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How much tax do companies pay in the UK?*

Evidence from UK confidential corporate tax returns.

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Abstract

This paper uses the full population of UK corporate tax returns from Her Majesty's Revenue and Customs (HMRC) to explore the question of how much tax companies pay in the UK. In particular, I compare taxable profits of companies in the UK differentiating by their ownership type. I show that multinational companies pay the majority, 55%, of UK corporation tax, in spite of constituting only 3% of the population of companies in the UK. However, the fraction of tax revenues collected from multinationals has declined over time. Further, multinational companies pay very little tax relative to their size in comparison to domestic companies. I find that differences between size and sectoral distributions and leverage partially explain the large gap in the ratio of taxable profits to total assets between multinationals and domestic firms. In contrast, differences in investment rates and productivity between these types of companies do not.

JEL: H25, H32, Key words: tax payments, UK tax revenues, multinational companies

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1 Introduction

If you search online for a phrase "How much tax do companies pay in the UK?" you will discover that there are 1 million recent articles on this subject. The titles, such as "How much tax does Facebook pay in the UK?" by The Guardian or "Six British multinationals did not pay any UK corporation tax in 2014'" by the Independent, have been commonly seen in the UK press over the recent years. Why is there so much interest in the question of how much tax companies pay? One answer lies in the fact that no one really knows. Companies' financial statements show that a substantial fraction of very large firms in the United Kingdom report losses and hence pay no corporation tax. However, without tax returns data we do not know the actual tax payments of companies resident in the UK to the UK revenue authorities.

This paper uses Her Majesty's Revenue and Customs (HMRC) confidential corporate tax returns data for the United Kingdom to answer the question of how much tax companies pay in the UK. In particular, I focus on a comparison between multinational and domestic companies' taxable profits, using a unique match of tax returns data with financial statements and ownership data.

The economic literature provides us with some answers to the question of how much tax companies pay. For instance, we know that foreign headquartered multinational companies tend to report much lower taxable profits than domestic companies in the United States.[1] A contribution of the current paper is to examine whether the tax reporting behaviour of companies in the UK mirrors that of the US domiciled companies. This issue has not been previously studied, as it requires tax returns data. The US has been one of the first countries which made tax returns data available for research purposes. The UK has followed in their footsteps only recently by making their corporate tax returns information available to academics.

To advance our understanding of what drives the differences in taxable profits between companies with various ownership structure, I study the differences in tax payments between companies from various industries and of different sizes. I also explore whether the differences in taxable profits between ownership types are related to differences in leverage, capital allowances claimed, other tax deductions and productivity. I further our understanding of how much tax companies pay by using more disaggregated ownership categories, such as foreign multinational and domestic multinationals or domestic groups and domestic standalones.

I find that multinational companies, in spite of constituting only 3% of companies operating in the UK, have contributed 55% of total annual corporate tax revenue to the UK government from 2000 to 2011. The proportion of tax paid by multinational companies has decreased from 60% at the beginning of the sample, in 2000, to 50% at the

[1] Grubert *et al.* (1993), McCauley (1994), Mataloni (2000), Grubert (1998), Mills and Newberry (2004)

end of it, in 2011. Further, multinational companies have contributed about 40% of UK trading turnover and have constituted about 70% of total assets of UK companies in the analyzed time period. The proportion of total assets held by multinational companies has increased from 60% at the beginning of the sample to over 75% in 2011, while the fraction of trading turnover attributable to multinational companies has fluctuated considerably over the years, with the highest - 60% - in 2008 and the lowest - 25% - in 2009.

This paper focuses on the differences in taxable profits between multinational and domestic companies. Since UK subsidiaries of both multinational companies headquartered in foreign countries (foreign multinationals) and multinationals headquartered in the UK (domestic multinationals) are generally larger in scale and more profitable than domestic companies, one would expect multinationals to pay the majority of UK corporation tax. However, the question remains as to whether multinationals 'should' be paying even more. I investigate this by comparing multinationals to domestic companies and find that, on average, multinationals report lower taxable profits relative to their size than domestic companies. This is especially true for the differences between multinationals and domestic standalones, where domestic standalones' ratio of taxable profits to total assets is between 0.1 and 0.12, while for foreign multinationals this ratio is 0.012. Domestic groups do tend to report a much lower taxable profits to total assets ratio (0.015-0.02) than domestic standalones, but higher than multinationals.

I further find that over 60% of all multinational firm-year observations report zero taxable profits and hence pay no corporation tax between 2000 and 2011; similar holds for 50% of domestic groups and 28% of domestic standalones firm-year observations. I find that companies reporting zero taxable profits do not differ from companies reporting positive taxable profits in terms of their observable firm-level characteristics. Companies which report zero taxable profits are very similar in terms of size, age and industry composition to those reporting positive taxable profits. Further, foreign multinational companies that report zero taxable profits in the UK are not consistently headquartered in countries with lower corporate tax rates that the UK. Companies headquartered in lower tax countries than the UK may have a higher incentive to report zero taxable profits in the UK and positive profits in their lower rate headquarters. The only significantly important determinant of reporting zero taxable profits this year is the firm's propensity to report zero taxable profits in previous years. I find considerable persistence in the duration of the zero taxable profit reporting spell. Within the subsample of companies which are observed continuously for the whole sample period of 12 years, foreign multinationals report zero taxable profits for 6 years on average, while domestic standalones report zero taxable profits for 3 years on average.

Multinational companies are much larger than domestic companies. When I compare companies of similar sizes, I find that their tax payments are more similar to each other. In contrast, the very large multinational companies report very low ratios of taxable

profits to total assets. Foreign multinationals, domestic groups and other (unidentified) groups have substantially higher leverage than other types of companies. Firms in the mining sector have the highest taxable profits to total assets ratios, while firms in the finance, insurance and real estate sectors have the lowest. The latter is especially true for multinationals. These differences in observable characteristics between companies partially explain why multinational companies report much lower taxable profits relative to their size than domestic companies.

There may be reasons other than tax avoidance why we observe multinational companies reporting taxable profits than domestic companies. First, it could be that multinational companies perform consistently worse than domestic companies. However, this is unlikely given widely accepted evidence that multinationals are more productive than domestic companies (Yeaple (2013), Harris and Robinson (2003), Griffith (1999), Benfratello and Sembenelli (2006), Girma and Gorg (2007), Wang and Wang (2015)). In any case, calculating a measure of total factor productivity (TFP) for multinational and domestic companies in my data reveals that the former are far more productive, which is consistent with the previous empirical evidence. Another reason could be that multinational companies might report zero taxable profits more frequently because they have more frequent losses than domestic companies. The UK system treats losses asymmetrically and when the company makes losses it reports zero taxable profits on the tax form. The firm can recover a portion of those losses once it becomes profitable again, by carrying them forwards and offsetting them against its future taxable profits. To do so, it has to record those losses on the tax form, which allows me to reconcile the companies which report zero taxable profits with those making losses. However, even after excluding companies which reported losses in the current period and hence are not liable to pay any corporation tax this period, 34 percent of foreign multinational companies report zero taxable profits relative to only 10 percent of domestic standalones. Finally, given that only an average of 9 percent of all companies brought forward losses from previous years to offset against their taxable profits in the current year, negative trading profits and low productivity do not appear to be the main reason driving the differences in taxable profits between multinational and domestic companies.[2]

A second possible explanation is the fact that multinational companies and domestic groups can benefit from group tax relief, which is not available to domestic standalones.[3] However, the tax returns data shows that only 2 percent of companies reporting zero taxable profits use group tax relief to reduce their taxable profits to zero, suggesting

[2]De Simone *et al.* (2015) and Hopland *et al.* (2015) both consider profit shifting with loss making companies and how presence of those affiliaties in the group affects the standard profit shifting incentives.

[3]A company with multiple subsidiaries in the UK, whether domestic or multinational, can use group relief offered by HMRC to offset losses made by one of the companies in a group against profits of another company in that group in the same year (https://www.gov.uk/hmrc-internal-manuals/company-taxation-manual/ctm80145).

that group tax relief is unlikely to be the main driver of companies minimizing their taxable profits to zero.[4] Further, group tax relief cannot explain the observation from the data that the difference in taxable profits between multinational companies with one establishment in the UK (i.e. companies which would not be eligible for group tax relief) and domestic standalones is also very large.

A third reason could be that multinational companies undertake more investment or research and development (R&D), which are tax deductible, than domestic companies. However, the tax returns data reveals that it is domestic companies which claim more capital allowances relative to their size, contradicting this hypothesis.

This paper establishes that the differences in the observable firm level characteristics are unable to explain fully the size of the gap in the ratio of taxable profits to total assets between multinational and domestic companies. This suggests that companies may instead differ in terms of their unobservable characteristics, such as for example ability to use tax planning strategies to minimize their UK tax liability. In what follows, section 2 describes the data, section 3 outlines the stylized facts and section 4 concludes.

2 Data

2.1 Data description and sample selection criteria

The primary data source used in this paper is the confidential universe of unconsolidated corporation tax returns in the UK for the years 2000 - 2011 provided by HMRC. The dataset comprises all items that are submitted on the corporation tax return form (CT600 form) and the unit of observation is an unconsolidated statement in each of the years (see Appendix for the form). The information available encompasses various sources of taxable income, deductions and a final figure of taxable profits together with tax liability and tax payment. Each company is required to fill in at least taxable profits (box 37) and corporation tax liability (box 63) information (for details of box numbers and related variable names see Table 9 in the Appendix). However, firms are not required to fill in every single box on the CT600 form and, in fact, they do not. What is more, the HMRC data does not offer any firm level characteristic variables, apart from trading turnover. Therefore I merge the HMRC data with the accounting data from FAME dataset. FAME dataset, collected by Bureau van Dijk, includes balance sheet information for UK companies. For instance, it provides information on total assets, accounting profits, age of firms, number of employees, industry or leverage.

[4]The fraction of companies using group loss offset provisions to reduce their taxable profits to zero does not vary between ownership types.

2.1.1 Ownership definition

FAME dataset also includes information on firm ownership, which I use to identify firms into various ownership categories. FAME ownership dataset is a cross section from the latest edition of the dataset (2013). I identify multinational companies based on whether they have any affiliates abroad (parents or subsidiaries). I distinguish between multinationals headquartered in the UK (domestic multinationals) and multinationals headquartered abroad (foreign multinationals). I define all other firms as domestic companies, but I distinguish between domestic groups and domestic standalones. I define a domestic standalone as an independent company, which has no affiliates. I define a domestic group as a company that is part of a group that has no foreign affiliates.[5]

I supplement the FAME ownership data with other variables from FAME and HMRC datasets to identify companies into two additional ownership categories, which I call 'unidentified multinational' and 'other groups'. Unidentified multinationals are companies that have overseas income or have claimed double tax relief in the UK, while other groups are companies which have claimed group relief or have reported they have losses to surrender as group relief.[6]

Table 1 shows the number of firms and observations by ownership types using the 7 main categories described above: foreign multinational, domestic multinational, domestic group, domestic standalone, other group, unidentified multinational and missing ownership. Since FAME is most likely to report no ownership information in cases where companies are independent standalones, the companies in the missing ownership category are plausibly domestic standalones. The unidentified multinationals are most likely a mix of foreign and domestic multinationals. Over the analyzed time period, 2000 - 2011, 3.1% of companies are identified as multinationals, 36% are identified as domestic.[7,8]

2.1.2 Sample selected for the analysis

Matching HMRC data with the accounting data restricts the sample size. I find a matched unconsolidated accounting statement in FAME for 76 percent of unconsolidated tax returns from HMRC data, which includes 89 percent of the total tax liability and 92 percent of total trading turnover in the UK. I further ensure that I have non-missing total assets information and full 12 months accounting period for each matched HMRC-FAME

[5] This is only to the extent that I see no foreign affiliates 10 levels down for this company OR that its parent company has no foreign affiliates 10 levels down either.

[6] For more details on the criteria I used to identify companies into various ownership groups see Appendix 5.1.

[7] The remaining 61% of companies which I classified as missing ownership are most likely domestic standalones, which would imply that 97% of companies in the UK are domestic.

[8] The number of companies in each category has been increasing over time; the largest increase is for domestic standalones; their number increased five times between 2000 and 2011.

Table 1: Number of observations by ownership category.

	no of obs	no of firms	% of total firms
foreign multinational	382,353	45,839	1.4%
domestic multinational	43,249	4,751	0.1%
domestic group	911,670	112,026	3.5%
domestic standalone	3,573,689	608,231	18.9%
other group	3,105,551	435,654	13.6%
unidentified multinational	427,459	50,268	1.6%
missing ownership	8,304,161	1,953,622	60.9%

Note: Number of company-year observations classified into each ownership category. Whole sample. Source: HMRC data.

observation and call the obtained sample the selected sample.[9]

The selected sample is representative of the whole population. The chosen selection criteria exclude a similar proportion of number of observations, tax liabilities, taxable profits and trading turnover across the ownership types. Therefore the distribution of taxable profits and tax liabilities across ownership types is similar in the full population of UK companies and in the selected sample, which allows me to draw externally valid inference.

The majority of the comparisons in the paper focuses on the three distinct ownership types: foreign multinationals, domestic standalones and domestic groups; other groups are very similar to domestic groups, unidentified multinationals to foreign multinationals, while observations in the missing ownership category are similar to domestic standalones. I discuss domestic multinationals separately. This is because more than half of all domestic multinational companies in my sample report only consolidated accounts in FAME data. Therefore, the sample of matched FAME-HMRC domestic multinationals is quite small.

2.2 The choice of variables for the analysis

In this section I discuss the choice of the main variables for comparison of the profit reporting behaviour between companies. The decision to use the ratio of taxable profits to total assets is driven both by the conceptual issues and by the data availability. I further describe the merits of alterative options for both numerator and denominator of the ratio.

