INTRODUCTION

As U.S. corporations have increased their business activities abroad, concerns over how they should be taxed have led to continual debate on international tax reform policy, from ending the taxation of foreign income altogether to targeting tax sheltering behavior. Central to this debate, however, is information on how they are currently effectively taxed. In 2008, the Government Accountability Office (GAO) conducted a review of the effective tax rates faced and international business activity conducted by U.S. multinational corporations (MNC) (GAO, 2008). This paper adds to the information provided in that report with more recent estimates and additional analysis.

The United States currently uses a hybrid system based on a worldwide approach that allows some foreign income to escape U.S. tax. To prevent the double taxation of foreign income, the U.S. tax system provides a credit against U.S. corporate income tax liability for the foreign taxes paid. Unlike under a pure worldwide tax system, the United States allows some foreign income of U.S. multinationals to escape U.S. tax—at least temporarily—by deferring tax on income earned abroad until that income is remitted or repatriated back to the U.S. parent.

Those features of the U.S. tax system affect U.S. MNCs’ decisions to invest domestically and abroad. The current tax system provides incentives for U.S. firms to locate production abroad and in low-tax countries as a way to minimize tax liability. Moreover, U.S. firms may rely on aspects of the current tax rules to shift income from high-tax countries (including the United States) to low-tax countries without changing their real investment decisions.

Recent evidence suggests that the revenue loss from corporations’ actions to avoid U.S. tax may be as high as $60 billion.1 It is difficult, however, to estimate the cost to the Treasury as the income and operations of U.S. parent and its subsidiaries are difficult to observe and track. It is also difficult to determine what production location decisions would be in the absence of deferral or with a lower U.S. tax rate. We estimate the average tax rate of U.S. controlled foreign corporations (CFCs) is about 18 percent.2 Our analysis of the location of business activity across countries and the tax rates that U.S. CFCs face across different countries suggests that U.S. MNCs may be artificially shifting profits to low-tax countries without conducting any real business activity, such as physical capital investments, employment, or sales.

EFFECTIVE TAX RATES AND LOCATION DECISIONS OF SELECTED COUNTRIES: TREND COMPARISONS

The 2008 GAO report included analysis of 2004 effective tax rates for selected countries that showed relatively low tax rates, relatively high tax rates, and countries whose measures of tax rates varied according to data source. That report also provided location information of forms of business activity for each of the selected countries in 2004. This section updates those estimates for 2006 and summarizes changes since 2004.

Figures 1 through 3 show 2006 estimates of effective tax rates for CFCs that were located in countries with relatively low tax rates, relatively high tax rates, and mixed tax rates—as initially categorized in the GAO report. The CFC effective tax rate (ETR) values were calculated from return information on the foreign taxes paid divided by the pre-tax earnings of CFCs identified as having a principal place of business in the listed country. Those foreign taxes include all taxes paid by the CFC operating in the country, including taxes paid to other jurisdictions, and thus do not reflect solely the taxes paid to the listed country. An alternative measure of effective tax rate is included by using data from the 2006 annual Bureau of Economic Analysis (BEA) survey excluding income from equity investments that may be double counted across countries. This survey extrapolates from

* The views expressed in this paper are those of the authors and should not be interpreted as those of the Congressional Budget Office or the Internal Revenue Service.
Figure 1: **2006 Average Effective Tax Rates of CFCs: Countries with Lower Tax Rates**

- Bermuda
- Ireland
- UK Carribean
- Singapore
- Switzerland
- China

Figure 2: **2006 Average Effective Tax Rates of CFCs: Countries with Higher Tax Rates**

- France
- Canada
- Mexico
- Brazil
- Germany
- Japan
- Italy

Figure 3: **2006 Average Effective Tax Rates of CFCs: Countries with Mixed Tax Rates**

- Luxembourg
- Netherlands
- Australia
- United Kingdom
the 2004 Benchmark surveys (See appendix B for details on BEA data). To compare with the findings in the GAO reports, counties with effective tax rate measures that were low and high were grouped together in figures 1 and 2, countries that had effective tax rates that were different according to the different tax rates measures were grouped into figure 3 as having “mixed tax rates.”

