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Estimating Tax-Elasticities of Foreign Direct Investment: The Importance of Tax Havens.

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Abstract

Policy makers are increasingly concerned about the effect of taxes on foreign direct investment (FDI). This study shows that for U.S. multinationals – in line with the findings of the majority of previous studies – a reduction in host country tax rates corresponds with higher FDI-stock. The estimated elasticity suggests that a 1% reduction in host country tax rates leads to an increase of total FDI between 0.3% and 1.8%, depending on the specific tax burden indicator. In addition, it is shown that tax elasticity is lower when solely analyzing investments in production, plant and equipment (PPE). Since the latter approximates more closely the concept of real capital than total FDI stock, this indicates that inter-country competition for real capital is less intense. Finally, the tax coefficient declines and is sometimes insignificant when excluding tax havens from the empirical analysis.

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1. Introduction

An ongoing debate concerns whether corporate taxes matter for FDI. This paper contributes to the existing empirical literature in four directions. First, using FDI data from U.S. MNEs the present paper shows that tax rates matter for attracting FDI. However, in contrast to previous studies, which focussed on smaller sets of countries, this paper analyzes FDI stocks for up to 100 countries. Second, since FDI data largely also comprises financial capital, this paper distinguishes between investments in production, plant and equipment (PPE) and total assets. The former is more closely related to the concept of real capital, since total assets also include financial capital investments of multinationals. With the exceptions of Grubert and Mutti (1991) and Hines and Rice (1994), the majority of papers do not distinguish between PPE and total assets. The paper shows that the tax elasticity of PPE is significantly lower than that of total FDI stocks. This result is in line with conventional wisdom suggesting that highly mobile assets behave more elastically towards taxation than less mobile parts of a MNE. Third, with the sole exception of Grubert and Mutti (2000), no previous study has attempted to examine the sensitivity of the results to the inclusion of tax havens. Tax havens are countries or territories offering low regulation standards, strict bank secrecy laws and favorable tax treatment to business or financial investments. The analysis shows that tax elasticity of FDI is high only as long as tax havens are included. Restricting the sample to non-tax havens weakens taxation's effect on FDI stocks, and sometimes leaves it insignificant. This suggests that MNEs reallocate especially mobile input factors into tax havens, whereas FDI location decisions among non-tax havens follow to a lesser extent tax considerations. Finally, the paper utilizes a broader set of tax burden indicators than most studies, which rely only on statutory corporate tax rates.
The paper is organized as follows: after a short overview of the existing empirical literature in the next section, the data and the methodology are discussed in section 3 and the results of the empirical analysis are presented in section 4. The final section briefly concludes.

2. Relation to Existing Literature

FDI generally refers to investments undertaken by MNEs in foreign countries. Some authors believe however, that PPE is a more adequate indicator for investments in real capital (de Mooij and Ederveen, 2008; Hines and Rice, 1994). Unlike total FDI stock, PPE does not include financial assets, intangible goods or advertising expenditures. Although these factors might be important input factors for MNEs, they may be even more often used to shift profits out of high tax countries. Since it is especially difficult to find comparable transactions for intangible goods, manipulating transfer prices of these goods is an important strategy to shift profits (among others Clausing, 2003; Grubert, 2003). Alternatively, MNEs might shift profits by financing subsidiaries in high tax locations with excessive debt (among others: Desai et. al., 2004a; Mintz and Weichenrieder, 2005). Thus, the tax responsiveness of PPE should be lower compared to the total stock, because the latter also includes more mobile assets than PPE.
Many studies have investigated the effect of taxes on the distribution of FDI, with the majority of studies finding a negative effect (for a comprehensive review of these studies see de Mooij and Ederveen, 2008; Hines, 1999). The consensus emerging from this literature is that 1% reduction in host country tax rates increases FDI stock abroad by roughly 0.6% (Hines, 1999). The first study investigating the relationship between taxes and PPE is from Grubert and Mutti (1991). Employing a cross-section analysis to U.S MNEs in 33 countries, they show that a reduction of the host country tax rate by 1% increases investment in PPE by 1.5. Whereas Grubert and Mutti's (1991) sample is

restricted to manufacturing firms, Hines and Rice (1994) explore the tax-induced behavior of all majority-owned non-bank U.S. affiliates. Similar to Grubert and Mutti (1991), the cross-section analysis is undertaken with data for 1982, but includes a larger set of countries. Hines and Rice (1994) report elasticities between -3.3 and -6.6, which are much larger than those identified by Grubert and Mutti. However, it is not clear whether the higher elasticities in their study are due to their inclusion of more business sectors or extending the country sample to tax havens.