Most of the work in the public economics and finance literature, which focuses on corporation taxes, uses a measure of an effective tax rate to compare the tax paying behaviour of companies. The effective tax rate is defined as a measure of accounting tax liability divided by a measure of accounting profits before tax. This rate would

[9] Section 1.5.1 in the Appendix describes each selection criteria in detail and discusses what each of them implies for the analyzed sample.

be equivalent to the statutory tax rate, if accounting profits were equivalent to taxable profits and accounting measure of tax was equal to the actual tax liability. However, due to numerous deductions, capital allowances, group loss offset provisions and tax avoidance it is usually lower.

Using effective tax rates to compare companies' tax-paying behaviour has two main difficulties. The first one is that accounting profits appear to be systematically different than taxable profits for multinational companies but not for domestic companies. One reason for this may be that accounting profits measures might be affected by profit shifting to a larger degree for multinational companies.[10] This might generate a bias that could affect the comparison of effective tax rates based on accounting profit measures between ownership types. The second reason is that accounting profits are missing for a large proportion of observations in my sample.

Scaling tax liability from the tax returns by taxable profits by construction would yield the statutory tax rate. In turn, scaling tax liability by a measure of accounting profits and comparing it to statutory tax rates would in effect measure the difference between taxable and accounting profits. Since the main objective of this paper is to establish whether there are systematic differences in the taxable profits reported by multinational and domestic companies, the discussion of the differences between accounting and taxable profits is of secondary importance.

An alternative approach to compare the tax-paying behaviour of companies is to use a measure of tax liability from the returns but consider other scaling factors that are related to the size of the company, but might not be affected by companies' profit shifting to the same extent as accounting profits might be. The alternatives here are trading turnover from HMRC data, total or fixed assets from FAME data or shareholder funds from FAME data. I discuss each of these options in turn.

HMRC data includes information on trading turnover of companies, which is the total value of the sales of a company which arise from its trading activities. Since trading turnover only covers information on trading activities of companies, for consistency purposes the taxable profit measure used when scaling by trading turnover should also only include profits from trading activities, i.e. trading profits. However, a substantial fraction of taxable profits of multinational companies (over 30 percent) comes from activities other than trading, such as overseas income, interest on loans, capital gains (Figure 7, Appendix). This is not the case for domestic standalones which derive almost all of their taxable profits from trading activities. Therefore using this measure would disproportionately bias downwards the taxable profits of multinational companies.

What is more, since the trading turnover information comes from the HMRC data, we would expect it to have a universal coverage. However, companies are not required

[10] Accounting profits include retained profits, royalty and interest receipts all of which could be manipulated.

to report trading turnover to the HMRC and as a result many do not. In fact, the fraction of missing observations is larger for trading turnover than for total assets in case of multinationals, but not in case of domestic standalones. This could imply that using trading turnover as a size measure may bias the sample composition towards domestic standalones. However, it turns out that when considering the samples with non-missing trading turnover and non-missing total assets, they appear to be broadly comparable in terms of their main observable characteristics, in particular, the ratios of taxable profits to total assets. Hence, I do not consider the choice of the size measure to be driving the results shown in this paper.

What is more, trading turnover is quite volatile and responds more strongly to business cycle fluctuations than taxable profits. This is because the measure of taxable profits includes profits not only from trading activities, which vary a lot over time, but also other sources of profits such an interest from bank deposits, overseas income, net gains etc.[11] Therefore using trading turnover as a scaling measure could introduce additional fluctuations unrelated to the systematic differences in taxable profits between the ownership types.[12]

The size measures available in the accounts, especially the items from the balance sheet such as total assets, fixed assets and shareholder funds offer an alternative scaling factor.[13] Total assets are less volatile than trading turnover, hence they should be a better approximation of firms overall size over time. There are several concerns that may be raised against using total assets as a scaling measure for firm's profits. First, total assets include investments, part of which is the equity value of all subsidiaries that a company owns, which might make a company appear larger than its UK operations are. To alleviate this concern, first, I remove investments from total assets, in cases where data allows it. Second, for foreign multinationals and domestic groups I only use observations which report to have zero subsidiaries themselves. I am unable to do so for domestic multinationals, as 99 percent of them report to have at least one subsidiary. This is likely to be important in understanding why domestic multinationals appear to have one of the lowest ratios of taxable profits to total assets of all the ownership types.

A second issue is that total assets measure is equivalent to the sum of shareholder funds and liabilities. The interest payments (on debt) are deductible so that the corporate income tax base approximates the profits accruing to shareholders, not the profits accruing to shareholders and debtholders. This means that for companies with higher leverage (debt to asset ratio) total assets will be higher for a given level of shareholder funds. This in turn implies that the more leveraged the company is, the lower its taxable profits to total assets ratio would be. This may be a serious concern, especially

[11] For a breakdown of taxable profits into various categories see Appendix, Fig 7.

[12] For more details see Appendix 1.5.1.

[13] Table 11 in the Appendix outlines what each measure includes and how they are related to each other.

in the light of multinational companies using debt shifting to minimize the size of their corporate tax base. However, since I have detailed data on leverage, I can explore the differences in debt to assets ratios between multinational and domestic companies. This offers interesting insight into leverage differences between various ownership types.

Another possible scaling measure for taxable profits could be shareholder funds. Shareholder funds is a sum of issued capital and total reserves, which is the book value of equity of a given company. By definition shareholder funds are equivalent to total assets less liabilities, hence using this measure will exclude the discussion of leverage differences from the analysis. This may cause concern, since this measure does not reflect profit shifting through debt, which may be one of the sources of differences in taxable profits between ownership types.

The choice of the scaling factor cannot be discussed without considering the numerator. Since most of the tax literature uses corporation tax variable from the profit and loss account, a most natural candidate from the tax returns would be tax liability or net tax payable. The interpretation of any tax measure scaled by total assets is not a very obvious one. In turn, taxable profits scaled by total assets is a tax returns measure of returns on assets. This measure is an indicator of how profitable a company is relative to its total assets. What is more, since the UK taxes small and medium companies differently than the large ones, using taxable profits will eliminate the variation in the tax rates from the analysis.[14]

3 Stylized facts

In this section I present novel stylized facts on companies' contributions to tax and taxable profits in the UK. Specifically, I show the proportion of net tax payable and the differences in the mean ratios of taxable profits to total assets between various ownership types. I further discuss possible explanations for the observed differences.

Table 2 shows the fractions of net tax payable by ownership types. Columns 4 and 5 show the breakdown of net tax payable contributed by each ownership type for the selected sample, while columns 2 and 3 show the same breakdown for the whole sample.[15] Foreign multinationals have contributed 23% of total tax in the UK over the years 2000 - 2011. This, together with domestic multinationals and unidentified multinationals means that multinational companies paid 55% of total UK corporation tax over the period. This fraction is the same for taxable profits. Importantly, the fraction of tax revenues coming from multinational companies has declined since 2000, from around 60 percent in 2000 to 50% in 2011 (Figure 8, Appendix).[16]

However, the comparison of the levels of tax liability or the levels of reported taxable profits is not very informative, as we expect multinational companies to be much larger

[14] In the UK smaller multinational subsidiaries often qualify for tax payments using small and medium

Table 2: Net tax payable by ownership type.

	whole sample (bln)	%	selected sample(bln)	%
foreign multinational	104.0	23%	69.9	22%
domestic multinational	48.0	11%	29.1	9%
domestic group	49.5	11%	34.9	11%
domestic standalone	27.5	6%	24.7	8%
other group	83.2	18%	58.2	19%
unidentified multinational	97.7	21%	58.7	19%
missing ownership	47.4	10%	35.6	11%

Note: Total and proportion of net tax payable contributed by various types of companies by ownership type (in billions of pounds), selected vs whole sample, 2000 - 2011. Whole sample refers to the universe of corporate tax returns from the HMRC data, selected sample refers to the selection criteria described in section 2.1. Source: HMRC data.

than domestic groups, which in turn would be larger than domestic standalones. If multinationals are larger than domestic companies, then we would expect them to also have more profits and hence pay more tax in levels. Therefore, I take into consideration the discussion of the scaling factors and profit measures from section 2 and consider the taxable profits scaled by total assets to understand the differences in taxable profits between companies by ownership type.

In Figure 1 I sum all taxable profits in each year by ownership type and do the same for total assets. I then divide one sum by the other to arrive at the weighted means of taxable profits scaled by total assets for each ownership type. In Panel A I show domestic standalones, companies in the missing ownership category, foreign multinationals and domestic group lines, while in Panel B I show in more detail the differences between different types of multinational companies and domestic groups. Domestic standalones and companies in the missing ownership category report substantially more taxable profits relative to their total assets than any other companies. For instance, the difference amounts to 10-11 percentage points between domestic standalones and foreign multinationals. Moreover, domestic groups and other groups report more taxable profits than multinational companies (Panel B). The difference in the ratio of taxable profits to total assets between domestic groups and foreign multinationals is much smaller than the one between domestic standalones and domestic groups, and amounts to 0.5 percentage points between foreign multinationals and domestic groups at most, with the largest difference between other group and unidentified multinationals, 2 percentage points. These differences mean that foreign multinationals report 25 percent lower ratio of taxable profits to total assets than domestic groups.

Further, it is important to note that domestic multinationals and unidentified multi-

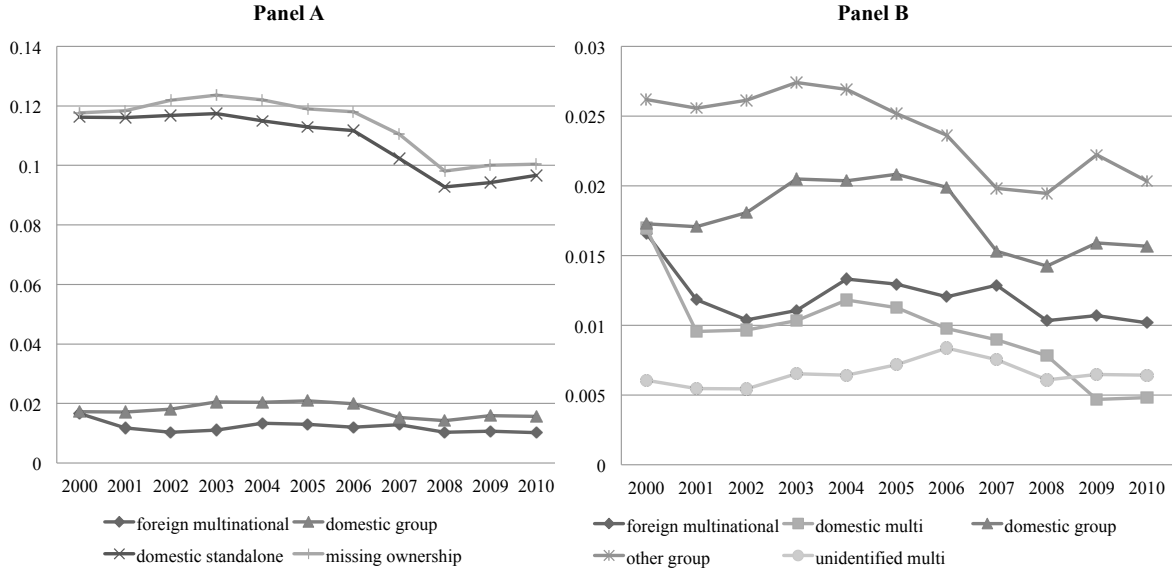
tax rate.

[15] Net tax payable is the tax liability after accounting for double tax relief and marginal tax relief.

[16] The proportion of trading profits contributed by multinational companies is similar to that of net tax (see Figure 8 Panel B).

nationals are the two ownership groups which report the lowest ratio of taxable profits to total assets. This may be because, as mentioned above, almost all of the domestic multinationals actually report having subsidiaries, which means that their total assets measure includes the equity value of those subsidiaries and hence is relatively larger than the size of their unconsolidated operations in the UK. Conceivably, the same may be the case for unidentified multinationals, for which I have no ownership data. These are the companies that receive overseas income from abroad, and hence may be holding companies.

Figure 1: Taxble profits divided by total assets by ownership type.



Note: Weighted ratio of taxable profits divided by total assets calculated for each ownership type and for each year, 2000 - 2011, balanced selected sample. Panel A: domestic standalones vs multinatioanals vs domestic groups, Panel B: all groups. Source: merged HMRC and FAME data.

If the primary driving force behind the differences in taxable profits reported by multinationals and domestic companies was profit shifting, I would expect the difference between domestic groups and multinational companies to be larger. Domestic groups cannot shift profits abroad. On the other hand, I find that domestic groups report much lower taxable profits relative to total assets than domestic standalones. I now turn to identify factors which explain the observed differences in the ratio of taxable profits to total assets between ownership types.

3.1 How Do Multinational Companies Report Lower Taxable Profits?

3.1.1 Proportion of zero taxable profit reporting companies

The first aspect of explaining the difference between multinationals and domestic companies is the proportion of observations where zero taxable profits are reported. 60 percent

of observations identified as domestic multinationals and foreign multinationals report zero taxable profits (NB they may also make losses). In contrast domestic standalones report the lowest proportion of zero taxable profits, 27.5 percent. Domestic groups place in between those two extreme categories reporting zero taxable profits for 46 percent of their observations (Table 3).[17] These proportions fluctuate slightly over time and they all increased following the financial crisis. However, the ranking between ownership types have remained unchanged since the beginning of the sample.

