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What Do We Know about the Tax Planning of German-Based Multinational Firms?

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Introduction

Amazon, Caterpillar, Google, and Starbucks are just a few examples of multinational firms that recently managed to make headlines with creative tax avoidance strategies.² Abundant anecdotal evidence is in accord with rigorous research results confirming the existence of various forms of international tax planning by multinational firms.

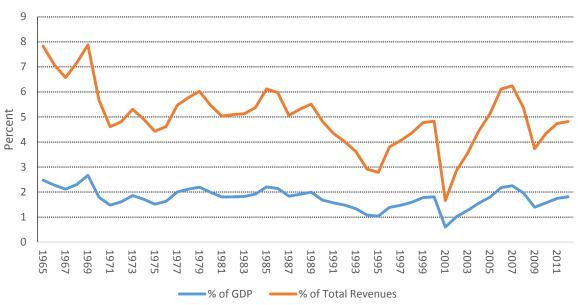
While the above examples are all US-based firms, increasing availability of administrative data for research purposes has enabled researchers to study not only behavioural responses of US-based firms to taxation, but also of European and other multinationals. For example, researchers have analysed European financial data such as Amadeus (from Bureau van Dijk), tax return data, and the German MiDi dataset. The MiDi is a confidential database available at the research centre of the Deutsche Bundesbank and it includes all German enterprises investing abroad and satisfying the reporting requirements (cf. Lipponer, 2011).

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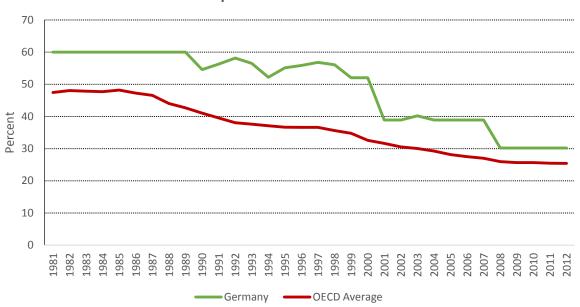
² See for example, *NY Times*, March 31, 2014: http://www.bbc.com/news/report-says-caterpillar-used-swiss-unit-to-pare-taxes.html?_r=0, and *BBC*, 23 June 2013: http://www.bbc.com/news/uk-politics-23019514.

Figure 1: Tax on Corporate Profits in Germany





Corporate Income Tax Rate



Source: OECD (2014), Tax on corporate profits (indicator). doi: 10.1787/d30cc412-en (Accessed on 21 September 2014).

As shown in Figure 1, the German statutory corporate income tax rate has fallen by half from 60 percent in 1981 to some 30 percent in 2014, while this is still above the simple OECD average. The survey of Leibrecht and Hochgatterer (2012) suggests that the pattern of declining corporate tax rates of OECD members is driven by tax competition between countries that compete for corporate tax base and foreign firms. In Germany, in spite of declining tax rates, the ratio of revenues from corporate income to GDP has been rather stable in the last few years at around 2 percent (5 percent of total revenues). This stability of corporate tax revenues is, in part, due to an increase in the share of the incorporated sector (Fuest and Weichenrieder, 2002).

Germany, as most developed countries except the US, uses an exemption system. In essence, this implies that the relatively high German tax rate on profits applies to German plants, but not to foreign investments abroad, leaving potential gains for tax planning. Indeed, taxation and tax differentials can affect multinational firms' decisions in various respects. The present paper summarizes what we can learn from recent studies on tax avoidance strategies by multinational firms in general and by German multinationals in particular.

The Location Choice of Foreign Direct Investment (FDI) Projects

Table 1 displays the top five locations for reported after-tax-profit of German affiliates abroad in 2012. China is at the top of the list with about €19bn followed by the Netherlands. In terms of total (tangible and intangible) assets, the top three locations are the US, the UK and China.