Although a number of authors have analyzed PPE investments, there remains no systematic work on the relationship between total assets and PPE. The only studies that analyze whether investment in PPE reacts less sensitively to taxation than the total stock are de Mooij and Ederveen's (2003; 2008) meta-analyses. In their earlier study, the authors do not find a statistically significant relationship in their meta-regressions. However, in their update, MNEs react more sensitively with respect to PPE. One interpretation of this surprising result might be that FDI often consists of a change in ownership, whereas PPE reflects largely greenfield investments (de Mooij and Ederveen, 2008, p. 694). However, as almost all PPE studies refer only to U.S. cases, it is difficult to make a more general claim for this interpretation since U.S. MNEs may behave particularly sensitively to taxation.

Additionally, the magnitude of the tax coefficient in FDI regressions may not only depend on the specific FDI indicator, but also on the inclusion of tax havens. Except Grubert and Mutti (2000), no study has discussed the role of (country) sample selection when analyzing FDI stock distributions. Grubert and Mutti (2000) analyze more than 500 U.S. MNEs investing in 60 countries. When excluding countries with a tax rate below 7.5%, reported elasticity declines marginally, whilst the negative relationship between taxes and FDI still holds.

3. Data and Method

As the last section showed, many authors focused their research on the distribution of total FDI due to data shortcomings. The present empirical analysis instead distinguishes between U.S. MNEs's total assets and their PPE investments. Since the tax competition literature suggests that an MNE's more mobile components behave more sensitively to taxation the following relationship should hold:

Hypothesis 1: PPE tax elasticity is lower than total asset tax elasticity.

Since the mixed results regarding the effect of taxes on the distribution of FDI across countries might also depend on which countries are included, this study tests whether the inclusion of tax havens alters the results for U.S. multinationals. Since there are limits to a "race to the bottom", especially in developed countries, the following relationship should exist:

Hypothesis 2: Tax elasticity is lower when tax havens are excluded from analysis.

In our study, a country is classified as a tax haven when it appears on Dharmapala's (2008) updated version of Hines and Rice's (1994) list. An alternative would be a threshold value on the tax burden (see for example Grubert and Mutti 2000) and exclude countries below this tax rate. Since tax rate thresholds of 10% and 15% found relatively similar results, we present only the results for the Dharmapala list in the empirical section.[1]

[1] As a third alternative, one might use the Dharmapala list of tax havens directly. This approach yields similar results, but has the disadvantage that tax elasticity can no longer be estimated, since tax havens are excluded

Data for the dependent variables is provided by the "Bureau of Economic Analysis" (BEA). The annual survey of direct investment abroad is the most comprehensive source on U.S. MNE activities and provides detailed financial and operating statistics about their affiliates. Coverage is almost complete.[2] Data is available for roughly 100 countries for the cross-section analysis in 2000. The dataset contains all majority-owned non-bank affiliates of U.S. MNEs. The appendix lists the countries included in the empirical analysis. Tax havens are marked by an asterisk.

