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journal homepage: www.elsevier.com/locate/jaePublic tax-return disclosure[☆]Jeffrey L. Hoopes^a, Leslie Robinson^{b,*}, Joel Slemrod^c^a University of North Carolina at Chapel Hill, North Carolina, United States^b Tuck School of Business at Dartmouth, New Hampshire, United States^c University of Michigan, Michigan, United States

A B S T R A C T

We investigate the consequences of public disclosure of information from company income tax returns filed in Australia. Supporters of more disclosure argue that increased transparency will improve tax compliance, while opponents argue that it will divulge sensitive information that is, in many cases, misunderstood. Our results show that in Australia large private companies experienced some consumer backlash and, perhaps partly in anticipation, some acted to avoid disclosure. We detect a small increase (decrease) in tax payments for private (public) firms subject to disclosure suggesting differential costs of disclosure across firms. Finally, we find that investors react negatively to anticipated and actual disclosure of tax information, most likely due to anticipated policy backlash rather than consumer backlash or the revelation of negative information about cash flows. These findings are important for both managers and policy makers, as the trend towards increased tax disclosure continues to rise globally.

1. Introduction

There is currently widespread public and political pressure for action to limit perceived harmful tax practices by businesses. One response to this pressure has been to increase the amount of information available to taxing authorities for enforcement, while another is to improve accountability and compliance via mandatory tax disclosure to the public. The latter response is of particular concern to firm managers fearing that the private costs of tax-related public disclosure will outweigh the benefits (Graham et al., 2014; Ernst and Young, 2011). For instance, it can potentially create compliance burdens, divulge sensitive information, generate

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confusion about company behavior, and impose reputational damage on firms. Although more transparency results in potential costs that must be weighed against the perceived benefits, policy discussions generally proceed in a near-absence of evidence about its potential impacts.¹

Our paper seeks to fill this void by considering the recent case wherein the Australian Taxation Office (ATO) disclosed firm-level data from Australian company tax returns, including income and taxes payable, for listed and private firms. We analyze a variety of hypothesized potential effects, focusing on changes in firm behavior, consumer sentiment, and investor responses. Our results suggest that private companies took relatively more action to avoid public disclosure than public companies, and the effect of public disclosure appears to have raised the tax payments of private companies but lowered the tax payments of public companies, consistent with differences in disclosure costs among firms. Relatedly, private firms subject to disclosure experienced a small decline in consumer sentiment, suggesting that expectations of consumer backlash may have motivated some private firms to avoid disclosure. Finally, we find a negative investor reaction to both anticipated and actual disclosure. Cross-sectional tests point to anticipated policy backlash resulting in adverse changes to the tax code as the likely source of the reaction. For instance, in the 2016–2017 Budget, the Australian government announced that it would introduce a diverted profits tax, effective on 1 July, 2017.² The momentum for this new law was almost certainly fueled by public scrutiny of the newly disclosed tax information.

In 2013, the Australian legislature began debating publicizing tax-return data. Proponents argued that more transparency would encourage companies to pay their “fair share” of tax, improve accountability, and educate the public about compliance with tax laws (Bradbury, 2013). Opponents argued that disclosure would create compliance burdens, divulge sensitive information to competitors, generate confusion about company behavior, and impose risks on business owners (Chartered Accountants Australia and New Zealand, 2015; Hurst, 2015). The legislature passed a bill mandating disclosure for foreign-owned private firms and Australian listed firms reporting more than 100 AUD million of “total income” on the Australia company tax return.³ Disclosure occurred on December 17, 2015 for the first year covered by the legislation (2013–2014). The same policy went into effect for Australian-owned private firms reporting more than 200 AUD million, with disclosure for this set of companies occurring on March 22, 2016. This generated substantial media attention. For instance, Fig. 1 graphs the number of media articles discussing taxpayers that “paid no tax”, or the ATO generally, illustrating a sharp surge on December 17, 2015.

Hanlon and Heitzman (2010) call for more research on how consumers and investors perceive corporate tax avoidance, noting that one challenge is the number of divergent and subjective proxies to measure tax avoidance. Our setting provides an opportunity to examine consumer and investor reaction to an objective measure of tax avoidance – whether or not a company remitted any income tax in Australia. As firms subject to disclosure are the largest in Australia, paying no tax is a signal of potential profit shifting, a particular tax avoidance technique currently under intense scrutiny. Our focus is also consistent with observed media headlines highlighting the many firms that were disclosed as having remitted no income tax.

Legislating disclosure of tax-return data has several potential effects that are all inter-connected. Chen (2016) uses the Australian setting to examine whether investors value corporate tax return information.⁴ However, one cannot fully understand investor reactions without considering consumer and firm reactions. Investors, for example, will try to price consumer responses and firm responses (Hanlon and Slemrod, 2009). Moreover, firms’ responses will depend on managers’ beliefs about consumer and investor reactions (Gallemore et al., 2014). For instance, firms may try to avoid disclosure because they fear a consumer response, may change their real behavior as a result of public pressure (Dyregang et al., 2016), or change their disclosure practices (Kays, 2017). Hence, while prior literature focuses on one of these effects, we examine many effects in the context of a unique piece of legislation.

We begin by examining the effects of disclosure on firm behavior. As changes in tax reporting behavior are of primary interest, we work directly with the ATO to examine aggregated tax-return data before and after the disclosure. This evidence is useful because consumer and investor responses are, to some extent, predicated upon firm responses. To determine whether firms acted to avoid disclosure, we examine the distribution of reported income around the threshold and find evidence of an increase in the frequency of income just below the threshold, consistent with some firms adjusting their income to avoid disclosure. In particular, these tests suggest that at least some private firms anticipate a net cost to disclosure. We also look for changes in tax payments by firms above and below the disclosure threshold. We detect a small increase (decrease) in tax payments for private (public) firms. While all firms face public pressure to pay more tax, listed firms also face pressure from shareholders to pay less tax.

