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The Taxation of Passive Foreign Investment: Lessons from German Experience

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This version: 22 May 2008

Abstract

The paper evaluates the working of German CFC rules that restrict the use of foreign subsidiaries located in low-tax countries to shelter the income from passive investment from home taxation. While passive investments make up a large fraction of German outbound FDI, we find that German CFC rules are quite effective in restricting investments in low-tax jurisdictions. At the same time, we find evidence that the German 2001 tax reform, which unilaterally introduced exemption of passive income in medium and high-tax countries, has led to some shifting in passive assets of German multinationals.

Keywords: foreign direct investment, CFC regulation, passive investment

JEL classification: H25, H73

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[#] The hospitality and support by the Deutsche Bundesbank Research Center is gratefully acknowledged. The second author gratefully acknowledges financial support from the Deutsche Forschungsgemeinschaft (DFG).

I. INTRODUCTION

The treatment of foreign source income of domestic corporations is one of the main issues in shaping a country's international tax rules. The treatment of dividends received from a foreign subsidiary usually follows one of two approaches. Exemption countries, such as the Netherlands, France, and Belgium abstain from taxation of those dividends. This reflects a territorial approach to international taxation. Countries like the U.S., the UK or Japan adhere to the residence approach that subjects worldwide repatriated income to domestic taxation. At the same time, these countries provide a credit for foreign dividends. In such a credit system, the foreign dividend is subject to corporate tax when received by the parent, but a tax credit that takes into account taxes paid by the foreign subsidiary on profits that underlie the distributed dividend may be credited. This is also called an indirect tax credit, while a tax credit that is granted for foreign withholding taxes on the dividend is called a direct tax credit. Usually, capital exporting countries, which use a credit system, provide for both the indirect and the direct credit in cases of a qualifying participation.

One of the problems that may haunt both exemption and credit countries is that domestic firms use low tax jurisdictions to shelter their income from possibly higher home country taxation. In the case where the home country runs an exemption system this is self-evident: foreign income earned by a foreign subsidiary and subject to low taxation abroad is exempt from high domestic taxes. In the case of credit countries, there still may be an advantage of low foreign tax rates as the home tax may be deferred until repatriation of the foreign profit. These tax shelters are generally accepted by home countries of parent corporations in the case of active foreign profits that derive from production, trade and services. Here a possible argument for doing so is capital import neutrality: foreign subsidiaries of high tax parents should be given the possibility to compete with native low-tax

firms on an equal basis (Musgrave 1969). Subjecting profits of foreign subsidiaries to immediate home country taxation may put them at a disadvantage.

While acceptable in the case of active business income abroad, the tax shelter implied by exemption or, to a lesser extent, deferral of home country taxes is much less palatable for capital exporting countries if the foreign subsidiary is not competing abroad, but merely acts as an instrument to manage the company group's liquid assets. Most industrialized countries have therefore legislated measures that limit the tax privilege of exemption or deferral in the case of passive investments. The standard approach used in the legislation on controlled foreign companies (CFC rules) by countries such as the U.S., Germany, France, the UK, Italy, the Netherlands, Switzerland, Luxembourg, or Austria is to tax passive investment income of foreign subsidiaries on an accrual basis if some conditions are met and the privilege of exemption or deferral is not extended to these incomes.

While CFC rules are of considerable importance in the legal and theoretical discussions of international corporate tax systems (see e.g. Weichenrieder 1996 for a theoretical study and Lang et al. 2004 for a legal comparison of international CFC rules), we are not aware of studies that empirically discuss the effectiveness of CFC rules.¹ One of the main purposes of this paper is to fill this gap by looking at the German experience.

A first empirical question that arises is about the magnitude and country distribution of passive assets held by German-owned foreign subsidiaries. To what extent do we see a concentration of passive assets in jurisdictions with low corporate taxes? As the German CFC rules provide for a safe haven if the foreign tax rate reaches a minimum level, is there evidence for a discontinuity in the sense that passive investment is concentrated in countries for which the safe haven is just applying?

There are several approaches that we are using in this paper to shed light on the effectiveness of CFC rules. One approach is to consider whether changes in tax rates affect

¹ A notable exception applies in the case of the analysis of hybrid structures and the U.S. "check the box" rules. See Mutti and Grubert (2006) for details.

passive investment depending on whether CFC legislation is applicable or not. Our estimates suggest that there indeed is a significant difference. The applicability of the German CFC rules seems to reduce the attractiveness of low local tax rates for passive investment. Over the last decades there were also several changes in the German CFC legislation. One of the changes that we exploit for our purposes is the 2003 reform that ended a tax preference that the CFC rules had given to intra-company lending as compared to arms'-length investment. We find that the reform had some impact on intra-company loans provided by low-tax subsidiaries, which is in line with expectations. We also make use of the German 2001 reform that extended the exemption method to a wider set of countries. Overall, the evidence provided in this paper is that German CFC rules have a significant and predictable impact on multinational financing and seem to be a powerful measure to curb tax avoidance.