The empirical analysis controls for variables found to be important in standard gravity models (for applications to FDI see: Büttner 2002; Davies *et al.* 2008). The dependent variable is either PPE or total assets employed in the respective country. Suppressing country indices, the following model provides the starting point for the empirical analysis:

$$\text{Log (FDI)} = \beta_0 + \beta_1 \text{ Log (Distance)} + \beta_2 \text{ Common Language} + \beta_3 \text{ Log (Labor Cost)} + \beta_4 \text{ Log (Sales/Worker)} + \beta_5 \text{ Log (Political Instability)} + \beta_6 \text{ Log (GDP)} + \beta_7 \text{ Log (Trade Restrictions)} + \beta_8 \text{ Log (Development Level)} + \beta_9 \text{ Log (Monetary Conditions)} + \beta_{10} \text{ Log (Taxation)} + \varepsilon \quad (1)$$

Other factors than taxes might also be relevant for FDI. First, we employ a measure of the distance between Washington, D.C. and the destination country's own capital city to control for transport costs. Data comes from CEPII. Second, since transaction costs may not only involve transport costs, a dummy indicating whether the host country shares the same language is included in the equation. The dummy's coefficient should be positive as long as cultural proximity promotes FDI.

Third, MNEs might invest more capital in countries with favourable labor market conditions. Therefore, the average wage per employed worker is used to control for differences in labor market conditions. U.S. MNE labor costs are defined as employee compensation divided by the number of employees. Data is from the BEA. However, MNEs do not only seek cheap labor. The labor force must also be qualified to produce quality goods. Therefore, fourth, we include sales per foreign employee as a variable to capture differences in labor force productivity.

Fifth, a political instability indicator measuring the likelihood of conflicts and violence is used to control for variations in investment risk for different countries (Janeba, 2000). The data originates from the World Bank Governance Indicators (Kaufmann *et al.*, 2007). Higher scores indicate politically more stable countries.

Sixth, besides cost factor differences, locational advantages might also arise from market penetration. The market size of a country is proxied by its GDP, using the Pennworld Tables as the data source (Heston *et al*., 2009).

Seventh, FDI might be a substitute for trade between countries. If countries have extensive trade restrictions, the incentive of MNEs to use FDI to circumvent these restrictions might increase. However, we would expect the opposite relationship where the country offers an export platform to the MNE. Therefore, the sign of the relationship is unclear. We include an indicator measuring the amount of trade restrictions, where higher scores indicate more restrictions. Eighth, we control for monetary conditions. The indicator comprises a weighted three-year inflation rate and price controls in the economy. Data on trade restrictions and monetary conditions are from the Heritage Foundation. Ninth, we control for the development level using data from the World Bank.

Finally, taxes contribute to capital deployment in foreign countries. However, no consensus appears in the literature as to which indicator is appropriate. Many studies used statutory

from the regression. Results are available upon request.

[2] For a more detailed discussion see Desai *et al.* (2006).

tax rates because they are easily available. This is justifiable because MNEs would likely also rely on easily available indicators. Additionally, narrow tax bases offer no protection from outward profit-shifting, while lower statutory tax rates do. Even if the base were extremely narrow, any remaining taxable profit would risk being located offshore if domestic rates exceed foreign rates (Haufler and Schjelderup, 2000). Thus, the nominal tax rate will serve as the first tax burden indicator. Data is taken from KPMG Tax Notes and complemented by information from the Office of Tax Policy Research from the University of Michigan and the corporate tax guide from Ernst & Young. We use data for the year 1999.

Nevertheless, the tax treatment of cross border investment is a complex issue. Nominal tax rates neglect key tax system features. Therefore, as a second alternative, we use an effective average tax rate (EATR). Data for this tax rate comes from Djankov *et al.* (2009). The EATR is calculated by country tax experts of PricewaterhouseCoopers and refers to an investment horizon over five years. Assumptions about the pre-tax rate of return and financing are identical across countries. The disadvantage of this measure is that it refers to the year 2003. However, since we analyze FDI stocks, which are more stable than FDI flows, this is not very important. A second disadvantage of such a model-based (or theoretical) indicator is that it neglects many real world details, such as special tax regimes.