Next, we investigate how Australian consumers responded by analyzing two sources of consumer sentiment data generated from surveys. Our first source comes from YouGov, a market research firm that tracks perceptions of relatively well-known global brands,

¹ For example, on July 4, 2017 the European Parliament voted in favor of public country-by-country reporting whereby limited tax information for MNCs is broken down by taxing jurisdiction. While these reports are designed to aid tax administrators, policymakers are evaluating the possibility of making this information public. Although making less political headway in the U.S., several members of Congress wrote a letter to the Financial Accounting Standards Board on July 18, 2017, urging them to require information from country-by-country reports in financial statement footnote disclosures. Analysis of the Norwegian and Japanese experience with public tax disclosure has provided what up to now is known about its consequences. For instance, some attention has been paid to small firms in Norway and Japan (Bø et al., 2015; Hasegawa et al., 2013) and individuals in Japan (Hasegawa et al., 2013). We discuss this in Section 2.

² The new legislation imposes a 40% tax on diverted profits. Diverted profits are profits deemed to be reported outside of Australia by Australian companies that use tax avoidance arrangements between related parties to divert, or report, profits offshore that do not have economic substance. <https://www.ato.gov.au/general/new-legislation/in-detail/direct-taxes/income-tax-for-businesses/diverted-profits-tax/?=redirected>

³ Total income refers to line 6S (before deductions) on a company income tax return in Australia: <https://www.ato.gov.au/uploadedFiles/Content/MEI/downloads/Company-tax-return-2016.pdf>.

⁴ Chen (2016) focuses exclusively on investor reaction and finds a negative reaction around two early legislative dates, including the April 3, 2013 date that we examine. She finds a positive reaction around two later legislative dates, and no reaction around the actual disclosure date of December 17, 2015. When we condition on the unexpected taxpaying status of the firm, we find a small negative reaction to the actual tax disclosure on December 17, 2015.

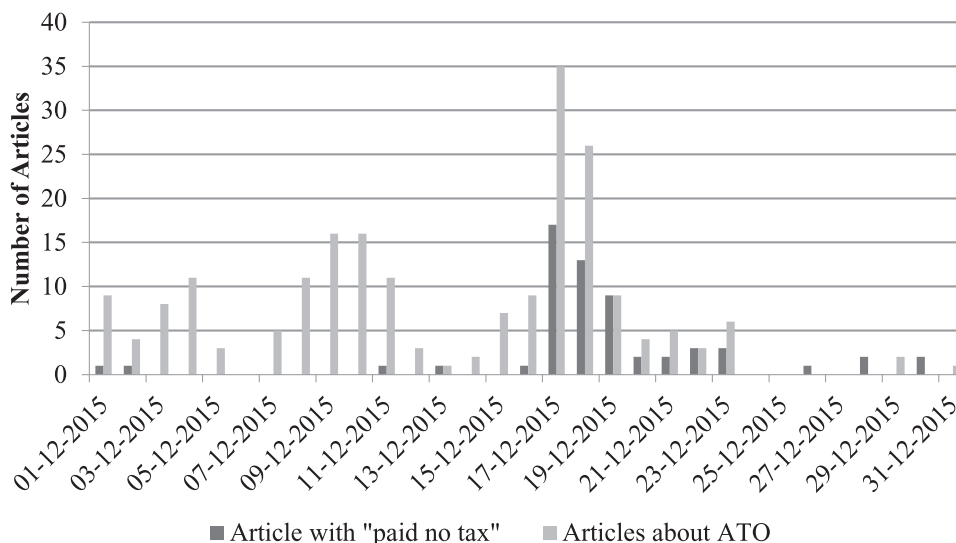


Fig. 1. Articles in media. *Notes.* The figure graphs the number of times articles with the phrase “paid no tax” (dark lines) or about the ATO (as determined by Lexis Nexis) occur in the Australian Media, during December 2015.

including Australian public companies and large foreign-owned companies operating in Australia. We find no evidence of changes in measures of sentiment for these brands after the disclosure, regardless of whether the disclosure reveals no tax paid. Our second source is a survey we designed and administered before and after the release of data for Australian-owned private firms. We study responses to questions about views towards these businesses along five dimensions, and detect a small decline in sentiment after the disclosure for firms subject to disclosure. Taken together, these results suggest consumer sentiment is more resilient for relatively global brands of large public firms, and perhaps slightly more vulnerable (at least in the short term) for smaller domestic brands.

Finally, we examine investor reactions by examining market returns around a pivotal legislative event on April 3, 2013 and the actual disclosure on December 17, 2015. On April 3, discussion of the legislation included for the first time the specific thresholds determining which firms would be subject to disclosure. On December 17, the ATO made available on its website limited tax-return information for 1538 of the largest companies in Australia. We find a significant negative market reaction for non-taxpaying firms subject to disclosure on both dates. These results suggest that the market did anticipate a reduction in firm value arising from a disclosure of no tax paid in Australia. We explore cross-sectional variation in the disclosure costs to firms anticipated by investors. Across several measures designed to capture different sources of variation in anticipated costs such as the potential for confusion from the disclosure, the level of investor sophistication, and brand recognition of the firms, we conclude that the negative investor reaction stems from anticipated policy backlash rather than anticipated declines in consumer sentiment or negative information about cash flows.

Our paper contributes to the literature examining the costs and consequences of public tax-return information, including how specific implementation rules may affect disclosure outcomes. Further, our paper contributes to the literature on taxes and reputation. Surveys of tax directors have found that one pervasive fear associated with tax planning is garnering negative attention (Graham et al., 2014). Relatedly, several studies have searched for evidence on reputational consequences associated with tax shelter involvement (Dyreng et al., 2016; Gallemore et al., 2014; Graham et al., 2014; Hanlon and Slemrod, 2009; Dyreng et al., 2017; Austin and Wilson, 2017). Our study shows that there can be costs to disclosure outside of the tax shelter context – i.e., even when firms may be obeying the law. For instance, we find that disclosure of a zero tax liability without any context in which to interpret and understand the reason likely leaves some firms who are not avoiding taxes in a situation where they experience negative consumer, investor, or policy attention. This is important for policymakers to consider in the design of disclosure rules.

