

Preliminary Master Thesis

The Effect of Tax Cuts on Multinationals' Tax Avoidance Behavior: An Empirical Study on Norwegian Data

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2. Introduction

There is a widespread interest and concern over the magnitude, determinants and consequences of corporate tax avoidance and aggressiveness (Hanlon & Heitzman, 2010). Recent leakages of confidential off-shore information such as the Panama Papers in 2016 and the Paradise Papers in 2017 have sparked a new interest in how corporations and wealthy individuals reduce their tax burden through tax avoidance and tax evasion. Tax avoidance research is conducted in an array of disciplines, e.g. finance, public economics and accounting.

Much of the tax information available is obtained through financial statements, hence we find it interesting to look at the problem from an accounting perspective. Thus, our interest is to measure to what extent tax avoidance happens in Norway in recent times, where it is most evident and how policy changes such as the lowering of the corporate tax rate in 2014 has affected tax avoidance by multinational firms. To our knowledge, no tax research has been conducted in Norway after the 2014 corporate tax cuts. Will a corporate tax cut reduce the previously discovered differential between domestic and foreign controlled corporations or will it remain the same?

Our research question is divided into two parts:

- 1) What differences are there in the effective tax rates between domestic controlled corporations (DCC) and multinational corporations (MNC; including: foreign controlled corporations, domestic controlled multinational corporations and foreign controlled multinational corporations). Theory and previous studies have shown that there is both an economical and statistical significant difference in profitability between DCC and MNC (Balsvik, Jensen, Møen, & Tropina, 2009; Langli & Saudagaran, 2004). The studies have mainly focused on difference in profitability between DCC and MNC as a measure of tax avoidance. We will extend the previous literature by replicating the main studies of the literature on a recent dataset from 2006 to 2016 and applying a new method for tax avoidance not used on Norwegian data before.
- 2) What effect did the tax cut in 2014 have on MNC tax avoidance behavior? Do MNCs profit shift less, or has the behavior remained the same? We will estimate if the tax cuts have had any effect, by controlling for both systematic and firm-specific factors.

The objective of the thesis

Our objective is to shed new light on MNCs' tax avoidance behavior through using a recent dataset and apply a new long-run test to see if the tax avoidance behavior has persisted. Due to the relatively stable tax regime in Norway with flat corporate tax rates of 28% from 1992 to 2014, no studies to our knowledge has tested whether the tax avoidance behavior has been reduced. We believe our thesis will result in valuable insight into the state of tax avoidance in Norway today, and the effect of recent policy changes has had.

3. Literature review

The corporate tax avoidance literature is young, but very active.

A primary issue in the empirical tax avoidance literature is the researcher's definition and measurement of tax avoidance. (Hanlon & Heitzman, 2010)

Previous studies on the effective tax rate and tax avoidance

There is a long line of research examining the factors associated with effective tax rates. Shackelford and Shevlin (2001) provides a thorough review of empirical tax research in accounting.

There is no secret that tax systems and rates differ among countries. This gives MNCs an opportunity to take advantages of the different systems in the countries they operate in. Sonja Rego reports evidence that suggests the scale of international operations leads to more tax avoidance opportunities, resulting in lower general accepted accounting principles effective tax rate (GAAP ETR) (Rego, 2003)

Hines Jr and Rice (1994) investigates the effect of corporate tax rates and profitability, and finds that US MNC's foreign subsidiaries tend to report higher profits in low-tax jurisdictions. But their research is limited to income shifting between foreign subsidiaries of the US parent.

When it comes to profit-shifting behavior in MNC companies, there are several empirical studies. Devereux and Maffini (2007) give a comprehensive survey of studies done on the subject. Grubert, Goodspeed, and Swenson (1993) brings attention to the problem of negative profitability differentials between MNC and DCC firms. This is also covered by Collins, Kemsley, and Lang (1998) and also later by Grubert (1998). The assumption that differences in tax payments observed

in the data can be attributed to profit shifting behavior is tested by Kinney and Lawrence (2000). They conclude that it could be other reasons than profit shifting behind the differences.

