CORPORATE INCOME TAX CHANGES IN THE CONTEXT OF EARNINGS MANAGEMENT: A REVIEW OF THE LITERATURE

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Abstract

The purpose of the article/hypothesis: This paper aims to provide a comprehensive review of the theoretical and empirical literature regarding tax-induced earnings management. In particular, the association between anticipated tax changes and earnings management is of interest to the authors.

Methodology: This paper uses a systematic literature review to achieve its research objectives.

Results of the research: The presented research is mostly devoted to tax rate decreases and focuses on accrual-based earnings management methods. In anticipation of a tax rate change, companies shift their income from a high to a low tax rate period. Moreover, the probability of tax-induced earnings management is higher in case of extreme changes in the tax rate, larger prospects for tax savings as well as in case of private firms. This paper identifies several inconsistencies and gaps in the current literature, emphasizing that the connection between firms’ characteristics, the level of book-tax conformity and the practice of earnings management remains unclear.

Keywords: earnings management, tax incentive, tax rate change, tax reform.


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INTRODUCTION

Corporate income taxes have significantly changed all over the world during the 21st century (Sundvik, 2017a: 151–161), and that process has also impacted Poland via the Polish Deal reform. Enterprises strive to adjust to the new legal circumstances, and one way of doing this is to exercise earnings management (EM). We still cannot find a consensual definition of EM (Walker, 2013: 445–481) but, in a seminal review on the topic, Healy and Wahlen (1999: 368) claim that it occurs when “managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company, or to influence contractual outcomes that depend on reported accounting numbers”. Under this light, EM could deeply affect the firm and its stakeholders. Yet, in general, EM is legal as managers should use the accounting choices at their disposal (e.g., deciding on deferred tax, assets impairments, depreciation methods) to provide relevant, comparable, verifiable, timely and understandable financial statements to their shareholders (Healy and Wahlen, 1999: 365–383). Furthermore, EM can be induced by different incentives, which may act in the opposite direction, driving both to an upwards and downward bias in reported earnings.

This paper provides a comprehensive review of the theoretical and empirical literature regarding tax-induced earnings management. More specifically, the aim is to explore the link between corporate income tax changes (i.e., tax rate increases, decreases, new forms of taxation, tax holidays) and earnings management. The paper finds that the bulk of the available literature is focused on the United States and China, with only a few studies addressing this issue in Europe and in other parts of the world. Furthermore, there is evidence that the topic of tax-induced earnings management is primarily explored in the context of tax rate decreases, and it is analyzed mainly in the context of accrual-based earnings management. Generally, the change in the tax is an incentive to shift income from the high to low tax rate period. In addition, the existing research shows that the probability of tax-induced earnings management is higher when firms face bigger changes in the tax rate, larger prospects for tax savings, and in the case of private firms. Importantly, the scant academic literature that is available leaves open several research gaps that provide interesting opportunities for future research.

1 Among other changes, at the beginning of 2021, the changes to the corporate income tax in Poland came into force. An optional new method of taxation was introduced, which is based on the Estonian tax system (the so-called “Estonian income tax”). From 2022, the subjective scope of this taxation form has been extended and some formal requirements have been abolished (PWC Portal, 2022).

2 In the case of upward earnings management, the managers inflate profits, in case of downward earnings management they deflate profits (Ali and Bansal, 2021).
1. THE INCENTIVES OF EARNINGS MANAGEMENT

In their seminal paper, Healy and Wahlen (1999: 365–383) divide incentives to manage earnings into three groups: capital market expectations and valuation, contractual relationships based on accounting numbers, and antitrust and other government regulation. Coppens and Peek (2005: 1–17) show evidence that some earnings management types are associated with market pressure and, therefore, are specific for public firms. Furthermore, Coppens and Peek (2005: 1–17) conclude that the earnings decrease avoidance is mainly a capital-market-based driven motive to manage earnings. Ball and Shivakumar (2005: 83–128) state that private companies, in contrast, give greater priority to reducing tax expenses. The same point is raised by Sundvik (2017a: 151–161), who claims that private firms have stronger incentives to use earnings management to reduce taxes. Wong et al. (2015: 188–222), on the other hand, emphasize that tax, tunneling\(^3\) and financial reporting incentives interplay while managers decide on their tax management strategy. In particular, according to the authors, high book management incentives and low tunneling incentives of non-state-owned companies are associated with the book-tax conforming manner of exercising EM.

