

Research Methodology

Calculating the effective tax rates of large Dutch companies and identifying tax avoidance





Indra Römgens & Tim Steinweg

March 2016

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Amsterdam, March 2016

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1 Introduction

This paper presents the methodology that served as the basis for the Dutch report Grote Bedrijven, Kleine Lasten ("Big companies, low rates") on effective tax rates and tax avoidance strategies by large Dutch companies. It explains the methodological issues as well as the choices made for this study. By developing a methodology to measure effective tax rates and identifying indicators for tax avoidance, this research project also aims to contribute to the methodological discussion among tax justice researchers. This paper benefited from and builds upon research undertaken by United Voice and Tax Justice Network Australia into the tax practices of Australian companies.¹ This Australian study is thus referred to throughout this Annex.

¹ United Voice and Tax Justice Network Australia, "Who pays for our common wealth?" 2014, http://www.unitedvoice.org.au/ news/who-pays-our-common-wealth. United Voice and the Tax Justice Network Australia analysed publicly listed companies that feature on the S&P/ASX200 stock market index, which includes the 200 largest companies listed on the Australian Securities Exchange, as measured by (float-adjusted) market capitalisation. The companies on this list represent approximately 80% of the Australian equity market capitalisation and nearly all the companies in the S&P/ASX200 have their headquarters based in Australia. This SOMO study diverges from the Australian study in that it does include unlisted companies, in particular Dutch family-owned businesses and cooperatives.



2 Selection of companies

The study researches 151 Dutch companies, divided into two groups: 93 listed companies and 58 unlisted companies. For the first group (listed companies) research was conducted for the ten-year period 2005-2014. For the second group (unlisted companies) sufficient data was only available for a five-year period 2010-2014.

2.1 Listed companies

The following criteria resulted in a selection of 93 listed companies:

- Listed on one of the three commonly used indices in the Netherlands
 In order to select the largest Dutch companies, the research includes companies that were present on any of the following three commonly used indices for the Netherlands at any point between 1 January 2005 and 31 December 2014:² the AEX index (the largest 25 companies), the AMX index (26-50 largest companies) and the AscX index (51-75 largest companies). This selection includes companies that have since been delisted or merged with other companies, such as Smit Internationale.
- Available data for at least four of the ten years

Companies with fewer than four years of available data (for both pre-tax income and income taxes) were excluded from this study. After testing the efficacy of the results, it became apparent that at least 3-5 years' worth of data excludes temporal differences in tax expenses or effective tax rates.³

Dutch companies

There are some companies listed on the Amsterdam stock exchange that have no presence in the Netherlands other than their listing, including ArcelorMittal (Luxembourg) and Unibail-Rodamco (France). These companies are not always tax resident, nor do they have their headquarters in the Netherlands. They have therefore been excluded from this study.

Exceptions

Two companies have been excluded from the selection despite the fact that they meet the above criteria.

Shell

Royal Dutch Shell, the largest publicly listed company in the Netherlands has been excluded from this study. Shell is a company active in the oil and gas industry and is subject to industry-specific

² Based on Thomson Reuters Datastream data.

³ This choice follows the method used in the Australian study, as well as other studies, and was further corroborated by interviews we held with several experts.



tax regimes, particularly in Nigeria and Norway, which are countries with substantially higher tax rates than the Dutch statutory rate.⁴ Furthermore, Shell includes taxes it pays on oil production in its corporate income tax line, which means the company's reported effective tax rate is inflated to between 36% and 51%. Given the enormous size of Royal Dutch Shell compared to the other Dutch companies, the inclusion of Shell in the sample group would skew the findings, given it has a disproportionate influence on the overall results.

ABN AMRO

Due to the nationalisation process in 2008, ABN AMRO is an exceptional case. It was listed for just four years during the research period (2005-2014). Even though data was available for those four years, ABN AMRO's unusually large losses in 2008 following the start of the financial crisis significantly distort the results. Moreover, the limited level of available data might cause ABN AMRO's effective tax rates to be misleading. However, other financial and insurance companies are included in the selection.

2.2 Unlisted companies

In total, 58 unlisted companies have been included in this research. These are:

Family-owned businesses

Family-owned businesses account for nearly 53% of Dutch GDP.⁵ Companies such as SHV, Pon Holdings and BCD Holding are among the largest companies by annual revenues in the Netherlands. Therefore, this study also includes the largest family-owned companies. These companies were identified by using the 2014 list of the top 500 largest companies in the Netherlands published by the Dutch magazine *Elsevier*,⁶ and the 2014 list of largest Dutch cooperatives published by the Dutch Council for Cooperatives, the 'Nationale Coöperatieve Raad'.⁷ In contrast to subsidiaries of foreign multinationals, as well as a number of other unlisted companies owned by management or private equity, these companies have their roots in the Netherlands and tend to be publicly perceived as 'Dutch'.

Cooperatives ('Coöperaties')

The largest Dutch cooperatives by revenues, as reported by the NRC, were also included in this study. A Dutch cooperative is an enterprise that is managed and funded by its members and does not have external shareholders. From a fiscal point of view, "the main reason for using a Cooperative for this purpose is that this legal form is flexible (for instance: no minimum capital requirement is applicable at the moment of incorporation), and under certain circumstances no

⁴ According to Shell itself, its weighted average statutory tax rate was 50.5% in 2014, compared to the Dutch statutory rate of 25%.

⁵ See http://www.nyenrode.nl/FacultyResearch/Entrepreneurship-Stewardship/CE/Familiebedrijven/Pages/Default.aspx?AspxA utoDetectCookieSupport=1.

⁶ Elsevier, "Top 500 bedrijven in Nederland," 2014, http://www.bvdinfo.com/getattachment/BvD-For-Your-Business/Sales-and-marketing/Top-100-of-500-lijsten-(1)/Top-500.pdf.aspx.

⁷ NCR, "De Nederlandse Coöperatie Top 100," March 2015 http://www.cooperatie.nl/sites/default/files/de_nederlandse_ cooperatie_top_100_maart_2015.pdf.