Due to these pros and cons, we also use an effective empirical tax rate (ETR) as a third alternative. Unlike the nominal tax rate and in more detail than the EATR, the ETR accounts for the impact of depreciation allowances and different rules regarding the carry over of losses.[3] Additionally, the ETR is a more accurate indicator for countries that offer large special tax holidays towards MNEs. For example, Luxembourg has a nominal tax rate of 30%, which stands at odds with the general conception of the country as a tax haven. However, the 1.7% ETR of US-MNEs in Luxembourg shows that Luxembourg instead offers large tax holidays to MNEs, allowing it to maintain a 30% nominal tax rate and compete with other tax havens. U.S. MNEs' ETR is calculated by dividing paid taxes in the respective country by the pre-tax profit of the affiliates. Data is provided by the BEA. Unfortunately, ETR can only be calculated for 55 countries, leaving fewer observations for empirical analysis. In addition, empirical tax ratios are more likely to be endogenous than theoretical measures. Note that all tax burden indicators refer to corporate profits (and in some countries wealth taxes). We therefore assume that consumption taxes are not borne by MNEs.[4]

Regarding the setting of tax rates, the tax competition literature suggests that political decision makers respond to increasing capital mobility by cutting taxes (Zodrow and Miezskowski, 1986). Thus, the relationship between tax burden indicators and dependent variables might appear to be endogenous. Following previous empirical studies, the logarithm of country population is used as an instrument.[5] Recent empirical work focussing on tax competition between highly developed countries confirms the view that small countries in particular set low tax rates (Winner 2005). Additionally, as demonstrated by

[3] Both the ETR and EATR do not consider host-home country interactions. Thus, the impact of different taxation regimes (credit, exemption or deduction) and withholding taxes is neglected. However, if MNEs are not constrained by specific organizational aspects, they will choose to repatriate to the country with the lowest tax costs (on this point see Grubert, 1998).

[4] This implies that consumption taxes on input goods are not passed through. Alternatively, the MNE could pass through consumption taxes to the final consumer. Empirical evidence in favor of this assumption is provided by the recent study of Büttner and Wamser (2009), which shows that consumption taxes do not robustly influence the location of German FDI.

[5] We use population size to make our results more comparable with previous studies, which often used this measure as an instrument. This is not unproblematic, since the effect of market size may not fully captured by a country's GDP. However, when using only population density as an instrument, the tax coefficients lose significance but the basic conclusions, i.e. that assets are more responsive to taxation, is not altered. Results are available upon request.

Kanbur and Keen (1993) with respect to population density, tax havens are usually countries with high density. We use both measures for our first-stage regressions, shown together with the OLS results in the next section.

4. Results

Table 1 shows some descriptive statistics for the tax havens and non-tax havens. Tax havens are typically less populated: On average tax havens have 2 million inhabitants. Comparing FDI stock distribution, we see tax havens receive more FDI than non-tax havens. Additionally, PPE investment constitutes only a small fraction of total assets for tax havens, but a larger share of PPE on total assets for the non-tax havens.

Comparing tax burden indicators shows that both the ETR and EATR are below the nominal tax rate. This is unsurprising because the ETR and the EATR take the tax base into account. In all cases, the tax burden is substantially lower in tax havens. The tax burden indicators are also highly correlated with each other.[6] Finally, tax havens offer higher (gross) salaries and are, on average, more politically stable countries. This descriptive impression is in line with recent evidence on the formation of tax havens (Dharmapala and Hines, 2009). This is because, besides low taxes, tax havens must also offer a sound investment climate; otherwise, investors would prefer to locate capital in more stable countries.

Table 2 shows the results for the first stage regressions. Using an F-value of 10 as a rule of thumb, the first stage regressions perform quite well and show similar values for all tax burden indicators. In line with theory, a population increase of 1% increases the respective country's tax burden by roughly 0.4%. Corporate taxes are also lower in countries with a high population density.

Table three provides the results for U.S. MNEs in the second-stage regressions. The model explains roughly between 65% and 80% of variance on the dependent variables. Regardless of the FDI measure, there are regional differences reflecting the impact of transport costs. The results suggest that a 1% increase in distance between the U.S.A. and the destination country reduces FDI by roughly 0.5%. Cultural proximity measured by the language dummy is also important for the location of U.S. FDI abroad.

