firms Reporting Foreign and Domestic Assets

Supplemental statistics (untabulated) show that over 30 percent (1,924 of 6,212) of 2001 U.S. MNC's report no foreign assets or negative foreign assets, and 2.0 percent report no U.S. assets. Our estimates of income shifting rely on ROA ratios, which are coded as missing in the absence of assets.

Table 2 provides descriptive statistics for the 4,213 firms reporting positive foreign and domestic assets. As would be expected, the estimates of the aggregate foreign and domestic assets are little changed, and the averages are increased given the smaller population.[13]

Table 2--Firms Reporting Foreign and Domestic Assets

Millions of U.S. dollars (except ETR and ROA)

	n	Mean	Sum	WtdMean
Domestic long-term assets	4,213	1,530.5	6,447,874	
Domestic pretax income	4,213	36.2	152,516	
Domestic tax	4,213	12.4	52,337	
Domestic ETR	4,175	0.119		0.343
Domestic ROA	4,020	0.048		0.016
Foreign long-term assets	4,213	480.7	2,025,244	
Foreign pretax income	4,213	35.3	148,914	
Foreign tax	4,213	9.1	38,503	
Foreign ETR	4,062	0.121		0.259
Foreign ROA	2,715	-0.095		0.055
Shifted Pretax Income	4,024	21.7	87,176	

On average, these firms have $1.5 billion of domestic long-term assets compared to $481 million of foreign long-term assets. The weighted domes-

tic and foreign ETR's are little changed: 34.3 percent and 25.9 percent, respectively. Likewise, the domestic and foreign ROA's for these firms are very similar to the results reported for all firms: 1.6 percent versus 5.5 percent. Note that foreign pretax income is almost equal to domestic pretax income even though foreign long-term assets are less than one-third of domestic long-term assets.

The estimate of income shifting is little changed:

- An estimated $87 billion were shifted out of the U.S. net of income shifted in.

At this point, we differentiate between firms based on net shifting directions. Table 3 shows 2,092 firms (49.7 percent) appear to shift income abroad, while 1,842 (43.7 percent) appear to shift income into the U.S.

Table 3--Shifting Direction Frequency and Percentage

	Freq	Percent
Inbound	1,842	43.7
Missing	189	4.5
Outbound	2,092	49.7
Zero	90	2.1
	4,213	

Table 4 contains statistics for inbound and outbound shifters separately. The pattern is consistent with expectations: inbound shifters have a higher domestic ROA than outbound shifters (2.1 percent versus 1.3 percent), and they have a lower foreign ROA (-7.1 percent versus 7.8 percent). The negative domestic ROA reflects the 2001-02 recession, which may cloud inferences about trends in income shifting.[14]

We now focus on outbound shifters in Panel A of Table 4. These firms in total have over $4.5 trillion in domestic long-term assets and $1.7 trillion in foreign long-term assets. In aggregate they paid almost exactly 35 percent of their domestic pretax incomes in U.S. income tax. They report that their subsidiaries paid 20.8 percent of their pretax incomes in foreign taxes. The difference in domestic and foreign after-tax ROA based on reported income and taxes is striking:

- Domestic ROA is 1.3 percent compared to foreign ROA of 7.8 percent.

Table 4--Firms Reporting Foreign and Domestic Assets--Detail
Millions of U.S. dollars (except ETR and ROA)

Panel A

SHIFT=Outbound	n	Mean	Sum	WtdMean
Domestic long-term assets	2,092	2,154.9	4,507,966	
Domestic pretax income	2,092	43.9	91,760	
Domestic tax	2,092	15.4	32,272	
Domestic ETR	2,092	0.138		0.352
Domestic ROA	2,036	0.022		0.013
Foreign long-term assets	2,092	810.6	1,695,835	
Foreign pretax income	2,092	80.2	167,693	
Foreign tax	2,092	16.7	34,918	
Foreign ETR	2,092	0.263		0.208
Foreign ROA	1,488	0.297		0.078
Shifted Pretax Income	2,092	52.9	110,663	

Panel B

SHIFT=Inbound	n	Mean	Sum	WtdMean
Domestic long-term assets	1,842	1,033.2	1,903,176	
Domestic pretax income	1,842	32.8	60,454	
Domestic tax	1,842	10.8	19,962	
Domestic ETR	1,842	0.106		0.330
Domestic ROA	1,736	0.080		0.021
Foreign long-term assets	1,842	174.6	321,588	
Foreign pretax income	1,842	-10.5	-19,263	
Foreign tax	1,842	1.9	3,445	
Foreign ETR	1,842	-0.035		-0.179
Foreign ROA	1,140	-0.614		-0.071
Shifted Pretax Income	1,842	-12.8	-23,487	

That leads to a very large estimate of income shifting:

♦ We estimate these 2,092 firms shifted $111 billion abroad.