Dutch dividend withholding tax is due with regard to profit distributions by the Cooperative."⁸ Examples of large and known cooperatives are Rabobank and dairy company FrieslandCampina. Health insurance cooperatives have been excluded from this research since they are exempt from corporate income tax.

All unlisted companies meet the following two criteria:

- Available data for at least three of the five years Companies with fewer than three years of available data (for both pre-tax income and income taxes) were excluded from the research population.⁹
- Annual revenues > €500 million
 The research aims to analyse the largest Dutch companies and therefore set a cut-off at
 minimum annual revenues of €500 million (in 2013/2014). This amount is more or less in line with
 the annual revenues of the vast majority of listed companies included in the research.

Excluded companies

Only family-owned businesses and cooperatives were included in this study, rather than all unlisted companies. This is to avoid including:

- 1. subsidiaries of foreign multinationals that may primarily be taxed abroad;
- mailbox companies that are tax-resident in the Netherlands but have very limited, if any, economic activities here;
- **3.** state-owned companies because they have a fundamentally different relationship with the Dutch state compared to private, tax-paying firms.

2.3 Limitations

Lack of publicly available financial data means there are a number of limitations related to the company selection and effective tax rate calculations. Unlisted companies, for instance, are not required to disclose the same financial information required of publicly listed companies, limiting the number of methods we can apply to calculate the effective tax rate.

Two of the three different methods of measuring effective tax rates (ETRs) discussed below in section 3 can therefore not be applied to unlisted companies. These two methods serve as sensitivity checks and will only be carried out for listed companies. Whereas the primary sources of data for this study – including the Thomson Reuters Eikon database and the Dutch Chamber of Commerce – generally provide income statement data on pre-tax profits and income taxes, more detailed data on cash taxes paid or deferred taxes are not always available. As a result, the effective tax rates of unlisted companies are calculated using one single formula (see section 3.2), and for a period of five years

⁸ Tax Consultants International, 'Incorporation of a Dutch Cooperative', available at http://www.tax-consultants-international. com/read/Incorporation_Dutch_Cooperative?sublist=3274 (accessed 29 January 2016).

⁹ Based on interviews we held with several experts, it became apparent that a minimum of data availability should be between three to five years, in order to take into account temporal differences and hence be able to draw conclusions regarding the effective tax rates of companies. Since the total time period for which it was possible to collect data for unlisted companies is five years, the minimum amount of years for data should be available was set at three.



instead of ten years. Average annual tax payments are also calculated separately for these two categories of companies.

As for unlisted companies, those with ownership structures that are less transparent than some family-owned businesses – including those owned by management, private equity or the Dutch state – have not been included in this research, which is a limitation to the analysis, given their importance to the Dutch economy. Some privately owned companies that fall into this category and have been excluded from this report due to the lack of financial information available include the NS, HEMA and Gasunie.



3 Effective tax rates

Scholarly literature on tax avoidance mainly uses two types of measures or indicators for what it often calls 'tax aggressiveness' – attempts by corporations to reduce the amount of taxes they have to pay including the *effective tax rates (ETRs)* and *book-tax differences (BTD)*.¹⁰

BTDs contrast 'book' income (i.e. the pre-tax income as calculated in accordance with applicable financial accounting rules), to taxable income, with the assumption being that such differences indicate that strategies are being used by the company in question to reduce its taxable income. However, data on taxable income is not (always) available since corporate tax returns, which would be the most direct source of information, are not publicly accessible.

The goal of this study is to contrast actual tax charges of corporations with what the tax charge on the basis of the *statutory corporate income tax rate (STR)*, or more precisely: a weighted average STR (this will be explained in the next chapter). In this way, ETRs aim to measure the actual corporate tax burden. A focus on ETRs seems appropriate because calculating ETRs will allow the data to contrast directly with an STR. This comparison will lead to the estimation of tax revenue losses for governments. ETR is also the most commonly used measure in relevant publications, both academic and non-academic, including the Australian study mentioned in the introduction to this methodology.

This section will first briefly explain three different ETR methods and how they relate to each other. Secondly, it will be argued which ETR method is the primary method used in this research. Finally, some limitations are discussed.

3.1 Different methods for calculating ETR

The general idea behind ETR is to look at a corporation's actual tax burden by dividing income taxes by a measure of taxable income. As has been pointed out above, corporate tax returns are not publicly available and therefore the ETR is usually calculated on the basis of financial accounting reports. The simplest and most commonly used measure (seen below in formula 1.) uses the tax expense line item in the income statement and divides this by the pre-tax income line item. In a consolidated financial statement this would be worldwide income tax and worldwide income. This gives the first method (in Dutch: "algehele belastingdruk"):

¹⁰ For a literature overview, see Scott D. Dyreng, Michelle Hanlon and Edward L. Maydew, "Long-Run Corporate Tax Avoidance", in *The Accounting Review*, 83(1), p. 61-82.



Formula 1

GAAP ETR¹¹= Worldwide total income tax expense Worldwide total pre-tax accounting income

Total income tax expense consist of two items: *current tax expense* and *deferred tax expense*. Deferred taxes relate to temporary differences between book income and taxable income, and are mostly made up of tax expenses incurred in one reporting period but paid in another and of losses carried forward.

Current ETR (in Dutch: 'acute belastingdruk', as seen below in formula 2.) only takes into account the current period of tax burden. Current ETR eliminates deferred tax expenses in order to show the tax burden of the current period, normally the year or period that is being reported. The current income tax expense is calculated by the net change in deferred taxes (balance sheet item).¹²

Formula 2

 $Current ETR = \frac{Worldwide total current income tax expense}{Worldwide total pre-tax accounting income}$

Worldwide total current income tax expense – (deferred taxes t – deferred taxes t-1) Worldwide total pre-tax accounting income

GAAP ETR "captures tax aggressiveness stemming from *permanent* book-tax differences that reduce the reported ETR".¹³ However, GAAP ETR ignores tax avoidance that stems from temporary differences, because it lumps current and deferred tax expenses together. The advantage of Current ETR is that it captures tax strategies that reduce current taxes by deferring some tax into the future or accelerating tax deductions (temporary avoidance) as well as permanent differences.