Compared to the 2004 GAO figures, our 2006 estimates show some significant declines in the tax rates of the selected low-tax countries. While in general ETRs showed small declines, the ETR for all CFCs located in Bermuda dropped from 6.7 percent to 3.6 percent, and the ETR for manufacturing CFCs in Switzerland falling five percentage points from a 2004 value of 10.6 percent. ETRs calculated using the BEA showed a small increase in the U.K. Caribbean. This increase in the U.K. Caribbean BEA ETR measure could represent an increase in the use of equity investments through holding companies that is excluded from the income of this tax measure. Including this income in the ETR measure reduces the rate from close to six percent to one percent.

In general, countries with relatively high tax rates have also showed declining tax rates since 2004. France, Canada, Brazil, and Germany showed declines of less than six percentage points in the CFC ETRs. CFCs in Mexico and Italy showed somewhat larger declines in the tax rates they paid. A similar trend for these countries appeared in the tax rate measure using BEA data, although declines for Brazil, Germany, and Italy were larger at almost ten percent. In contrast to the general decline in tax rates of relatively high-tax countries, by all measures the tax rates U.S. multinationals face operating in Japan rose between 6 and 11 percentage points.

The ETRs faced by CFCs operating in Luxembourg, Netherlands, Australia, and the U.K. all increased. ETR for Netherlands, by all measures, increased significantly (7-19 percentage points) with the highest increase measured by the BEA data. The ETR measured using BEA data became negative for Luxembourg, because the income from equity investments exceeded net income, so its exclusion resulted in negative income. Including this income would yield an ETR of only one percent.

Figures 4 through 6 show the shares of worldwide business activity across the selected countries by size of tax rates in 2006, measured by value added, sales, physical assets, compensation, and employment. As can be seen, some countries with lower tax rates show disproportionate allocations of certain types of business activity, accounting for higher shares of worldwide income and lower shares of real activity, such as physical assets and employment. In particular, Bermuda shows virtually no employment and negligible physical assets but accounts for nearly ten percent of worldwide income of U.S. CFCs. Ireland shows one of the highest shares of income, but, as with Singapore, Switzerland, and China, also has significant shares

**Figure 4:** 2006 Share of U.S. Multinationals’ Worldwide Business Activity across Countries with Lower Tax Rates

- Value Added
- Sales
- Physical Assets
- Compensation
- Employees
- Pre-tax Income (no equity)
- Pre-tax income
- CFC income
of real business activity. In general, countries with high tax rates have relatively similar shares across the different forms of business activity. Both France and Germany show high compensation and employment relative to other forms of business activity. Canada accounts for a large share of worldwide physical assets of U.S. firms, and Mexico is a significant source of labor. Lastly, in countries with mixed tax rates, Australia and the U.K. had fairly even shares of business activity. Netherlands and Luxembourg both exhibited uneven shares of business activity heavily weighted toward income, with Luxembourg showing virtually no real business activity but accounting for significant shares of worldwide income.

In general, the shares of real business activity have not changed significantly since 2004. Almost all countries with low tax rates showed less than a one percentage point change in the share of real activity. China was the only low-tax country that
had a change in the share of real business activity more than one percentage point—an increase in physical assets of 1.3 percentage points.

Changes in the share of income in low-tax countries were more varied. Low-tax countries’ shares of income, measured using BEA data, generally increased by less than 1.5 percentage points. Exceptions included Bermuda and Switzerland, which each showed declines of less than one percentage point in their share of BEA pre-tax income that excluded equity income. The share of BEA pre-tax income in Ireland fell by 1.5 percentage points, with a decline in the share of income from equity investments. While most of the low-tax countries showed increases in the share of income earned by CFCs, (Bermuda seeing the largest increase of four percentage points) CFCs located in the U.K. Caribbean islands showed a decline of 2.4 percentage points in its share of worldwide income.