We hope that our empirical results have some value for evaluating tax policy options. If CFC rules were rather ineffective, then deferral countries may have a comparative advantage over exemption countries in curbing passive investment abroad. In the case of ineffective CFC rules, an exemption country foregoes taxation of passive income altogether, while in the case of a deferral system home country taxes are only postponed. Conversely, in the case of effective CFC rules, moving from a deferral system to an exemption of foreign dividend – as currently discussed in the U.S. and the UK – may come at a relatively small cost in terms of additional passive investment abroad.

II. German CFC Rules

While resident individuals are taxed on their worldwide income irrespective of whether a dividend has been paid by a German or foreign corporation, foreign dividends that are received by a German corporation are exempt. In addition, the German corporation is not

taxable on retained earnings abroad.² Since 1972, however, limits apply due to §§ 7–14 of the German *Außensteuergesetz* (German Foreign Tax Act).³ These CFC rules closely follow the U.S. subpart F legislation, introduced in 1964, and address resident shareholders of controlled foreign corporations investing in low-taxed passive business operations. Under certain conditions, the German rules provide that the pro rata share of low-taxed passive income of a controlled foreign corporation (CFC) abroad is included in the shareholder's income on a current basis, implying that deferral and exemption are denied. German CFC rules are applicable if three requirements are met.

Ownership requirement. In general, the ownership requirement is met if more than 50 percent of ordinary shares or voting rights in the foreign corporation are held directly or indirectly by German resident individuals or companies.⁴

Passive Income. Shareholders of a CFC may be subject to tax on the passive income of the CFC, where the term passive income is defined negatively. Passive income is any income that does not qualify as active under § 8 (1) *Außensteuergesetz*. Active income is income from agriculture, production, banking and insurance, trade, dividends and the disposal of shares. Under some additional requirements also income from services and renting and leasing is deemed to be active. Income from borrowing and lending of capital is active if the German resident shareholder proves that all of the capital is raised in foreign capital markets from unrelated persons and the same capital is lent to an active foreign business or permanent establishment or to a German business or permanent establishment. As a consequence, interest

² Until 2000, the exemption of foreign dividends was restricted to dividends paid from treaty countries. Since 2001, 95% of the dividends received are exempt, whether a tax treaty applies or not.

³ For a detailed description see Förster and Schmidtman (2004).

⁴ Under certain conditions also ownership of former residents is considered.

income from financial activities is generally passive income if capital is raised within the group. Passive capital investment income is a special subcategory of passive income and includes income from the possession, administration, and management of cash, receivables, securities, shareholdings or similar assets. However, such income qualifies as active in the case of foreign subsidiaries in banking and insurance.

Low taxation. German CFC rules only apply to low-taxed passive income. Passive income is considered low-taxed if the tax rate on such income is less than 25 percent (less than 30 percent before 2001).

If the three legal requirements discussed above are all met, the low-taxed passive income is included in the taxable income of the German resident shareholders, but foreign income taxes on the passive income may be deducted or, upon election of the shareholder, credited against the German income or corporation tax.⁵ The German rules also apply to ownership chains to prevent that multi-tier structures are used as avoidance measures.

Some German double tax treaties exempt foreign income regardless of whether this income stems from passive or active investment. In other words, the exemption privilege is not bound to an activity clause, which makes application of German CFC rules difficult. Therefore, in a 1992 revision of the CFC rules, Germany unilaterally declared such treaty protections as not applicable for passive investment income. An exception was introduced for passive capital investment income from intra-group financing activities, where treaty

⁵ Passive income up to €80,000 (€62,000 before 2007) is innocuous if it does not represent more than 10 percent of the CFC's pre-tax income.

protection still applied for 40 percent of the income. In 2003 treaty protection for ordinary passive income was abolished completely.

III. Data Set

The paper uses the MiDi database of the Deutsche Bundesbank to investigate the impact of German CFC rules. German investors owning foreign subsidiaries are legally required to report on any foreign operation if it meets mild size and ownership requirements. For wholly-owned foreign subsidiaries compulsory reporting applies if total assets exceed the equivalent of €3m. In addition, German investors are also obliged to report also on subsidiaries that are held via intermediate companies if ownership ties are sufficiently strong (see Lipponer 2003). Most importantly for our purpose, investors have to report on their foreign subsidiaries' lending to other affiliated firms, on their equity ownership of affiliated companies, and on their financial assets in total.⁶ We complemented the data with information on national characteristics from the World Bank Development Indicators and with tax rate information from PricewaterhouseCoopers, the Bureau of Tax Policy Research at the University of Michigan, KPMG, and other sources.