^{11 &#}x27;GAAP' stands for 'generally accepted accounting principles', the standardised framework for financial accounting that applies in a given country or jurisdiction. It is common to find, for example, references to 'US GAAP' or 'Dutch GAAP' etc. Currently, in the EU international standards – International Financial Reporting Standards (IFRS) – are also increasingly used, although national GAAP still exist in each country. In the context of this study 'GAAP ETR' merely indicates that this measure of ETR takes the statutory financial accounting disclosures in the income statement at face value, i.e. does not adjust them.

¹² Boudewijn, Janssen. "Empirical evidence on explicit and implicit corporate tax burdens: Three studies," 2003, Doctoral Dissertation, Maastricht University, p. 20-21.

¹³ Lennox, Clive S. and Lisowsky, Petro and Pittman, Jeffrey. "Tax Aggressiveness and Accounting Fraud," Journal of Accounting Research, 2013, 51(4), p. 752.



Another possibility for eliminating what could be financial accounting distortions is to use cash taxes paid, which is found in the firm's cash flow statement, rather than tax expense (an accrual accounting¹⁴ item) in the numerator.

Formula 3

CASH ETR = Worldwide cash taxes paid Worldwide total pre-tax accounting income

According to Lennox et al. recent "research argues that these measures [cash tax paid] may be cleaner as they capture the effects of both permanent and temporary differences".¹⁵

All these measures can and should, where possible, be calculated over a period longer than one year. This makes the findings less susceptible to large fluctuations that may occur in any given year and thus provides a more representative picture of a company's tax strategy and possible tax avoidance. Longer observation periods also tend to eliminate distortions that may result from using accrual accounting items, since accruals tend to equal cash flows over the longer term. Deferred tax assets and liabilities in particular are more likely to be reversed over time.

3.2 Determining the most appropriate ETR method

The ETR formulas discussed above have been mostly developed by academics.¹⁶ Academic research often tries to examine causal relations between tax avoidance on the one hand and, for example, financial accounting earnings management,¹⁷ or firm size, on the other. Academics may also try to compare tax avoidance between different types of companies, sectors, or between companies

14 Accrual accounting: In financial accounting, the income statement does not simply reflect all the cash that flows into the business and all the cash that flows out in a particular period (usually one year). It allocates income or expenses generated in the period to that period, even if the relevant transaction has not taken place. For example, a company that sells a good or service to a customer in December might only receive payment in January, i.e. the next accounting period. No cash has come into the business, and yet it is allowed to recognise the outstanding payment as a revenue in its current-period income statement because it has earned that payment in the current period. In the balance sheet, the outstanding payment will give rise to an asset called (trade) receivable because the debts owed to the company represent an economic benefit to it. The same method is applied to allocate costs to the period in which they were generated. Accrual accounting therefore differs from cash accounting, which simply records in- and outflows of cash. All GAAP prescribe accrual accounting to match revenues and expenses in the accounting period in which they are earned or incurred, to get an accurate picture of the company's success in matching effort to success. Unlike cash accounting, accrual accounting leaves room for discretion that may be used for earnings management, i.e. making the company look better than it is by timing certain expenses in a particular way.

- 15 Lennox et al. "Tax Aggressiveness and Accounting Fraud', Journal of Accounting Research," 2013, 51(4), p. 773.
- 16 See for example: Hanlon, Michelle and Heitzman, Shane, "A review of tax research," in Journal of Accounting and Economics 50, 2010, p. 139-141.
- 17 See footnote 14 on accrual accounting.



operating in different countries. They are therefore interested in using and developing ETR measures that eliminate, from their point of view, what would be distortions that impair the inter-firm or intercountry validity of their figures or that distort regression analyses.

The focus of this research is to ascertain an estimation of the amount of taxes lost to fiscal authorities as a result of tax avoidance practices. This research intends to compare the *effective tax rate* to the *statutory tax rate (STR)*; the latter is therefore our primary point of reference. For our purpose this can be adequately expressed as: *STR minus ETR*.

If such differences are to be meaningful, the denominator used for calculating ETR should be a reasonably good proxy for taxable income. As was explained above, corporate tax returns – which would perhaps include approximately the best proxy for taxable income – are not publicly available. As Hanlon and Heitzman state "most effective tax rates use pre-tax GAAP earnings as the denominator".¹⁸ Therefore pre-tax income is used in the denominator.

The numerator in ETR represents what the researcher considers to be the 'correct' or 'real' amount of taxes transferred by the corporation to the tax authorities. The three options discussed above – total income tax expense, current tax expense and cash taxes paid – all have their advantages and disadvantages. The primary method for calculating the ETR in this report will be the GAAP ETR. The data needed for this method are available for both listed and unlisted companies, which makes the figures between these groups comparable. In addition, the cash-ETR and current-ETR will also be calculated for listed companies as a sensitivity check. Moreover, the results may give additional insights in the tax avoidance measures of listed companies. Given that we have the data to compute a long-run ETR, figures from both formulas should converge, since – over a period of ten years – it can be expected that the current tax expenses of companies will be reflected in their cash flow statements. If large discrepancies between them emerge, we will try to explain the reasons for such discrepancies.

In short, this study uses the following formulae to calculate the ETRs for the two groups of companies:

Publicly listed companies

This study will calculate ETRs for listed companies according to all three formulae:

Long-run GAAP ETR = $\frac{\text{Worldwide total income tax expense}}{\text{Worldwide total pre-tax accounting income}}$

This formula is based on total income tax expense, including both current and deferred taxes. As a sensitivity check we will also calculate ETR on the basis of current tax expense (income statement) and taxes paid (cash flow statement):

¹⁸ Hanlon, Michelle and Heitzman, Shane, "A review of tax research," in Journal of Accounting and Economics 50, 2010, p. 139.