Similarly, high-tax countries showed small changes, less than two percentage points, in the shares of real activity. For all measures of real business activity, France, Germany, and Italy showed small declines, while Mexico and Brazil showed small increases. Canada and Japan generally saw shares of real business activity decline, except for increases in physical assets and compensation in Canada and employment in Japan. France, Canada, and Japan also showed declines of less than three percentage points for all measures of income. Mexico and Italy showed little to no change in their share using BEA income measures, but a small increase of 1.3 percentage points in the share of income of CFCs located in those countries. Germany’s share of BEA pre-tax income, excluding equity, increased by 0.6 percentage points while CFCs share of income fell by 0.4 percentage points. Brazil was the only country that showed non-negative changes for all income measures, although those changes were less than 0.6 percentage points.

There were almost no changes in real business activity for countries with mixed tax rates. Across all measures, changes in the shares of real business activity were generally less than 0.4 percentage points. Exceptions include a 1.1 and 3.4 percentage point decline in physical assets located in Australia and the U.K., respectively. Luxembourg and the Netherlands both showed declines of less than three percentage points in the share of income as measured by BEA data. However, share of CFC income in Netherlands also fell, by 4.6 percentage points. Australia’s share of income showed virtually no change between 2004 and 2006, while the share of income measured by BEA showed a significant increase of up to about four percentage points in the U.K.

EFFECTIVE TAX RATES AND LOCATION DECISIONS IN OECD COUNTRIES

Figure 7 shows effective rate measures for the OECD countries. As noted earlier, we calculate measures of average effective tax rates of CFCs that identify their principal place of business in an OECD country separately for all CFCs and for manufacturing CFCs. We also provide average effective tax rates using BEA data. The OECD countries are sorted according to the simple aver-

Figure 7: 2006 Effective Tax Rate Measures for OECD Countries

- All CFC by place of business  - CFC Manufacturing by place of business  - BEA  - BEA w/out equity
age of the BEA tax rates and all CFC tax rates. Not surprisingly, countries that have appeared on tax haven lists, such as Luxembourg, Ireland, and Switzerland, have, on average, the lowest effective tax rates among OECD countries. The Netherlands is ranked in the middle, although this is likely due to the large ETR calculated using the BEA data. There is some volatility across the different tax rate measures. BEA data were unavailable for three countries: Iceland, Slovak Republic, and Slovenia. Of the 29 OECD countries where all measures of tax rates were available, 21 countries had differences between the CFC tax rate measure and the BEA tax rate measure of over 2.5 percentage points. Differences between the tax rate measures may be due to the inclusion of taxes from other countries in CFC returns, because the ETR measures for CFCs include the foreign taxes paid by the CFC to other countries as well as the countries identified as the principal place of operation. Thus, if a CFC with principal operations in one country has significant operations in a higher tax country, those higher taxes would appear in the CFCs principal country tax rate, making it appear higher. Alternatively, the BEA tax rate includes the income from equity investments, which has been noted as potentially representing double-counted income in the BEA accounts, and would lower the BEA tax rate. Almost half of the 29 OECD countries show the BEA ETR as lower than the measure for CFCs, suggesting that either the double-counted equity income is driving the BEA tax rate down or that these CFCs have significant operations in lower-tax countries that are not their principal place of business. Only 12 OECD countries showed a difference between the CFC tax rate and the BEA tax rate measure of greater than eight percentage points. Of those countries, four—Luxembourg, Austria, the Netherlands, and Portugal—showed the BEA tax rate as lower than the CFC rate. It is likely that some of the large differences between the CFC rate and the BEA tax rate may come from the inclusion of equity income in the BEA rate. In fact, Luxembourg and the Netherlands each had over 15 percent of worldwide income from equity investments. For most OECD countries, the BEA ETR measure excluding equity income was higher than the CFC tax rate. The exclusion of a large portion of income from that measure naturally biases the tax rate upward. However, concerns that this income is double-counted suggest that excluding this income may provide an upper bound of the BEA ETRs and including it provides a lower bound. Manufacturing CFCs face higher tax rates in the majority of OECD countries. However, in 14 out of the 32 OECD countries, the effective tax rates faced by CFCs in the manufacturing industry were lower than the rates CFCs faced in general. Most of the differences between the tax rates for manufacturing CFCs and those for all CFCs were between two and six percentage points. Differences between the ETRs for all CFCs and those for manufacturing CFCs of greater than eight percentage points occurred in seven countries: Luxembourg, Sweden, Portugal, the Netherlands, France, Chile, and Norway. In only two of those countries, Chile and Norway, were the ETRs for manufacturing CFCs lower. Figure 8 provides the distribution of business activity in OECD countries. Business activity is evenly distributed among the major trading partners and other medium to high-tax countries with sizable U.S. business activity: Germany, France, U.K., Canada, Australia, and Japan. Mexico also has fairly similar shares, except for a sizable share of employment. Netherlands, however, show marked difference between real business activity and income measures. Recall from figure 7 that although, on average, the Netherlands show a relatively sizable effective tax rate, that rate was larger due to a high tax rate as measured by the BEA data excluding equity income. As can be seen, Netherlands’ share of BEA pre-tax income is largest among the OECD countries, accounting for 12 percent of worldwide BEA pre-tax income associated with U.S. firms. Not surprisingly, the countries with the lowest effective tax rates show high concentrations of income but much lower concentrations of real business activity. While Switzerland and Ireland show some amount of real activity, especially sales, Luxembourg has virtually no real business activity but accounts for up to seven percent of worldwide foreign income of U.S. firms.4