Table 3: Proportions of observations reporting zero taxable profits by ownership type.

	all observations	do not report trading loss	report trading loss
foreign multinational	59.2%	33.7%	25.6%
domestic multi	62.5%	48.1%	14.4%
domestic group	46.0%	23.9%	22.1%
domestic standalone	27.5%	9.8%	17.7%
other group	49.0%	18.1%	31.0%
unidentified multi	44.4%	26.2%	18.2%
missing ownership	34.9%	12.6%	22.3%

Note: Column 1: fraction of observations reporting zero taxable profits, Columns 2 and 3 sum up to column 1 and break zero taxable profits into observations with zero taxable profits, which report to have trading losses, column 2, and those which report to have no trading losses, column 3. Selected sample, 2000 - 2011. Source: HMRC data.

The zero taxable profit reporting behaviour is persistent, especially amongst foreign multinational companies. Specifically, the mean zero taxable profit reporting spell is the longest for foreign multinational companies and lasts 6 years. In contrast, it is only 3 years for domestic standalones.[18] Further, over 73 percent of foreign multinational companies report zero taxable profits more than once during the sample period, while only 43 percent of domestic standalones do so.

Companies may report zero taxable profits for various reasons. They may be loss making in the current year, they may be carrying losses back or forward or they may be investing and hence using capital allowance deductions to offset them against their taxable profits. The most important reason is likely to be the presence of taxable losses. The UK tax system treats profits and losses asymmetrically. This means that when a company makes a positive taxable profit, it pays tax. In turn, when it makes a loss, it does not receive tax credit on this loss, but instead pays no tax in that year. The portion of losses that is attributed to trading activities can be carried forward and offset against positive taxable profits in future years or alternatively carried back and offset against positive taxable profits in the previous year. In the tax return form, companies report

[17] Note that these fractions are very similar when I consider number of firms reporting zero taxable profits at least once during the sample period.

[18] Here I limit the sample of observations to a balanced panel, where firms have to report taxable profit for 12 years.

losses separately from their taxable profits. Taxable profits are censored at zero, but part of the losses that arise from trading activities can be recovered to understand where the zero taxable profits come from.

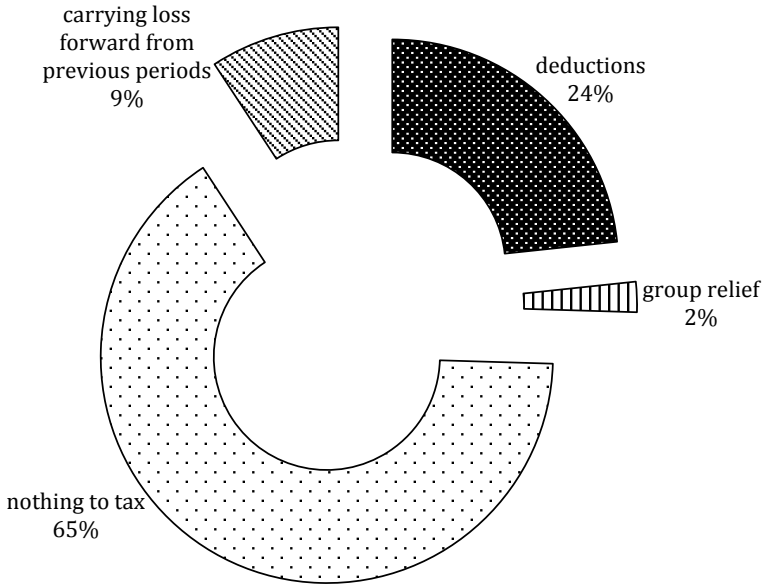
I find that over 57% of the zero taxable profit observations in the foreign multinationals category report to have no trading loss. At the same time just over 36% of the zero taxable profit observations in the domestic standalones category do so. This means that 34% of all foreign multinationals report zero taxable profits and no trading loss relative to only 10% of domestic standalones (see columns 3 and 4 in Table 3). For domestic groups, this fraction is 24%, placing it in between the two extreme ownership categories. However, it is important to note that companies can use profit shifting techniques, such as high leverage, abusive transfer pricing or royalty payments as part of their trading activities and hence manipulate trading profits to put themselves in the trading loss position. Therefore the trading loss position might not necessarily signify that a company is loss making in a traditional sense, it might also be a sign of profit shifting.

Most of the zero taxable profit observations - 65% - come from observations where companies report in their tax statement to have zero trading profits, no other sources of taxable income, and hence zero taxable profits. In Figure 2 these are companies called 'nothing to tax'. Amongst those companies some have made a loss in that particular year, some have used capital allowances or research and development expenditures to reduce their taxable profits, some did both, and for some I have no further information on how they reached zero taxable profits. 24% of observations which have taxable profits equal to zero, come from companies claiming various deductions. These deductions include items such as, for instance, management expense, non-trade capital allowances or interest distributions[19]. Specifically, those companies report positive taxable profit before deductions, but zero taxable profits after deductions. Companies claiming all of their remaining taxable profits as part of group relief constitute 2% of the zero taxable profits observations (see Figure 2). A company with multiple subsidiaries in the UK, whether domestic or multinational, can use group relief offered by HMRC to offset losses made by one of the companies in a group against profits of another company in that group. The contributions to zero taxable profits by source do not differ substantially between various ownership types; 63% of foreign multinationals report having 'nothing to tax' relative to 67% of domestic standalones.

To understand differences between companies reporting zero and positive taxable profits, I look at the differences in their observable characteristics, in particular, size, age, industry and headquarter location. In Figure 9 (Appendix), considering the two most extreme categories, foreign multinationals and domestic standalones, I show that zero taxable profit reporting companies are very similar to positive taxable reporting profit companies in terms of size for both ownership types. Companies reporting zero

[19]For more details, see boxes 22, 24 to 30 and 32 on the CT600 tax return form in the Appendix.

Figure 2: Zero taxable profit observations by source.



Note: Sources of zero taxable profits come from the CT600 tax return form. Nothing to tax refers to companies which report zero trading profits; carrying loss forward from previous periods refers to companies which made positive trading profits, but have made losses in previous periods and are claiming those losses against their positive trading profits; deductions refers to box 33 in the tax return form, which is a sum of all tax deductible expenses; group relief refers to companies that had positive taxable profits even after deductions, but were able to offset those profits with losses of other members of the group. Selected sample, 2000 - 2011. Source: HMRC data.

taxable profits seem to be slightly smaller, but not largely so.

In Figure 10 in the Appendix we can see that the distribution of age between positive and zero taxable profits companies is not that different for both foreign multinationals and domestic standalones. What is more, there are no marked differences in terms of whether their headquarters are located in higher or lower tax countries than the UK. Of all foreign multinational companies with headquarters in countries with tax rates higher than the UK one, 58% of observations report to have zero taxable profits in the UK. This is not very different from the 54% of foreign multinational observations for companies that have parents in countries with tax rates lower than the UK one that report to have zero taxable profits in the UK. What is more, about half of foreign multinational subsidiaries operating in the UK are headquartered in countries with higher statutory corporate tax rates than the UK, while the other half is headquartered in countries with statutory corporate tax rate lower than the UK one. This suggests that companies which report zero taxable profits do not systematically come from countries where tax rates are much lower. Multinationals headquartered in countries with lower tax rate than the UK might have more of an incentive to locate their profits in their lower tax headquarters, hence shifting them away from the UK and lowering their tax liability here.

Further, a large fraction of observations from the foreign multinational companies

category in finance and services sectors reports to have zero taxable profits in the UK (Table 12 in the Appendix). In case of domestic standalones more zero taxable profits are reported in agriculture and construction sectors than by finance and services companies. This is consistent with some of the recent newspaper articles "naming and shaming" large foreign finance and services companies paying little or no tax in the UK.

3.1.2 Non-comparable size distributions

Another reason why domestic and multinational companies might have very different ratios of taxable profits to total assets is because they are not comparable when it comes to their size. Multinationals and domestic groups may be larger, more productive and hence more profitable than domestic standalones (Yeaple (2013)). In this section I consider how multinational and domestic companies of comparable sizes differ from the non-comparable ones. I focus the discussion mainly on the differences between the two most extreme categories, foreign multinationals and domestic standalones.

First, I look at the distribution plots of logarithm of trading turnover (Panel A) and logarithm of total assets (Panel B) by ownership type to see whether there are any overlapping regions between different types of companies (Figure 3). As expected domestic standalones are much smaller than foreign multinationals. The density plot of the size distribution of domestic multinationals seems to be furthest to the right, while domestic standalones furthest to the left, with foreign multinationals, unidentified multinationals, domestic groups and other groups in between.

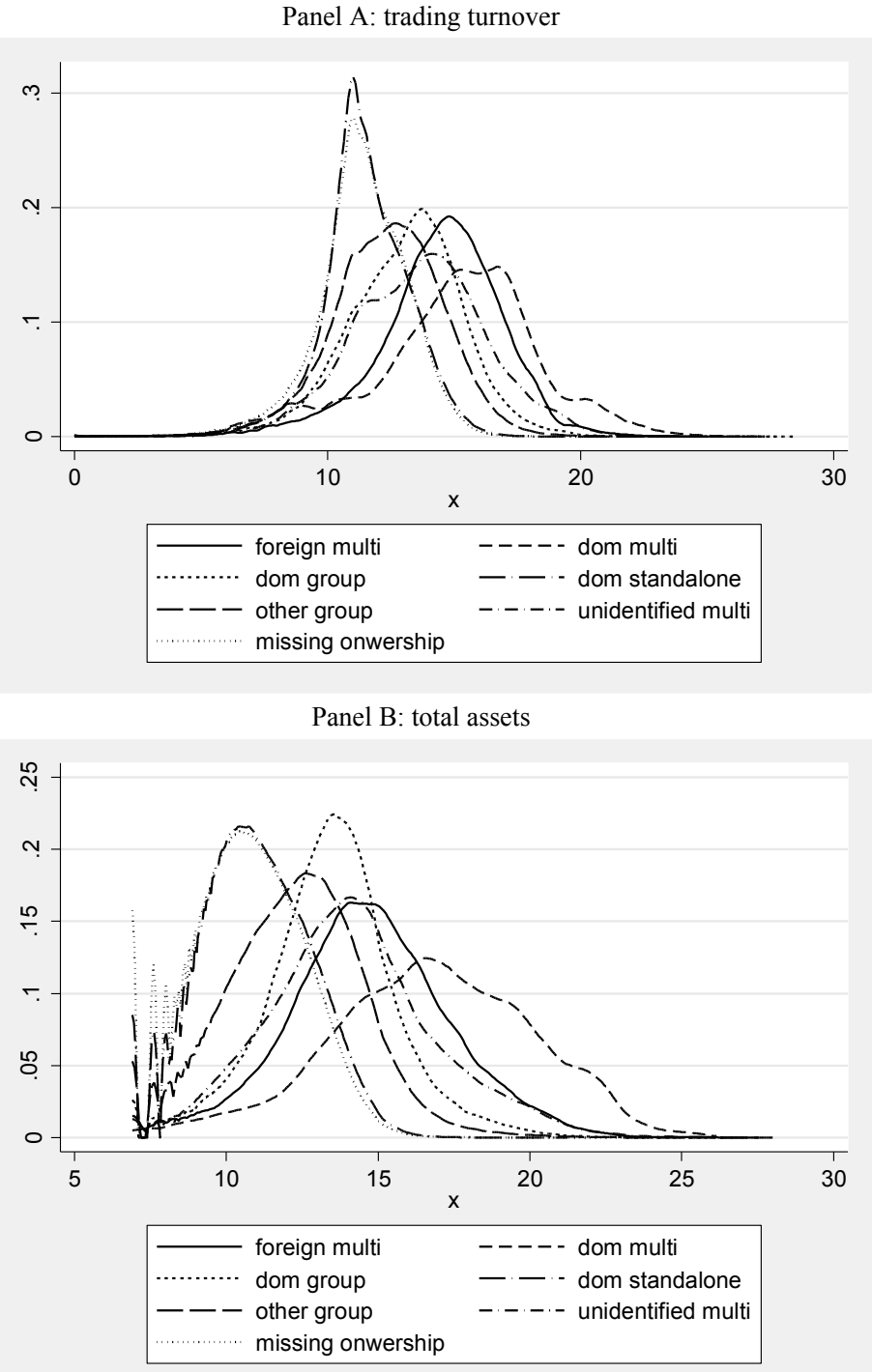
To compare companies of the same sizes, I choose a sample of observations which includes the selected sample of foreign multinational companies and domestic standalones only. I take the largest domestic standalone in terms of total assets in each 2 digit industry and call all foreign multinationals larger than that domestic standalone, unmatched. I then take the smallest foreign multinational in terms of total assets and call all domestic standalones smaller than that multinational, unmatched. I now have what I call a matched sample and an unmatched sample, where using my method I excluded almost 9% of foreign multinationals and 3% of domestic standalones (Table 4, Panel A).

Table 4: Tax and taxable profit ratios for matched and unmatched samples.

		taxable profits/ total assets		tax/ total assets		% of matched obs
		matched	unmatched	matched	unmatched	
Panel A: min, max	foreign multinational	0.054	0.008	0.016	0.002	91.33
	domestic standalone	0.108	0.251	0.025	0.053	97.19
Panel B: 1 percentile	foreign multinational	0.077	0.012	0.021	0.003	57
	domestic standalone	0.108	0.395	0.025	0.052	95.1

Note: Weighted means of the ratio of taxable profits to total assets and the ratio of tax to total assets split by manually matched and unmatched sub-samples for various matching methods; selected sample, 2000 - 2011. Panel A: min and max used as a size cut-off benchmark, Panel B: top and bottom 1 percent used as a size cut-off benchmark. Source: merged HMRC and FAME data.

Figure 3: Size distributions of companies by ownership type.



Note: Panel A: logarithm of trading turnover, Panel B: logarithm of total assets, selected sample, 2000 - 2011. Source: merged HMRC and FAME data.