Long-run Current ETR =	Worldwide total current income tax expense Worldwide total pre-tax accounting income	
Long-run Cash ETR =	Worldwide cash taxes paid Worldwide total pre-tax accounting income	

Unlisted companies

This research uses publicly available sources, which tend to provide less detailed financial data for unlisted companies. Information could only be systematically collected on overall income tax expenses, rather than the more detailed information needed to apply the formulae described above. Therefore only the GAAP ETR is computed for unlisted companies:

Long-run GAAP ETR = $\frac{\text{Worldwide total income tax expense}}{\text{Worldwide total pre-tax accounting income}}$

The information was only available for a period of five years (instead of ten years, as is the case for listed companies).

Lastly, it is important to note that all data is retrieved from consolidated financial statements which "includes all income (and losses), no matter where earned, from controlled entities".¹⁹ This means that the figures reflect the financial performance of the entire corporate group (and not just in the Netherlands). The data was initially retrieved from the Thomson Reuters database, and complemented with data from the Dutch trade registry.

¹⁹ Hanlon, Michelle and Heitzman, Shane, "A review of tax research," in Journal of Accounting and Economics 50, 2010, p. 130.



3.3 Limitations

According to Hanlon and Heitzman, a problem with many commonly used indicators of tax avoidance, including ETR, is that they only capture non-conforming tax avoidance, or "tax avoidance transactions accounted for differently for book and tax purposes".²⁰ Because ETRs – such as the ones used in this study – are based on pre-tax financial accounting income, an ETR will not reflect tax avoidance that reduces such income. This is what Hanlon and Heitzman call 'conforming tax avoidance', which according to them, is not captured by most measures.²¹

An example of conforming tax avoidance not captured in some ETRs is the 'tax benefit of interest deductibility', for instance.²² These tax benefits are 'conforming' because interest expenses reduce pre-tax accounting income as well as taxable income for tax accounting purposes. An example of non-conforming tax avoidance is the use of different depreciation rates whereby taxable income is reduced faster than pre-tax accounting income. Hence, high effective tax rates do not necessarily mean that companies are not avoiding taxes: if companies are able, through avoidance, to reduce both their tax expense as well as their taxable profits, a high effective tax rate indeed hides that avoidance has taken place.

Conforming tax avoidance – reporting low tax *and* low accounting income – is attractive to companies that are not under pressure to report high earnings and can therefore afford to look worse in financial accounting terms, as long as the tax benefits make it worthwhile. These could be unlisted companies as well as listed companies with a large majority long-term shareholder, as is sometimes the case with family-founded and -controlled businesses. "As a result, the researcher must be very careful when making inferences about overall tax avoidance if the sample under consideration contains firms with differing levels of importance placed on financial accounting earnings."²³

Another limitation is the availability of data. The most data are available for calculating the GAAP ETR. For the current ETR and cash ETR not all data are available through the Thomson Reuters Eikon database. Therefore, missing data for these ETRs were retrieved manually from annual accounts, when possible.

<sup>Hanlon, Michelle and Heitzman, Shane, "A review of tax research," Journal of Accounting and Economics 50, 2010, p. 137-141.
Ibid. p. 137.</sup>

²¹ Ibid, p. 137.

²² Ibid., p. 141. It is not within the scope of this research to look further into the interest deductibility of companies.

²³ Ibid., p. 141.



4 Statutory tax rates

To arrive at estimates for lost tax revenues to governments resulting from tax avoidance practices of Dutch companies, a statutory tax rate is needed as a benchmark for the calculated effective tax rates.

4.1 Determining the applicable statutory tax rate

United Voice and Tax Justice Network (TJN) Australia compare the average ETR of each company with the current Australian STR of 30%. The report states that the average annual ETR for all included companies is 23%, 'well below the statutory rate of 30%'. Finally, it calculates the difference between the effective tax burden and the tax charge based on the statutory rate (AUS\$ 8.4 billion).

Using the 30% STR as a benchmark is a straightforward choice in the Australian research case. The rate has remained the same throughout the period under investigation (2004-2013) and Australian companies receive tax credits in Australia for profits taxed abroad. Therefore, the Australian STR is applicable to all the companies' profits, regardless of the country in which they were realised.²⁴

The choice is more complicated in the Dutch case. The Dutch tax system exempts profits generated abroad from the taxable base. While the legal tax base for Dutch tax residents is their global income, the 'participation exemption'²⁵ and the wide network of double taxation treaties mean that the Dutch STR does not apply in practice to the majority of profits generated in foreign countries. Given that large Dutch companies generate a significant share of their profits outside the Netherlands, it would be misleading simply to use the Dutch STR as a baseline for calculations.

If the selected Dutch companies had publicly reported on a country-by-country basis it would have been possible to calculate an exact average STR for the selection of companies on the basis of the applicable tax rates in the countries in which their profits are generated. However, only a handful of companies have started to do so in recent years. For the majority of years and companies included in this research such disaggregated data is not available. Therefore, a weighted average global STR was applied to the profits generated in foreign countries. These rates, which weight each country's STR by its share of global gross domestic product (GDP), have been calculated by the British tax researcher Richard Murphy on the basis of data from KPMG and the CIA World Factbook.

²⁴ This was explained by Roman Lanis, the tax expert who consulted the methodology for the United Voice report: the reported effective tax rates do not correspond with the taxes paid to the Australian tax authorities since the ETRs are calculated based on consolidated figures. However, Australian companies receive tax credits in Australia for income taxes paid abroad. Therefore, this approach is generally accepted within the research field.

²⁵ The participation exemption means that dividends and capital gains on the sale of shares in both domestic and foreign subsidiaries are exempt from corporate income tax if certain requirements are met.



In order to give an appropriate weighting to the Dutch and the global statutory tax rates, it is necessary to estimate the share of the companies' profits that is generated abroad, given that no such figures are publicly disclosed. It is important to stress that no public data are available that reflect the exact ratio between gross profits generated in the Netherlands and foreign profits for the group of 151 companies included in this research.