Table 1 Top Five Locations of Profits and Assets of Outbound German FDI

Rank	Country	Profit	Country	Total Assets
1	China	18,900	US	199,000
2	The Netherlands	17,200	UK	47,400
3	US	15,800	China	45,800
4	Luxemburg	7,683	France	34,900
5	Austria	7,120	Austria	26,400

Source: MiDi Data. Numbers are in million euros and correspond to 2012.

While taxation is just one country characteristics among many, international differences in tax systems affect the location choices for new FDI projects. Empirical studies addressing this issue typically specify a discrete choice model to estimate how a change in taxes influences the probability of receiving a new FDI project. These analyses can rely on cross-section observations or on a panel

structure allowing for controlling for unobserved time-invariant heterogeneity at the firm-level by using parent-firm-fixed effects. However, in the panel analysis, the computation and interpretation of an average partial effect is not straightforward since predicted probabilities are estimated for each group as a whole and not for individual observations. Büttner and Ruf (2007) use a fixed-effects logit model and find that the statutory corporate tax rate has a higher predictive power than the effective average tax rate.

Investment in old capital, in the form of acquiring an already existing firm (M&A activities), may be expected to have a lower elasticity with respect to taxes than the establishment of new structures (Greenfield). The argument is that high taxes reduce expected future cash flows of the firm and thus will at least be partially capitalised in the acquisition price. Typically, this is not a viable option in the case of Greenfield investments. Hebous, Ruf, and Weichenrieder (2011) estimate a conditional logit model including all new outbound FDI projects for the years 2005-2007 and explicitly distinguish between Greenfield and M&A investments. The evidence indicates that location decisions of M&A investments are less sensitive to differences in statutory corporate income tax rates than location decisions of Greenfield investments. The estimated elasticity suggests that an increase in the rate of 10 percent reduces the probability of choosing a country to host a Greenfield investment by about 6.4 percent. However, the tax elasticity for M&A investments seems significantly smaller.

The above mentioned studies focus on the extensive margin of FDI, i.e., completely focusing on new FDI entries. A number of studies consider the effects of taxation on the intensive margin of FDI, i.e., the values of investments. This is related to the broader issue of the effects of the user cost of capital on domestic investment in general (not only FDI). Most of these studies are based on a panel of cross-countries. A recent example is Bond and Xing (2013). This study documents significant reactions of capital stocks to changes in the user cost of capital in a panel of OECD members.

The Ownership Structure and Holding Companies

About 15 percent of outbound German FDI affiliates in 2012 are held via an intermediate company in a third country. For German investors, the Netherlands is the most important location of the so-called conduit entities. Other important locations are Switzerland and Hong Kong. By using several conduit entities, the ownership chain may become arbitrarily complicated. (cf. Mintz and Weichenrieder, 2010, chapter 4).

In cases where a high withholding tax on dividends on direct participations applies, stepping stone FDI, i.e., channelling investments through an intermediate country, is a strategy that may reduce the effective tax rate by taking advantage of preferential bilateral agreements elsewhere. This strategy is called treaty shopping. Table 2 presents withholding tax rates as applied by Germany for selected foreign investor countries. While under the Parent-Subsidiary Directive (2003/48/EC) dividend payments to EU companies may be exempt from dividend withholding taxes, other investors, as those in Australia, Brazil, or Japan are subject to German dividend taxes in the cases of direct participations.

Table 2 Selected Withholding Tax Rates Applied by Germany

Investor	Withholding tax rate on dividends
Australia	15
Brazil	21.1
Canada	5
China	10
EU	0
India	10
Japan	15
Mauritius	5
New Zealand	15
Norway	0
Russia	5
Saudi Arabia	21.1
Singapore	5
South Africa	7.5
Switzerland	0
Turkey	15
United Arab Emirates	5
United States	0
Non-treaty countries	21.1

Note: Rates refer to cases in which an incorporated investor holds at least 25% of a German affiliate.

Source: Deloitte, Worldwide Corporate Tax Guide 2012; double tax treaties.