EFFECTIVE TAX RATES AND LOCATION DECISIONS IN LOW TAX COUNTRIES: TAX HAVENS OR TAX SHELTERS?

Figure 9 provides the effective tax rates of CFCs listed by their principal place of business in low-tax countries. The groupings of countries included were those with effective tax rates less
than 6.9 percent. In general, manufacturing CFCs faced lower effective tax rates than CFCs overall. Manufacturing CFCs with principal operations in low-tax countries may pay fewer taxes on average because they have limited business operations in other countries, meaning that the effective tax rates mainly reflect the actual rates in the listed country. In contrast, CFCs in other industries may have more operations in other countries, meaning that the effective tax rate is biased upward by the inclusion of taxes paid to other higher tax countries.

Figure 10 provides ETRs for other non-OECD countries with tax rates less than 15 percent, including known tax havens, such as Guernsey, Hong Kong, and U.K. Caribbean islands. The effective tax rate for manufacturing CFCs operating in Guernsey is unavailable because of the limited number of observations. Again, most of the countries show effective tax rates for manu-

Note: ETRs are not available for the subsection of manufacturing CFCs operating in Aruba and Jersey because of the limited number of observations.
The rates above were aggregated by principal place of business, which may adequately reflect the tax rates of CFCs that have real operations in low-tax countries. However, evidence suggests that a number of U.S. firms have CFCs incorporated in countries that are not the main country of operation. This phenomenon may be particularly evident in low-tax countries and could affect the type of tax rates exhibited by CFCs with some form of presence in low-tax countries. Figure 11 provides effective tax rates for CFCs incorporated in other non-OECD countries with tax rates less than 15 percent.

Organizing the groupings by country of incorporation had varied results. ETRs of CFCs incorporated in well-known Caribbean tax havens, such as Aruba, Barbados, Bermuda, and the Netherlands Antilles, were generally higher than for those listing them as a principal place of business. If these countries are being used to shelter income, the ETRs would more likely be lower for CFCs incorporated in a tax haven, not higher. One potential explanation for this result is that CFCs listing these countries as a principal place of business may have little-to-no other operations outside, and those ETRs would reflect only the lower taxes in these countries and not include taxes paid to other
higher-tax countries. Alternatively, CFCs that were only incorporated in these countries could have significant operations in other countries and, thus, the ETRs of these CFCs would be higher because of the inclusion of taxes paid to other countries.