The available data that approximated this ratio are aggregated company data collected by the Dutch Central Bureau for Statistics (*Centraal Bureau voor de Statistiek*, CBS). Their database, Statline, includes information on finances of large companies, excluding the financial sector.²⁶ The data are split between Dutch companies and Dutch internationals on the one hand, and foreign companies and foreign internationals on the other hand. To define a ratio for Dutch companies, we only looked at the first two categories:

- □ A Dutch company is a company that is established in the Netherlands, which has no group entities in foreign countries, and whose ultimate controlling institutional unit (UCI) is Dutch.
- A Dutch international is a company that is established in the Netherlands, with group entities in foreign countries, and whose ultimate controlling institutional unit (UCI) is Dutch.

The foreign companies and internationals are companies whose ultimate controlling institutional unit is not Dutch. This would, for example, include Dutch subsidiaries of foreign companies. Those categories are excluded from this study and therefore their financial results were not taken into account in estimating the profit ratio for Dutch companies based on CBS data.

It should be noted that the ultimate controlling institutional unit is not the same as the highest legal entity of a corporate group. It could occur that a company's ultimate controlling institutional unit is Dutch while the company's highest legal entity is in Germany. The CBS describes the UCI as the unit that takes global strategic decisions (such as appointment of directors and investments. The data are presented by the country in which the UCI is incorporated. ("De UCI is de eenheid van waar uit wereldwijd de strategische beslissingen (bijv. benoemingen directeuren, investeringen) genomen worden voor de ondernemingen. De data worden gepresenteerd per land waar de UCI zetelt").²⁷

Using the CBS data for both Dutch companies and Dutch internationals, we compare results from foreign entities with total pre-tax income.²⁸ It should be noted that the result from foreign entities is net profit, i.e. result after taxation. The total pre-tax income is total consolidated gross profit and thus includes the net profit from foreign subsidiaries. It is assumed that these foreign profits are exempt from Dutch corporate income tax under the participation exemption. In order to calculate

²⁶ It concerns the Statistiek Financiën Grote Ondernemingen (SFGO), which can be found here: http://www.cbs.nl/nl-NL/menu/ themas/bedrijven/cijfers/default.htm. A large company is defined as a company with a balance sheet of €40 million or more. Nearly all companies included in this research are large companies according to this definition.

²⁷ Centraal Bureau voor de Statistiek, 'Inward Fats; statistiek over buitenlandse bedrijven in Nederland', http://www.cbs.nl/ nl-NL/menu/themas/bedrijven/methoden/dataverzameling/korte-onderzoeksbeschrijvingen/2011-inward-fats-onderzoeksbeschrijving.htm.

²⁸ Profit from foreign subsidiaries is the sum of the following two lines 'resultaat uit deelnemingen – groepsmaatschappijen buitenland' and 'resultaat uit deelnemingen – overige deelnemingen buitenland'. Total pre-tax income is the sum of the following three lines 'resultaat voor belastingen', 'resultaat uit deelnemingen – groepsmaatschappijen binnenland' and 'resultaat uit deelnemingen – overige deelnemingen binnenland'.



the ratio of profits generated in the Netherlands and abroad, we compare net foreign profit with gross total profit. This is far from ideal, but the CBS cannot share figures on the gross foreign profits of Dutch companies.²⁹ Table 1 shows the ratio between foreign and domestic profits.

Table 1: Ratio between foreign and domestic profits as percentage of total pre-tax income

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Foreign profit as % of total pre-tax income	49.4%	42.6%	43.5%	52.7%	45.1%	52.6%	48.8%	58.4%	59.7%	55.5%
Domestic profit as % of total pre-tax income	50.6%	57.4%	56.5%	47.3%	54.9%	47.4%	51.2%	41.6%	40.3%	44.5%

The ratio differs for each year, attributing a different weight to the Dutch and the global statutory tax rate, leading to the following formula to determine an approximate STR for large Dutch companies:

WASTRt = t * DSTR + t * GSTR

WASTR = Weighted average statutory tax rate for large Dutch companies:

DSTR = Dutch statutory tax rate

GSTR = Weighted average global statutory tax rate.

For example, the formula for the 2005 ratio is:

WASTR = 0,506 * DSTR+0,494 * GSTR

As both the Dutch and the global rates have changed over the last ten years, the WASTR is calculated for each year under observation. Tables 2 and 3 show the Dutch and the weighted global statutory tax rates respectively.

Table 2: Dutch statutory tax rate 2005-2014

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
31.5%	29.6%	25.5%	25.5%	25.5%	25.5%	25%	25%	25%	25%

29 This was concluded after consultation with CBS itself.



Table 3: Global weight	ed average statutory	⁷ tax rate, 2005-2014 ³⁰
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2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
34.3%	33.9%	33.8%	31.9%	31.4%	31.2%	31.0%	30.7%	30.6%	30.0%

Taking into account a different ratio between domestic and foreign profits for each year, as well as the developments of Dutch and global tax rates over the ten-year period, the statutory tax rates used in this report are:

Table 4: Weighted average statutory tax rate for Dutch companies, 2005-2014

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
32.9%	31.4%	29.1%	28.9%	28.2%	28.5%	27.9%	28.3%	28.3%	27.8%

The STR is used to calculate estimations of tax losses for Dutch government and others, based on the following formula:

Total tax loss = tax expense STR - tax expense ETR

To calculate the loss specifically for the Dutch government, we apply the same ratio as for the weighted STR, assuming that the amount of tax loss corresponds with the profits made (i.e. that tax has been avoided equally in all countries of operation).

4.2 Limitations

There are several factors that limit the extent to which the statutory rates reflect the actual statutory rates the selected Dutch companies are subject to:

- The Dutch STR is lower for profits <€200,000 (currently 20% instead of 25%). The profits (losses) made by the group of companies in this study usually transcends this amount. Therefore, this only has a limited impact on the outcomes.</p>
- □ The Global STR does not take into account the countries where the 151 companies in this study have most operations. It is indeed a *global* STR that does take into account the size of each economy (GDP), but might be higher or lower than the STR Dutch companies are subject to in their countries of operations.