2. Background on tax disclosure and relevant literature

Tax disclosure policies take many forms, with mandatory disclosures made privately by the taxpayer to the taxing authority the most common. Some countries have introduced policies that allow for public scrutiny of private tax information, such as Denmark, Sweden, Finland, Iceland, Norway, and (in the past) Japan and the United States. An important debate regarding public scrutiny of tax information is currently taking place in both the EU and the U.S. On July 4, 2017 the European Parliament voted in favor of public

Table 1
Timeline of events.

| Date | Event | Description |
|-------------------|---|--|
| February 4, 2013 | Intention to improve corporate tax transparency announced | The Australian government announced the intention to pass some form of public tax disclosure with no details provided regarding what that disclosure might be |
| April 3, 2013 | Proposed law introduction announced | The Australian government announced that, following public consultation, they intended to legislate a regime of public disclosure of selected company tax return information for firms above 100 AUD million |
| May 29, 2013 | Law introduced | Formal legislation introduced for public comment |
| June 29, 2013 | Law enacted | Tax disclosure for all firms above 100 AUD million in total income becomes law |
| June 4, 2015 | Private company carve-out | Australian private company exemption draft amendment released for comment |
| November 12, 2015 | Private carve-out enacted | Australian resident private companies removed |
| December 3, 2015 | Amendment passed | Australian private company exemption amended to increase disclosure threshold to 200 AUD million rather than offer complete exemption |
| December 11, 2015 | Amendment enacted | Australian resident private companies with 200 AUD million or more total income back in the measure |
| December 17, 2015 | Public and foreign-owned firm data disclosed | Data for 1538 Australian public and foreign-owned companies released |
| March 22, 2016 | Private firm data disclosed | Data for 312 Australian private companies released |

country-by-country reporting, whereby limited tax information for MNCs is broken down by taxing jurisdiction. While these reports are designed to aid tax administrators, policymakers are evaluating the possibility of making this information public. Although making less political headway in the U.S., several members of Congress wrote a letter to the Financial Accounting Standards Board on July 18, 2017, urging them to require information from country-by-country reports in financial statement disclosures.⁵

One policy argument in favor of putting more information in the hands of the public is that the additional scrutiny will improve tax compliance by shaming firms that do not pay tax. Bø et al. (2015) explore the effect of public tax disclosure of individual taxpayers in Norway, and observe income changes consistent with public disclosure improving tax compliance of self-employed individuals. Hasegawa et al. (2013) examine public disclosure in Japan, and find strong evidence, based on bunching of observations right below the disclosure threshold, that some small corporate and individual taxpayers actively avoided disclosure, suggesting they viewed the disclosure as costly. However, putting more information in the public eye, particularly information that is confusing, incomplete, or misleading, could shame firms who are in full compliance with the law. Empirical research contributing to policy debates such as public country-by-country reporting is sparse, primarily because so few settings exist in which to examine the effects of making tax information public.

In order to examine the effects of public tax disclosure, we focus on a recent policy change in Australia where once-private tax-return information was mandated to be publicly disclosed by the ATO. Table 1 offers a detailed timeline of the implementation of Australia's tax disclosure legislation. On February 4, 2013, the government announced they intended to improve tax transparency with public disclosure. On April 3, 2013, details of the intended regime were announced, including the income threshold for being subject to the new rule. On June 29, 2013, the Tax Laws Amendment Bill 2013 was enacted, applying to all companies reporting total income of 100 AUD million or more on an Australia company tax return.

Some Australian-owned (i.e., controlled) private firms argued that, because their owners were often represented by a small number of individuals, as opposed to private companies owned by foreign corporations or Australian public companies with a widely dispersed shareholder base, disclosure would inappropriately reveal personal details about a firm owner's financial situation.⁶ Indeed, it was this argument that prompted a draft amendment to be enacted on November 12, 2015 that would exempt Australian-owned private companies from the disclosure regulation. Reflecting continued disagreement on this issue, the exemption was amended to increase the disclosure threshold for private firms to 200 AUD million. Pursuant to the legislation, on December 17, 2015 the ATO released the *Corporate Tax Transparency Report* (the "ATO report") on its website revealing firm-specific total income, taxable income, and tax payable for the tax year ending June 30, 2014. Due to the late nature of the private-company amendment, the first report (December, 2015) included 1538 Australian public and foreign-owned firms, while the second (March, 2016) included 321 Australian-owned private firms.

Table 2 shows descriptive statistics for the data disclosed in both December and March. We rely on Orbis data to identify public firms, as Orbis provides both the Australian Business Number (ABN) from the ATO report and the listing status of firms. The data show that about 36% of firms report a zero tax liability, a statistic that featured prominently in the media with headlines such as "Almost 600 major corporations did not pay tax in 2013–2014 financial year, ATO says."⁷ Although the detailed ATO report offers

⁵ <https://thefactcoalition.org/wp-content/uploads/2017/07/07.18.2017-FASB-Country-by-Country-Reporting-Letter.pdf>

⁶ Much of the media coverage following the disclosure centered on wealthy Australians who controlled disclosed private firms. For example, Gina Rinehart, chairman of Hancock Prospecting (a private mineral and exploration company) with estimated personal wealth over 8 billion USD, was covered extensively.