Regarding other control variables, the results suggest that market penetration is the most important determinant for FDI. Countries with large markets receive significantly more FDI. The results for labor market conditions are less clear. The labor cost variable does not significantly relate to the location of assets or PPE, but our measure of differences in productivity levels (sales per worker) is sometimes significant and suggests that MNEs search for productive labor.

When analyzing the tax variables, we see that every indicator is at least weakly significant. The range of the coefficients lies between -0.3 and -1.0 for total assets, which includes the "consensus" elasticity of -0.6 found in previous empirical research (Hines, 1999). According to hypothesis 1, there should be large differences between elasticities for different definitions of foreign activity. Yet the tax coefficients are always at least two times higher for total assets than PPE. We used a t-test to identify whether the regression coefficients for PPE and total assets differ significantly. The results support the hypothesis that tax elasticity for PPE investment is significantly lower. For example, column two of table two indicates that a 1% increase of the nominal tax rate in the host country corresponds with a 0.5% reduction of total assets, whereas PPE is reduced by only 0.3%. The empirical pattern remains similar under the ETR or the theoretical indicator based on

[6] The correlation coefficient of the nominal tax rate with the ETR and the EATR is 0.57 and 0.96 respectively, and the correlation of the ETR with the EATR is 0.59.

national tax codes. Overall, high taxes exhibit a deterring effect on the deployment of U.S. MNE investment abroad, although the effects are less pronounced when PPE is used as a measure of U.S. MNE foreign activity.

Table 4 shows the results when we use our predicted values from the first-step regressions. As indicated by the Hausman test, there are no significant differences between our OLS regressions and the instrumented values. Generally, the results are similar to those of table 3. The nominal tax rate, perhaps the most accurate indicator of when MNEs decide to shift profits, is somewhat more significant than the other tax burden indicators, and the results again show that taxes are not very important for explaining when MNEs decide on the location of PPE. In sum, PPE appears to react less sensitively to taxation than total assets.

These results may be driven by the inclusion of tax havens. Table 5 shows some results when tax havens are excluded from analysis. As can be seen, tax elasticity is reduced, especially when the focus of the analysis is on U.S. MNEs' assets.[7] Thus, the conflicting results of previous research may be partly explained by their inclusion or exclusion of these countries. The more tax havens are part of the empirical analysis, the larger the effect of corporate taxes on FDI. This result might explain why Hines and Rice (1994) found elasticities far larger than those of Grubert and Mutti (1991).[8] Additionally, it is worth noting that the nominal tax rate becomes especially insignificant, whereas the coefficients are still weakly significant under the ETR. Because nominal tax rates are crucial for profit shifting, the results indirectly indicate that tax havens might especially gain from profit shifting vis-a-vis industrialized countries.

5. Conclusion

This paper has shown that taxes matter for the distribution of U.S. FDI regardless of the specific tax burden indicator. Two results have to be kept in mind when considering the relationship between FDI and taxes. First, the tax burden is only one factor determining real capital investment. Second, countries are especially able to attract large amounts of FDI when their tax rate is substantially below the average rate. This result might explain the mixed evidence for taxes and FDI so far because, as the present paper showed, the country sample matters when analyzing the relationship between taxes and FDI.

Although the paper has shown that the tax elasticity of FDI depends on the country sample and specific indicator of outward investment, important questions remain. From a macro perspective, it remains unclear whether tax havens definitely cause revenue losses in industrialized countries; they might mitigate tax competition under particular circumstances (Dhamaphala, 2008) or even promote investment in developed countries (Desai *et al.*, 2004b). From a microeconomic perspective, it would be interesting to investigate whether MNEs with operations in tax havens respond differently to taxation than those investing

[7] An alternative to excluding the tax havens would be to let the inverse of the tax rate enter the regression equation, which is what Grubert and Mutti (1991) chose to do, for example. Such a nonlinear relationship is justifiable since MNEs might place a disproportionate share of taxable income in tax havens. Other approaches for letting the tax rate enter the equation nonlinearly include estimating location decisions via probit/logit models (on this issue see for example Büttner and Ruf, 2007).