IV. Empirical Evidence

IV.1. CFC Rules and the Location of Passive Assets

In a first step we analyze the allocation of liquid assets in German multinational corporations. More precisely, in this section we want to highlight the allocation of financial assets abroad that neither count as equity holdings in affiliated companies nor as loans to subsidiaries. The deduction of loans and equity stakes in affiliated corporations avoids double counting of passive investments in the case of ownership chains. The subgroup of passive

⁶ Previous studies that use MiDi for analyzing tax effects on FDI include Ramb and Weichenrieder (2005) and Büttner and Ruf (2007).

assets considered will mainly consist of bonds and portfolio equity in arms' length situations with a moderate or negligible difference between book and market values. Given such an absence of hidden reserves, these passive assets may be shifted from high tax to low tax locations without triggering capital gains taxation. Therefore, abstracting from CFC legislation, a simple comparison of statutory tax rates suggests that multinationals should hold these transferable passive assets through subsidiaries in low-tax countries and the benefit of doing so should increase as the tax rate in the low tax country decreases.

However, adding CFC rules may change the picture. The German rules provide that the passive income earned by controlled foreign corporations abroad is deemed as income of the German parent if the effective taxation of the passive income abroad falls short of a threshold value, which is 25% since 2001 (30% before 2001). While taxes on the passive income paid abroad may be credited against German taxation, the application of the German tax rate (including the relevant local rate) makes this the effective tax rate on the passive investment.

If multinationals fail to work around this regulation, then we should expect few passive investments in low-tax countries, as the applicable rate would be the higher German one. Indeed, the descriptive statistics in Table 2 is largely in line with this. Table 2 reports on the amounts of passive assets in those 15 countries that in 2005 hosted the largest shares of passive assets of German multinationals. Besides Russia with a corporate tax of 24%, the only low-tax country with a statutory tax rate below 25% in this group is Hong Kong with a rate of 17.5%. The vast majority of passive investments as defined in this section is received by unsuspecting countries, like the U.S., Canada, and France. The picture slightly changes if we scale passive investment by dividing through fixed investment and intangibles of German-owned firms in the respective countries. In this case small economies like Luxembourg and Hong Kong rank first. But still, the total amount of some €1.6bn. in Hong Kong and €3.9bn. in Luxembourg are rather moderate. Across all countries, German 2005 investment in fixed investment and intangibles abroad totaled €319bn, while passive assets (defined as financial

assets excluding intra-company loans and intra-company equity) amounted to €513bn. Given the huge amount for the U.S., only some €42bn. have been allocated to other countries. Since the vast majority of the passive assets in the U.S. is held by asset management firms, the dominance of the U.S. seems to reflect a Wall Street effect.

Table 1: Passive assets per country (2005, in million euros)

Host country	(1) Passive investment	(2) Fixed investment and intangibles	(3) = (1)/(2)	(4) Statutory tax rate including local taxes (CT)
USA	470,665	75,554	6.23	39.29%
NL	8,498	3,784	2.25	31.50%
CDN	6,546	7,865	0.83	36.10%
F	4,418	10,461	0.42	33.83%
LUX	3,869	254	15.24	30.38%
N	2,613	784	3.33	28.00%
GB	1,750	25,672	0.07	30.00%
HK	1,639	146	11.26	17.50%
A	1,042	7,310	0.14	25.00%
AUS	1,014	626	1.62	30.00%
RUS	879	614	1.43	24.00%
I	770	7,009	0.11	37.25%
CH	572	3,756	0.15	33.66%
J	566	2,149	0.26	39.75%
B	524	3,718	0.14	33.99%

Annotations: In column (1), the table reports the passive investment, defined as the total financial assets net of equity in affiliated firms and lending to affiliated firms, in the country under consideration. We left out firms with an ownership share of the German investor of less than 90%, and excluded unincorporated subsidiaries and subsidiaries in banking and insurance as these industries are treated differently under the German CFC rules. Column (2) reports the aggregated fixed investment and intangibles in the same group of companies.

The empirical evidence provided in Table 1 suggests that tax differentials are certainly not the only factor for the allocation of passive investment. It may also be consistent with the hypothesis that German CFC rules are effectively restricting multinationals from exploiting low tax jurisdictions. To investigate this hypothesis more closely, Table 2 reports regression results on the micro level. The dependent variable in all regressions of Table 2 is the logarithm of passive assets that a German-owned firm holds. The definition of passive assets is identical to the one used in Table 1. The observed units are the German-owned subsidiaries abroad. However, in cases, in which a German parent owns more than one subsidiary in a specific

country, we aggregated passive investment across observations, i.e. affiliated firms in one country and year were merged and treated as a single observation. This takes into account that affiliated firms located in the same country and owned by the same parent may fail to be independent observations.