⁷ Interestingly, the ATO also notes in its report that, even for taxpaying entities, the disclosed data "do not themselves indicate whether an entity is paying a high or low rate of tax. Measuring a company's ETR requires more information than that included in the report and comparing ETRs across single entities does not take into account related-party transactions, the broader economic group, or a number of other factors." The ATO states that for privacy reasons it cannot release publicly any of

Table 2
Disclosed data on ATO corporate tax transparency website.

| Sample composition | N | TI > 0 | TP > 0 |
|--------------------|------|--------|--------|
| All firms | 1854 | 1307 | 1179 |
| Australian public | 281 | 211 | 179 |
| Foreign-owned | 1252 | 857 | 777 |
| Australian private | 321 | 239 | 223 |

| Only taxpaying firms (TP ≥ 0) | | | | | | |
|-------------------------------|------|--------|--------|-------|-------|--------|
| All firms | N | Mean | Mdn | Std | Min | Max |
| Total income | 1179 | 1118 | 297 | 4234 | 101 | 67,456 |
| Taxable income | 1179 | 147 | 22 | 871 | 0 | 13,760 |
| Tax payable | 1179 | 36 | 6 | 216 | 0 | 3951 |
| Effective tax rate | 1179 | 26.40% | 29.90% | 6.40% | 0.00% | 30.00% |
| Australian public | | | | | | |
| Total income | 179 | 3867 | 565 | 9865 | 103 | 67,456 |
| Taxable income | 179 | 589 | 60 | 2005 | 1 | 13,760 |
| Tax payable | 179 | 150 | 13 | 533 | 0 | 3951 |
| Effective tax rate | 179 | 24.10% | 27.00% | 7.10% | 0.20% | 30.00% |
| Foreign-owned | | | | | | |
| Total income | 777 | 679 | 266 | 1665 | 101 | 28,217 |
| Taxable income | 777 | 78 | 20 | 416 | 0 | 10,716 |
| Tax payable | 777 | 17 | 5 | 45 | 0 | 515 |
| Effective tax rate | 777 | 26.60% | 30.00% | 6.40% | 0.00% | 30.00% |
| Australian private | | | | | | |
| Total income | 223 | 441 | 297 | 429 | 200 | 3391 |
| Taxable income | 223 | 34 | 14 | 115 | 0 | 1570 |
| Tax payable | 223 | 9 | 4 | 33 | 0 | 466 |
| Effective tax rate | 223 | 27.30% | 30.00% | 5.50% | 3.20% | 30.00% |

Notes. This table shows the sample composition of firms included in the ATO disclosure of tax return data in December (Australian public and foreign-owned) and in March (Australian private). We rely on BvD Orbis data to identify Australian public firms (of the 1859 firms in the ATO data we are not able to match 5 to Orbis). *TI* is *Taxable Income*. *TP* is *Tax Payable*. The *Effective Tax Rate* is the ratio of *Tax Payable/Taxable Income*. *Total Income* is the tax return data item on which the disclosure thresholds were based. Dollar amounts are in millions.

general reasons for a zero tax liability (not on a firm-by-firm basis), the media did not probe into these reasons, instead noting, for example, that the data highlight “a number of companies that paid little to no tax, but does not outline how they minimized their tax bill.”⁸ However, Table 2 shows that the median effective tax rate (ETR) disclosed is the statutory tax rate in Australia of 30%.

There is evidence of significant reputational costs of malfeasance accruing to firms in a range of nontax settings such as accounting fraud (Karpoff et al., 2008), defective products (Garber et al., 1998) and violation of environmental regulations (Karpoff et al., 2005). Reputational costs in these studies take many forms, encompassing a variety of ways in which stakeholders form a perception of the firm that influences the interaction between the firm and its stakeholders. For instance, firms may experience loss of sales, increased regulatory scrutiny, depressed share valuations, shareholder lawsuits, negative media attention, employee turnover, or impairment to brand reputation and consumer interest. Empirical evidence on the reputational costs of tax avoidance is relatively scarce.

The most comprehensive study to date on the reputational costs of tax avoidance is Gallemore et al. (2014). Despite a battery of tests, this study finds little evidence of ex post consequences to the firm – such as media reputation, equity prices, or increased tax payments – from public scrutiny of tax shelter involvement. This study confirms a finding in Hanlon and Slemrod (2009) of negative stock returns in consumer-focused firms around the publicity, but documents that the investor response is short-lived. Despite the lack of broad empirical evidence of ex post consequences, Graham et al. (2014) find more than half of tax executives agree that potential harm to their firm's reputation is an important factor in deciding whether to implement a tax strategy. Consider the Starbucks episode in the United Kingdom. YouGov brand data show that consumers responded negatively to reports that Starbucks generated £398 million in U.K. sales in 2012 but remitted no tax.⁹ Fig. 2 shows that Starbucks' *Buzz Score* (whether respondents heard

(footnote continued)

the additional information that would be required to evaluate the tax rates of these entities and instead subsequently adopted a Voluntary Tax Transparency Code to complement the disclosed data, whereby firms may voluntarily release information to help interested users better interpret the data. See <http://taxboard.gov.au/consultation/voluntary-tax-transparency-code/> for the Voluntary Tax Transparency Code.

⁸ E.g., <http://www.abc.net.au/news/2015-12-17/almost-600-companies-did-not-pay-tax-in-2013-14/7036324>

⁹ YouGov is an international market research firm based in the U.K. For more detail, see <https://yougov.co.uk/news/2013/06/26/starbucks-uphill-battle-resuscitate-its-brand/>.

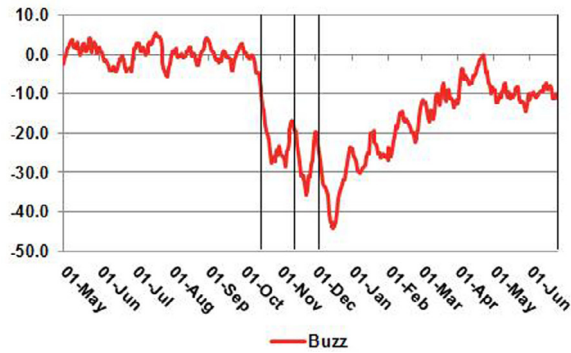


Fig. 2. Starbucks' buzz score in the UK from May 2012 through June 2013.