So far, we have just mentioned US studies. Oyelere and Emmanuel (1998) is a non-American example. They use data on UK-based firms and get results consistent with profit shifting behavior of foreign controlled firms. (Oyelere & Emmanuel, 1998)

In Norway Hægeland (2003) was to our knowledge the first to research corporate tax avoidance empirically. He found that profits were shifted into Norway, rather than out. But the results was only weakly significant. Huizinga and Laeven (2008) agrees with Hægeland, using European data from 1999.

Another study based on Norwegian data by Langli and Saudagaran (2004) finds as opposed to Hægeland/Huizinga, that FCC's in Norway report systematically lower profitability. Balsvik et al. (2009) also finds evidence of profit shifting out of Norway. The study can be viewed as a thorough extension of Langli and Saudagaran (2004), with a longer timeseries, including additional industries and a more thorough categorization of firm ownership. Balsvik et al. (2009) primarily focuses on MNCs vs. DCC-only firms, since the former has profit-shifting capabilities, whereas Langli and Saudagaran (2004) includes DCC and domestic MNCs – who clearly also has profit-shifting capabilities.

Research done on Norwegian data follow an approach similar to Grubert et al. (1993). Langli and Saudagaran (2004) main contribution to the literature was to include small and medium-sized firms in the sample, whereas earlier studies have only looked at larger firms. The results prior to Langli and Saudagaran (2004) was that income shifting ability increases by firm size. Shackelford (1993) says that the results in Scholes, Wilson, and Wolfson (1992), K. Klassen, Lang, and Wolfson (1993) and Harris (1993) suggests that tax-planning effects which are significant enough to be measurable are limited to the largest companies in a large firm sample. However, Langli and Saudagaran (2004) find differing results, suggesting that tax avoidance is evident in also smaller firms.

Papers discussing the link between the differential in profitability between DCC/MNC, and tax motivated profit-shifting behavior are mentioned below. K. Klassen et al. (1993) takes the research one step further, by looking at whether profitability changes of US MNC companies are related to tax rate changes over time. The results from their study shows that changes in profitability are consistent with profit being shifted to the regions where the tax rate has been reduced and away from the high tax rate regions. This is also in line with Harris (1993), Jacob (1996) and also Collins et al. (1998) who found that profitability of US manufacturing MNC firms is related to foreign tax rates. There are also European studies linking differences in profitability with tax rate differences, like Dischinger (2007).

Other studies worth mentioning is Swenson (2001), Clausing (2003) and Bernard, Jensen, and Schott (2006), all using the direct method when looking at profit shifting. Swenson (2001) looks at import to the US from the period 1981-1988, which were of interest due to changes in the corporate tax rate. Both Swenson (2001) and Clausing (2003) get results that indicate profit shifting behavior through transfer pricing manipulation to the countries with the lowest tax rates.

4. Methodology and Hypothesis

The thesis aims to test to what extent MNC corporations avoid taxes in Norway. We will estimate tax avoidance through income shifting estimation techniques used by Langli and Saudagaran (2004) and Balsvik et al. (2009). We will also implement a more recent method in measuring tax avoidance, dubbed the long-run cash effective tax rate derived by Dyreng, Hanlon, and Maydew (2008). Furthermore, we wish to see what effect the recent tax cuts have had on the profit shifting behavior of MNCs.

Estimating tax avoidance through income shifting

When estimating tax avoidance in terms of transfer pricing, two methods are available. The direct method, which looks at actual customs data and prices, and the indirect method which looks at accounting measures such as effective tax rates, estimated taxable income and profitability. The indirect method is more feasible and captures effects of transfer pricing manipulation of specific products

and services such as work-in-process, royalties and corporate services. However, the indirect method cannot prove that differences in profitability between DCC and MNC firms is due to profit shifting (Balsvik et al., 2009). Hence, we wish to attempt to estimate tax avoidance through profitability measures using the indirect method. K. Klassen et al. (1993) use the measure of estimated taxable income over sales to identify possible profit shifting behavior. Taxable income is estimated as follows:

$$TI_{i,t} = NIBT_{i,t} + [(DTL_{i,t-1} - DTL_{i,t} + DTA_{i,t} - DTA_{i,t-1})] / TR_{i,t}$$