Mintz and Weichenrieder (2010, chapter 4) study the pattern of treaty shopping and the tax incentives of establishing holding companies in the case of inward FDI in Germany. The findings indicate that foreign investors that would be confronted with high German withholding taxes in the

case of direct ownership indeed have a higher probability to own their German affiliates via third countries.³ Using MiDi data, Dreßler (2012) provides confirming evidence for such treaty shopping.

Financial Structure

In most countries around the world, interest payments on loans are deductible from the corporate tax base, while dividends are not. There is an extensive number of studies that indicate a debt-bias in corporate financial structure that results from tax asymmetries. Evidence from German firms include, naming a few: Hebous and Weichenrieder (2010), Fuest, Hebous, and Riedel (2011), and Mintz and Weichenrieder (2010). When it comes to multinationals, intra-group loans can be a simple tax-sparing strategy. Affiliates in low-tax jurisdictions grant loans to group members located in high-tax countries. Hence, interest payments in high-tax countries are deductible from taxes whereas interested earned on loans are taxed at lower rates.

However, despite a variety of estimates reported in the literature, as surveyed by Feld, Heckemeyer, and Overesch (2013), the magnitude of the estimated elasticity of corporate debt with respect to the tax rate tends to be moderate. For example, the results of Büttner and Wamser (2013) suggest that profit shifting by means of internal debt of German firms, while statistically significant, is of limited importance. This finding is also in line with the survey of de Mooij and Ederveen (2008). Overall, most studies suggest that an increase in a country's corporate tax by 10 percentage points will lead to an increase in the debt-to-asset ratio of foreign owned affiliates by 2-3 percentage points. A consensus has emerged from the empirical literature that there is significant debt shifting, but other tax planning instruments, including transfer pricing strategies of affiliated companies, are more important for tax base shifting (cf., e.g., Heckemeyer and Overesch, 2013).

A few countries, notably Belgium and Italy, recently endorsed tax systems that offer Allowances for Corporate Equity (ACE). In addition to interest on debt, these systems allow a deduction also for the use of equity and thereby reduce (or eliminate) tax incentives that favour debt over equity. Hebous and Ruf (2014) evaluate the effects of ACE on the leverage of German affiliates and find evidence that the introduction of ACE succeeded in lowering the debt ratio.

The literature is largely silent as to how large the social welfare costs of distorting the financial structure is. One attempt to answer this question is by Weichenrieder and Klautke (2008). Back-of-the-envelope calculations suggest that a 10-percentage point difference between the corporate tax

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³ In addition, FDI affiliates with ultimate owners located in countries with credit systems are more likely to rout their FDI to Germany through a third country.

and the personal income tax may lead to yearly efficiency costs of around 0.1% of the invested capital. In addition, de Mooij (2012), among others, emphasizes that excessive levels of corporate debt, especially in the financial sector, can exacerbate the consequence of macroeconomic crises.

Location of Intangibles, Transfers Pricing, and Intra-firm Trade Flows

The UK has recently embraced an *Intellectual Property Box regime*. This is one example of policies offering reduced effective tax rates applied to income from patents, copyrights, and other similar sources of income such as trademarks. In July 2013, the current German finance minister, Wolfgang Schäuble, called for a ban on the patent box tax break offered by the UK, Netherlands and some other EU members arguing that they generate unfair competition over foreign investment.⁴

A number of studies based on European data provide evidence in support of the hypothesis that firms tend to locate intangible assets in low tax jurisdictions, e.g., Karkinsky and Riedel (2012). However, Baumann, Knoll and Riedel (2014), suggest that the overwhelming majority of the R&D activity that a country may induce by giving a preferential tax treatment to R&D is coming at the expense of other countries' research instead of inducing additional R&D.

Hebous and Johannesen (2014) examine German data and find that international trade with certain services, such as R&D related categories, are disproportionately higher when the German firm is present in a tax haven. This piece of evidence is based on flow variables in contrast to most available evidence from stock (balance sheet) variables.