This explanation relies on the assumption that a CFC listing the tax haven country as a principal place of business has the majority of their operations there; given the lack of real business activity in these countries, there may be an alternative rationale. CFCs that are listed as a principal place of business, but are not incorporated, may reflect other structural methods, such as claiming a principal place of business to avoid the incorporated country tax. An example of this method is the accounting design of the “double Irish and Dutch sandwich.” In this case, two subsidiaries are incorporated in Ireland, one a holding company and the other an operating subsidiary. The operating Irish subsidiary pays royalties through a Dutch holding company to
the Irish holding company. The Irish holding company avoids Irish taxes by stating its residency as located in Bermuda, or another lower-tax country. The Irish holding company could show up in the CFC data as having its principal place of business in Bermuda, but incorporated in Ireland.

Lack of individual country data in the BEA accounts limits the business activity that can be shown for low-tax countries. Figure 13 provides business activity for available countries and provides evidence for differences between tax havens and tax shelters. Tax shelter countries, such as Bermuda and U.K. Caribbean islands, show particularly high shares of worldwide income but little-to-no real business activity in the form of employment, physical assets, or sales. The uneven nature of the activity suggests that these countries may be used solely to shelter U.S. firm income from higher foreign and domestic taxes without any economic substance to the presence of these CFCs. Other tax haven countries, such as Hong Kong, United Arab Emirates, and Panama, show more balanced shares of business activity across the different forms. The more even nature of their activity suggests that, while taxes may play an important role in locating in the country, there is real activity and economic substance to the CFCs operations.

CONCLUSIONS

The data on effective tax rates and location of business activity presented in this paper support the concern that the activities of U.S. multinational corporations may be strongly influenced by the tax rates in other countries. The foreign operations of U.S. MNCs continue to be most heavily located in major trading partners, such as the U.K., Canada, Germany, and France. These operations consist both of substantial income located in these countries, as well as real activity through investment in physical assets, employment, and sales. In general, there appears to be more real business activity located in higher-tax countries with lower shares of income located there. Business activity in some low-tax countries, such as Ireland, Hong Kong, and Switzerland, while not as evenly distributed as in higher-tax countries, is more evenly distributed between real economic activity and income than other low-tax countries. However, even in these countries, income shares are significantly higher than the shares of real business activity. A few countries account individually for large shares of worldwide income, such as the Netherlands, which accounts for up to 12 percent of worldwide foreign income of U.S. firms. Furthermore, a few low-tax countries, such as Luxembourg and Bermuda, show very disparate shares of business activity. These countries exhibit significant shares of worldwide income but show virtually no other real economic activity. Luxembourg alone accounts for up to seven percent of the worldwide foreign income of U.S. firms, but shows no more that 0.3 percent of real business activity.

These results indicate that U.S. MNCs are investing in operations in low-tax countries but also that U.S. MNCs are artificially shifting profits to low-tax countries. Two countries, Luxembourg and the Netherlands, account for over 35 percent of the income from equity investments; yet, together they account for less than three percent of physical assets. Even though there is some concern that equity income may be double-counted in the BEA accounts, the large difference between these shares suggests that significant amounts of income from intangibles may be funneled through these countries. These findings suggest that the corporate tax base may be eroding through both real movements in activity abroad and, perhaps more so, through strategic tax avoidance activities that effectively shift income of U.S. parent corporations to low or zero tax countries.