The following right hand variables appear in our regressions presented in Table 2. CT captures the statutory corporate tax rate in the host country. The variable CFC_DUMMY takes on the value one if the country has a statutory tax rate that is below the safe haven tax rate of the German CFC rules (30% before 2001, 25% thereafter) and the rules are therefore potentially binding. $CT * CFC_Dummy$ is built by interacting the tax rate and CFC_DUMMY . Similarly, we created $CT * (1 - CFC_Dummy)$. CT_EFF is a tax rate that is constructed under the assumption that the German CFC rules are always binding if the local tax rate falls short of the safe haven rate. That is, CT_EFF equals CT if CT is larger or equal to the safe haven rate, but equals the applicable German tax rate, otherwise. $LN(ASSETS)$ measures an subsidiary's non-financial assets (fixed and intangible assets plus working capital).⁷ It is a proxy for firm size, reflecting that larger firms with more real capital may wish to hold larger amounts of liquid assets. Finally, we are using three variables capturing non-tax country characteristics. $LN(GDP)$ measures the log of GDP measured in purchasing power parities. Since tax rates and country sizes have been found to be systematically correlated (Weichenrieder 2005), inclusion of this size measures prevents the tax rate to take up size effects. $LN(INTEREST)$ reflects the local bank lending rate and $LN(CORR)$ is defined as the logarithm of the Transparency International corruption index.

Since changes in the host country tax rates have a larger impact on passive investment when the German CFC rules are applicable than when they are not, our results in Table 2 suggest that CFC rules indeed affect corporate decisions and curb passive investments in low-tax countries.

⁷ A limitation of the data is that it is not possible to separate tangible and intangible assets.

Table 2: CFC rules and passive assets

COEFFICIENT	(1)	(2)	(3)	(4)	(5)
CT	-0.385 (1.15)	-3.310*** (1.13)	-2.284** (1.14)		
CFC_DUMMY	-0.843*** (0.20)	-0.807*** (0.19)	-0.686*** (0.18)	-1.007** (0.51)	
CT*CFC_DUMMY				-1.175 (1.86)	
CT*(1 – CFC_DUMMY)				-2.537** (1.27)	
CT_EFF					-2.317*** (0.70)
LN(ASSETS)		0.442*** (0.025)	0.424*** (0.025)	0.424*** (0.025)	0.423*** (0.025)
LN(GDP)		0.0458 (0.060)	0.0795 (0.054)	0.0815 (0.055)	0.0861** (0.043)
LN(INTEREST)		-0.485*** (0.074)	-0.0852 (0.091)	-0.0955 (0.093)	-0.0758 (0.086)
LN(CORR)			1.265*** (0.17)	1.245*** (0.17)	1.295*** (0.16)
Parent fixed effects	yes	yes	yes	yes	yes
Observations	27857	27485	27469	27469	27469
R-squared	0.52	0.55	0.56	0.56	0.56

Annotations: Dependent variable: log of passive assets. Robust standard errors in parentheses, corrected for clustering within country-year cells. Stars denote p-values; *** p < 0.01; ** p < 0.05; * p < 0.1. All estimations include parent fixed effects and firms are observed during the period 1996-2005 (unbalanced sample). Banks and insurance firms are not included in the sample, since their activities are assumed to be active according to the German CFC rules. In cases in which a German parent owns more than one subsidiary in a specific country, we aggregated passive investment across country year observations.

Column (1) reports on a parsimonious OLS regression that uses parent fixed effects, time fixed effects, plus two tax variables, CT and CFC_DUMMY. As expected, the coefficient for the tax rate is negative, implying that a higher tax rate is detrimental to the allocation of passive assets, although not statistically significant in this simple regression. At the same time, CFC_DUMMY is significantly negative and the coefficient of -.843 implies that the holdings of passive assets is reduced by some 84% on the subsidiary level if a country's tax rate falls short of the safe haven rate as put down in the German CFC rules. Regression model (2) incorporates additional regressors. LN(ASSETS) is introduced to capture that a larger firm with larger real assets may find it worthwhile to have more liquid assets. The data is compatible with this hypothesis and the regression suggests that a one percent increase in real assets is associated with an increase in passive investment of some 0.4

percent and this result is very stable across different further specifications. LN(GDP) is introduced on the basis that a large host country may invite to make more passive investments, but the results are not in line with this. The interest level in the host country, LN(INTEREST), appears to be influential for the size of passive investments in model (2), but as we can see from specifications (3) to (5), this result is not robust to inclusion of a measure of corruption, LN(CORR), which operates as expected: a lower level of corruption (a higher index) increases passive investments.⁸ The inclusion of additional non-tax country characteristics in the empirical equations (2) and (3) produces strongly significant effects for the statutory tax rate. To further check robustness, we also tested whether the influence of the host country tax rate is different depending on whether the CFC_Dummy is one or zero. If the German CFC rules are biting, then we should expect that once the safe haven tax rate has been reached, further reduction of the foreign host tax rate does not lure in more passive assets as the reduced foreign taxes are compensated by a higher German tax. Indeed, equation (4) confirms that the effect of the host country tax rate is stronger when the German CFC rules are not binding. In this case, the coefficient for $CT*(1 - CFC_DUMMY)$ indicates that a ten percentage point increase in the tax rate would reduce passive assets of German subsidiaries in the respective country by some 25 percent. At the same time, an increase in the tax rate for a country that has a lower rate than the German safe haven rate produces an insignificant effect and the coefficient is only half as large. The last equation (5) shows the results if we use CT_EFF, as described above, as a right hand variable. It shows that employing the German and host tax rates as applicable produces a coefficient that closely resembles the coefficient estimated for $CT*(1 - CFC_DUMMY)$ in equation (4). At the same time, the CFC_DUMMY turned insignificant and was dropped. Our interpretation of this insignificance is that in the models (1)-(4), in which the coefficient was significant, CFC_DUMMY picked up the discontinuity of the effective tax rate (as relevant to the corporation) when plotted against the host country