Notes. The figure reports Starbucks' Buzz Score. YouGov's Buzz score for a brand measures whether people have heard anything positive or negative about the brand in the media or via word of mouth. Specifically, *Buzz Score* is positive (negative) if the consumer indicated "Over the PAST TWO WEEKS, which of the following brands have you heard something POSITIVE (NEGATIVE) about (whether in the news, through advertising, or talking to friends and family)". Three key dates (indicated by the vertical lines) related to allegations of tax avoidance by Starbucks in the UK are: (1) October 15, 2012: Reuter's published a news article exposing some of Starbucks' international tax arrangements, (2) November 12, 2012: Starbucks executives appeared before the Public Accounts Committee; (3) December 6, 2012: Starbucks announced that it intends to remit £20 million U.K. tax, but admits no wrongdoing. Graphic courtesy of YouGov.

anything positive or negative about a brand) declined substantially around three key dates – media coverage, regulator questioning, and the decision to remit more tax.

Our setting provides an opportunity to build upon these studies and contribute to an important policy debate in three important ways. First, the Australia legislation provides an objective measure of tax avoidance that received media scrutiny – paying no tax in Australia – but paying no tax is often a result of legal activity, unlike, for example, involvement in an illegal tax shelter. This is important because one policy concern is that some firms will suffer reputational costs from public scrutiny following disclosure even when they are not inappropriately avoiding taxes. Second, public scrutiny in our settings occurs in a much larger sample of firms than in prior literature. In our setting, hundreds of firms are being scrutinized simultaneously, which may generate results that differ from, and are more robust than, findings from settings where a single firm is scrutinized.¹⁰ Finally, in Australia there is a low level of conformity between financial and tax accounting (Alford et al., 1993). This is important because another policy concern is the extent to which the tax disclosures reveal *new* information, and how it might be interpreted if it differs from available information (e.g., accounting information).

3. Analysis of behavioral response by firms

3.1. Hypothesis development

Slemrod (1992) notes that, in response to the tax system, firms may respond on multiple dimensions, including reporting income differently, changing how they classify income, changing organizational form, retiming transactions and income, or actually changing tax behavior by allowing tax-related cash flows to change. In our setting, one potential response by firms to the new legislation is to avoid being subject to the new rules. Firms will generally voluntarily disclose information if the benefits of such disclosure outweigh the costs, and if firms perceive the disclosure to be costly, whether as a result of consumer, policy, or investor backlash, they may try to avoid disclosure altogether (Verrecchia, 2001).

While there is a broad literature examining firm responses to mandatory disclosure requirements and stakeholder responses to voluntary disclosures (e.g., Healy and Palepu, 2001; Beyer et al., 2010), much less has been done to examine corporate attempts to avoid mandatory disclosure. Gao et al. (2009) find that some firms undertook less investment and paid more cash to shareholders in order to remain below a threshold of 75 USD million in public float and thereby avoid full compliance with Sarbanes–Oxley. Firms also appear to manage around thresholds to avoid requirements mandating both audits and public disclosure (Bernard, 2016; Shroff, 2016), or only audits (Kausar et al., 2016), as well as avoiding disclosure in other settings (Verrecchia and Weber, 2006; Leuz et al., 2008). In the tax setting, Hasegawa et al. (2013) find that in Japan, small businesses manipulated their income in order to fall below a mandatory disclosure threshold. Towery (2017) finds that firms avoid accruing financial statement reserves for uncertain tax positions to avoid being subject to Schedule UTP reporting requirements. Finally, Dyreng et al. (2017) find that some firms with significant subsidiary locations in tax havens simply fail to disclose those subsidiaries despite the legal requirement to do so. We

¹⁰ Hanlon and Slemrod (2009) examine the impact of public scrutiny in 108 firms over a 14-year period, while Gallemore et al. (2014) study a sample of 118 firms over a 10-year period. These studies caveat small sample size and low power as a potential reason for not finding a broad set of statistically significant results.

hypothesize that, in response to a disclosure mandate with an income threshold, some firms will avoid disclosure altogether by reporting income below the threshold.¹¹

H1a. Some firms will take action to avoid being subject to public disclosure of tax information.

Another possible behavioral response by companies is to alter what will become publicly disclosed. This is, presumably, the *intended* response by the politicians who created the disclosure legislature—to reduce abusive tax avoidance in Australia and thereby collect more tax revenue. This response to the disclosure would constitute a real response of public disclosure, which is increasingly being documented in the accounting literature. For example, Christensen et al. (2017) show that in the U.S., when firms were mandated to disclose mine safety records, mine safety actually increased. Kubick et al. (2016) find firms that received an SEC comment letter requesting additional tax information, a form of mandatory disclosure, increased their actual cash tax payments by 1.5 percentage points. In our setting, some firms may opt to increase their tax remittance in general to avoid being seen as not paying their “fair share.”¹² This response is likely predicated upon the cost of additional tax payments versus the cost of potentially negative tax information being disclosed about the firm. If firms place a relatively low cost on having the firm be disclosed as having paid little tax, they may well not change their underlying tax behavior. For example, Hasegawa et al. (2013) fail to document that, in response to a cessation of mandatory public tax disclosure, firms changed their underlying tax payments. Motivated by the literature regarding the real effects of disclosure, we examine the following hypothesis:

H1b. Some firms will change their tax payments in response to public tax-return disclosure.