Notes

1 A number of studies have been conducted relying on a variety of techniques to estimate the costs of multinational corporate tax avoidance and these estimates vary widely. Some studies that examine the revenue effect of ending deferral have found cost estimates of around $10 billion, while studies that analyzed income shifting costs more generally found estimates near $60 billion. See U.S. Department of the Treasury, 1999; Joint Committee on Taxation, 2010; Office of Management and Budget, 2011, pg 293; Corporate Taxes in the World Economy, 2006; Sullivan, 2004; U.S. Multinationals Shifting Profits Out of the United States, 2008; Christian and Schultz, 2005; Pak and Zdanowicz, 2002; Clausing, 2009.

2 A controlled foreign corporation is a firm incorporated abroad that is owned at least 50 percent by U.S. taxpaying entity.

3 The United States is excluded from this list because the data are for the foreign operations of U.S. parent corporations.
As noted earlier, the negative share of BEA pre-tax income associated with Luxembourg is because income from equity investments accounts for so much of the total U.S. firm income in Luxembourg, and excluding it from pre-tax net income results in negative value.

Due to limits on disclosure, some countries were grouped geographically.

Figure 9 included a grouping for Other Africa and Other Caribbean/Western that was listed separately in figure 11; and figure 11 included a category All Others that was not present in figure 9. In figure 9, there were enough observations to separate those with principal place of business in African countries and other Caribbean countries, and there were also no CFCs operating in Latin America with tax rates less than 6.9 percent. However, when grouped by incorporation location, the number of CFCs incorporated in African countries and other Caribbean countries were too small to be reported separately without disclosing individual taxpayer data, and so they are grouped with some CFCs incorporated in Latin America that had tax rates below 6.9 into All Other. The combined ETR for CFCs operating in Africa and other Caribbean islands was 3.9 percent. Although this ETR fell to 2.1 when looking at CFCs incorporated in these countries, that new category also included CFCs incorporated in Latin countries with low tax rates that may have drawn the rate down.

For more details on the BEA data and benchmark surveys, see GAO, 2008.

For details on the double-counting of income in the BEA data, see Altshuler and Grubert, 2006.

REFERENCES

Altshuler, Rosanne and Harry Grubert. Governments and Multinational corporations in the Race to the Bottom. Tax Notes 14 (February 2006).


APPENDIX: DATA DESCRIPTIONS AND LIMITATIONS

Data for effective tax rate measures of CFCs were obtained from the 2006 Form 5471 - Information Return of U.S. Persons with Respect to Certain Foreign Corporations. We calculate ETRs as foreign taxes paid by CFCs (line 8 on Form 5471, Schedule E) divided by pre-tax earnings and profits (line 5d of Form 5471, Schedule H) plus the total income taxes paid (line 8 on Form 5471, Schedule E). The analysis was restricted to CFCs with non-negative income.

The CFC data in this article are based on corporate returns filing Form 5471 that were included in the 2006 Statistics of Income sample. These returns were selected after administrative processing, but prior to any amendments or audit examination. These estimates are based on a sample and, therefore, they are subject to sampling error. However, as large corporations account for most of the earnings and profits from CFC’s and large corporations are sampled at 100 percent, the sampling error is not considered to be significant.

For effective rates and all the measures of business activity reported in this paper that used BEA data, we limit our analysis to financial and operating data of majority-owned foreign affiliates of U.S. parents, which makes the analysis comparable with the CFC data. Our analysis relies on the annual survey, as opposed to the benchmark survey. While the benchmark survey’s sample covers virtually the entire population of U.S. multinational corporations and has the most extensive listing of data items, the annual surveys are not required for small affiliates. To maintain a consistent universe of data across annual and benchmark surveys, items surveyed in the benchmark year are extrapolated to the future annual survey data.
BEA data include the income of profitable firms, as well as those experiencing losses, and ETRs based on the BEA data would be higher than those based on only profitable firms. Income from equity investments are reported for each majority-owned foreign affiliate in the BEA surveys. The income from equity investments of holding company A in one country would be included as well as the income of the manufacturing subsidiary in another country that is owned by holding company A. We calculate BEA tax rates and provide income measures with and without the inclusion of equity income.