[8] The same analysis was undertaken for a smaller subset of countries with more disaggregated data for mining, manufacturing, wholesale trade and the financial sector. Using industry-specific data shows that the basic conclusion, i.e. that PPE reacts less elastically towards taxes than assets, still holds. However, some heterogeneity was observed on the tax-coefficients. In the case of mining companies, the tax coefficient sometimes had a positive sign, which may indicate that governments can tax location-specific rents in resource-rich countries. Generally, financial companies have the highest tax responsiveness, indicating that tax elasticity differs between service and manufacturing sectors. Therefore, the differences between Grubert and Mutti (1991) and Hines and Rice (1994) may also be partly explained by differences of sector coverage. Results for these disaggregated regressions are available upon request.

only in non-tax havens. Given MNE heterogeneity, different opportunities to avoid taxation might cause different tax elasticities in their non-tax haven locations.

Appendix 1: Country List

Canada	Dominican Republic	Bulgaria	Ethiopia
Austria	UK Caribbean Islands*	Croatia	Kenya
Belgium	Bermuda*	Cyprus*	Morocco
Czech Republic	Egypt	Estonia	Zambia
Denmark	South Africa	Kazakhstan	Zimbabwe
Finland	Israel	Latvia	Malta*
France	Saudi Arabia	Liechtenstein*	Lebanon*
Germany	Australia	Lithuania	UAE
Greece	China	Romania	Bahrain*
Hungary	Hong Kong*	Ukraine	Oman
Ireland*	India	Uzbekistan	Quatar
Italy	Indonesia	Bolivia	Yemen
Luxembourg*	Japan	Paraguay	Bangladesh
Netherlands	South Korea	El Salvador	Pakistan
Norway	Malaysia	Guatemala	Papa Neuginea
Poland	New Zealand	Nicaragua	Sri Lanka
Portugal	Philippine	Senegal	Namibia
Spain	Singapore*	Bahamas*	Uruguay
Sweden	Taiwan	Haiti	Slovenia
Switzerland*	Thailand	Jamaica	Slovakia
Turkey	Peru	Netherlands A.*	Gibraltar*
UK	Venezuela	St, Lucia*	
Argentina	Costa Rica	Trinidad	
Brazil	Honduras	Belize*	
Chile	Mexico	Dominica*	
Colombia	Panama*	Cameroon	
Ecuador	Barbados*	Liberia*	

Table I: Descriptive Statistics

Variable	Non-Tax Havens		Tax Havens	
	Mean	Std. Deviation	Mean	Std. Deviation
Assets (USA)[a]	33881	136323	36365	57013
PPE (USA)	5219	15529	1865	3104
Population	53.2[b]	154	1.95	2.39
ETR	31.4%	14.1	6.3%	2.89
Nominal Tax Rate	33.1%	13.4	16.7%	14.5
EATR	20.0%	5.9	9.0%	8.4
Political Stability	0.20	0.93	0.86	0.58
Trade Restrictions	3.22	1.18	2.12	1.36
Development Level	2.30	1.49	3.83	1.25
Monetary Conditions	3.02	1.51	1.41	0.62
Sales	19786	58487	13739	27523
Wage Income per Worker	23.34	16.45	33.32	17.7

Notes: a= calculations based on data in 2000; b = million habitants

Table II: First Stage Regressions

	Nominal Tax	EATR	ETR
Population Density	-0.15***[a] (-2.67)	-0.16*** (-3.04)	-0.19*** (-2.94)
Population	0.41** (2.14)	0.48** (2.61)	0.82*** (2.97)
Distance	-0.01 (-0.06)	0.16 (1.21)	0.15 (1.04)
Common Language	-0.80*** (-2.76)	-0.49** (-2.00)	-0.08 (-0.31)
Political Instability	0.38 (1.22)	0.28 (1.07)	0.28 (0.88)
Labor Cost	0.19 (0.72)	0.42* (1.86)	0.63 (2.05)**
Market Size	-0.18 (-0.98)	-0.19 (-1.09)	-0.61** (-2.21)
Sales per Worker	-0.15 (-1.05)	-0.12 (-1.00)	-0.10 (-0.51)
Trade Restrictions	-0.21 (-0.82)	-0.03 (-0.15)	-0.68** (-2.26)
Monetary Conditions	-0.06 (-0.32)	0.02 (0.12)	0.29 (1.41)
Development Level	0.20 (0.47)	0.26 (0.68)	0.58 (1.09)
Nobs	100	76	54
F-test	15.53 (0.000)***[b]	17.24 (0.000)***	17.47 (0.000)***
Adj. R^2	40.5	63.0	55.1