To properly test these hypotheses, it is necessary to use Australian tax return data for firms both subject to *and not subject to disclosure*. However, there is no publicly-available, data source that would provide total income in Australia reported on line 6S from an Australian Company Tax Return (around which the disclosure threshold is based) or the level of tax payments to Australia by all firms. Fortunately, we were able to obtain data assistance from the ATO due to their understandable interest in the economic effects of this new legislation. In particular, the ATO provided us with de-identified aggregated data on the total income and tax payments for all companies filing an Australian Company Tax Return in the years 2011–2014 – the first tax return year subject to disclosure. Aggregate data were provided across 19 income categories (i.e., total income \geq 95 AUD million and $<$ 100 AUD million), taxpaying status (i.e., a zero tax liability versus a positive tax liability), and the type of firm (i.e., foreign-owned, Australian private, Australian public).

While the aggregate nature of the Australian tax return data limits our ability to pursue some natural statistical tests, the data are nevertheless highly appropriate for examining our hypotheses. These analyses are also helpful in interpreting our later tests and allow us to explore some nuances in the tax disclosure setting that researchers have been unable to examine directly heretofore. For instance, we can examine here separately any changes in the behavior of foreign-owned, Australian private, and Australian public firms. Most large private companies in Australia are foreign-owned, and are thus simply subsidiaries of large, almost always public, companies. Existing studies have documented that tax avoidance is generally positively valued in public companies (e.g., Hanlon and Slemrod, 2009; Frischmann et al., 2008) and that peer effects provide incentives in public firms to manage taxes (e.g., Bird et al., 2017). Consequently, increased transparency could impose a cost (from investor backlash) if public firms are viewed as paying *too much tax* rather than *too little*. Moreover, private companies were the most vocal group arguing very high costs to disclosure, particularly Australian private companies.

3.2. Avoiding disclosure by reporting income under the threshold

To examine H1a, we look at the distribution of reported total income around the disclosure threshold. Fig. 3, Panels A–C show the number of firms in each income bin in the year prior to disclosure and the year subject to disclosure, separately for each type of firm. The 100 AUD million threshold applies to all companies for these tests.¹³ In all cases, we observe a jump in the number of firms reporting just under the threshold, while the number reporting income just over the threshold holds relatively steady or declines. The excess mass just under the disclosure threshold is relatively less pronounced for public firms, with an increase of just 33% in the number of firms from 2013 to 2014. In contrast, the number of firms just under the threshold increased by 65% and 73% for private and foreign-owned firms, respectively. This finding resonates with the argument from private companies that the costs of disclosure are relatively higher because less information is already in the public domain.¹⁴

In Panel D, we examine in more detail the taxpaying status of firms reporting income just below the disclosure threshold to learn

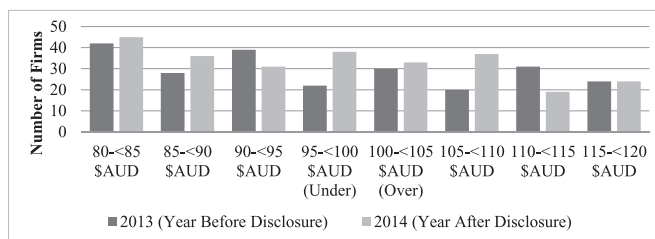
¹¹ For instance, the income threshold is applied to individual entities, not to economic groups, so income thresholds can be manipulated through complex business structures, which the ATO points out are often observed in private companies. See, for example, <https://www.ato.gov.au/Business/Large-business/In-detail/Tax-transparency/Corporate-tax-transparency-report-for-the-2013-14-income-year/>.

¹² SEC comment letters are a form of mandatory disclosure because the ‘conversation’ between the firm and the SEC does not constitute enforcement actions per se, but the content of the ‘conversation’ is publicly available.

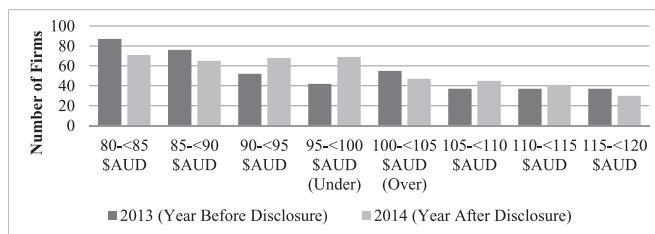
¹³ When the legislation was passed on June 29, 2013 for the tax year from July 1, 2013 to June 30, 2014, all companies filing a tax return in Australia with total income of 100 AUD million (about 75 USD million) or more anticipated being subject to disclosure. Discussion of an exception for Australian private companies began on June 4, 2015. By the time the 200 AUD million increased threshold was introduced, the tax return for 2014 was already filed.

¹⁴ While we tabulate only 2013 and 2014 and only certain income groups to make the graph more manageable, the ATO provided us with data from 2011 to 2014 for many different income categories. The average percentage year to year change in this time period is 7, 9, and 8%, for foreign, private, and public firms, respectively. The standard deviation for these percentage changes is 0.26, 0.23, and 0.39. In light of the mean and standard deviation of these changes, the percentage changes in the 95–100 bin from 2013 to 2014 suggests the differences are significant.

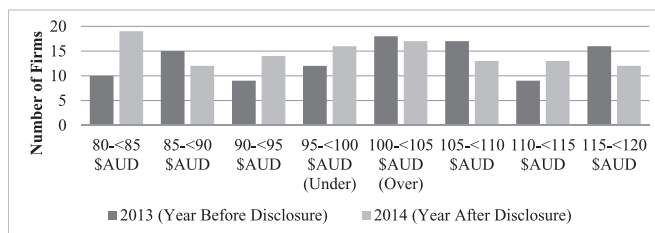
Panel A. Foreign-Owned



Panel B. Australian Private



Panel C: Australian Public



Panel D. % Change in the Number of Firms Just Below the Threshold from 2013 to 2014

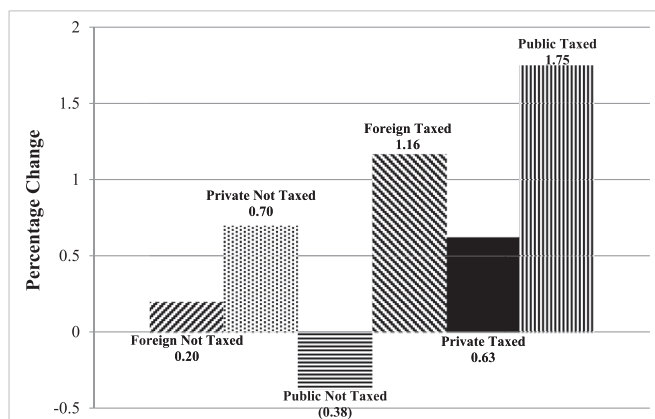


Fig. 3. Analysis of changes in reported total income.