One may worry whether the largest domestic standalone is representative of the population and whether it is not substantially larger than the average. The same concern can be raised about the representative nature of the smallest foreign multinational. To alleviate those concerns I also take top and bottom 1 percentile of the respective categories as a benchmark instead of the smallest and largest companies and perform the

same analysis on this more limited sample. Using this method, 43 percent of foreign multinational companies are larger than top 1 percentile of the distribution of domestic standalones, while only 4.9 percent of domestic standalones are smaller than the smallest 1 percentile of the distribution of foreign multinational companies (Table 4, Panel B). This suggests that the largest domestic standalone is not very representative of the rest of the sample, while the smallest multinational is.

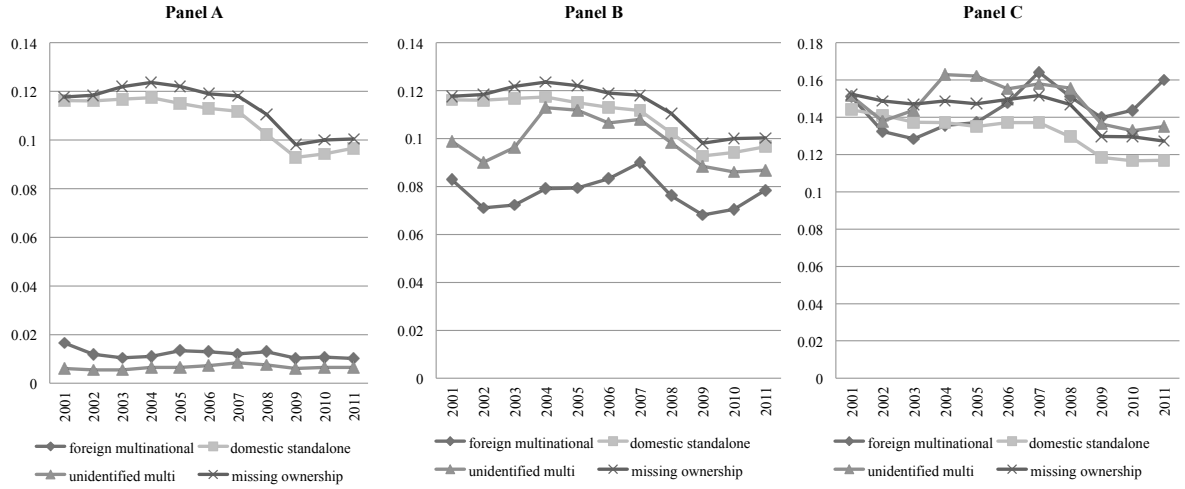
In Table 4, I compare the characteristics of the matched and unmatched samples in terms of the main variables of interest, i.e. the ratio of taxable profits to total assets and the ratio of tax to total assets.[20] Strikingly, across both matching methods the mean weighted ratio of taxable profits to total assets for the unmatched foreign multinationals is much smaller, e.g. 0.8% for min max matching, than that for the matched ones, e.g. 5.4% for min max matching, while the ratio of taxable profits divided by total assets for domestic standalones is much larger in the unmatched sample, 25.1% for min max matching, than in the matched one, 10.8% for min max one. Generally, the matched ratios are much closer to each other than the unmatched ones across both methods. This means that more comparable companies in terms of size report more similar profits relative to total assets and it is the tails of the distribution, i.e. the very large multinationals and the very small domestic companies that are mainly driving the large difference in the weighted means.

In Figure 4 I plot the weighted ratios of taxable profits to total assets for domestic standalones and foreign multinationals. Figure 4 also includes companies from the missing ownership category and unidentified multinationals for which a similar matching procedure has been applied. In Panel A I replicate Figure 1, which includes all observations from the selected sample. In Panel B, I limit the sample to include only companies of comparable sizes, as summarized in Table 4. The exclusion of the very large multinationals and very small domestic companies brings the ratios of taxable profits to total assets for the analyzed ownership categories closer together. Here, the means of the weighted ratio of taxable profits to total assets do not change substantially for domestic standalones and missing ownership categories, but foreign and unidentified multinationals report much higher taxable profits relative to total assets compared to Panel A. Foreign multinationals still report the lowest ratios of taxable profits to total assets, but the difference between them and domestic standalones has declined substantially. The difference is around 11 percentage points using all observations, while after limiting the size of compared companies it is around 4 percentage points at the start of the sample period

[20] Note that the mean ratios of taxable profits to total assets are calculated dividing the sum of taxable profits by the sum of total assets for each sub-group.

and 2 percentage points at the end of it.[21,22]

Figure 4: The ratios of taxable profits to total assets, various sub-samples.



Note: The ratio of taxable profits to total assets (weighted means), selected sample, 2000 - 2011. Panel A: selected sample, Panel B: selected sample after removing very large multinationals and very small domestic companies, using top and bottom 1 percentile in each ownership group; Panel C: positive taxable profits only on the manually matched sample, using top and bottom 1 percent of observations in each category as a size cut off point. Source: merged HMRC and FAME data.

Finally, I remove all observations for companies that have reported zero taxable profits in a given year and calculate weighted means of the ratio of positive taxable profits to total assets for each ownership type for companies of comparable sizes (Figure 4, Panel C). First, the means of weighted ratios of taxable profits to total assets for all types of companies increase. Second, the ratios of taxable profits to total assets for domestic companies and multinationals is very similar during the sample period, conditional on reporting positive taxable profits. This indicates the importance of zero taxable profit reporting in accounting for the difference in the ratio of taxable profits to total assets between multinational and domestic companies.

3.2 Why Do Multinational Companies Report Lower Taxable Profits?

3.2.1 Differences in leverage

The evidence from the literature shows that larger companies tend to borrow more and hence domestic groups, which are larger than domestic standalones, might use more debt

[21] When I remove the smallest and the largest multinationals and domestic standalones, based on the minimum/ maximum strategy, the difference is a bit larger than in Panel B, as expected, with the foreign multinationals line at 0.07 at its highest and 0.04 at its lowest.

[22] When comparing multinationals to domestic groups, I find that the size of the difference in the ratio of taxable profits to total assets in the overlapping region is very similar to that in the whole sample. This is because there are very few domestic group members for which no comparable multinationals exist.

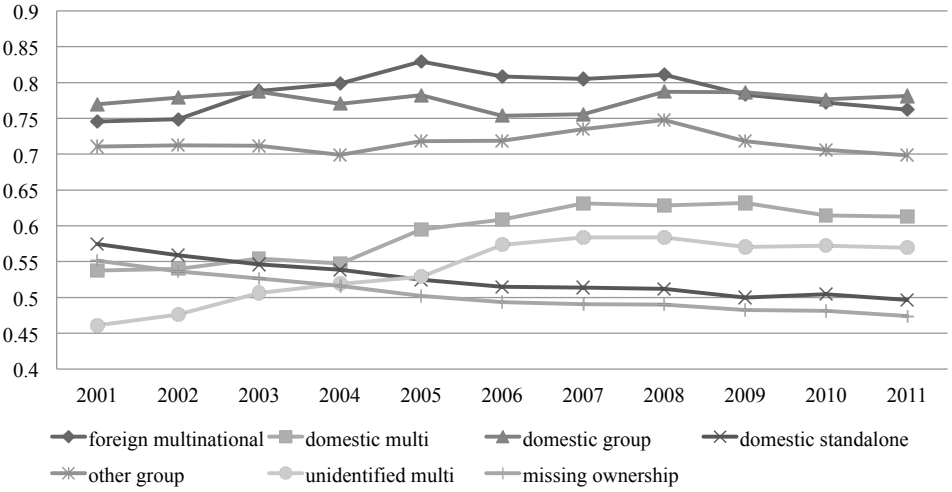
as a tax shield (Frank and Goyal (2009), Graham and Leary (2011)). This is confirmed in the data by looking directly at leverage (see Figure 5). Foreign multinationals and domestic groups report having much higher debt to assets ratio than domestic standalones. Their leverage is not very different from one another though.

The FAME accounting dataset includes information on stock measure of leverage of companies, i.e. total liabilities divided by total assets. This allows me to consider the differences in debt relative to total assets between companies of different ownership types. Specifically, Figure 5 shows the averages weighted ratios of total liabilities to total assets. Foreign multinationals, domestic groups and other groups have substantially higher leverage than other types of companies. Domestic standalones and companies in the missing ownership category have the lowest leverage in the second half of the sample period, after 2005. Before 2005 their leverage was comparable with what unidentified and domestic multinationals reported. The total leverage of foreign multinational companies is the largest amongst all ownership categories and amounts to somewhere in the region of 0.75 - 0.85, while the total leverage of domestic standalones is around 0.55- 0.45. This shows that foreign multinatationals are indeed more leveraged. To the extent that multinational companies use debt as part of their profit shifting strategies, this might also give an indication on the extent of their debt shifting practices.[23] Since interest payments are deductible against taxable profits in the UK, part of the large difference in the ratio of taxable profits to total assets between multinationals and domestic companies, could be explained by the differences in leverage between ownership types.

As discussed in section 1.2.2 an alternative scaling measure for taxable profits that can be used for comparison between ownership types is shareholder funds. Scaling taxable profits by total assets and comparing the results to scaling taxable profits by book value of equity will give me an indication on how much leverage is used by companies. Since total assets measure is equivalent to a sum of liabilities and shareholders equity, we would expect the total assets numbers to be larger for firms with the same shareholders funds that have higher liabilities in the UK. This implies that scaling by total assets makes the ratio of taxable profits to total assets smaller for highly leveraged firms. Figure 1.11 in the Appendix compares scaling taxable profits by total assets with scaling by shareholder funds. Taxable profit scaled by book value of equity are larger than those scaled by total assets with the relative difference largest for foreign multinationals. This confirms the direct evidence from the leverage plots in Figure 5.

[23] The total leverage figure can be separated into group loans, which correspond to intra-group lending, and other liabilities. Only domestic and foreign groups of companies have intra-group lending. Companies may choose to locate debt in the UK for non-tax reasons, such as a preference to hold debt in their headquarters, if these headquarters are located in the UK. In addition, intra- group lending could also be an indirect sign of debt shifitng practices. Group loans constitute between 13 %and 24 % of total liabilities of foreign multinational companies.

Figure 5: Leverage by ownership type.



Note: Weighted means of leverage measured as the ratio of liabilities to total assets by ownership type, selected balanced sample, 2000 - 2011. Source: merged HMRC and FAME data.

3.2.2 Different industries in which companies operate

There is quite a large sectoral heterogeneity for companies in my sample (Table 5 and Figure 6). There are clearly two significantly different groups of sectors where companies have different ratios of taxable profits to total assets The first group includes companies in mining, transportation and public utilities, retail trade, construction, wholesale trade and manufacturing sectors. The companies in those sectors have substantially higher ratios of taxable profits to total assets than companies that belong to the second group of sectors (finance, insurance, real estate, services, agriculture and public administration).[24] There is quite a large gap between the two groups, especially prior to 2006, where companies from sectors which have higher ratios of taxable profits to total assets report these ratios to be in a region of 4-6%, whereas companies which have lower ratios of taxable profits to total assets report these ratios to be in a region below 1%. The gap between the two groups narrowed since 2006, due primarily to declining ratios of taxable profits to total assets reported by companies in the construction and wholesale trade sectors. Mining has always had the largest ratio of taxable profits to total assets, because it includes North Sea oil companies, which pay much higher corporation tax rates than other companies in the UK. Finance companies tend to have one of the lowest ratios of taxable profits to total assets. This appears to pre-date the financial crisis.[25]

These differences are also quite pronounced between ownership types, where foreign

[24]The sectors are created using SIC 4 digit industry codes from which I use 1st digit to construct a broad sector category. For the categories and corresponding digits see Table 5. The SIC 4 digit codes data comes from the FAME accounting dataset.

[25]Note that 40 percent of companies in the UK belong to the services industry, while 15 percent are in agriculture and 10 percent in transportantion and public utilities.

multinationals report very low ratios of taxable profits to total assets in finance and services sectors relative to domestic standalones (Table 5). Domestic standalones report higher ratios of taxable profits to total assets for all but mining sector, where they do not have much presence. The ratios of taxable profits to total assets for domestic groups across industries are much more comparable to those of foreign multinationals. This is consistent with the overall picture that the ratios of taxable profits to total assets of domestic groups are more similar to those of foreign multinational companies than the ratios of taxable profits to total assets of domestic standalones. Even though there are major differences between industries in terms of the ratios of taxable profits to total assets reported, foreign multinationals have the lowest ratios across almost all sectors.

Table 5: Heterogeneity between sectors in the ratios of taxable profits to total assets.