a= t-values; b= p-values in parentheses. ***,**,* means significance on the 1%,5%-and 10%-level.

Table III: Determinants of Total Assets and PPE of U.S. MNEs

	1	2	3	4	5	6
	Assets	PPE	Assets	PPE	Assets	PPE
Language	1.230**	2.197***	1.571***	1.879***	1.906***	2.668***
	(2.50)[a]	(4.46)	(4.50)	(4.62)	(3.90)	(5.01)
Distance	-0.680**	-0.590**	-0.391**	-0.379*	-0.480*	-0.441
	(-2.61)	(-2.26)	(-2.05)	(-1.70)	(-1.75)	(-1.47)
Labor Cost	-0.233	-0.030	0.211	-0.195	-0.518	-0.572
	(-0.55)	(-0.07)	(0.50)	(-0.40)	(-1.11)	(-1.12)
Market Size	1.029***	1.096***	0.808***	0.763***	0.944***	0.992***
	(11.90)	(12.64)	(9.73)	(7.89)	(9.08)	(8.76)
Instability	-0.160	-0.089	-0.129	-0.244	-0.496	-0.414
	(-0.32)	(-0.18)	(-0.31)	(-0.51)	(-0.95)	(-0.73)
Trade Restrictions	-0.016	-0.007	-0.835**	-0.942**	-0.183	-0.246
	(-0.04)	(-0.02)	(-2.15)	(-2.09)	(-0.41)	(-0.51)
Sales per Worker	0.673***	0.264	0.313	0.152	1.079***	0.621**
	(2.75)	(1.08)	(1.27)	(0.53)	(4.09)	(2.16)
Monetary Conditions	0.041	0.437	0.027	0.176	-0.148	0.229
	(0.14)	(1.53)	(0.09)	(0.52)	(-0.47)	(0.67)
Development Level	0.546	-0.181	-0.668	-0.658	0.315	0.010
	(1.14)	(-0.38)	(-1.33)	(-1.12)	(0.59)	(0.02)
Nominal Tax	-0.517***	-0.296*				
	(-3.04)	(-1.74)				
ETR			-1.052***	-0.282		
			(-5.69)	(-1.31)		
EATR					-0.245	0.099
					(-1.05)	(0.39)
Equality Coefficients?	(0.000)[b]		(0.000)		(0.000)	
R^2	0.771	0.732	0.815	0.677	0.806	0.740
Nobs	100	100	54	54	76	76

Notes: a= t-values in parentheses. ***,**,* means significance on the 1%,5%-and 10%-level. b= p-values, testing the null that the tax coefficients are identical in the regression for assets and PPE.