Notes. Panels A, B, and C show the number of foreign-owned, Australian private and Australian public firms in each total income bin that filed a company tax return in Australia in 2013 and 2014. The disclosure threshold was total income of 100 AUD million and 2014 was the first year subject to disclosure. Panel D graphs the percentage change from 2013 to 2014 in the number of firms just below the disclosure threshold. The percentage change is shown separately for foreign-owned, Australian private and Australian public firms based on their taxpaying status. Source: Australian Tax Office.

more about the possible incentives to avoid disclosure. Some interesting patterns emerge. For foreign-owned and public companies, firms reporting just under the threshold are generally taxpaying firms, while for Australian private companies, there is little difference in the composition of firms reporting income under the threshold in terms of taxpaying status. Why would a public taxpaying firm potentially exert more effort to avoid disclosure than a non-taxpaying firm? In the public firm setting (with foreign-owned firms

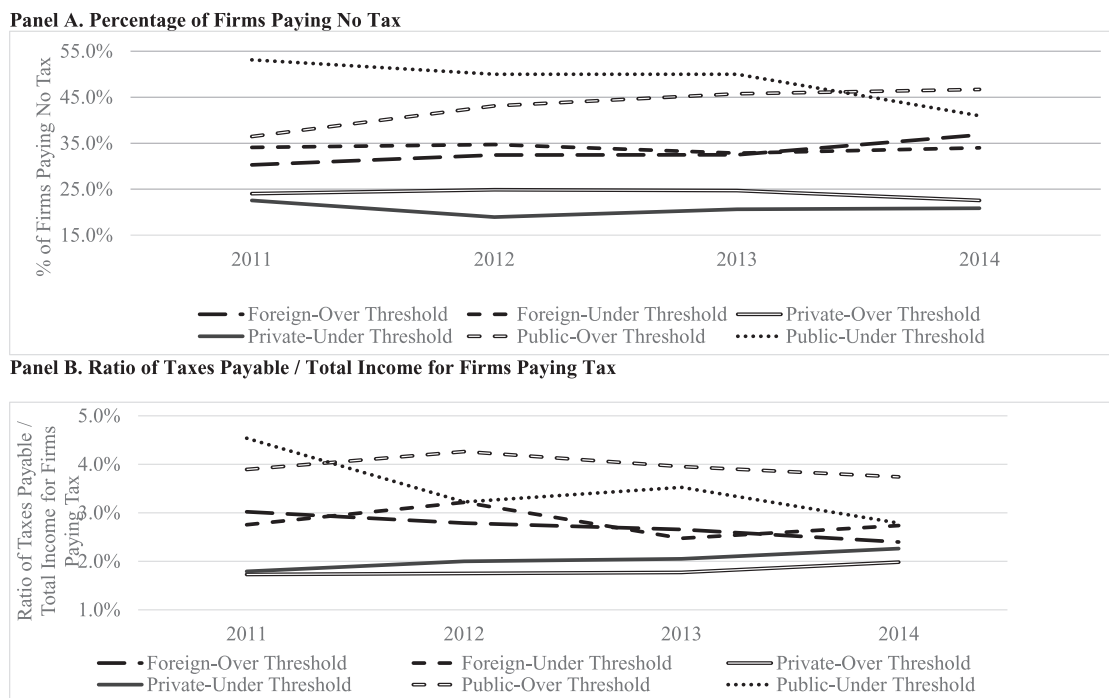


Fig. 4. Tax payments for firms over versus under the reporting threshold.
 Notes. Panel A graphs the percentage of firms reporting a zero tax liability as a share of all firms filing a company tax return in Australia for 2011–2014. Panel B graphs the ratio of taxes payable to total income for firms reporting a positive tax liability. In both panels, we present the data separately for foreign-owned, Australian private and Australian public firms, over and under the disclosure threshold. The disclosure threshold was total income of 100 AUD million and 2014 was the first year subject to disclosure. *Data Source: Australian Tax Office.*

as private subsidiaries of public companies), this resonates with the notion that public firms face pressure to reduce taxes and to maintain effective tax rates in line with competing firms.

3.3. Changing taxes paid

To examine H1b, we look at the taxpaying behavior of firms filing an Australian company tax return in the years 2011–2014 – the first year subject to disclosure. Specifically, we focus on any changes in taxpaying behavior in 2014 for firms over the disclosure threshold, relative to firms under the disclosure threshold. As before, we look separately at foreign-owned, Australian private, and Australian public firms. Each panel in Fig. 4 considers a different measure of taxpaying behavior and as above, data are reported in aggregate.

In Panel A, for firms subject to disclosure (i.e., over the threshold) there is a slight increase in the percentage of firms paying no tax for foreign-owned and public firms, but a slight decrease for private firms. For firms not subject to disclosure (i.e., under the threshold), there is a sizeable decline in the percentage of firms paying no tax for public firms, and relatively little change in foreign-owned and Australian private companies. Whether firms are subject to disclosure or not, additional regulatory scrutiny by the ATO likely applied some pressure to remit tax for fear of political backlash. However, in the public company setting, the pressure to reduce tax payments by shareholders likely tempers that pressure, or even outweighs it, for some public firms subject to public disclosure. Hence, we observe a pattern consistent with some public companies subject to disclosure being less likely to start paying tax, rather than more likely.