$TI_{i,t}$ is the estimated taxable income for firm i in year t ;

$NIBT_{i,t}$ is the net income before taxes for firm i in year t ;

$DTL_{i,t}$ is the deferred tax liability for firm i in year t ;

$DTA_{i,t}$ is the deferred tax asset for firm i in year t ;

$TR_{i,t}$ is the effective tax rate for firm i in year t , given by: $TR_{i,t} = TE_{i,t} / NIBT_{i,t}$

where $TE_{i,t}$ is the tax expense for firm i in year t .

Jacob (1996) divides taxable income (TI) by equity as a modified return on equity, which can be compared between firms. Langli and Saudagaran (2004) uses a measure for profitability instead, dividing TI by sales. The variable is treated as endogenous and used as the comparative measure between foreign controlled corporations (FCC) and DCC. The pooled least ordinary squares (POLS) regression Langli and Saudagaran (2004) used for estimating profitability was:

$$\Pi_{it} = \beta_1 \cdot f_{it} + \gamma \cdot X_{it} + \sigma_t + u_{it}$$

Π_{it} is the profitability measured by the ratio of taxable income over sales

f_{it} is a variable equaling 1 for MNC, 0 otherwise. β_1 coefficient represents the profitability differential between DCC and MNC.

X_{it} are the firm characteristic control variables (size, leverage, etc.).

σ_t represent the year fixed effects.

u_{it} is the error term.

Balsvik et al. (2009) extends this comparative measure to also account for MNC corporations and panel data econometric techniques such as fixed effects (FE) in order to control for observed characteristic differences between DCC and MNC (Tropina, 2010).

$$\Pi_{it} = \beta_1 \cdot f_{it} + \gamma \cdot X_{it} + \sigma_t + \alpha_i + \varepsilon_{it}$$

α_i is a parameter which represent the unobservable firm-specific effects that are time variant (management quality etc.).

ε_{it} is the idiosyncratic error term which can vary across firms and time.

The intercept is allowed to vary not only over time, but also from one firm to another. We will also replicate the method proposed by Langli and Saudagaran (2004), a POLS regression, since it can be interesting to compare results on a more recent data set. Balsvik et al. (2009) have included the POLS regression since the FE regression appears to underestimate the effect of profit shifting by MNCs.

Our hypothesis is that MNC corporations will have a negative β coefficient, thus a lower profitability than their DCC-only counterparts when controlling for both idiosyncratic and systematic factors. Hence, implying that tax avoidance is being conducted through profit shifting.

Tax avoidance and taxes paid

A more recent method in estimating tax avoidance, is by looking at how much tax over net income is paid in the long run. We will use the method introduced by Dyreng et al. (2008) by estimating the long-run cash effective tax rate as the sum of cash paid for income taxes over ten years, scaled by the sum of pre-tax income (net of special items) over the same period. The reason this method could be beneficial is that it avoids much of the year-to-year volatility which arises when measuring annual effective tax rates implicit in the profitability estimation. The long-run cash ETR measures to what extent firms can pay low amounts of taxes over a 10 year period. Dyreng et al. (2008) looks at the variability of different industries, but not on whether the firms are MNCs or foreign controlled corporations. We believe this new method could gain insight into what the differences really are between MNCs and DCC in Norway. Dyreng et al. (2008) find that pharmaceutical firms, possessing large amounts of intellectual property

rights, overrepresent the list of firms with long-run cash ETR. Firms with ties to tax havens also maintain long-run cash ETR. Hence it would be interesting to see if MNCs have a significantly lower cash ETR than DCCs.