A long-standing concern is the ability of multinational firms to set transfer prices on intra-company transactions that shift taxable profits to low-tax jurisdictions. While the strategic setting of transfer prices is not restricted to the trade in intangibles, it is obvious that the uniqueness of intangibles makes it particularly difficult for tax authorities to determine an arm's-length price, i.e., the hypothetical price that two unaffiliated companies would have agreed on and empirical results confirm this view (Beer and Loeprick, 2014).

⁴ See for example Reuters: http://uk.reuters.com/article/2013/07/09/uk-europe-taxes-idUKBRE9680KY20130709

Tax Havens

About 12 percent of outbound German FDI affiliates are located in tax havens according to the list in Hines (2010). However, the term tax haven lacks a universal definition. While most tax-haven lists agree that the Cayman Islands is a tax haven, other countries, such as Ireland, appear only in selected lists. See Hebous (2014) for an overview.

What determines the demand for tax haven locations? Hebous and Lipatov (2014) find that firms that are present in high tax countries or highly corrupt countries are more likely to own an affiliate in a tax haven. Secrecy is a distinctive characteristic that distinguishes a tax haven from simply being a low (or zero) tax country. Intuitively, concealment services are very relevant for personal tax evasion by the wealthy, but it is not completely clear why locating a member of a corporate group in a tax haven should be influenced by secrecy provision unless the motive is illegal, e.g., bribery related activities and obscure ownership structure for tax evasion purposes.

Since 2008, in its effort to counter offshore tax evasion, Germany has signed a number of bilateral Tax Information Exchange Agreements (TIEAs) with jurisdictions such as Bermuda, Cayman Islands, Jersey, Liechtenstein, and Monaco. Braun and Weichenrieder (2014) suggest that the formation of TIEAs had detrimental effects on the use of the respective jurisdictions by German multinationals when compared to other tax haven countries.

Shifting Channels and Firm Heterogeneity

The design of anti-tax avoidance measures benefits from a sound understanding of how different types of firms employ different strategies and from a knowledge about the relative importance of the various tax-planning instruments for various industries. While there is scope for more research on comparing responses of firms to taxation, there are several contributions on this front. For instance, Heckemeyer and Overesch (2013) find that transfer pricing and licensing seem to be among the leading profit-shifting channels as compared to intracompany debt policy. Overesch and Wamser (2009) report that the reaction of vertically integrated FDI in the manufacturing sector to corporate taxation is more pronounced than that of horizontal FDI.

Certainly, international tax planning is not only limited to the aspects listed above. Corporate taxation can affect additional margins of decisions and may trigger several other behavioural responses of firms. For example, Dreßler and Overesch (2013) use the MiDi data to study international differences in the treatment of losses. They find that, inter alia, a group-tax-regime

gives incentives to offset current taxable profits with losses carried forward and to minimize the overall tax bill.

While several studies examine the exact channel of international profit shifting, one route to provide indirect empirical evidence of profit shifting is to look directly at the reaction of reported corporate profits to international differences in corporate tax systems. Weichenrieder (2009) considers partially owned affiliates as a control group and reports that wholly owned German affiliates react more strongly to changes in the host country corporate taxes.

What are the Costs of Tax Avoidance?

It is not straightforward to quantify the cost of tax avoidance. These tax strategies operate within the legal framework. Clearly, tax loopholes and the existence of tax havens cause an erosion of the tax base in the non-haven countries. However, for example, Dharmapala (2008) stresses that tax planning can increase the efficiency of firms and alleviate the intensity of tax competition. It has been argued that institutions that allow a differentiated tax policy towards internationally mobile and immobile tax bases can increase welfare even for high-tax countries (Hong and Smart, 2010; Keen, 2001).