Earnings management may be implemented via accounting choices that influence financial reports (AEM, accrual-based earnings management), or operational decisions, which affect both earnings and cash flows (REM, real earnings management). According to Zang (2012: 675–703), managers tend to trade off these two methods based on their relative cost. The authors stress that one of the important differences between those two EM strategies is how they affect corporate tax. In particular, real earnings management that increases income leads to higher tax costs in the current period, while accounting-based earnings management may increase income without current-period tax consequences. Similarly, Hu et al. (2015: 417–434) argue that stock-listed companies trade-off conforming and nonconforming earnings management strategies from the income tax cost perspective. In particular, firms seem to prefer conforming EM strategies when they want to turn losses into gains while avoiding penalties and detection risk. In a related paper, Simpson (2013: 869–900) claims that managers’ sentiment affects decisions, reporting more conservatively during periods of low sentiment.

Many studies show that manager’s motivations can be severely misaligned with the tax incentive to manage earnings. For instance, Coppens and Peek (2005: 1–17) note that small firms tend to avoid reporting small losses, though, in countries with high book-tax conformity, they do not do this. Furthermore, Moreira (2006: 1–33) finds that debt and tax incentives for small private firms influence EM in opposite directions. In fact, firms with high financial needs tend

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\(^3\) The incentive for controlling investors to transfer assets and profits from minority to majority shareholders for personal gain (Suryarini et al., 2020: 1–13)
to exercise upward earnings management, whereas firms with low financing needs focus on tax expense reduction. Andries et al. (2014) present similar results, concluding that the tax expense may be used as an EM tool, especially by highly leveraged companies. In the same vein, Dhilliwal et al. (2004: 431–459) note that the tax expense is an important tool to exercise EM since this is one of the last accounts closed before the earnings announcement.

The results provided by Kałdoński and Jewartowski (2020: 1–8) show that, in Poland, there is a negative relation between EM and the tax expenses reported by benchmark-beating firms. As the authors explain, this may be due to the wish of avoiding scrutiny by the tax authorities. As a result, for these firms, the potential benefits from tax planning are sacrificed by managers. Interestingly, Erickson et al. (2004: 387–408) find that firms that fraudulently overstate their earnings are ready to pay higher taxes to avoid detection risk. Related research by Dutzi and Rausch (2016: 1–21) and Reschiwati and Hasudungan (2020: 682–695) goes even further, concluding that when companies are in distress and generating losses, the tax incentive becomes irrelevant for their managers.

In a nutshell, the previous paragraphs indicate that tax incentives impact firms’ earnings management practices. Yet, there is a significant interplay with other EM’s incentives, which can lead to different outcomes depending on the specific situation of a company.

2. BOOK-TAX CONFORMITY

Several papers explore the interaction between book-tax conformity and earnings management. High conformity occurs when there is a common system for tax and accounting purposes, while low conformity signals that these systems are separated (Goncharov and Zimmerman, 2006: 41–65). Book-tax conformity varies across countries as shown by Hung (2001: 401–420) among others. Importantly, Tang (2015: 441–469) argues that high book-tax conformity leads to less earning management and tax avoidance. Blaylock et al. (2015: 141–172) support this view, claiming that high book-tax conformity mitigates both the incentive to manipulate earnings upwards (due to increases tax expenses) and downward (since it results in low earnings being reported to investors). In the same vein, Sundvik (2017b: 31–42) empirically shows that firms in jurisdictions with low book-tax conformity tend to exhibit higher levels of earnings management. Watrin et al. (2012: 55–89) and Blaylock et al. (2015: 141–172) indicate opposite results, reporting that high book-tax conformity generally leads to more intense EM. Moreover, Blaylock et al. (2015: 141–172) highlight that high book-tax conformity is associated with the lack of an alternative measure of
performance, i.e., taxable income, which reduces the possibility to detect earnings management. This is also associated with the loss of information, which may increase the extent to which companies smooth their earnings.

There is also a research stream that investigates the impact of the changes in book-tax conformity on earnings management behavior. For instance, Karampinis and Hevas (2013: 218–247) investigate the effects of the International Financial Reporting Standards (IFRS) implementation on the Greek market. The authors note that such an event, which took place in 2005, reduced the book-tax conformity, disentangling financial income from tax implications. Karampinis and Hevas (2013: 218–247) find that Greek firms typically managed their earnings downwards in the pre-IFRS period. Yet, after the adoption of the IFRS, the same companies no longer exhibit the same propensity to engage in EM to reduce their reported earnings. In a similar study, Goncharov and Zimmermann (2006: 41–65) investigate the Russian case, which moved from a high to a low book-tax alignment system. The authors report that such change led public firms to improve their earnings quality more than their private counterparts, a result they attribute to different reporting incentives. Interestingly, a cross-country analysis conducted by Ugrin et al. (2017: 140–151) shows that the adoption of IFRS generally leads to an increase in upward earnings management, though the results differ depending on culture characteristic. In particular, more upward EM is associated with higher power distance, uncertainty avoidance, individualism, short-term orientation, and indulgence.