Long-run cash ETR is calculated as:

$$CASH\ ETR10_i = \frac{\sum_{t=1}^{10} Cash\ Tax\ Paid_{it}}{\sum_{t=1}^{10} (Pretax\ Income_{it} - Special\ Items_{it})}$$

The long-run cash ETR has been used in numerous recent studies on costs of tax avoidance (Hasan, Hoi, Wu, & Zhang, 2014) and corporate tax aggressiveness (K. J. Klassen & Laplante, 2012).

For our sake, the cash ETR measure will test the robustness of our results given in the profitability regression. However, the method cannot be implemented to estimate the effect tax reductions has had on tax avoidance, since 10 years of data is needed for each period.

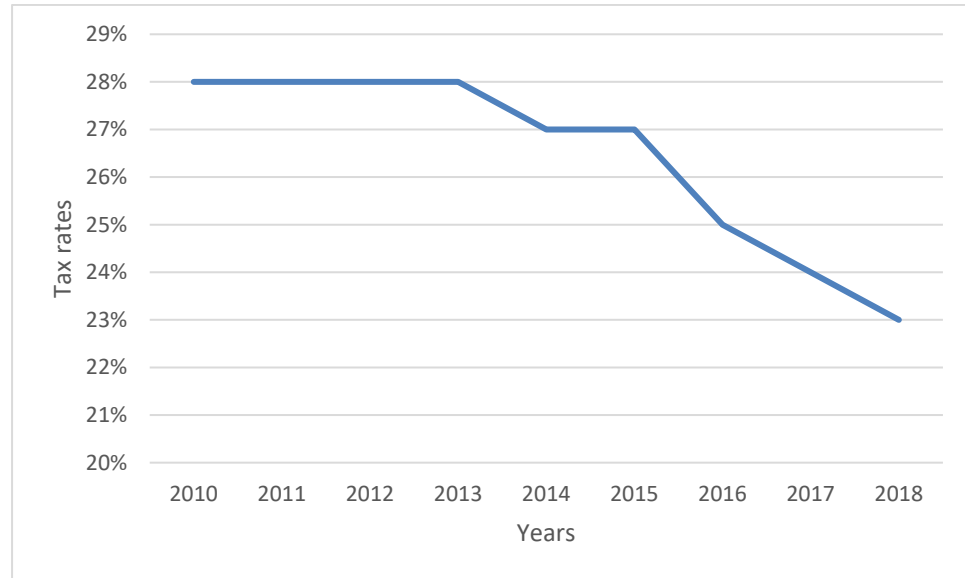
Our hypothesis is that MNC corporations will have paid a lower amount of taxes than non-MNCs after controlling for firm-specific and systematic factors.

Measuring change in tax avoidance under falling statutory tax rates

Norway's corporate tax rates have remained constant at 28% since the tax reform in 1992 until 2014, when tax rates were lowered to 27% in 2014 and to 25% in 2016 (Ministry of Finance, 2016). To our knowledge there have been no studies on whether the tax avoidance behavior of MNCs have changed due to the recent tax cuts in Norway. We wish to extend the previous research by investigating if the expected tax avoidance has changed due to the recent public policy.

We will estimate the profitability using the method of Balsvik et al. (2009) to see if MNCs have a statistically significant different profitability differential prior to the tax cut then afterwards, after controlling for idiosyncratic and macroeconomic factors.

Table I: The Development of Corporate Tax Rates in Norway



Corporate tax rates in Norway from 2010 to 2018 (Ministry of Finance, 2017).

Our hypothesis, even though very uncertain, is that the difference between MNC and DCC profitability will be lower after the tax cut, since it is less profitable to profit shift, consistent with results from Swenson (2001). Profit shifting in itself is deemed to be a costly endeavor, estimated to cost around 0.6% of the tax base (Huizinga & Laeven, 2008).