Anti-Avoidance Measures and German Experiences

Controlled Foreign Companies (CFC) Rules

According to CFC rules, passive income of a foreign affiliate (e.g., derived from the holding of bonds or lending activities) may be part of the taxable income of the German resident shareholders if it accrues to a German majority-owned corporation in a low-tax country. Ruf and Weichenrieder (2012) document evidence suggesting that German CFC rules are effective in limiting the relocation of passive investments by German affiliates.

While there is evidence that unilateral measures can help restricting the tax planning of multinational enterprises (MNEs), in the EU there have been several court rulings related to the applicability of tax-avoidance measures. In its Cadbury-Schweppes decision of 12 September 2006, the European Court of Justice decided that British CFC rules implied a discrimination against investment in Ireland and a restriction of the freedom of establishment when applied with respect to affiliates in EU countries. Consequently, many EU countries had to change their CFC rules to make a distinction between EU and non-EU affiliates. The Cadbury-Schweppes case provides a nice opportunity to test for an asymmetric effect on the allocation of passive assets. Ruf and

Weichenrieder (2014) show that, following this ruling, preferences of German multinational firms for locating passive investments in low tax countries within the EU have indeed increased significantly, as compared to locations outside the EU.

Thin Capitalization Rules (TCR)

Thin capitalization rules place a limit on the deduction of interest payments from the corporate tax bill if the value of the loans is deemed excessive. Weichenrieder and Windischbauer (2008) discuss the evolution of the German TCR. The study exploits the 2001 reform of TCR that considered an interest payment as a dividend if the loans granted by an investor exceeded her share of the corporate equity by 50 percent. This requirement, however, did not apply to holding companies. The evidence suggests that the reform limited the attractiveness of intracompany loans for international debt shifting purposes but at the same time may have increased the demand for holding companies as a tool to shift intracompany loans. Büttner et al. (2012) examine the MiDi data and find that German-owned affiliates abroad reduced their leverage in response to tight TCR in the host country. Again, this provides evidence that unilateral measures can be effective to curb multinationals' taxplanning activities.

Transfer Pricing Rules

In recent years, several countries have tried to restrict the strategic setting of international transfer prices and Germany is no exception here. Again, empirical research suggests that countries can reduce profit shifting by implementing anti-tax avoidance measures: the effect that changes of the corporate tax have on the reported profitability of foreign owned affiliates seems to be smaller in countries with strict documentation requirements for transfer prices (Beer and Loeprick, 2014).

European and International Actions

Most loopholes are rooted in asymmetric national rules. Although unilateral anti-avoidance measures can be successful to some extent, the highly integrated global economy may require multilateral actions for combating tax avoidance and tax evasion practices, in particular when anti-avoidance measures have positive spillover effects on partner countries.

The European Commission suggested installing a Common Consolidated Corporate Tax Base (CCCTB) in the EU. In such a scenario, the tax base of a consolidated group of companies would be distributed among members based on a formula containing tangible assets, workers, payroll and sales of the affiliated firms. The CCCTB proposal entails a wide range of aspects, and it is discussed in several papers, e.g., Fuest (2008). Among other things, a CCCTB would greatly reduce the incentives for

shifting debt into high-tax countries and for using transfer-pricing strategies. At the same time, it is unclear whether location decisions would become more efficient as the choice of tax rates would stay in the domain of member states (Wissenschaftlicher Beirat beim Bundesfinanzministerium, 2008).

In its St. Petersburg meeting in 2013, the G20 called on the OECD to develop an action plan to address Base Erosion and Profit Shifting (BEPS). The plan identifies 15 key areas (actions). These include, inter alia, addressing tax challenges of the digital economy, strengthening CFC rules, and preventing tax treaty abuse (OECD, 2013). On the 16th of September 2014, the OECD released its first recommendation addressing 7 actions. A key issue of this recommendation is avoiding double non-taxation (OECD, 2014).

Experiences with national anti-tax avoidance measures suggest that BEPS measures should be able to curb tax-planning activities by multinationals, including double non-taxation. A trickier question is whether a partial harmonization of BEPS measures is beneficial given that tax rates continue to be set at the country level.

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