³⁰ The weighted global statutory tax rate is based on calculations by Richard Murphy, shared with the authors of this report.



The weighted average STR for Dutch companies is limited since the necessary information regarding the profits made in the Netherlands versus the profits generated in foreign countries is not available. The information was not available either on aggregated level, or on a company level. The ratio between foreign and domestic profits of the 151 companies might therefore be different in reality. This means that the calculation of annual tax revenues foregone is an approximation rather than an exact figure.

However, given the lack of available data, this method provides a realistic picture while remaining sufficiently conservative.



5 Tax avoidance strategies

Since ETRs do not reflect all tax avoidance strategies, this study undertakes innovative ways to identify other indicators of tax avoidance. The study collects data on four indicators for tax avoidance strategies: regarding intra-group debt payments, royalties, the notional interest deduction in Belgium, and the presence in tax havens. This section explains the relevance of investigating these strategies, the method used for identifying tax avoidance indicators, and the limitations of the approach.

5.1 Debt financing

5.1.1 Determining the tax implications of debt financing

Interest payments are – to an extent – tax deductible, which creates incentives for companies to rely more on debt-financing than they would if such payments were not tax deductible. To avoid abuse, many countries set up limits to such deductibility.

For example, in Australia a thin capitalisation rule applies: a company is considered thinly capitalised when its debt exceeds 75% of its balance sheet value or, in other words, when over 75% of its assets are financed through loans and less than 25% through equity. United Voice and TJN Australia used this threshold in the Australian study to assess the extent of potentially dubious debt financing among Australian companies. The SOMO study has refrained from using this method for various reasons.

The Dutch tax system abolished thin capitalisation rules in 2013. There are limits in place on the tax deductibility of interest payments in very specific situations, such as interest payments "relating to excess debt (deemed to be) associated with the acquisition price of participations".³¹ This and other measures intend to counter abuse.

Importantly, the figures for debt levels in consolidated accounts only report debt to third parties, namely to banks for loans and bond holders for bonds, and do not reflect any intra-group financing structures, namely loans and debt that exist between subsidiaries of the same company. Therefore, the reported debt levels of the group's consolidated accounts alone do not raise red flags, or indicate that tax avoidance may be taking place through excessive intra-group debt financing.

There are many reasons why a company might choose to finance itself with debt and they also differ by economic sector; tax benefits are only one of these possible reasons. No solid conclusions can

³¹ See for other measures: Deloitte. "Taxation and Investment in Netherlands 2015. Reach, relevance and reliability," 2015, p. 14, https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Tax/dttl-tax-netherlandsguide-2015.pdf.



be drawn with regards to the tax aggressiveness of companies that are heavily financed by external debt without company-specific analyses.

Analysing the full extent of the intra-group debt financing, across the entire sample of companies, and the related tax implications is impossible because the individual (i.e. non-consolidated) accounts of subsidiaries within a group are not fully available. However, the unconsolidated accounts of a group's parent company, when available, can provide some indication of whether a company uses intra-group financing structures because they give some insight into the extent to which the parent company is financed through loans from its subsidiaries.

Specifically, if the parent company's debt exceeds the debt level of the consolidated group it may be assumed that the company makes use of intra-group loans, possibly with the purpose of lowering the tax base of the parent company. For instance, if the debt in the unconsolidated accounts of Unilever NV (the parent company) exceeds the debt in the consolidated account of Unilever (group company), this would mean that the parent company is at least partly financed through intra-group loans.

Calculating a proportion on the basis of the parent company's debt figures and the group's consolidated debt figures helps identify those companies that have high intra-group loans. While no solid conclusions can be drawn for companies with a high ratio, companies with a proportion > 100% arguably merit further investigation, seeing as the unconsolidated debt of the parent is larger than the group's consolidated debt figure.

5.1.2 Approach for this study

This study aims to identify intra-group financing by comparing the debt reported in the consolidated accounts (= debt to third parties) and the debt reported in the accounts of the parent company (that can be both debt to third parties and intra group loans).



A proportion > 100% can only be explained by intra-group loans and serves as an indication that the company makes use of internal financing structures, which might in turn be an indication of tax avoidance.

For the 93 listed companies, the figure for long-term debt was taken from the profit and loss sheet of both the 2014 consolidated and unconsolidated annual accounts. By executing the formula presented above using these figures, a ratio was found for parent versus group debts. For the companies that showed a proportion >100%, meaning that unconsolidated debt was larger than consolidated debt, and consequently showing the existence of intragroup loans, the same figures



were collected for the years from 2010-2013. Companies that failed to report unconsolidated long-term debt figures, or for which such figures could not be found were not included in the analysis.

5.1.3 Limitations

The comparison between parent company and consolidated accounts only captures (a small) part of the intragroup financing. It does not capture intragroup loans from one subsidiary to another, which is impossible to demonstrate without transparent, locally filed financial accounts by subsidiary. It is also not possible to conclude that companies use intra-group loans for tax avoidance purposes purely on the basis of these findings. The results of this research with relation to debt financing should therefore be interpreted with caution. Another limitation is that these data could only be collected for listed companies.

5.2 The Belgium route

5.2.1 Determining the tax implications of Belgium's notional interest deduction

A tax avoidance strategy used by multinational companies is the so-called 'Belgium route'. As the Organisation for Economic Co-operation and Development (OECD) notes: "despite the gradual implementation of anti-abuse measures, multinationals have taken advantage of this allowance for aggressive tax planning, such as intra-group transactions which give rise to double deductions. (...) the authorities should tighten the rules governing the allowance for corporate equity to avoid that it is used to artificially shift profits within a multinational enterprise group."³²

The use of Belgian subsidiaries to reduce a corporation's tax burden has been covered in the Dutch press by Zembla and the Financieele Dagblad, amongst others.³³ Reportedly, the companies using this route will place a large share of their equity in a subsidiary held in Belgium in order to make use of the 'notional interest deduction', which allows companies to deduct from their taxable profit a fictional interest rate on equity. The Belgian government offers this tax incentive – allowing interest expenses on equity to be tax deductible, the same as it is with debt – to reduce tax discrimination between debt and equity financing. In practice, it functions as an invitation to move large swaths of equity holdings to Belgium. Large Dutch companies such as ASML, DSM, Heineken, Philips and Unilever reportedly make use of this Belgium route. Dutch media reports cite a former tax inspector

³² OECD Economic Survey Belgium 2015, http://www.keepeek.com/Digital-Asset-Management/oecd/economics/oecdeconomic-surveys-belgium-2015_eco_surveys-bel-2015-en#page29.