⁸ Using the coefficients derived from model (5) implied that compared to Greece (corruption index 4.3 in 2005 on a scale between 0 and 10) Cyprus (index of 5.7) could afford a ten percentage point higher tax rate without detrimental effects on passive assets. As a caveat, we should add, though, that taking logs of passive assets drops all observations with zero passive assets.

tax rate. For a German-owned subsidiary in a country with a rate of 25 percent, the effective rate indeed is 25 percent, while in a country with a rate of 24 percent, the effective rate on passive income is the German rate (some 39 percent in 2005). Using the effective tax rate itself rather than the combination of the host country tax rate and the CFC_DUMMY resolves this discontinuity problem and CFC_DUMMY is redundant as its effect is already captured in CT_EFF. The negative and highly significant coefficient of CT_EFF in model (5) suggests that this tax rate strongly influences the distribution of passive assets among the subsidiaries of German multinationals. The higher this effective tax rate, the fewer passive assets are held in the respective host country.

IV.2. Loans to affiliated enterprises and CFC legislation

In the last section we have concentrated on the investment in arm's-length transactions. The present section complements the analysis by looking at intra-firm lending. Most countries allow firms to deduct interest cost of corporate debt. The advantage of the debt tax shield is larger, the larger the local tax rate is. For this reason, multinational firms have an incentive to allocate debt in high tax countries and have a preference for allocating equity in low tax jurisdictions. A related strategy that may be motivated by international tax rate differentials is the establishment of financial conduit entities in low-tax countries or tax havens. A tax efficient approach may be to finance these companies by equity and have them forward these funds in the form of intra-company loans to high tax subsidiaries, possibly including the parent firm (see, e.g. Mintz 2004, Weichenrieder and Mintz 2008). As a result, the multinational's interest expenses are tax deductible in high tax countries, whereas the taxation of the interest payments in the conduit entity is subject to low or even zero tax rates. Abstracting from countries' anti-avoidance measures, the shifting of equity and debt, unlike the shifting of real assets, does not trigger taxation of hidden reserves and should therefore be comparatively straightforward.

However, governments do react to such tax planning strategies. German CFC rules treat the interest income of such conduit entities as passive income and the German parent of the conduit entity may be subject to German taxation on the passive income abroad. For interest income of such foreign corporations the German statutory tax rate becomes effective unless the conduit entity can provide evidence that the forwarded loans have been exclusively financed on capital markets outside Germany (rather than by receiving equity from the German parent).

To investigate whether the German regulations are binding, we identify all German-owned subsidiaries for which lending to affiliated enterprises exceeds liabilities. For the rest of the paper we will label these corporations "conduit entities with positive net lending" (CEPNL). There are two reasons for concentrating on subsidiaries that are net lenders. First, given that interest rates on borrowings and lending are approximately the same, using liabilities to finance lending is not a tax-efficient strategy: in such cases interest payments received and interest payments paid should largely net out (assuming that arms length transfer pricing rules are respected) and the resulting profit and thus possible tax savings are near zero. Second, German CFC rules will be applicable in cases where net lending is positive. Conversely, if net-lending is negative we may have that all the funds have been raised on foreign capital markets, which implies that German CFC rules were not applicable.

Table 3 offers descriptive statistics on the number of German-owned conduit entities complying with a positive net-lending and presents the respective amount of loans to affiliated enterprises in 2005. The table includes all countries that in 2005 have hosted more than two CEPNLs. In total this yields 170 cases. The total amount of net-lending for these 170 cases is moderate, at least for non-U.S. subsidiaries. In the Netherlands, for example, German-owned subsidiaries accounted for €879m euro of net lending. Among the countries in Table 3, the only low-tax country according to the definition of the German CFC rules is Ireland. Tax haven countries, such as the Cayman Islands or the Bermudas, are not used as significant

locations for conduit entities in the sample presented here.⁹ Tax incentives for setting up conduit entities may however apply in the cases of the Netherlands and Switzerland. In both countries, holding company regimes apply to certain corporations that may considerably reduce the effective tax rate on interest income (see Weichenrieder and Mintz 2008).