In summary, the existing literature clearly suggests that the level of book-tax conformity affects the firms’ earnings management behavior. Yet, we are still to reach a consensus about the particulars of such a relationship.

3. EARNINGS MANAGEMENT IN ANTICIPATION OF CORPORATE INCOME TAX CHANGES

There is also a research stream that examines how anticipated changes in income tax impact EM. Table 1 summarizes this literature:
### Table 1. Studies on earnings management exercised in the reaction to tax changes

<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>Sample</th>
<th>Tax change</th>
<th>The earnings management behavior observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scholes, Wilson and Wolfson (1992)</td>
<td>US</td>
<td>2812 firms</td>
<td>Reduction of income tax rate</td>
<td>Acceleration of selling, general, and administrating (SG&amp;A) expenses and deferment of gross margin recognition in anticipation of the change (REM)</td>
</tr>
<tr>
<td>Boynton, Dobbins, and Plesko (1992)</td>
<td>US</td>
<td>414 firms (manufacturing and transportation)</td>
<td>Alternative minimum tax</td>
<td>The usage of unusual income-decreasing discretionary accruals in the year of the tax change; asset size negatively correlated with EM magnitude (AEM)</td>
</tr>
<tr>
<td>Porcana (1997)</td>
<td>US</td>
<td>715 stock-listed companies (mostly manufacturing – 69%).</td>
<td>Two cases of net capital gains tax rate increase and two cases of tax rate reduction</td>
<td>The correlation of the magnitude of EM with the magnitude of the tax change. Firms prefer to dispose of assets with lower nontax costs to accomplish EM. Ambiguous relation of firm characteristics (i.e., firm size, leverage, and income position) with capital gains taking. (REM)</td>
</tr>
<tr>
<td>Guenther (1994)</td>
<td>US</td>
<td>487 firms (manufacturing, wholesale, retail, services - other than financial services)</td>
<td>Reduction of income tax rate</td>
<td>Income decreasing accounting accruals in the year prior to the decrease in the tax rate (the large firms exercise downward EM, shifts in current accruals positively correlated to leverage). The negative current accruals for large firms; positive correlation of current accruals and debt level; irrelevancy of the ownership. (AEM)</td>
</tr>
<tr>
<td>Authors</td>
<td>Country</td>
<td>Sample Description</td>
<td>Event Description</td>
<td>Findings</td>
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<tr>
<td>Lopez, Regier, and Lee (1998)</td>
<td>US</td>
<td>279 firms- the reduced sample of Guenther (1994)</td>
<td>Reduction of income tax rate</td>
<td>Accrual-based earnings management in the year prior to the decrease in tax rate is more probable and of a greater magnitude for tax-aggressive entities. (AEM)</td>
</tr>
<tr>
<td>Roubi and Richardson (1998)</td>
<td>Canada, Singapore, Malaysia</td>
<td>Non-manufacturing corporations; 102 firms in Canada, 149 in Malaysia, 126 in Singapore.</td>
<td>Reduction of income tax rate</td>
<td>The evidence of managing the discretionary current accruals in Canada and Singapore in the period preceding the tax change; weak evidence in Malaysia. (AEM)</td>
</tr>
<tr>
<td>Monem (2003)</td>
<td>Australia</td>
<td>45 stock-listed companies (gold-mining industry)</td>
<td>Introduction of Australian Gold Tax</td>
<td>Downward earnings management before the tax implementation and upward after the change. (AEM)</td>
</tr>
<tr>
<td>Lin (2006)</td>
<td>China</td>
<td>112 foreign investment enterprises</td>
<td>5-years tax holiday and then the gradual tax rate increase</td>
<td>Companies report higher discretionary current accruals during the years prior to tax-rate increases (AEM)</td>
</tr>
<tr>
<td>Marques, Rodrigues and Craig (2011)</td>
<td>Portugal</td>
<td>6652 private companies</td>
<td>Special payment on account</td>
<td>Firms with higher average income tax rates are prone to use EM more. (AEM)</td>
</tr>
<tr>
<td>Hashim, Haniff, Rahman (2012)</td>
<td>Malaysia</td>
<td>177 public listed companies; 531 company-years</td>
<td>Tax waiver year</td>