³³ Zembla, "ASML ontwijt Nederlandse belasting via Belgie," 10 March 2015, http://zembla.vara.nl/seizoenen/2015/afleveringen/11-03-2015/asml-ontwijkt-nederlandse-belasting-via-belgie; Financieele Dagblad, "Fiscale Belgiëroute populair bij Nederlandse multinationals," 11 March 2015, http://fd.nl/economie-politiek/1096213/gebruik-fiscale-belgie-route-groeit-bijnederlandse-multinationals.



who estimates the Dutch Treasury "lost" around \notin 250 million in tax revenue in 2014 from Dutch multinationals using the Belgium Route.³⁴

5.2.2 Approach for this study

Belgian subsidiaries of Dutch companies that are used for this purpose will primarily be financed through equity and have little, if any, debt. Therefore, an indication that a company is making use of this strategy is the extent to which it is financed through equity to an extreme degree compared to debt (also termed 'low gearing'). To make use of the notional interest deduction, a company has to generate an income. A way of doing that, without having large operations, is by using it as a financier and providing loans to the rest of the group. If a Belgian subsidiary were to be used in such a capacity, this should show on its balance sheet, where the amount of outstanding loans to related companies would be large. Therefore, in order to research this possibility, the level of loans to associated companies was reviewed. This results in the following research steps:

- Step 1: Identifying all Belgian subsidiaries with five employees through an Orbis search. This study assumes that Belgian subsidiaries, of those Dutch companies in focus, with five employees or less, are more likely to be established for fiscal purposes than larger companies. Companies with more employees can (ab)use the notional interest deduction as well. Therefore, this study also looks at the debt vs. equity financing (debt/equity ratio) of all Belgian subsidiaries for the five biggest non-financial companies (based on annual revenues).
- Step 2: For all these Belgian subsidiaries figures are generated regarding their financing structure in 2014 or the most recent year for which data is available. For the purposes of this study, the debt/equity ratio of the Belgian subsidiaries researched has been estimated using the total debt figure identified in the companies' balance sheet,³⁵ excluding debt figures related to taxes and trade payables, as they constitute non-interest bearing liabilities. This study has set the low gearing-threshold at 10% (which means a capital structure with 90% equity and 10% debt). This threshold has been chosen since it reflects a company that is financed almost entirely through equity.
- Step 3: The amount of equity of a Belgian subsidiary is compared to the total equity of the group. This gives an indication of the importance of such a subsidiary in the total (financing) structure of the corporate group. If the amount of equity of a subsidiary is below 1% of total equity of the group, the subsidiary is excluded from the data set.

³⁴ Zembla, "ASML ontwijkt Nederlandse belasting via België", 10 March 2015, http://zembla.vara.nl/seizoenen/2015/afleveringen/11-03-2015/asml-ontwijkt-nederlandse-belasting-via-belgie%20 (4 February 2016).

³⁵ The latest annual financial filings including those from 2014-2015, filed at the National Bank of Belgium, were used to identify all financial figures relating to the Belgium subsidiaries in this study. www.cri.nbb.be. Annual filings were not available for all subsidiaries that were identified by Orbis.



Step 4: For the companies that are found to have a gearing below 10%, figures on levels of outstanding debt to other group companies³⁶ were collected. A review of such figures might be an indicator that the company is used as a financier within the corporate group.

5.2.3 Limitations

Developing indications of tax avoidance strategies can contribute to the growing collection of tax avoidance research. In this study we attempt to develop indicators for two avoidance strategies: namely, incorporating trademarks and patents in tax havens (see the following section); and the Belgium route using equity holdings to benefit from notional interest deduction. The main limitation to both of these strategies is that financial and ownership data is, to a large extent, not publicly available.

This study can thus only cautiously draw conclusions about the (ab)use of the notional interest deduction in Belgium, or the strategic location of patents and trademarks. The findings will, at best, provide an indication for tax avoidance. Actual proof of tax avoidance would at least require additional research into individual cases.

5.3 Patents and trademarks

5.3.1 Determining the tax implications of intellectual property

Profit shifting through intragroup payments of royalties is a well-known tax avoidance strategy. Royalties are paid for the use of intellectual property such as trademarks and patents. Charging a related group company for the use of a patent or trademark allows companies to reduce the tax base in high-tax jurisdictions and increase the tax base in low-tax jurisdictions. Therefore, the location of the subsidiary where the patent or trademark is registered can be an indicator to assess whether the unit is being used for tax avoidance purposes. When a subsidiary receives large sums of royalty payments but has few material operations and employees, this is an indication that the subsidiary is not involved in research and development (R&D) activities or intellectual property management, but serves as a tax avoidance vehicle.

5.3.2 Approach for this study

Indicators for possible tax avoidance are identified in three research steps:

Step 1: Identifying all subsidiaries of companies that hold either patents or trademarks, as included in the Orbis database.

³⁶ Levels of outstanding debt to other group companies have been collected by looking at the balance sheet line "vorderingen aan verbonden ondernemingen" (loans to associated companies).



- Step 2: Identifying which of those subsidiaries have five employees or less. It is assumed that a small number of employees suggest that there is little or no actual business undertaken by the subsidiary. The number of subsidiaries that meet these criteria in 2014, or the most recent year for which data is available, is counted and the countries where they are located are presented.
- Step 3: For the countries that are identified as the most popular location for patent- or trademark-holding companies with no or a few employees, the benefits of the legal tax regime related to royalties and intellectual property is discussed.