Heterogeneity	all obs	foreign multinational	domestic standalone	domestic group	number of obs
1: agriculture, forestry and fishing (01-09)	0.009	0.008	0.100	0.017	1,756,233
2: mining (10-14)	0.103	0.124	0.028	0.063	164,224
3: construction (15-17)	0.032	0.036	0.097	0.043	78,102
4:manufacturing (20-39)	0.037	0.028	0.114	0.046	861,030
5:transportation & public utilities (40-49)	0.048	0.029	0.136	0.041	1,153,223
6: wholesale trade (50-51)	0.030	0.012	0.102	0.044	781,441
7: retail trade (52-59)	0.053	0.044	0.109	0.030	930,901
8: finance, insurance & real estate (60-67)	0.005	0.003	0.111	0.005	640,831
9: services (70-89)	0.008	0.011	0.113	0.017	4,740,751
10: public administration (91-98)	0.008	0.015	0.124	0.020	828,096

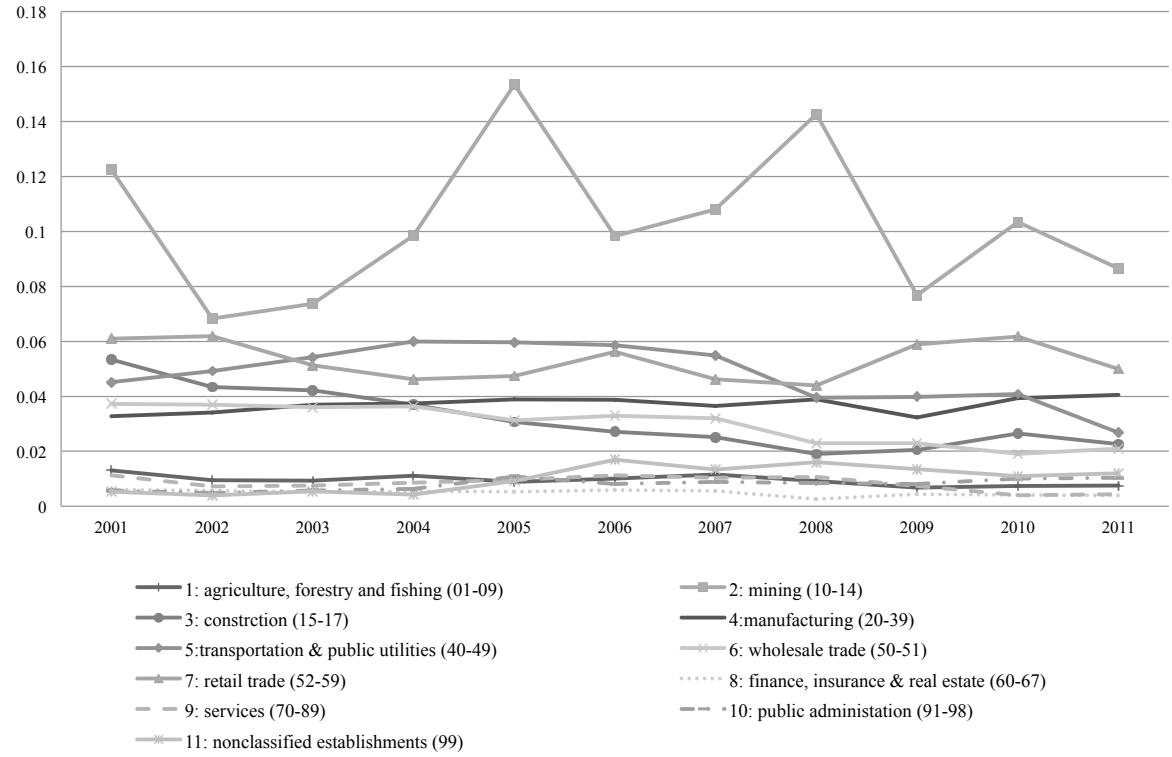
Note: The ratio of taxable profits to total assets, weighted averages, heterogeneity between sectors for the years 2000-2011, differences between ownership types, selected sample. Source: merged HMRC and FAME data.

3.2.3 Investment and productivity differences

Another possible explanation for lower ratio of taxable profits to total assets for multinational companies could be that multinationals invest more or spend more money on research and development (R&D) than domestic firms. Therefore they may be entitled to legitimate tax deductions such as capital allowances that can be responsible for bringing their profits down. This may also partially explain the larger fraction of zero taxable profit reporting companies amongst multinational companies as both capital allowances and R&D tax credits could be used to reduce the taxable profits to zero.

In Table 6 I present the ratio of capital allowances to total assets and mean capital allowances for each ownership type. Domestic standalones tend to claim much higher capital allowances as a fraction of their size than foreign multinationals, e.g. the ratio of capital allowances to total assets claimed by domestic standalones is 0.046, while it is 0.019 for foreign multinationals. Domestic groups claim 0.021 of capital allowances

Figure 6: Sectoral and yearly heterogeneity of the ratios of taxable profits to total assets.



Note: The ratio of taxable profits to total assets, weighted averages by sector calculated separately for each year 2000-2011, selected sample. Sector categories are built based on the SIC 4 digit codes (2 digit SIC ranges in brackets). Source: merged HMRC and FAME data.

relative to total assets, which again is in between the two extreme ownership categories and much closer to foreign multinationals ratio. Foreign multinationals claim higher mean capital allowances. However, this is primarily due to the fact that they are much larger than domestic standalones. This suggests that capital allowances cannot be the driving force in explaining the lower taxable profits reported by foreign multinational companies.

Further, the differences in profitability between firm ownership types do not come from the differences in productivity. There is large international trade literature which investigates the productivity of multinationals relative to domestic companies (Yeaple (2013), Harris and Robinson (2003), Griffith (1999), Benfratello and Sembenelli (2006), Girma and Gorg (2007), Wang and Wang (2015)) and finds that multinationals tend to more productive than domestic companies.

To investigate this I calculate total factor productivity (TFP) for each firm in the sample, which measures the portion of output not explained by the amount of inputs used in production. Here I use a measure of TFP based on value added, which subtracts capital and labour inputs from firms outputs to measure the productivity residual, i.e. $TFP_{it} = va_{it} - (1 - sl_{it}) \times k_{it} - sl_{it} \times l_{it}$, where va_{it} is logarithm of value added, where value added is measured as a sum of wages and salaries and profit and loss before interest, sl_{it} is share of labour, which is a ratio of wages and salaries divided by value added, k_{it}

is logarithm of fixed assets, l_{it} is logarithm of number of employees and i and t refer to firm and year.

Using the firm and year specific TFPs, I calculate the mean TFP for each ownership category across all sample years (Table 6). The mean total factor productivity is higher for foreign multinational companies than for domestic standalones, which is consistent with the previous literature on productivity differences. Again the productivity of domestic groups as measured by TFP here is very similar to that of multinationals in my sample. These results suggests that the observed differences in the ratio of taxable profits to total assets between various ownership types cannot stem from the differences in productivity. It appears that more productive companies report lower ratios of taxable profits to total assets.

Table 6: TFP and capital allowances by ownership type.

	mean TFP	mean ca	ca/ta
foreign multinational	14.5	554,680	0.019
domestic multinational	15.1	1,746,700	0.011
domestic group	14.1	151,510	0.021
domestic standalone	11.1	7,270	0.046
other group	13.9	53,395	0.030
unidentified multinational	14.4	406,751	0.017
missing ownership	11.2	5,920	0.043

Note: Column 2 shows mean total factor productivity (TFP) by ownership type, column 3 mean of total capital allowances claimed against taxable profits and column 4 weighted means scaled by total assets; ca is capital allowances, ta is total assets; selected sample, 2000 to 2011. Source: merged HMRC and FAME data.

4 Conclusion

This paper uses the population of UK companies to present new stylized facts on taxable profit reporting behaviour of UK companies. In particular, I show that multinational companies paid the majority of the UK corporation tax, 55 %, over the period 2000 - 2011. However, the fraction of tax contributed by multinational companies to the UK tax revenue has decreased over time and dropped from 60 % in 2000 to just over 50% in 2011. Multinational companies contribute this large portion of the UK tax revenue, in spite of constituting only 3% of the number of all companies in the UK.

Even though multinationals pay a large amount of tax in levels, this is because they are typically much larger and hence generate much more turnover and much higher profits than domestic companies. Therefore in this paper I focused mainly on comparisons between domestic and multinational companies in terms of the ratios of taxable profits to

total assets. The ratio of taxable profits to total assets is much smaller for multinational companies than it is for domestic companies. The largest difference can be seen between foreign multinational companies and domestic standalones, where domestic standalones report 6 times more taxable profits relative to their size than foreign multinational companies. The difference in the ratio of taxable profits to total assets is much smaller between multinationals and domestic groups of companies.

This paper also identifies factors associated with lower taxable profits of multinational companies. I show that a large fraction - 60 percent - of observations in the multinational ownership category reports zero taxable profits, while domestic companies have much lower propensity to report zero taxable profits. Further, I explore differences in leverage, industry distribution, size distribution, productivity and capital allowances as possible factors that could contribute to lower taxable profits of multinational companies. In particular, I show that multinational companies have higher leverage and are more productive than domestic companies. Multinational companies also report particularly low ratios of taxable profits to total assets in finance sector. In turn, it is domestic companies which on average claim higher capital allowances relative to total assets. Finally, the more comparable the size of multinational and domestic companies, the closer their ratios of taxable profits to total assets are.

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5 Appendices

5.1 Further description of variables and data

5.1.1 Detailed ownership definitions

Comparing multinational companies to domestic companies means that one of the crucial parts of this paper is the identification of companies into the right ownership category. To do so, I start by using the ownership information available in the FAME dataset which contains data on global ultimate owners of companies, their country of residence and whether they are companies or individuals. I define a multinational as a company that

- has an ultimate parent which is not located in the UK[26], OR
- has a (wholly-owned) direct subsidiary which is not located in the UK, OR
- has a (wholly-owned) affiliate in the chain of ownership which is not located in the UK (ownership chain goes 10 levels down), OR

[26] "To define an Ultimate Owner, FAME analyses the shareholding structure of a company having an Independence Indicator different from A+, A or A- (which means that the company is independent and consequently, has no Ultimate Owner). It looks for the shareholder with the highest direct or total % of ownership. If this shareholder is independent, it is defined as the Ultimate Owner of the subject company and a UO link is created between the subject company and the Ultimate Owner. If the highest shareholder is not independent, the same process is repeated to him until FAME finds an Ultimate Owner." The quote is taken directly from the FAME ownership Help file.

- has an ultimate parent which is located in the UK, but the ultimate parent itself has a foreign subsidiary.

I also distinguish between domestic and foreign multinationals and multinational subsidiaries and multinational headquarters. In the FAME data headquarter status is equivalent to the ultimate owner status. This leads to effectively having the following multinational categories:

- foreign multinational subsidiary,
- domestic multinational subsidiary,
- domestic multinational parent.

In 70 percent of cases, FAME does not provide any information on the ownership structure of companies. For those companies with missing ownership information, I supplement the FAME ownership data with other variables from FAME and HMRC dataset to identify companies into two additional ownership categories, which I call 'unidentified multinationals' and 'other groups'. I define a company to belong to the 'unidentified multinationals' category if:

- it has overseas income (box 9 on the CT600 form is larger than 0), OR
- it has claimed double tax relief (box 73 on the CT600 form is larger than 0).[27]

I define a company to belong to 'other groups' category if:

- it has internal debt that is larger than 0 (using FAME long and short term internal borrowing), OR
- it does indicate on the CT600 form that it is part of the group (part of a group 'X' in the CT600 form), OR
- it claims group relief in the CT600 form (group relief in any of the years it existed is larger than 0 in box 36 on the CT600 form), OR
- it has losses to surrender as group relief (box 123 on the CT600 form is non zero).

For unidentified multinationals and other groups categories there is a time dimension to the ownership data. To avoid a situation where in some ownership categories I have companies being various types in different years, I assume that if a firm ever claimed any of the deductions it belongs to that given category in all other years.

[27] Note that overseas income refers to a narrow notion of income that has been generated by a foreign company abroad and is paid back to the UK affiliate of that company.

5.1.2 Criteria to select the sample for the analysis

Table 7 summarizes the detailed characteristics of the selected sample, where the last row shows the size of the sample after all selection criteria have been applied. The table also outlines how each selection criteria affects the number of observations, the total tax liability, trading turnover, trading profits and total assets. In what follows, I discuss each selection criteria in turn.

First, to be in the selected sample, I require the HMRC companies to be matched with the FAME data[28]. The matching is performed using firm and time identifier. Specifically, the unique firm identifiers from FAME and HMRC datasets are anonymized and matched by HMRC. The accounting period end date from FAME and the statement date from the CT600 form are merged as time indicators. Most of the unmatched companies come from the missing ownership category.

Second, I require the company from the FAME data to be reporting an unconsolidated statement and not consolidated or missing. Since companies report unconsolidated tax returns data on the CT600 forms, I require the accounting data to be reported at the unconsolidated level too. FAME never provides both consolidated and unconsolidated data for the same firm in the same year. Hence the matching algorithm can match a consolidated account from FAME with unconsolidated data from the HMRC.[29] Since it is often the company headquarters that report consolidated statements, I also exclude them from the selected sample.

Removing consolidated and missing financial reporting observations constitutes only 2% of companies, but those 300,000 observations account for over 20% of total tax liability, 16% of trading turnover and 70% of total assets. The fraction of observations with missing financial reporting type is very small and the fraction of tax that they pay is also very small. Most of these 300,000 observations come from consolidated statements. The fact that the exclusion of consolidated statements accounts for 70% of total assets is unsurprising since the consolidated statement would include information on total assets of multinational groups abroad. More importantly, those 2% of companies seem to contribute 20 percent of the tax liability in the UK, and together with the fact that they have large total assets it suggests that they are likely to be large and profitable companies. Therefore omitting them from the analysis might affect the results. However, since those 2 percent of companies report only consolidated accounting statements in FAME, I have no measure of the size of their operations in the UK. The issue is most severe for domes-

[28] Special thanks to Strahil Leopev and Giorgia Maffini for sharing their matching strategy and baseline dataset with me.

[29] For smaller companies FAME will sometimes have alternating consolidated and unconsolidated data, switching from one to another depending on the year. In that case, if the trading turnover in FAME matches the trading turnover in the HMRC data, I keep that company in the sample and assign it to unconsolidated group. If the trading turnover is different by more than 10% between tax and accounting datasets, I exclude that company from my selected sample.

tic multinationals, which report 27% of their accounts as consolidated ones, while foreign multinationals and unidentified multinationals report only 7%. Most of the tax liability excluded from the selected sample comes from the consolidated accounts of various types of multinationals (see Table 8).[30]

Specifically, Table 8 shows the proportions of tax, trading profits, trading turnover and taxable profits excluded through sample selection by ownership category. The sample selection process discards almost half of domestic multinationals. The companies with the largest fraction of remaining observations are domestic standalones, domestic groups and foreign multinationals (all above 70%). However, it is unidentified multinationals closely followed by foreign multinational companies for which we lose largest fraction of their tax liability (40 and 38%), trading turnover (29 and 27%) and taxable profits (41 and 29%) due to the sample selection process.