<td>During the downturn, the magnitude of EM is not related to tax waiver year in a way consistent with tax-saving incentives. (AEM)</td>
</tr>
<tr>
<td>Watrin, Pott, Ullman (2012)</td>
<td>Germany</td>
<td>2816 companies (2104 private and 712 public) limited companies; 20 614 firm-year observations</td>
<td>Reduction of income tax rate</td>
<td>In high book-tax conformity country, tax-induced incentive affects private, but no public companies. (AEM)</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Country</td>
<td>Sample Size</td>
<td>EM Timing</td>
<td>EM Description</td>
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<tr>
<td>Lin, Lu, and Zhang (2012)</td>
<td>China</td>
<td>959 - 1158 firms; depending on the model estimated</td>
<td>Reduction of income tax rate</td>
<td>The evidence of managing the discretionary current accruals before the tax change. The EM is less obvious for state-owned companies, with the audit committee on board, voluntarily disclosing certified internal control reports.</td>
</tr>
<tr>
<td>Zeng (2014)</td>
<td>China</td>
<td>91 stock-listed real estate companies</td>
<td>Reduction of income tax rate</td>
<td>Companies manipulate income upward in the low-tax-rate periods and downward in the high-tax-rate periods using both real and accrual-based earnings management. Ownership structure affects the level of EM. (AEM, REM)</td>
</tr>
<tr>
<td>Wong, Lo, and Firth (2015)</td>
<td>China</td>
<td>438 stock-listed companies; 2628 firm-year observations</td>
<td>Increase of income tax rate</td>
<td>Upward EM through book-tax differences is most likely in anticipation of tax increase (the firms inflate taxable income without managing book income). However, firms with high book management incentives or lower tunneling incentives exercise EM in a book-conforming manner)</td>
</tr>
<tr>
<td>Sundvik (2016)</td>
<td>Sweden</td>
<td>3 254 private firms</td>
<td>Reduction of income tax rate</td>
<td>Downward EM before tax rate decrease. Mostly EM is driven by accounts receivable. EM behavior is persistent over time. (AEM)</td>
</tr>
<tr>
<td>Wali (2021)</td>
<td>Netherlands, Germany</td>
<td>1350 firm-years observations for the Netherlands and 1850 firm-years for Germany</td>
<td>Reduction of income tax rate</td>
<td>Firms with prospects for higher tax savings exercise EM. (AEM)</td>
</tr>
</tbody>
</table>
The introduction of the Tax Reform Act of 1986 (Public Law, 99–514) in the United States initiated research on tax-induced earnings management in this country. For instance, Scholes et al. (1992) investigate the impact of the gradual reduction (from 46% to 34%) of the corporate tax rate in this country in the '80s and find that companies shift their gross margin in anticipation of such an event, a phenomenon that is particularly clear within the group of the largest companies. In a follow up study, Guenther (1994: 230–243) reaches the same conclusion after revisiting the evidence for the same tax reform. Lopez et al. (1998: 37–57) add that tax-aggressive companies are more prone to reduce income using the discretionary accruals before the tax rate cut and find that the magnitude of earnings management is higher for these companies. Boynton et al. (1992: 131–153) explore the effects of the alternative minimum tax (AMT), which was introduced by the Tax Reform Act of 1986. The authors report that the companies potentially exposed to the AMT engaged in income-reducing EM practices using accruals in 1987. Porcano (1997: 395–408) investigates other changes in the US tax law, namely two cases of net capital gains, tax rate increases and two tax rate decreases. The author notices that the magnitude of earnings management is correlated with the scale of the income tax change. Interestingly, the author finds that EM does not always affect net capital gains in the expected direction. Furthermore, Porcano (1997: 395–408) shows that some firm's characteristics such as size, leverage, and income position are important to understand the magnitude and direction of the tax-induced earnings management, although a clear pattern of correlation between these factors seems inexistent.