Table 3: Conduit entities with positive net-lending by country (2005)

Country	Lending to affiliated companies less liabilities	No. of conduit entities	Statutory tax rate
NL	879	30	31.50%
CH	277	27	33.66%
USA	55050	24	39.29%
GB	885	22	30.00%
F	898	18	33.83%
ZA	76	9	n.a.
A	431	9	25.00%
LUX	1019	7	30.38%
S	573	6	28.00%
E	35	6	35.00%
B	1088	5	33.99%
DK	27	4	28.00%
IRL	616	3	12.50%

Annotations: The table reports on those conduit entities for which net lending (lending to affiliated companies minus total liabilities) is positive. We left out firms with an ownership share of the German investor of less than 90%, and excluded unincorporated subsidiaries and subsidiaries in banking and insurance as these industries are treated differently under the German CFC rules. For confidentiality reasons, we do not report on countries with less than three qualifying subsidiaries.

Table 4: The treatment of interest income from lending to affiliated companies (positive net lending)

	Treatment of passive income derived from lending to subsidiaries 1993-2002	from 2003
Treaty country /w activity clause and non-treaty countries	German parent is taxed on total interest income of the foreign subsidiary	German parent is taxed on total interest income of the foreign subsidiary
Treaty country w/o activity clause	German parent is taxed on 60 percent of the interest income of the foreign subsidiary	German parent is taxed on total interest income of the foreign subsidiary

⁹ For confidentiality reasons we cannot report descriptive statistics if the number of observations in a respective country per year is lower than three. Hence all countries not represented in the table above may at maximum have two conduit entities with net-lending in 2005.

The effects of the German CFC rules on the set up of CEPNLs may be investigated by looking at the 2003 reform.¹⁰ Table 4 explicates the effect of this reform that had a differential effect on conduit entities depending on tax treaty details. The reform implied no change for CEPNLs in cases where the tax treaty contains an activity clause. In pre and post reform years, the German CFC rules triggered a tax for the German parent (at a rate of approximately 39% in 2005) if a foreign subsidiary derived interest income from intra-company loans, the loans were not financed on local capital markets, and a low foreign tax rate on the interest income applied. Conversely, if the relevant tax treaty contains no activity clause, then the pre reform treatment of the parent implied that only 60 percent of the foreign interest income was subjected to German tax. For the post reform years, the preference given in these cases was lost and 100 percent of the foreign interest income was subject to German tax. As a result, the reform decreased the incentives to use low-tax countries that enjoy the preference of a double tax treaty with no activity clause and from 2003 we should expect to see a diminishing number of conduit entities there. We should add that the reform has affected only few countries since Germany has accepted omission of an activity clause only in a limited number of cases, including France, Ireland, Denmark, Finland, Sweden and Norway, with the most prominent low-tax jurisdiction being Ireland. Indeed, Ireland is the only host country that fell below the 25% safe haven rate of the German CFC rules and is enjoying a tax treaty without activity clause.

Table 5 reports descriptive statistics for CEPNLs in Ireland. Overall, German multinationals did not make extensive use of those conduit entities in Ireland and the maximum number of CEPNLs was eight, reached in 1997. The aggregated amount of loans to affiliated enterprises not financed by liabilities reached a maximum of €978m euro in 1996. Assuming an interest rate of 5% and a German statutory tax rate of roughly 56% at that time, the tax savings from using the Ireland CEPNLs may have reached some €22.5m (= €978m * 5% * (56% – 10%) in this year.

¹⁰ § 10 (6) *Außensteuergesetz* was abolished with effect from fiscal year 2003.

Table 5: Conduit entities in Ireland

Year	lending to affiliated companies net of borrowing	Number of conduit entities with positive net-lending	corporate tax rate
2005	616	3	12.50%
2004	*	*	12.50%
2003	329	4	12.50%
2002	423	7	10.00%
2001	70	6	10.00%
2000	229	5	10.00%
1999	66	6	10.00%
1998	777	7	10.00%
1997	840	8	10.00%
1996	978	7	10.00%

Annotations: * Information on less than tree observations has to be omitted because of confidentiality reasons.

The change in German CFC rules from 2003 onwards was associated with a reduction of the number of conduit entities in Ireland. Table 6 revisits the effect of the 2003 reform by presenting microeconomic evidence. The analysis is based on all subsidiaries of 421 German parents that had at least one CEPNL according to our definition. Each of these subsidiaries is then treated as one observation. The left hand variable of the regressions is a zero-one indicator, with a value of one if the German-owned subsidiary is a CEPNL, i.e. its lending to affiliated companies is larger than its liabilities. Besides the variables used before, we now also include two new ones. $CFC_DUMMY*NOACTI$, just as CFC_DUMMY can only be equal to one if the local statutory tax rate is below the German safe haven rate. Unlike CFC_DUMMY , it is only equal to one if the subsidiary under consideration benefits from the absence of an activity clause in the relevant tax treaty. Since prior to 2003 these subsidiaries received preferential treatment in the German CFC rules, we should expect a positive coefficient, i.e. a higher likelihood of CEPNLs (given inclusion of the variable CFC_DUMMY). Since the preference for low-tax countries without activity clause was dropped for years from 2003, we expect that this positive effect is nullified for this period. To allow identification of this hypothesis we include the variable $CFC_DUMMY*NOACTI*POST2003$, which equals $CFC_DUMMY*NOACTI$ for 2003 through 2005, but is zero otherwise.