Table 7: Summary of the sample selection criteria.

	number of observations	total tax liability	trading turnover	total trading profits	total assets
CT 600 population	16.7	0.59	44.70	2.37	451.89
matched with FAME	12.7	0.53	41.00	2.13	451.89
unconsolidated	12.4	0.40	33.84	1.66	140.58
12 months accounts	12.1	0.40	32.95	1.64	137.62
non missing total assets	12	0.40	32.90	1.64	137.62
			percentages		
matched with FAME	76%	89%	92%	90%	-
unconsolidated	74%	68%	76%	70%	31%
12 months accounts	72%	67%	74%	69%	30%
non missing total assets	72%	67%	74%	69%	30%

Note: Summary statistics on how many observations we loose at each step of the selection process and what fraction of each of the following firm level observable variable levels we loose: total tax liability, trading turnover, total trading profits and total assets; currency, pound; unit, million. Source: matched HMRC and FAME data.

5.1.3 Additional information about variables in the merged dataset

In this section I define and describe in detail the variables I use in this paper. The data section in the main body of the paper discusses the choice of measures for taxable profits comparisons between multinational and domestic companies. This section discusses the availability of data that will allow for this comparison.

The CT600 data is my primary source for tax liabilities and taxable profits (Table 9[31]). The most relevant variables are taxable profits (box 37) and tax liability (box 63). It is also possible to break the taxable profits into profits before deductions (box 21) minus deductions (box 33) minus group relief (box 36).[32]

[30] As another selection criteria to be included in the selected sample, I require companies to have 12 months of accounting data and positive total assets. This does not alter the sample in any meaningful way.

[31] Schedule D Case V in Table 9 refers to income from overseas possessions (property, shares etc.)

[32] Box numbers correspond to the CT600 form.

Table 8: Composition of the selected sample.

	tax	trading profits	trading turnover	taxable profits
foreign multinational	62%	72%	64%	63%
domestic multinational	71%	54%	73%	71%
domestic group	70%	76%	75%	71%
domestic standalone	90%	90%	96%	90%
other group	69%	73%	79%	70%
unidentified multinational	60%	63%	71%	59%
missing ownership	75%	79%	71%	76%

Note: Proportions of tax, trading profits, trading turnover and taxable profits which remain in the selected sample relative to the whole sample by ownership type. Source: HMRC data.

Table 9: Description of box numbers and corresponding variables in the CT600 form and data.

box number	**variable name**	**CT600 name**	**variable description**
box 1	trading turnover	total turnover from trade of profession	turnover from trading activities
box 5	trading profits	trading and professional profits	profits arising from trading activities
box 9	overseas income	overseas income within Sch D Case V	income from overseas activities, such as dividend income
box 18	net gains	net chargeable gains	gross chargeable gains minus allowable losses including losses brought forward
box 21	profits before deductions	profits before other deductions and reliefs	total taxable income from all activities
box 33	deductions	total of deductions and reliefs	sum of all deductions variable to companies, apart from group relief
box 34	profits before group relief	profits before charges and group relief	difference between box 21 and box 33
box 37	taxable profits	profits chargeable to corporation tax	difference between box 34 and sum of boxes 35 (charges paid) and box 34
box 63	tax	corporation tax	corporation tax liability calculated based on box 37 profits

Moreover, the CT600 data offers unique information on the items that contribute to the taxable profits before deductions (boxes 3 - 20). The breakdown of profits before deductions[33] includes major items such as trading profits (box 5), bank, building society or other interest, and profits and gains, from non-trading loan relationships (box 6)[34],

[33]Note that data for box 21 in the CT600 data is missing for a large proportion of observations, therefore I constuct it manually using the formula outlined on the CT600 form.

[34]This is simply the interest on deposits held by companies in banks, building societies and others.

overseas income (box 9), net gains (box 18) and other items (sum of box 8, 10, 11, 12, 13, 14, 15 less boxes 19 and 20). The trading activity refers to any activity which is the result of a company carrying on its trade, i.e. operations; for example, selling goods in case of Tesco.

In Figure 7 I show that there are marked differences in the sources of taxable income between companies depending on their ownership types.[35] Domestic standalones derive most of their income from trading activities in the UK, while multinational companies derive only two thirds of theirs from trading activities. This is to be expected considering the complicated nature of the activities of multinational companies. For instance, overseas income constitutes quite a substantial fraction of total income of multinational companies over the sample period. However, large fractions of overseas income have been sheltered by double tax relief and no tax is due on the sheltered portion of that income. When I exclude the overseas income sheltered by double tax relief, it appears that the unsheltered overseas income did not contribute significantly to the overall UK tax base (see Figure 7).[36]

Further, other groups and unidentified multinationals derive a substantial portion of their income from other types of profits and from net interests of their loans. These fractions are much larger than for other types of multinational companies.

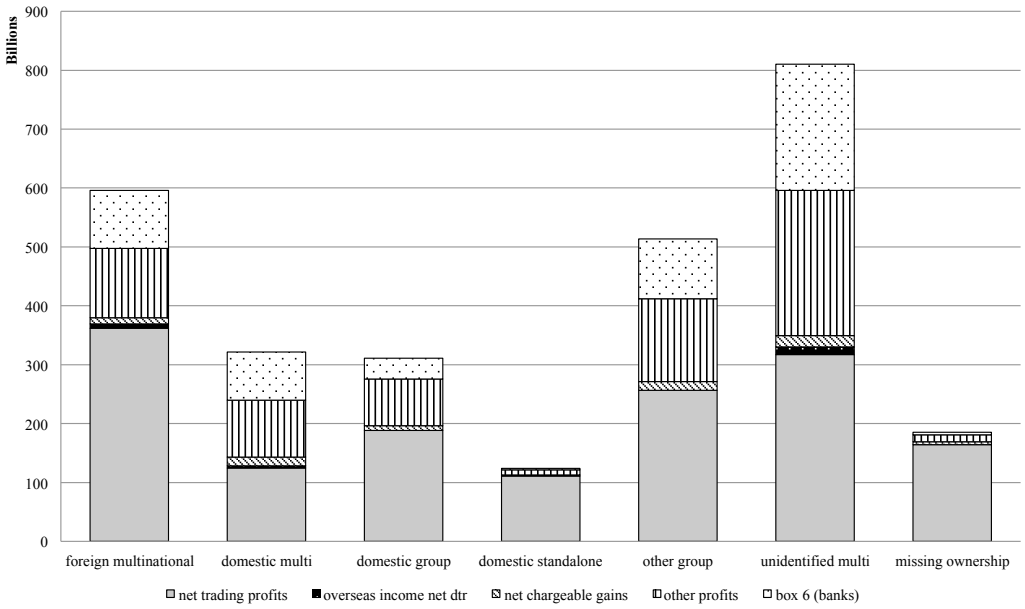
Many companies in the HMRC data report to have missing trading turnover information in spite of reporting positive taxable profits and positive trading profits. In Table 10 panel A, I consider the whole population of companies from the HMRC dataset and calculate the proportion of missing observations for trading turnover and total assets. In panel B Table 10 I do the same exercise but for the selected sample only (hence no missing observations on total assets). The best coverage is offered for foreign multinationals and domestic standalones, 80% and 93% respectively. Interestingly, the majority of domestic multinationals that report missing trading turnover are also those that report consolidated statements in their accounts. Therefore it is impossible to know the size of their operations in the UK.

The CT600 data contains some outliers. 122 of observations in the CT600 data report negative tax liabilities. Since HMRC has informed me that should not be the case,

[35] Note that since companies do not have to fill in all the boxes in the CT600, some companies which have no deductions to be itemised and no profits apart from trading ones will only fill in the taxable profits box. Therefore Figure 7 does not inlcude all the profits before deductions in the UK.

[36] There was a tax reform in the UK in 2009 as a result of which UK switched from a worldwide to a territorial tax system. After the reform firms no longer had to report dividends received from abroad since they received no tax credit on them (Grubert (2009), Lohse and Riedel (2013)). As a result there was a large decrease in the overseas income numbers reported on the CT600 form from 2010 onwards. This decrease means that multinationals which derived a substantial part of their profits from overseas income in the UK would report lower taxable profit numbers from 2010 onwards. However, the decrease in the tax paid is not as large as the decrease in overseas profits. This is because part of the overseas income was sheltered by double tax relief in the UK. Therefore multinational companies only paid tax on part of their overseas income before 2009.

Figure 7: Components of profits by ownership type.



Note: Components of profits before deductions by profits type and ownership type. Other profits is a sum of boxes 8 (annual payments not arising from loan relationships), 10 (income from which income tax has been deducted), 11 (income from UK land and buildings) and 15 (income from non-trading gains on intangible fixed assets, tonnage tax profits and profits not falling under any other heading). Box 6 (banks) refers to interest payments on loans. Selected sample, years 2000 - 2011.

Table 10: Summary of missing observations.

	whole sample				
	missing trading turnover	%	missing total assets	%	no of obs
foreign multinational	88,831	23%	49,374	13%	382,353
domestic multinational	18,534	43%	4,420	10%	43,249
domestic group	174,602	19%	105,188	12%	911,670
domestic standalone	274,376	8%	601,604	17%	3,573,689
other group	496,374	16%	620,396	20%	3,105,551
unidentified multinational	125,965	29%	90,234	21%	427,459
missing ownership	1,260,113	15%	2,727,700	33%	8,304,161
	selected sample				
	missing trading turnover	%	missing total assets	%	no of obs
foreign multinational	54,628	20%	-	-	276,818
domestic multinational	9,705	43%	-	-	22,443
domestic group	114,197	17%	-	-	686,083
domestic standalone	190,511	7%	-	-	2,928,737
other group	292,489	12%	-	-	2,365,955
unidentified multinational	63,613	22%	-	-	283,205
missing ownership	464,683	9%	-	-	5,423,953

Note: Numbers and proportions of missing observations for trading turnover and total assets by ownership types. Comparison between whole and selected samples. Source: merged HMRC and FAME data.

I discard those observations. They are mainly part of the missing ownership group with very little data available for them, hence I am inclined to believe that they might be genuine mistakes. There are several cases where trading profits are larger than trading turnover itself. I exclude those companies from the sample as well.

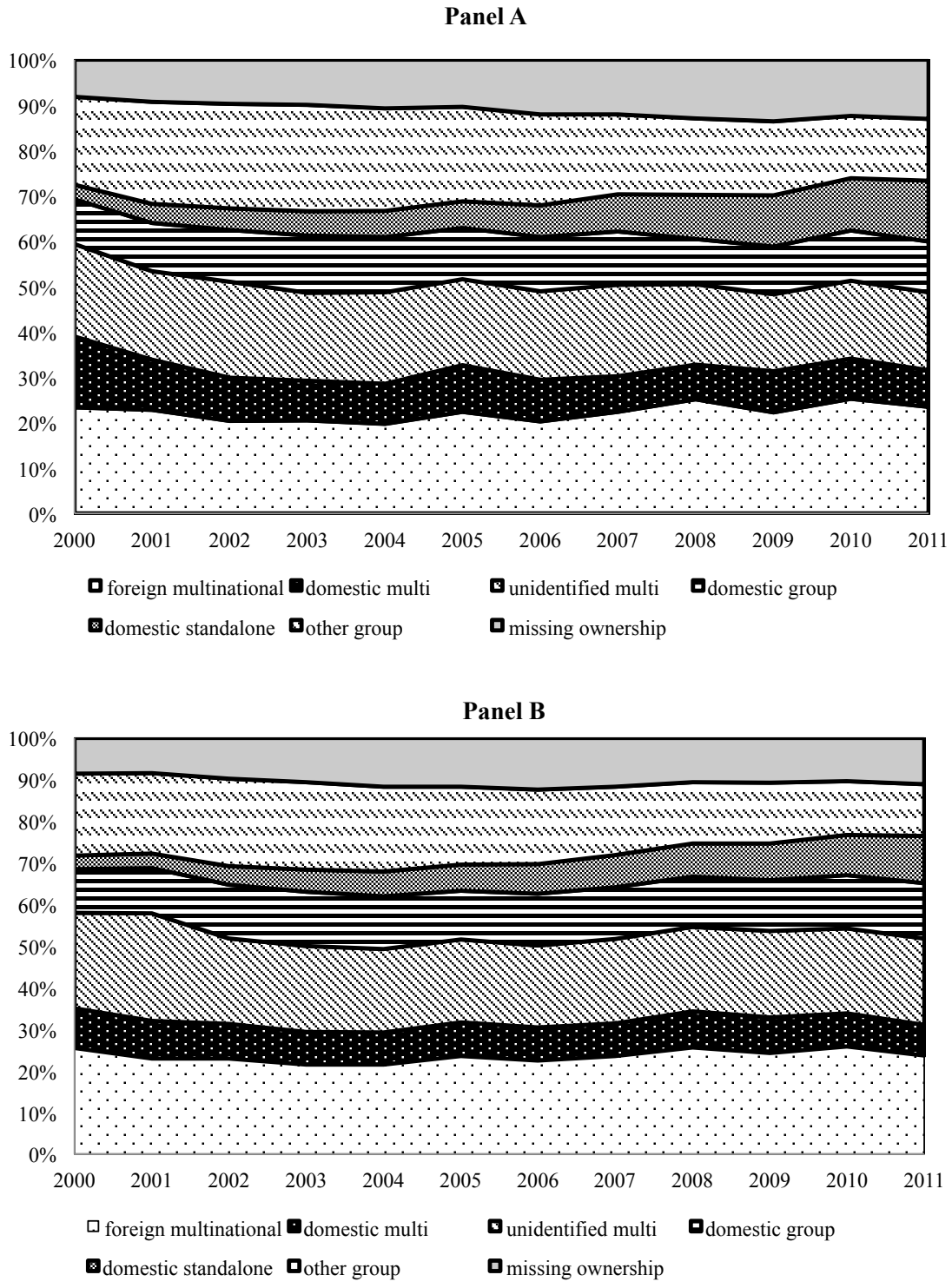
The selected sample also contains observations where taxable profits of a company are larger than its trading turnover, in some cases even 10 fold. This can arise for two main reasons; the first is that companies selling assets or shares are liable to pay capital gains tax on those sales. This will mean that a company with a small trading turnover in the UK, could be reporting large taxable profits in some years due to shares or assets sales and the profits arising from those. The CT600 form includes net gains that are added to trading profits to obtain taxable profits.