However, untabulated statistics show that 361 of the 4,213 firms (8.6 percent) with positive foreign and domestic assets report a domestic NOL, and 1,659 (39.4 percent) report a foreign NOL. The presence of NOL firms confounds the analysis; so, in the following section, we also calculate ETR and ROA and make income shifting estimates after controlling for NOL's.

Excluding Firms Reporting Domestic or Foreign NOL's

Table 5 provides descriptive statistics for the 946 firms with positive assets after excluding those with a foreign or domestic NOL. These are large firms with domestic long-term assets averaging $3.7 billion dollars. Their average domestic pretax book income is $156 million with corresponding taxes paid of $50.9 million. The weighted domestic ETR is 32.7 percent.

Table 5--Firms Reporting Assets Excluding Firms with Domestic or Foreign NOL's

Millions of U.S. dollars (except ETR and ROA)

	n	Mean	Sum	WtdMean
Domestic long-term assets	946	3,693.7	3,494,277	
Domestic pretax income	946	155.9	147,446	
Domestic tax	946	50.9	48,168	
Domestic ETR	929	0.323		0.327
Domestic ROA	929	0.160		0.028
Foreign long-term assets	946	878.6	831,157	
Foreign pretax income	946	120.2	113,667	
Foreign tax	946	26.8	25,322	
Foreign ETR	920	0.310		0.223
Foreign ROA	758	0.267		0.106
Shifted Pretax Income	903	64.0	57,786	

Foreign long-term assets average $879 million, and the average foreign pretax income is $120 million.

- ♦ Foreign pretax earnings are almost equal to domestic pretax earnings even though the firms have more than four times as much invested in domestic long-term assets.

The average foreign tax is $26.8 million, which results in a weighted effective foreign ETR of 22.3 percent.

- ♦ We estimate these firms shifted $58 billion dollars abroad net of income shifted into the U.S.

Table 6 provides separate estimates for inbound and outbound shifters.

- ♦ Panel A shows that outbound shifters had an ROA of 2.4 percent on domestic assets and 11.3 percent on foreign assets.

- ♦ Income shifted abroad by these 686 firms is estimated to be $62 billion dollars.

Untabulated statistics based on Form 1118 reveal that 35 percent of these firms are in an excess credit position. The FTC would fully offset incremental U.S. tax on repatriation.[15]

Table 6, Panel B, provides statistics for firms shifting income into the U.S. These firms had much higher domestics ROA's than foreign (8.0 percent versus. 4.6 percent), and we estimate that, in aggregate, they shifted $4 billion into the U.S. from their foreign subsidiaries.

Table 6--Firms Reporting Assets Excluding Firms with Domestic or Foreign NOL's--Detail

Millions of U.S. dollars (except ETR and ROA)

Panel A

SHIFT=Outbound	**n**	**Mean**	**Sum**	**WtdMean**
Domestic long-term assets	686	4,659.8	3,196,590	
Domestic pretax income	686	166.3	114,074	
Domestic tax	686	54.7	37,553	
Domestic ETR	686	0.324		0.329
Domestic ROA	683	0.088		0.024
Foreign long-term assets	686	1,085.4	744,589	
Foreign pretax income	686	157.8	108,253	
Foreign tax	686	35.0	23,994	
Foreign ETR	686	0.324		0.222
Foreign ROA	544	0.336		0.113
Shifted Pretax Income	686	90.4	61,988	

Panel B

SHIFT=Inbound	**n**	**Mean**	**Sum**	**WtdMean**
Domestic long-term assets	217	1,295.8	281,186	
Domestic pretax income	217	152.4	33,080	
Domestic tax	217	48.5	10,526	
Domestic ETR	217	0.322		0.318
Domestic ROA	207	0.376		0.080
Foreign long-term assets	217	393.4	85,370	
Foreign pretax income	217	24.2	5,248	
Foreign tax	217	6.0	1,309	
Foreign ETR	217	0.276		0.249
Foreign ROA	194	0.094		0.046
Shifted Pretax Income	217	-19.4	-4,203	

Limitations, Rankings, and Within Jurisdiction Comparisons

The methods used in this study to estimate the income shifting of U.S. MNC's are subject to several limitations. Factors other than income shifting may cause differences between a firm's domestic and foreign returns, while small differences do not necessarily indicate a lack of income shifting behavior. Because the estimation method yields a net amount and direction of shifted income for each firm, the inbound and outbound shifting activities of the same firm will offset one another. Other concerns include the use of taxable income as a proxy for economic income and the meaningfulness of some asset values reported on tax returns.

For outbound shifting firms, to the extent that the average domestic tax rate exceeds the average foreign tax rate, the model we use understates the after-tax return on domestic investment and overstates the amount of shifted pretax income. The reverse is also true. For inbound shifting firms, to the extent that the average foreign tax rate exceeds the average domestic tax rate, our model understates the after-tax return on foreign investment and overstates the amount of shifted pretax income.[16]

The previous firm-level analyses and the associated estimates of income shifting are also sensitive to alternative definitions of income and the associated tax liability; so, the estimated magnitude of income shifting is subject to a significant margin of error. We believe that the relative magnitude across firms is a more reliable indicator of income shifting. Therefore, firm rankings may be more useful than dollar estimates of income shifted.