Table 6: Locating conduit entities with positive net-lending

	(1)	(2)	(3)	(4)
	Panel logit	Panel logit	FE OLS	FE OLS
CT	-1.523 (1.29)	-0.811 (1.49)	-0.0768 (0.058)	-0.0670 (0.054)
CFC_DUMMY	-0.702*** (0.24)	-0.466 (0.30)	-0.0285*** (0.0092)	-0.0226** (0.0096)
CFC_DUMMY*NOACTI	1.117*** (0.38)	0.690* (0.41)	0.0585*** (0.013)	0.0345** (0.015)
CFC_DUMMY*NOACTI*POST2003	-1.258** (0.56)	-1.086* (0.56)	-0.0845*** (0.022)	-0.0836*** (0.023)
LN(ASSETS)		0.119** (0.049)		0.00634*** (0.0017)
LN(CORR)		2.016*** (0.32)		0.0558*** (0.0062)
LN(GDP)		-0.00360 (0.061)		-0.00208 (0.0020)
LN(INTEREST)		-0.340*** (0.098)		-0.00850* (0.0045)
Observations	21244	20454	21493	20728
R2, Pseudo R2	0.0084	0.062	0.19	0.20

Annotations: Dependent variable: Dummy indicating positive net lending of the subsidiary. Stars denote p-values; *** p < 0.01; ** p < 0.05; * p < 0.1. Robust standard errors in parentheses. OLS results corrected for clustering within country-year cells. All estimations include time fixed effects, parent fixed effects and firms are observed during the period 1996-2005 (unbalanced sample). Banks and insurance firms are not included in the sample, since their activities are assumed to be active according to the German CFC rules.

The regression results presented in Table 6 confirm that German CFC rules affect affiliate behavior. A binding German CFC rule (i.e. a local tax rate below the German safe haven rate) reduces the frequency of CEPNLs, as indicated by the significantly negative coefficient of CFC_DUMMY across all specifications. The first two specifications report results of panel logit models. Model (1) is a parsimonious version with tax variables only. It shows a plausible negative effect of the local tax rate on the frequency of CEPNLs. The coefficient for CFC_DUMMY*NOACTI indicates that – compared with low-tax countries that have an activity clause in their treaty with Germany – low-tax countries that do not face this clause host more CEPNLs. The negative coefficients of CFC_DUMMY*NOACTI*POST2003 also shows that the elimination of the CFC preference roughly nullified this effect. The significance of the coefficients and the opposite signs of these two variables of interest are conserved across different regression specifications at least

at the ten percent level. At the same time, it should be kept in mind that the coefficients for $CFC_DUMMY*NOACTI*POST2003$ and $CFC_DUMMY*NOACTI$, unlike for CFC_DUMMY , are based exclusively on firm observations in Ireland and the results should therefore be taken with a grain of salt. Model (2) also uses a logit model with parent fixed effects, but includes additional covariates. While their inclusion reduces the significance of the corporate tax rate CT , the CFC_DUMMY and its interactions all stay significant at the five percent level and confirm the results of model (1). The positive coefficient of $LN(ASSETS)$ indicates that CEPNLs tend to be above average size. The coefficients of $LN(CORR)$ and $LN(INTEREST)$ are plausibly indicating that conduit entities are attracted by low corruption and low interest rates. Models (3) and (4) replicate models (1) and (2) but use a simple OLS linear probability model. While this is theoretically inferior to the logit model, it lends itself more easily to an interpretation of the size of the marginal effects. With an average of 6.6% of the subsidiaries qualifying as CEPNLs, the pre-2003 preference given to subsidiaries in countries without activity clause may have ceteris paribus increased the fraction by some 3.5 percentage points according to the point estimate of model (4). It should be noted, however, that model (4) is the only estimation in Table 6 where the linear restriction $CFC_DUMMY*NOACTI*POST2003 - CFC_DUMMY*NOACTI$ is not accepted: the effect of having the preference is reported to be smaller than the effect of abolishing it. This should also introduce some caution with respect to the preciseness of the estimates, the sign of which are nevertheless perfectly in line with expectation.

IV.3. Exemption of repatriated passive income: the reform 2001

As mentioned above, the German double tax treaties differ with respect to inclusion of an activity clause. The previous section has discussed this in connection with the 2003 reform, which has changed the tax treatment of intra-company lending conducted through subsidiaries in low-tax countries (i.e. countries below the safe haven rate). The differences in bilateral tax treaties are also relevant for high tax partner countries due to the German tax reform 2001.