5. Data

We will use secondary data in our thesis. A major part of our work will be data gathering and correct classification of MNCs. Ownership structures can be very complex, and accurate information on indirect ownership is hard to come by. Nevertheless, prior studies have accomplished to classify firms as either MNCs (under foreign control and domestic control) or domestic-only. We will retrieve both accounting and ownership information from the Centre for Corporate Governance Research (CCGR) database at BI Norwegian Business School. We will also request information from the Norwegian Tax Administration regarding Norwegian-domestic firms' foreign subsidiaries. We will also request data from the SIFON-registry from Statistics Norway which can supplement information regarding foreign ownership over Norwegian firms.

We will classify firms in either the control group or the treatment group, assigned by their possibility to shift profits away from Norway. The treatment group will be domestic MNCs, foreign MNCs and foreign controlled corporations. Whereas

the control group will be DCC deemed not able to shift profits away from Norway. This is in accordance to Langli and Saudagaran (2004) and Balsvik et al. (2009). We will sort firms in either group based on the principle of control, i.e. by the controlling owner (>50% ownership stake).

Data-biases and quality concerns

Our datasets can lack from disclosure issues. It is the firms themselves that report to the Norwegian Tax Administration and Statistics Norway as well as the accounting information reported to the Register of Company Accounts. However, the disclosure issue is probably most evident in data from the SIFON-registry since it is highly uncertain that domestic firms with indirect foreign subsidiaries will not be accounted for, and hence firms with profit shifting possibilities will be included in the reference group (Solberg & Sæbøe, 2014).

Since DCCs are expected to dominate in number of observations, the dominance can bias our results when comparing the control group with the much smaller “treatment group”. Tests conducted by Langli and Saudagaran (2004) find no explanatory effect resulting from the dominance of DCCs.

In terms of the regression analysis, we have a few biases concerns a priori. Using the OLS method in Langli and Saudagaran (2004) will most likely contain unobserved heterogeneity between firms which can cause a bias in the profitability differential estimates. The bias will be removed when using the panel data techniques from the FE method (Tropina, 2010).

We could expect a positive bias in the β coefficient due to that MNCs and foreign corporations have better management etc. than their domestic counterparts, thereby underestimating the extent of profit shifting (Balsvik et al., 2009).

6. Milestones

Phase	Week																							
	January					February					March					April				May				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		
Systemize and gather data	■																							
Analysis of data						■																		
Structuring and documenting our results											■													
First draft																◆								
Final draft																					◆			
Milestones																								

7. Appendix 1 – Abbreviations and measurements

Measurement	Description
DCC	Domestic controlled corporation
ETR	Effective tax rate
FCC	Foreign controlled corporation
FE	Fixed effects panel data econometric technique
GAAP	Generally accepted accounting principles
MNC	Multinational corporation (both domestic and foreign)
POLS	Pooled Ordinary Least Squares
TE	Tax expense
TI	Taxable income

8. Bibliography

- Balsvik, R., Jensen, S., Møen, J., & Tropina, J. (2009). Kunnskapsstatus for hva økonomisk forskning har avdekket om flernasjonale selskapers internprising i norge.
- Bernard, A. B., Jensen, J. B., & Schott, P. K. (2006). *Transfer pricing by US-based multinational firms*. Retrieved from
- Clausing, K. A. (2003). Tax-motivated transfer pricing and US intrafirm trade prices. *Journal of Public Economics*, 87(9), 2207-2223.
- Collins, J., Kemsley, D., & Lang, M. (1998). Cross-jurisdictional income shifting and earnings valuation. *Journal of accounting research*, 36(2), 209-229.
- Devereux, M., & Maffini, G. (2007). The Impact of Taxation on the Location of Capital, Firms and Profit: a Survey of Empirical Evidence.
- Dischinger, M. (2007). Profit shifting by multinationals: Indirect evidence from european micro data.
- Dyreng, S. D., Hanlon, M., & Maydew, E. L. (2008). Long-run corporate tax avoidance. *The Accounting Review*, 83(1), 61-82.
- Grubert, H. (1998). *Another look at the low taxable income of foreign-controlled companies in the United States*. Paper presented at the Proceedings. Annual Conference on Taxation and Minutes of the Annual Meeting of the National Tax Association.
- Grubert, H., Goodspeed, T., & Swenson, D. L. (1993). Explaining the low taxable income of foreign-controlled companies in the United States. In *Studies in international taxation* (pp. 237-276): University of Chicago Press.
- Hanlon, M., & Heitzman, S. (2010). A review of tax research. *Journal of Accounting and Economics*, 50(2), 127-178.
- Harris, D. G. (1993). The impact of US tax law revision on multinational corporations' capital location and income-shifting decisions. *Journal of accounting research*, 111-140.
- Hasan, I., Hoi, C. K. S., Wu, Q., & Zhang, H. (2014). Beauty is in the eye of the beholder: The effect of corporate tax avoidance on the cost of bank loans. *Journal of Financial Economics*, 113(1), 109-130.
- Hines Jr, J. R., & Rice, E. M. (1994). Fiscal paradise: Foreign tax havens and American business. *The Quarterly Journal of Economics*, 109(1), 149-182.