In supplemental analysis (untabulated) we also estimated ROA's and ETR's within specific jurisdictions including locations considered to be tax havens. An analysis of income shifting by country can help to address concerns related to the model's assumption of homogeneous investment risk across jurisdictions. In general, the statistics for the tax havens were as expected with relatively low ETR's and high ROA's compared to domestic operations. The ETR's for some tax havens were surprisingly large, which may be the result of flowthroughs from higher-taxed jurisdictions.

Future research will extend the analysis to the industry level, differentiate between firms based on foreign tax credit positions, use alternative measures for income and assets, and use alternatives to ROA as measures of profitability. An emphasis on the shifting activities of firms with intangible assets appears to be warranted given the subjectivity of valuing shared resources such as patents, trademarks, and copyrights. More recent years will be examined as data become available.

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Endnotes

[1] Rousslang (1997)

[2] Schultz (2003)

[3] Sullivan (2004a)

[4] Sullivan (2004b) and Zdanowicz (2003)

[5] An implicit assumption underlying the theory is that investment risk is homogeneous across foreign and domestic jurisdictions. The analysis of income shifting by country addresses this issue.

[6] Firms that are bound by the FTC limit (excess credit firms) may reduce worldwide tax by shifting foreign-source income into the U.S.

[7] Ad hoc evidence suggests that Form 5471 is plagued by nonfiling and misreporting. We are unable to quantify the effects of these potential sources of bias on our results.

[8] Another issue relates to “disregarded entities” and other entities that do not meet the controlled foreign corporation definition. It is likely that Schedule M-1 includes the book income and tax accrual for these entities.

[9] “Taxable income” as measured by Form 1120, Line 30, is net of the net operating loss deduction and the dividends received deduction. However, it may not be less than zero. Domestic ROA based on Form 1120, Line

28 (Taxable income before net operating loss and special deductions), is actually lower because it is not constrained to nonnegative values.

[10] Correspondence with Margaret Finegan, SRPP Stoneham (See Acknowledgments), supports the assumption that, in practice, Form 1120, Schedule L, balance sheet line items do not include the assets and liabilities of foreign subsidiaries.

[11] The sum of domestic tax divided by the sum of domestic pretax income: 65,483/192,266.

[12] The sum of foreign tax divided by the sum of foreign pretax income: 38,669/149,416.

[13] The small change in the sum of domestic and foreign assets is caused by excluding firms that report either no domestic or no foreign assets but do report some of one or the other.

[14] Martin Sullivan (2004) notes that the recession makes it difficult to interpret 2001 profit data.

[15] We can only observe the "overall" FTC limit position. Firms actually face the limit by income basket; so, they potentially could incur incremental U.S. tax in excess of the FTC on some income.

[16] We appreciate our discussant, James B. Mackie, III, pointing out this implication.

References

Boynton, C. and Mills, L. F. (2004), The Evolving Schedule M-3: A New Era of Corporate Show and Tell? *National Tax Journal* LVII-3 (September), pp. 757-72.

IRS Research Bulletin, Recent IRS Research on Tax Administration and Compliance, Publication 1500, January 2003.

Mills, L. F. and Newberry, K. J. (2001), The Influence of Tax and Nontax Costs on Book-Tax Reporting Differences: Public and Private Firms, *The Journal of the American Taxation Association* 23-1 (Spring), pp. 1-19.

Mills, L. F.; Newberry, K. J.; and Trautman, W. B. (2003), Trends in Book-Tax Income and Balance Sheet Differences, *IRS Research Bulletin*, Recent IRS Research on Tax Administration and Compliance, Publication 1500, January 2003.

Mills, L. F. and Plesko, G. A. (2003), Bridging the Reporting Gap: A Proposal for More Informative Reconciling of Book and Tax Income, *National Tax Journal* LVI-4 (December), pp. 865-93.

Rousslang, D. J. (1997), International Income Shifting by U.S. Multinational Corporations. *Applied Economics* 29, pp. 925-34.

Schultz, T. D. (2003), Investigating the Market Returns on the Cross-Jurisdictional Income Shifting of U.S. Multinational Corporations, Ph.D. dissertation, Arizona State University.

Sullivan, M. (2004a), "Data Show Dramatic Shift of Profits to Tax Havens," *Tax Notes* 104, pp. 1190-1200 (September 13, 2004).

Sullivan , M. (2004b), "Shifting of Profits Offshore Costs U.S. Treasury $10 Billion or More," *Tax Notes* 104, pp. 1477-81 (September 27, 2004).

Zdanowicz, J. (2003), "An Estimate of Money Moved Out Of and Into the U.S. Due to Suspicious Pricing in International Trade," Florida International University working paper.