Before 2001, exemption of dividends paid from treaty countries with activity clause was restricted to dividends from active income, while dividends paid from passive income were taxed by using the credit system. Since 2001, Germany is extending the exemption system unilaterally also to countries that have agreed to an activity clause in the tax treaty (and even to non-treaty countries). Hence, passive investment income repatriated from countries without an activity clause was exempt from German taxation before as well as after the 2001, whereas dividends repatriated from countries with an activity clause were tax exempt in Germany only from 2001 onwards. This tax reform therefore gives us the opportunity to investigate the changed incentives in activity clause countries, using the subsidiaries in countries without a clause as a control group. This provides us with a difference in difference analysis.

As in section IV.1. we are using the log of passive investment (excluding loans and equity in affiliated companies) as the left hand variable. The treatment group in our natural experiment consists of all the subsidiaries in countries that either have no tax treaty with Germany or one *with* an activity clause. For these subsidiaries the German 2001 reform implied that the tax treatment of passive income was improved by the reform. To identify this effect we created the dummy variable POST_REFORM_W that takes on the value one in years 2001-2005 if the relevant country has an activity clause or no tax treaty at all. Again, specification (1) starts with a relatively parsimonious empirical model. In line with our hypothesis, the coefficient of POST_REFORM_W is positive and significant, indicating that the reform has made passive investment relatively more attractive in countries that had agreed on an activity clause (or have no tax treaty). Compared to the control group, the reform has increase the amount of passive investments in arm's-length investments by more than 25 percent and this magnitude is confirmed by model (2) that enters additional controls.

The application of the credit method or the exemption method at the level of the German parent matters more the lower the tax rate in the host country. Therefore, passive investments in low-tax countries should be more reactive to the tax policy change. To test this we created yet another dummy by interacting POST_REFORM_W with LOW, a dummy for

countries with a tax rate below 35 percent, yielding the variable POST_REFORM_W_LOW. Using POST_REFORM_W_LOW along with POST_REFORM_W in model (3) clearly shows that the change in passive investments occurred mostly in countries with moderate tax rates.

Table 7: German tax reform 2001 and passive investment

	(1)	(2)	(3)	(4)
CT	0.813 (0.69)	0.645 (0.66)	0.434 (0.63)	0.401 (0.62)
POST_REFORM_W	0.283*** (0.072)	0.271*** (0.065)		0.0362 (0.15)
POST_REFORM_W_LOW			0.299*** (0.059)	0.269* (0.14)
LOW				-0.0248 (0.065)
LN(ASSETS)		0.208*** (0.037)	0.209*** (0.037)	0.209*** (0.037)
LN(CORR)		-0.246 (0.24)	-0.167 (0.24)	-0.174 (0.24)
LN(GDP)		1.757** (0.69)	1.616** (0.69)	1.628** (0.69)
LN(INTEREST)		0.0300 (0.10)	-0.00213 (0.11)	0.00280 (0.10)
Observations	19804	19595	19595	19595
R-squared	0.86	0.86	0.86	0.86

Annotations: Dependent variable: log of passive assets. Robust standard errors in parentheses, corrected for clustering within country-year cells. Stars denote p-values; *** p < 0.01; ** p < 0.05; * p < 0.1. Robust standard errors corrected for clustering within country-year cells in parentheses. All estimations include firm and time fixed effects. Firms are observed during the period 1996-2005 (unbalanced sample). Banks and insurance firms are not included in the sample.

V. Summary and Conclusions

While CFC rules, which are designed to curb the tax revenue losses due to the outflow of passive investments into low-tax countries, are part the international tax systems of most developed countries, so far there has been almost no empirical work on the effects of these rules. In this paper we tried to fill some of this gap by looking at German experience. Overall, the German past experience suggests that CFC rules seem to enable even a high-tax country to largely prevent the migration of passive assets into low-tax jurisdictions. Based on a

comprehensive database of German FDI, we found that offshore tax haven countries, like the Cayman Islands, Barbados, and the like are not able to attract significant amounts of passive investments or relevant subsidiaries. Neither are these offshore jurisdictions particularly attractive for the location of conduit entities that are equity funded and grant these funds to affiliated companies by granting loans.

Our empirical work for the first time provides microeconomic evidence on the working of the German CFC rules. One piece of empirical evidence for the effectiveness of the rules is that, while a lower local tax rate in general attracts German passive investment, this effect is not significant for countries for which the rules are applicable since their local rate is below the safe haven rate. There is also some evidence that the German 2003 revision of the CFC rules, which ended a tax preference for conduit entities in some treaty countries, was successful in curbing passive investments in the form of intra-company loans. Finally, the paper looked at the 2001 tax reform which unilaterally introduced the exemption of foreign dividends when received by a German corporation. While prior to the reform dividends from various treaty countries were exempt only in the case of an active business abroad, the reform introduced exemption even for dividends paid from passive investment income (provided the CFC rules are not applicable). We find evidence that this legislation has measurably increased the passive investment in the countries that profit from the reform. This may be interesting information for countries like the U.S. and the UK, which are currently discussing the move from a credit system of international taxation to an exemption system.

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