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- Huizinga, H., & Laeven, L. (2008). International profit shifting within multinationals: A multi-country perspective. *Journal of Public Economics*, 92(5), 1164-1182.
- Hægeland, T. (2003). Egenkapital og utenlandsk eierskap. En analyse basert på regnskapsstatistikken. *Vedlegg 5 til NOU 2003:9, Skatteutvalget*.
- Jacob, J. (1996). Taxes and transfer pricing: Income shifting and the volume of intrafirm transfers. *Journal of accounting research*, 301-312.
- Kinney, M., & Lawrence, J. (2000). An analysis of the relative US tax burden of US corporations having substantial foreign ownership. *National Tax Journal*, 9-22.
- Klassen, K., Lang, M., & Wolfson, M. (1993). Geographic income shifting by multinational corporations in response to tax rate changes. *Journal of accounting research*, 141-173.
- Klassen, K. J., & Laplante, S. K. (2012). Are US multinational corporations becoming more aggressive income shifters? *Journal of accounting research*, 50(5), 1245-1285.
- Langli, J. C., & Saudagaran, S. M. (2004). Taxable income differences between foreign and domestic controlled corporations in Norway. *European Accounting Review*, 13(4), 713-741.
- Ministry of Finance. (2016, 12.02.2016). Direkte skatter. Retrieved from <https://www.regjeringen.no/no/tema/okonomi-og-budsjett/skatter-og-avgifter/direkte-skatter/id2353512/>
- Ministry of Finance. (2017, 12.10.2017). Skattesatser 2018. Retrieved from <https://www.regjeringen.no/no/tema/okonomi-og-budsjett/skatter-og-avgifter/skattesatser-2018/id2575161/>
- Oyelere, P. B., & Emmanuel, C. R. (1998). International transfer pricing and income shifting: Evidence from the UK. *European Accounting Review*, 7(4), 623-635.
- Rego, S. O. (2003). Tax-avoidance activities of US multinational corporations. *Contemporary Accounting Research*, 20(4), 805-833.
- Scholes, M. S., Wilson, G. P., & Wolfson, M. A. (1992). *Firms' responses to anticipated reductions in tax rates: The Tax Reform Act of 1986*. Retrieved from
- Shackelford, D. A. (1993). Discussion of the impact of US tax law revision on multinational corporations' capital location and income-shifting decisions and geographic income shifting by multinational corporations in response to tax rate changes. *Journal of accounting research*, 174-182.
- Shackelford, D. A., & Shevlin, T. (2001). Empirical tax research in accounting. *Journal of Accounting and Economics*, 31(1), 321-387.
- Solberg, J. B., & Sæbøe, T. K. (2014). *Overskuddsflytting blant flernasjonale selskaper i Norge: en empirisk studie på norske data og analyse av Huizinga og Laeven (2008)*.
- Swenson, D. L. (2001). Tax reforms and evidence of transfer pricing. *National Tax Journal*, 7-25.
- Tropina, J. (2010). Tax income differences between multinational and domestic corporations in Norway: a panel data approach.