Table IV: Determinants of Total Assets and PPE of U.S. MNEs: 2SLS

	1	2	3	4	5	6
	Assets	PPE	Assets	PPE	Assets	PPE
Language	0.447 (0.61)[a]	1.837*** (2.99)	1.556*** (4.28)	1.917*** (4.52)	1.754*** (3.31)	2.578*** (4.64)
Distance	-0.644* (-1.95)	-0.573** (-2.06)	-0.395** (-2.05)	-0.369 (-1.64)	-0.390 (-1.30)	-0.388 (-1.24)
Labor Cost	0.049 (0.09)	0.100 (0.21)	0.182 (0.40)	-0.125 (-0.23)	-0.175 (-0.31)	-0.370 (-0.63)
Market Size	1.296*** (7.62)	1.219*** (8.53)	0.798*** (7.53)	0.788*** (6.38)	1.124*** (6.27)	1.098*** (5.85)
Instability	0.166 (0.25)	0.061 (0.11)	-0.124 (-0.30)	-0.256 (-0.53)	-0.341 (-0.60)	-0.323 (-0.54)
Trade Restrictions	0.038 (0.08)	0.018 (0.04)	-0.824** (-2.09)	-0.969** (-2.10)	-0.008 (-0.02)	-0.143 (-0.28)
Sales per Worker	0.385 (1.13)	0.132 (0.46)	0.333 (1.20)	0.103 (0.32)	0.920*** (3.01)	0.527 (1.65)
Monetary Conditions	-0.004 (-0.01)	0.416 (1.37)	0.015 (0.05)	0.205 (0.59)	-0.087 (-0.26)	0.264 (0.75)
Development Level	-0.178 (-0.25)	-0.514 (-0.87)	-0.631 (-1.14)	-0.748 (-1.15)	-0.124 (-0.19)	-0.248 (-0.36)
Nominal Tax	-1.763*** (-2.74)	-0.870 (-1.61)				
ETR			-1.003*** (-2.74)	-0.404 (-0.95)		
EATR					-0.901* (-1.68)	-0.286 (-0.48)
Hausman Test	4.03 (0.946)	1.25 (0.999)	0.03 (1.000)	0.11 (1.000)	1.59 (0.999)	0.51 (1.000)
R^2	0.632	0.697	0.815	0.675	0.783	0.730
Nobs	100	100	54	54	76	76

Notes: a= t-values in parentheses. ***,**,* means significance on the 1%,5%-and 10%-level.

Table V: Results without Tax Havens

	1	2	3	4	5	6
	OLS	OLS	OLS	OLS	2SLS	2SLS
	Assets	Assets	Assets	PPE	Assets	PPE
Language	1.584*** (2.99)[a]	1.994*** (3.61)	1.645*** (4.04)	1.886*** (3.92)	1.532*** (2.76)	1.862*** (3.28)
Distance	-0.555** (-2.31)	-0.579** (-2.31)	-0.403* (-2.01)	-0.455* (-1.92)	-0.218 (-0.76)	-0.291 (-0.99)
Labor Cost	0.079 (0.19)	0.067 (0.16)	-0.220 (-0.48)	-0.427 (-0.78)	0.175 (0.31)	0.008 (0.01)
Market Size	1.161*** (13.56)	1.066*** (11.94)	0.956*** (9.58)	0.905*** (7.67)	1.188*** (7.83)	1.132*** (7.28)
Instability	-0.271 (-0.62)	-0.319 (-0.69)	0.067 (0.17)	-0.050 (-0.11)	-0.322 (-0.68)	-0.376 (-0.78)
Trade Restrictions	-0.489 (-1.11)	-0.407 (-0.88)	-0.878 (-1.63)	-0.770 (-1.21)	-0.415 (-0.81)	-0.595 (-1.13)
Sales per Worker	0.539* (1.97)	0.449 (1.57)	0.808** (2.17)	0.633 (1.44)	0.703** (2.22)	0.659** (2.03)
Monetary Conditions	0.148 (0.56)	0.425 (1.53)	0.271 (0.90)	0.444 (1.24)	0.133 (0.44)	0.372 (1.20)
Development Level	-0.142 (-0.32)	-0.352 (-0.75)	-0.563 (-1.06)	-0.662 (-1.05)	-0.370 (-0.61)	-0.713 (-1.14)
Nominal Tax	-0.314 (-1.08)	-0.212 (-0.70)				
ETR			-0.738*** (-2.76)	-0.283 (-0.90)		
EATR					-0.531 (-0.88)	-0.350 (-0.57)
Hausman Test					1.27 (0.999)	21.1 (0.011)**
R^2	0.841	0.783	0.843	0.734	0.851	0.801
N	82	82	44	44	63	63

Notes: a= t-values in parentheses. ***,**,* means significance on the 1%,5%-and 10%-level.

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