The second reason why taxable profits may be larger than trading turnover could be that companies are receiving dividend payments from their subsidiaries abroad. This applies only to multinational companies. In this case, the taxable profit is often higher than turnover for several years in a row. A substantial fraction of both foreign and domestic multinational subsidiaries in the UK reports zero trading profits, while at the same time pays a non-zero tax in the UK. Those are very likely holding companies which often receive substantial amounts of overseas income, while having no trading activities and no other profits. After UK switched from credit to exemption system in 2009, those firms have ceased to report overseas income and hence they report no taxable profits.

Table 11: Balance sheet formulas - FAME data.

Line	Formula	Label	Comments
93	87+88	shareholders' Funds	equivalent to total assets less total liabilities
	66+85	total liabilities	
66	51+52+60	current liabilities	includes group loans (short term)
85	72+79+82+84a+84b	long term liabilities (-)	includes group loans (long term)
70	37+48	total assets	
37	31+35+36	fixed assets	
31	32+33+34+34	tangible assets	
35		intangible assets	
36		Investments	
48	38+41+42+43+47	current assets	includes investments

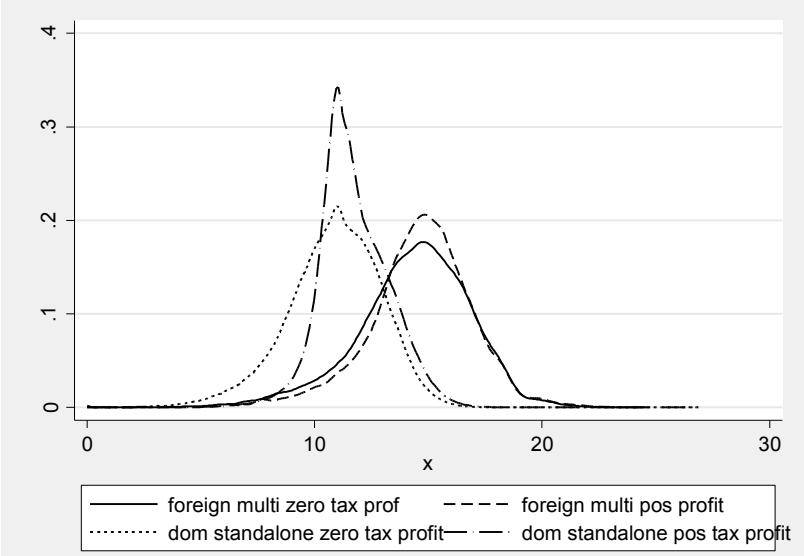
Figure 8: Net tax payable and trading profits - contributions by ownership type.



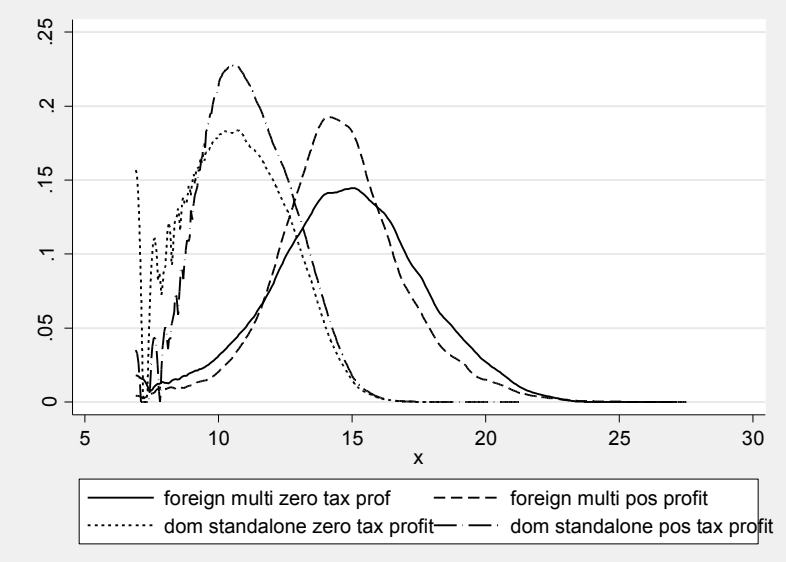
Note: Panel A: Net tax payable, Panel B: trading profits, contributions to total tax and total trading profits by ownership type, 2000 - 2011, selected sample. Source: matched HMRC and FAME data.

Figure 9: Size distributions by ownership type, comparisons between positive and zero taxable profits observations.

Panel A: trading turnover

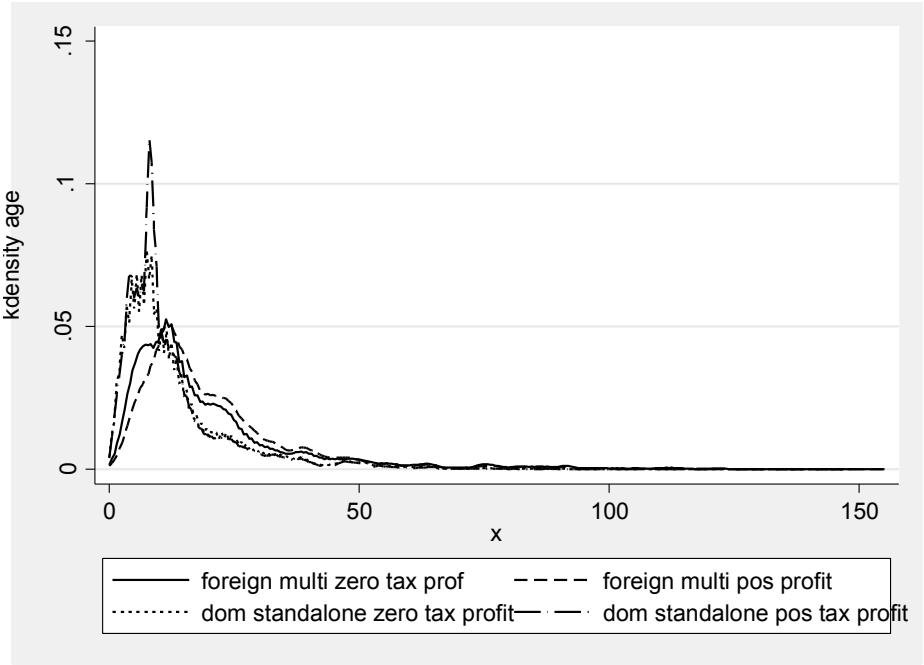


Panel B: total assets



Note: Panel A: distribution of logarithm of trading turnover, Panel B: distribution of logarithm of total assets. Comparisons between positive and zero taxable profits observations for foreign multinationals and domestic standalones; selected sample, 2000 - 2011. Source: matched HMRC and FAME data.

Figure 10: Age distributions comparison.



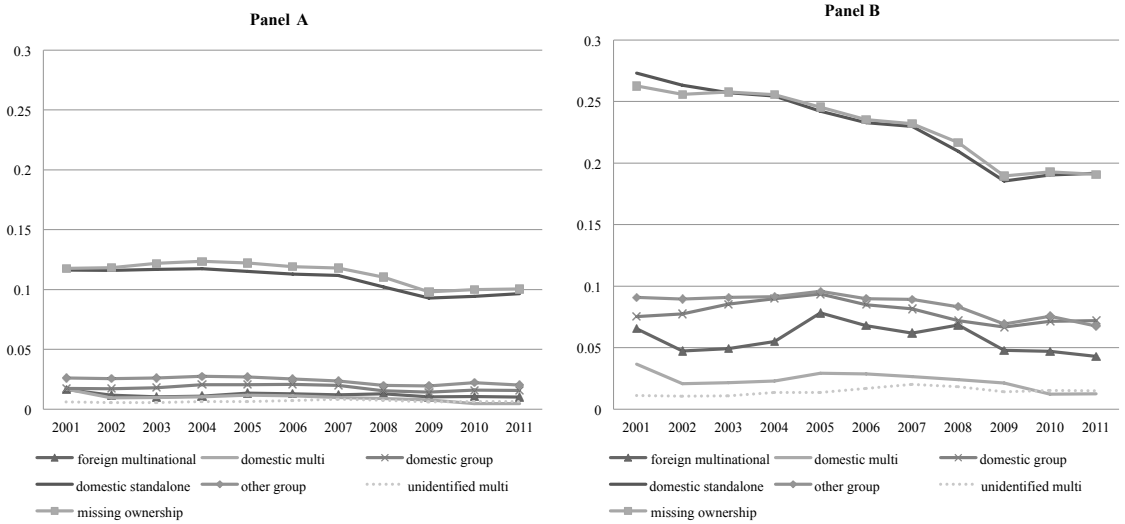
Note: Distributions of firms' age for positive and zero taxable profits observations, differences between foreign multinationals and domestic standalones; selected sample, 2000 - 2011. Source: matched HMRC and FAME data.

Table 12: Proportions of observations with zero taxable profits by sector and ownership type.

	foreign multinationals	domestic standalones	all obs
1: agriculture, forestry and fishing (01-09)	67.2%	32.7%	43.5%
2: mining (10-14)	53.5%	32.4%	38.6%
3: construction (15-17)	51.3%	36.8%	44.5%
4:manufacturing (20-39)	53.2%	31.3%	40.3%
5:transportation & public utilities (40-49)	63.6%	20.2%	28.2%
6: wholesale trade (50-51)	43.6%	28.0%	36.4%
7: retail trade (52-59)	61.4%	32.7%	40.6%
8: finance, insurance & real estate (60-67)	56.3%	27.3%	39.7%
9: services (70-89)	62.2%	24.5%	34.9%
10: public administration (91-98)	60.0%	30.7%	42.1%
11: non-classified establishments (99)	60.0%	44.6%	51.5%

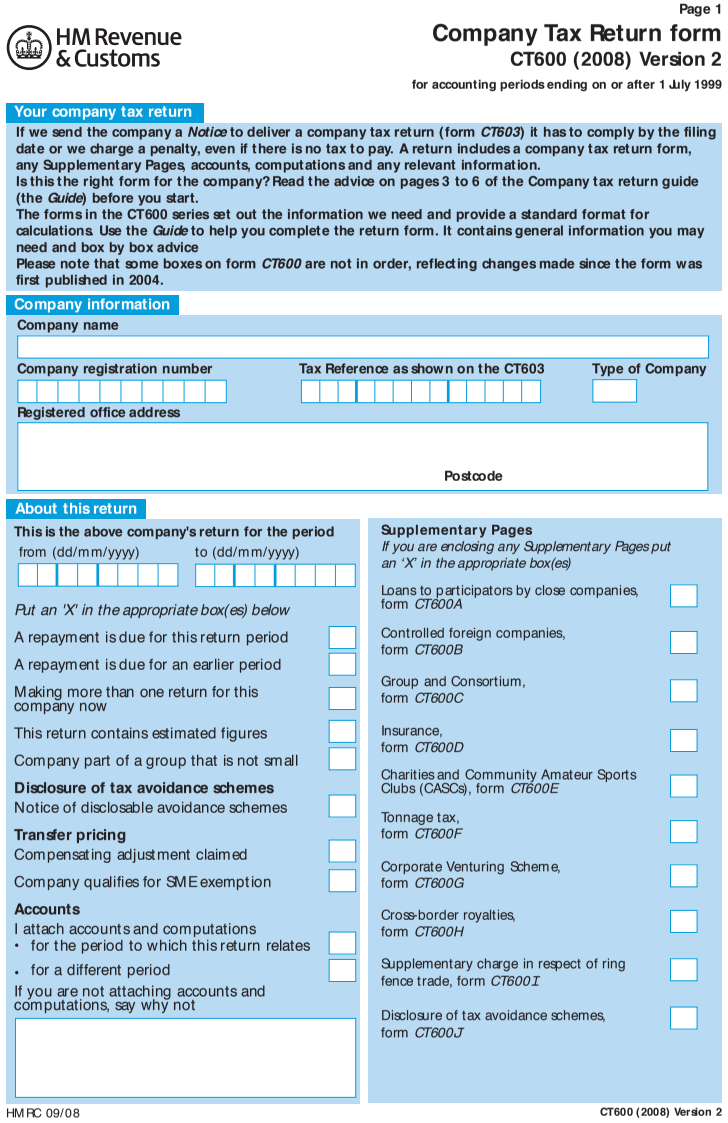
Note: Comparisons betweenr foreign multinationals, domestic standalones and the whole sample; selected sample, 2000 - 2011. Source: matched HMRC and FAME data.

Figure 11: Comparison of two scaling measures for taxable profits - total assets vs shareholder funds.