5.3.3 Limitations

See section 5.2.3.

5.4 Tax havens

5.4.1 The tax implications of tax havens

Tax havens play a central role in the tax avoidance structures set up by multinational corporations. They are used to avoid taxes, financial regulation, other laws (such as criminal laws), and to seek various forms of secrecy.³⁷ Presence in tax havens can therefore be an indication of tax avoidance. Especially in the case of mailbox companies that carry no other functions than holding or financing activities. The number of (mailbox) companies does not necessarily reflect the extent to which a company is avoiding taxes (i.e. the more companies, the more tax avoiding takes place). Therefore, this study only looks at the presence or absence of Dutch corporate groups in tax havens.

5.4.2 Approach for this study

There is no internationally agreed definition of tax havens. In this report, a tax haven refers to any jurisdiction that allows companies or individuals to avoid or evade tax by levying low or no corporate taxes on the income, typically for foreign-controlled, legal entities; or allow for money to pass through these entities untaxed through the application of national tax laws. Tax avoidance is made possible by the combination of harmful conduit regimes as well as secrecy and low-tax jurisdictions. The tax haven list used for this report is based on a list drafted by the United States Government Accountability Office (GAO) report.³⁸ The US State of Delaware is classified as a tax haven in addition to the GAO list, as it levies a low corporate income tax and grants financial secrecy. The Netherlands, although qualifying as a tax haven under the above definition, is not used as an indicator in this

³⁷ Tax Justice Network, "Tackle Tax Havens – What's a tax haven?" http://www.tackletaxhavens.com/whats-a-tax-haven/

³⁸ United States Government Accountability Office, "International Taxation," December 2008, http://www.gao.gov/ assets/290/284522.pdf.



study, given that the companies researched here are Dutch. The approach to identifying the presence of all 151 companies in tax havens can be summarised in the following research steps:

- **Step 1**: Identifying all subsidiaries of the researched (both listed and unlisted) companies, as included in the Orbis database.
- **Step 2**: Identifying which of those subsidiaries are registered in tax havens.
- Step 3: Identifying the number of subsidiaries in each tax haven and determining the top five most popular tax havens for Dutch companies.
- **Step 4**: Identifying companies with more than ten subsidiaries in tax havens and the specific countries those subsidiaries are registered in.

The results will provide insights into the importance of tax havens in the corporate structures of Dutch companies, and will highlight what the most popular tax havens for Dutch companies are.

5.4.3 Limitations

The main limitation is that presence in a tax haven in itself does not give an indication of the existence and size of tax avoidance. In particular, because this study looks at all subsidiaries – not only mailbox companies – and such companies can have real economic activities, especially when located in tax havens with a sizeable economy. The reason for not searching in particular for mailbox companies is that the Orbis database provides limited information, especially in the case of countries characterised by secrecy, since it is based on publicly available data. Looking for companies with a maximum number of employees limits the search results in the case of absence of such information (when the number of employees for a certain company are not known, the entire company will be excluded from the search results in Orbis). The limitation of the data included in the Orbis database is another obvious limitation of this research method. Finally, the fact that, in this research, no clearly outlined definition of tax havens was found to be available means that any list of tax havens is inherently flawed or not comprehensive, which should also be regarded as a limitation.



6 Sources

Databases

- Data to calculate the effective tax rates of the listed companies is taken from the Thomson Reuters Datastream database. The following Worldscope codes have been used;
 - Pretax Income (WC01401)
 - Taxation cash flow (WC04150)
 - Income taxes (WC01451)
 - Deferred Taxes (WC03263)
- In some cases, where data were not available in Datastream, additions have been made using fundamentals data from the company profiles in the Thomson Reuters Eikon database or the publicly available annual accounts. All data are on a 'As first reported' basis.
- □ For the unlisted companies, data have been collected through the company profiles as presented by the Dutch Chamber of Commerce.
- For the debt calculations, the parent company data have been manually collected from the annual reports, as published on the company websites.
- Data on the patent- and trademark holding subsidiaries, the Belgian subsidiaries, and presence in tax havens is derived from Orbis (Bureau van Dijk).
- Additional information on Belgian subsidiaries has been collected through the Balanscentrale of the Belgian National Bank.

Literature

Hanlon, Michelle and Heitzman, Shane, "A review of tax research", Journal of Accounting and Economics 50, 2010, p. 127-178.

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Lennox, Clive S. and Lisowsky, Petro and Pittman, Jeffrey, "Tax Aggressiveness and Accounting Fraud," Journal of Accounting Research, 2013, 51(4) .

Scott D. Dyreng, Michelle Hanlon and Edward L. Maydew, "Long-Run Corporate Tax Avoidance," The Accounting Review, 2008, 83(1), p. 61-82.



Expert consultation

To determine the methodology for this research, interviews were held with the following experts (in alphabetical order):

- Alex Cobham, Director of Research at the international Tax Justice Network & visiting fellow at King's College London International Development Institute
- D Martin Hearson, doctoral researcher, London School of Economics and Political Science
- D Boudewijn Janssen, Lecturer of Business Economics, Fontys University of Applied Science
- Roman Lanis, Associate Professor University of Technology Sydney (UTS); Financial Research Network (FIRN)
- Richard Murphy, Director, Tax Research UK
- Francis Weyzig, Policy Advisor Economic Inequality & Tax Justice, Oxfam Novib

Research Methodology

Calculating the effective tax rates of large Dutch companies and identifying tax avoidance

This paper presents the methodology that served as the basis for the Dutch report Grote Bedrijven, Kleine Lasten ("Big companies, low rates") on effective tax rates and tax avoidance strategies by large Dutch companies. It explains the methodological issues as well as the choices made for this study. By developing a methodology to measure effective tax rates and identifying indicators for tax avoidance, this research project also aims to contribute to the methodological discussion among tax justice researchers.