Research on tax-induced earnings management also exists outside the United States. For instance, Roubi and Richardson (1998: 455–467) find evidence of earnings management induced by changes in statutory corporate income tax rates in Canada and Singapore. In particular, these countries’ companies accelerated their expenses in the year before the introduction of tax changes and deferred revenues to the year following tax rate increases. Roubi and Richardson (1998: 455–467) also consider the case of Malaysia but their results are not statistically significant. They attribute this finding to cultural factors, namely the relatively high level of authority and enforcement built into the country’s accounting system. Monem (2003: 747–774) looks at the effects of the introduction of the gold tax in Australia. The author shows that such industry-specific tax induced downward
reported earnings management in the years preceding the change (as gold companies wanted to discourage the government from imposing the tax) and upward real EM afterwards (allowing the firms to benefit from specific legislative arrangements). Lin et al. (2012: 19–44) report earnings management practices in China following a reduction of the country’s corporate income tax (from 33% to 25%) in 2007. Results are, however, weaker for companies with a greater percentage of shares owned by state-owned entities, and those with an audit committee on the board that voluntarily discloses internal control reports. A few years later, Bai et al. (2021) also find that the anticipation of a decrease in income tax rate induces earnings management in China. Importantly, they show that the level of earnings management is lower for state-owned entities than for private firms. In unrelated research, Zeng (2014) finds evidence of both real and accrual-based earnings management in China due to a tax rate reduction. In addition, the author documents that the ownership structure significantly affects the earnings management behavior of Chinese firms. On the other hand, Bai et al. (2021) report that Chinese stock-listed companies with a negative net profit in the previous period prefer to reverse losses than to benefit from tax savings. According to the authors, this is mainly to avoid negative consequences, such as stock trading restrictions or delisting, which arise from specific market regulation directives in China. Lin (2006: 163–175) considers the special case of foreign investment enterprises in China. Specifically, he investigates to what extent such companies change their reporting behavior in response to a known schedule of tax-rate increases. Lin (2006: 163–175) finds that such firms manage their earnings upward to take advantage of the lower tax rates that are available for them in certain years. Finally, Wong et al. (2015: 188–222) show that Chinese companies generally increase their reported income in a book-tax nonconforming manner before a corporate tax rate increase in order to reduce the risk of aggressive financial reporting detection.

A few other studies explore the European context. For example, Marques et al. (2011: 83–96) investigate the impact of the introduction of the ‘special payment on account’ system in Portugal. The authors show that such a change leads companies to exercise earnings management to minimize their tax liability, especially those within the highest average income tax rate. Sundvik (2016: 261–286) examines the impact of two corporate income tax reforms in Sweden and finds downward EM practices before the reduction in the corporate income tax rate. The author also concludes that such income-decreasing behavior in anticipation of the tax changes is persistent over time. Watrin et al. (2012: 274–302) highlight that only private companies operating in Germany, a country with a strong book-tax conformity, are prone to exhibit tax-induced earnings management. Wali (2021: 1–12) revisits this theme using a sample of companies operating in the Netherlands and Germany. He finds that EM practices are only
common among the sample firms that expect large tax savings following a change in the tax law. Wali (2021: 1–12) concludes that individual firm characteristics like size, long-term debt and ownership are not likely to affect the EM of the companies; only their combination in particular manners seem to have such an effect.

The present subsection shows that a number of studies already explore the issue of EM in both high (e.g., Germany, Sweden) and low book-tax conformity countries (e.g., the Netherlands, Canada, Singapore) (Hung, 2001: 401–420) [Table 1]. Yet, the bulk of the available literature is focused on the US and China and explores accrual-based earnings management strategies. Furthermore, most of the available studies are devoted to changes in the income tax rate, namely tax rate decreases (11 studies out of 17 in Table 1). In general, in anticipation of a tax rate change, enterprises shift their income from a high to low tax rate period. Moreover, it seems that the probability of tax-induced earnings management is higher for bigger changes in the tax rate, or larger tax-savings and in the case of private firms. Finally, the link between certain firm characteristics (e.g., size or leverage) and the EM is clearly not straightforward.

**CONCLUSIONS**

The tax-induced earnings management topic is still developing. In fact, most of the studies specifically devoted to tax-induced earnings management only consider situations where the income tax rate is reduced, focusing almost entirely on the accrual-based earnings management method. The general conclusion of these studies is that companies tend to shift their income from high to low tax rate periods when they anticipate a reduction in the corporate tax rate. Furthermore, the existing literature suggests that the probability of tax-induced earnings management is higher for more extreme changes in the tax rate, when there are prospects of high tax savings, and in the case of private entities. It is, however, unclear whether more earnings management is associated with high or low book-tax conformity, especially in the context of tax rate changes.

This study shows that, to date, we still do not know how the magnitude of earnings management induced by tax changes is conditional on the financial health of the companies. Moreover, there is a lack of studies concerning managers’ sentiment in the context of tax-induced earnings management, which may constitute a research gap. Additionally, there are no studies concerning changes in corporate income tax in Poland. The new tax legislation (mentioned in the article) gives opportunities for further research.
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BIBLIOGRAPHY


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