Note: Panel A: Weighted ratio of taxable profits to total assets, Panel B: Weighted ratio of taxable profits to book value of equity, both selected balanced sample, 2000 - 2011. Source: matched HMRC and FAME data.

Figure 12: CT600 tax returns form.



Page 1

HM Revenue & Customs

Company Tax Return form

CT600 (2008) Version 2

for accounting periods ending on or after 1 July 1999

Your company tax return

If we send the company a *Notice* to deliver a company tax return (form *CT603*) it has to comply by the filing date or we charge a penalty, even if there is no tax to pay. A return includes a company tax return form, any Supplementary Pages, accounts, computations and any relevant information.
Is this the right form for the company? Read the advice on pages 3 to 6 of the Company tax return guide (the *Guide*) before you start.
The forms in the CT600 series set out the information we need and provide a standard format for calculations. Use the *Guide* to help you complete the return form. It contains general information you may need and box by box advice
Please note that some boxes on form *CT600* are not in order, reflecting changes made since the form was first published in 2004.

Company information

Company name

Company registration number | Tax Reference as shown on the CT603 | Type of Company

Registered office address

Postcode

About this return

This is the above company's return for the period
from (dd/mm/yyyy) to (dd/mm/yyyy)

Put an 'X' in the appropriate box(es) below

A repayment is due for this return period
A repayment is due for an earlier period
Making more than one return for this company now
This return contains estimated figures
Company part of a group that is not small

Disclosure of tax avoidance schemes
Notice of disclosable avoidance schemes

Transfer pricing
Compensating adjustment claimed
Company qualifies for SME exemption

Accounts
I attach accounts and computations
- for the period to which this return relates
- for a different period

If you are not attaching accounts and computations, say why not

Supplementary Pages
If you are enclosing any Supplementary Pages put an 'X' in the appropriate box(es)

Loans to participators by close companies, form *CT600A*
Controlled foreign companies, form *CT600B*
Group and Consortium, form *CT600C*
Insurance, form *CT600D*
Charities and Community Amateur Sports Clubs (CASCs), form *CT600E*
Tonnage tax, form *CT600F*
Corporate Venturing Scheme, form *CT600G*
Cross-border royalties, form *CT600H*
Supplementary charge in respect of ring fence trade, form *CT600I*
Disclosure of tax avoidance schemes, form *CT600J*

HMRC 09/08 CT600 (2008) Version 2

Page 2

Company tax calculation

Turnover

1 Total turnover from trade or profession — 1 £

2 Banks, building societies, insurance companies and other financial concerns. *Put an 'X' in this box if you do not have a recognised turnover and have not made an entry in box 1* — 2

Income

3 Trading and professional profits — 3 £

4 Trading losses brought forward claimed against profits — 4 £

5 Net trading and professional profits — box 3 minus box 4 — 5 £

6 Bank, building society or other interest, and profits and gains from non-trading loan relationships — 6 £

7 *Put an 'X' in box 7 if the figure in box 6 is net of carrying back a deficit from a later accounting period* — 7

8 Annuities, annual payments and discounts not arising from loan relationships and from which income tax has not been deducted — 8 £

9 Overseas income within Sch D Case V — 9 £

10 Income from which income tax has been deducted — 10 £

11 Income from UK land and buildings — 11 £

12 Non-trading gains on intangible fixed assets — 12 £

13 Tonnage tax profits — 13 £

14 Annual profits and gains not falling under any other heading — 14 £

15 Income within Sch D Case VI — total of boxes 12, 13 and 14 — 15 £

Chargeable gains

16 Gross chargeable gains — 16 £

17 Allowable losses including losses brought forward — 17 £

18 Net chargeable gains — box 16 minus box 17 — 18 £

19 Losses brought forward against certain investment income — 19 £

20 Non-trade deficits on loan relationships (including interest), and derivative contracts (financial instruments) brought forward — 20 £

21 Profits before other deductions and reliefs — net sum of boxes 5, 6, 8, 9, 10, 11,15, & 18 minus sum of boxes 19 and 20 — 21 £

CT600 (2008) Version 2

Deductions and reliefs

22 **CVS loss relief, and losses on unquoted shares under S573 ICTA 1988** — 22 £

23 *Put an 'X' in box 23 if the entry in box 22 includes CVS loss relief, complete and attach form CT600G* — 23

24 **Management expenses under S75 ICTA 1988** — 24 £

25 **Interest distributions under S468L ICTA 1988** — 25 £

26 **Schedule A losses for this or previous accounting period under S392A ICTA 1988** — 26 £

27 **Capital allowances for the purposes of management of the business** — 27 £

28 **Non-trade deficits for this accounting period from loan relationships and derivative contracts (financial instruments)** — 28 £

29 **Non-trading losses on intangible fixed assets** — 29 £

30 **Trading losses of this or a later accounting period under S393A ICTA 1988** — 30 £

31 *Put an 'X' in box 31 if amounts carried back from later accounting periods are included in box 30* — 31

32 **Non-trade capital allowances** — 32 £

33 **Total of deductions and reliefs** — total of boxes 22, 24 to 30 and 32 — 33 £

34 **Profits before charges and group relief** — box 21 minus box 33 — 34 £

35 **Charges paid** — 35 £

36 **Group relief** — 36 £

37 **Profits chargeable to corporation tax** — box 34 minus boxes 35 and 36 — 37 £

169 **Ring fence profits included** — 169 £

Tax calculation

38 **Franked investment income** — 38 £

39 **Number of associated companies in this period or**

40 **Associated companies in the first financial year**

41 **Associated companies in the second financial year**

42 *Put an 'X' in box 42 if the company claims to be charged at the starting rate or the small companies' rate on any part of its profits, or is claiming marginal rate relief* — 42

Enter how much profit has to be charged and at what rate of tax

Financial year *(yyyy)*	Amount of profit	Rate of tax	Tax
43	44 £	45	46 £ p
	47 £	48	49 £ p
	50 £	51	52 £ p
53	54 £	55	56 £ p
	57 £	58	59 £ p
	60 £	61	62 £ p

63 **Corporation tax** — total of boxes 46, 49, 52, 56, 59 and 62 — 63 £ p

64 **Marginal rate relief** — 64 £ p

65 **Corporation tax net of marginal rate relief** — 65 £ p

66 **Underlying rate of corporation tax** — 66 . %

67 **Profits matched with non-corporate distributions** — 67 £

68 **Tax at non-corporate distributions rate** — 68 £ p

69 **Tax at underlying rate on remaining profits** — 69 £ p

70 **Corporation tax chargeable** — *See note for box 70 in CT600 Guide* — 70 £ p

Reliefs and deductions in terms of tax

71 **CVS investment relief** — 71 £ p

72 **Community investment relief** — 72 £ p

73 **Double taxation relief** — 73 £ p

74 *Put an 'X' in box 74 if box 73 includes an Underlying Rate relief claim* — 74

75 *Put an 'X' in box 75 if box 73 includes any amount carried back from a later period* — 75

76 **Advance corporation tax** — 76 £ p

77 **Total reliefs and deductions in terms of tax** — total of boxes 71, 72, 73 and 76 — 77 £ p

Calculation of tax outstanding or overpaid

78	Net corporation tax liability		box 70 minus box 77
79	Tax payable under S419 ICTA 1988		
80	*Put an 'X' in box 80 if you completed box A11 in the Supplementary Pages CT600A*	80	
81	Tax payable under S747 ICTA 1988		
82	Tax payable under S501A ICTA 1988		
83	Tax chargeable		total of boxes 78, 79, 81 and 82
84	Income tax deducted from gross income included in profits		
85	Income tax repayable to the company		
86	Tax payable - this is your self-assessment of tax payable		box 83 minus box 84

Tax reconciliation

87	Research and Development tax credit, including any vaccines tax credit, or film tax credit		
88	Land remediation or life assurance company tax credit		
170	Capital allowances first-year tax credit		
89	Research and Development tax credit payable, including any vaccines tax credit, or film tax credit payable		box 87 minus box 86
90	Land remediation or life assurance company tax credit payable		total of boxes 87 + 88 minus boxes 86 and 89
171	Capital allowances first-year tax credit payable		boxes 87, 88 and 170 minus boxes 86, 89 and 90
161	Ring fence corporation tax included	161	
166	Tax under S501A ICTA 1988 included	166	
91	Tax already paid (and not already repaid)		
92	Tax outstanding		box 86 minus boxes 87, 88, 170 and 91
93	Tax overpaid		total sum of boxes 87, 88, 170 and 91 minus box 86
94	Tax refunds surrendered to the company under S102 FA 1989		

Indicators

Put an 'X' in the relevant box(es) if, in the period, the company

95	*should have made (whether it has or not) instalment payments under the Corporation Tax (Instalment Payments) Regulations 1998*	95
96	*is within a group payment arrangement for this period*	96
97	*has written down or sold intangible assets*	97
98	*has made cross-border royalty payments*	98

Information about enhanced expenditure

Research and Development (R&D) or films enhanced expenditure

167	*Put an 'X' in box 167 if the claim is for films expenditure*	167	
99	*Put an 'X' in box 99 if the claim is made by a small or medium-sized enterprise (SME), including a SME subcontractor to a large company*	99	
100	*Put an 'X' in box 100 if the claim is made by a large company*	100	
101	R&D or films enhanced expenditure		101
102	R&D enhanced expenditure of a SME on work sub-contracted to it by a large company		102
103	Vaccines research expenditure		103

Land remediation enhanced expenditure

104	Enter amount equal to 150% of actual expenditure	104

Information about capital allowances and balancing charges

Charges and allowances included in calculation of trading profits or losses

		Capital Allowances	Balancing Charges
172	Annual investment allowance	172	
105-106	Machinery and plant - special rate pool	105	106
107-108	Machinery and plant - main pool	107	108
109-110	Cars	109	110
111-112	Industrial buildings and structures	111	112
162-163	Business premises renovation	162	163
113-114	Other charges and allowances	113	114

Charges and allowances not included in calculation of trading profits or losses

		Capital Allowances	Balancing Charges
173	Annual investment allowance	173	
164-165	Business premises renovation	164	165
115-116	Other non-trading charges and allowances	115	116
117	*Put an 'X' in box 117 if box 115 entry includes flat conversion allowances*	117	

Qualifying expenditure

118	Machinery and plant on which first year allowance is claimed	118
174	Designated environmentally friendly machinery and plant	174
120	Machinery and plant on long-life assets and integral features	120
121	Other machinery and plant	121

Losses, deficits and excess amounts

		Arising	Maximum available for surrender as group relief
122-123	Trading losses Case I	122 £ (calculated under S393 ICTA 1988)	123 £ (calculated under S393A ICTA 1988)
124	Trading losses Case V	124 £ (calculated under S393 ICTA 1988)	
125-126	Non-trade deficits on loan relationships and derivative contracts	125 £ (calculated under S82 FA 1996)	126 £ (calculated under S83 FA 1996)
127-128	Schedule A losses	127 £ (calculated under S392A ICTA 1988)	128 £ (calculated under S403 ICTA 1988)
129	Overseas property business losses Case V	129 £ (calculated under S392B ICTA 1988)	
130	Losses Case VI	130 £ (calculated under S396 ICTA 1988)	
131	Capital losses	131 £ (calculated under S16 TCGA 1992)	
132-133	Non-trading losses on intangible fixed assets	132 £ (calculated under S29 FA 2002)	133 £ (calculated under S403 ICTA 1988)
	Excess		
134	Excess non-trade capital allowances		134 £ (calculated under S403 ICTA 1988)
135	Excess charges		135 £ (calculated under S403 ICTA 1988)
136-137	Excess management expenses	136 £ (calculated under S75 ICTA 1988)	137 £ (calculated under S403 ICTA 1988)
138	Excess interest distributions	138 £ (calculated under S468L(7) ICTA 1988)	

Overpayments and repayments

Small repayments

If you do not want us to make small repayments please either put an 'X' in box 139 or complete box 140 below. 'Repayments' here include tax, interest, and late-filing penalties or any combination of them.

Do not repay £20 or less 139 ☐ Do not repay sums of 140 £ or less. *Enter whole figure only*

Repayments for the period covered by this return

141	Repayment of corporation tax	141 £ p
142	Repayment of income tax	142 £ p
143	Payable Research and Development tax credit	143 £ p
168	Payable film tax credit	168 £ p
144	Payable land remediation or life assurance company tax credit	144 £ p
175	Payable capital allowances first-year tax credit	175 £ p

Surrender under S102 FA 1989 (including surrenders under Regulation 9 of the Instalments Regulations)
Repayments of advance corporation tax cannot be surrendered.

145 The following amount is to be surrendered under S102 FA 1989, and either 145 £ p

146 the joint Notice is attached 146 ☐
or
147 will follow 147 ☐ *(put an 'X' in either box 146 or box 147)*

148 Please stop repayment of the following amount until I send you the Notice 148 £ p

Bank details (for person to whom the repayment is to be made)

Repayment is made quickly and safely by direct credit to a bank or building society account.
Please complete the following details:

Name of bank or building society 149

Branch sort code 150

Account number 151

Name of account 152

Building society reference 153

Payments to a person other than the company

Complete the authority below if you want the repayment to be made to a person other than the company.

I, as *(enter status - company secretary, treasurer, liquidator or authorised agent, etc.)* 154

of *(enter name of company)* 155

authorise *(enter name)* 156

(enter address) 157

Postcode

Nominee reference 158

to receive payment on the company's behalf.

Signature 159

Name *(in capitals)* 160

Declaration

Warning - Giving false information in the return, or concealing any part of the company's profits or tax payable, can lead to both the company and yourself being prosecuted.

Declaration
The information I have given in this company tax return is correct and complete to the best of my knowledge and belief.

Signature

Name *(in capitals)*

Date *(dd/mm/yyyy)*

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