Panel B examines only taxpaying firms and considers increases in tax payments. We do not observe strong patterns in the intensive margin of taxpaying firms consistent with pro-compliance effects of public disclosure. Australian private and public firms appear to be decreasing and increasing, respectively, tax payments over time, regardless of disclosure. The only potential effect of disclosure is for foreign-owned companies, where the ratio increases slightly in 2014 for firms not subject to disclosure but decreases for firms subject to disclosure. As foreign-owned companies are generally subsidiaries of public companies (e.g., Google Australia), this is again consistent with investor pressure to reduce taxes in the public company setting. These data patterns are consistent with—although certainly not dispositive of—private companies anticipating a greater cost to disclosure than public companies precisely because they exhibit a higher prevalence of both avoiding disclosure and increasing the amount of tax they pay (slightly more so

when they are subject to disclosure).

3.4. Other changes in firm behavior

While firms may avoid mandatory disclosure or may change their underlying tax behavior so as to change the contents of the mandatory disclosure, in this section, we briefly discuss one additional behavior firms may take—firms can supplement confusing mandatory disclosure with clarifying voluntary disclosure (Guay et al., 2016). The limited time-period after these disclosure events precludes an in-depth analysis of this effect, but we nevertheless describe some preliminary analysis on this potential corporate response to mandatory public tax-return disclosure.¹⁵

We start by examining the corporate communications from the ten largest firms that were covered in the media as not having paid any tax, as arguably these firms would be most driven to respond to the public disclosure.¹⁶ We examine corporate press releases, annual reports, websites, and do general Google searches for information from the firm. Of those ten firms, we find two examples of changes in disclosure.¹⁷ Next, we downloaded the most recent annual reports for the Australian Securities Exchange 100 (ASX 100), and, examined what disclosures they made regarding the ATO. We found four examples out of the 100 annual reports that specifically mentioned the ATO disclosure regime, often mentioning how much in tax the firm paid.¹⁸ Finally, in general searching online, we have found other examples of disclosure clarifying the tax payments.¹⁹ In summary, we find some evidence of companies attempting to explain to the public and investors the ATO disclosures. Our analysis suggests, though, that the great majority of companies did not react in this way. However, as stated, this disclosure regime is relatively new, and more firms may, in time, start disclosing clarifications regarding the ATO disclosure.

Finally, in May of 2016 the Australian Board of Taxation introduced the Voluntary Tax Transparency Code to increase public disclosure of tax information by companies.²⁰ We find that 9 companies not subject to the mandatory disclosure regime adopted the voluntary code.²¹ Of those that were subject to the mandatory disclosure regime that adopted the Code, 15 of them were foreign-owned and 50 were Australian public companies. We find that firms with a greater number of subsidiaries and firms with a greater proportion of institutional shareholders were more likely to adopt the voluntary code. Indeed, comments received from the ASX 100 in developing the framework suggest that differences in consolidation for accounting and tax make it difficult for investors to reconcile tax expense and tax payable. This suggests that firms increased voluntary disclosure to help alleviate confusing mandatory disclosure and is consistent with the findings of Guay et al. (2016), who find that managers use voluntary disclosures to help financial statement users navigate complex financial statements.

4. Does disclosure of tax information affect consumer sentiment?

4.1. Hypothesis development

Whether and how tax disclosure affects consumer sentiment are important unanswered questions (Hanlon and Heitzman, 2010). Anecdotal, managers fear consumer backlash of the sort that Starbucks experienced in the U.K. (Graham et al., 2014). However, Gallemore et al. (2014) were unable to detect a decline in sales revenue or an increase in advertising expense following adverse media coverage accusing firms of tax shelter involvement. In our setting, we are able to take advantage of relatively high-frequency survey data that was not available for the annual or quarterly-level tests conducted in the illegal tax shelter setting in Gallemore et al. (2014).

Our setting also allows us to explore how information disseminated by the media about tax avoidance affects consumers. Prior studies assume that only firms with a media report about tax shelter use were accused of such an activity (Hanlon and Slemrod, 2009; Gallemore et al., 2014). That is, the role of the media was to disseminate otherwise publicly available tax information, lowering

¹⁵ See Kays (2017) for additional work on Australian firms' voluntary disclosure responses to the mandated disclosure.

¹⁶ We obtained the list here: <http://www.smh.com.au/business/the-economy/top-ten-australian-companies-paying-no-tax-20151217-g1pr80.html>.

¹⁷ Lendlease now hosts a website (<http://www.lendlease.com/investor-centre/taxation/tax-disclosure/>) that discusses the ATO disclosure and provides some explanation for why Lendlease was disclosed as having paid no tax. While Lendlease does provide this additional information, the reasons offered for owing no tax are very rudimentary. Lendlease explained why it paid no tax by noting that "For FY15 Lendlease's allowable tax deductions exceeded taxable income for the year. This means Lendlease is in a 'tax loss' position in Australia." It then went on to provide some reasons why it had so many deductions. We also found evidence that Qantas, the largest non-tax payer that was highlighted in many media articles, also included more tax information in its tax footnote in its annual report than it had in the previous year. Qantas notes, in part that it "is committed to embedding risk management practices to support the achievement of compliance objectives and fulfill corporate governance obligations... The Qantas Group has paid all taxes that it owes and all tax compliance obligations are up to date. The Australian Taxation Office (ATO) has advised that the Qantas Group is a key taxpayer continuing to have a 'low' likelihood of non-compliance." It made no such disclosure in prior years.

¹⁸ For example, CIMIC noted "The Group is committed to managing all taxes in a sustainable manner regarding the commercial and social imperatives of our business and stakeholders. The Group does not undertake purely tax driven transactions," and went on to remark that, according to the ATO disclosure, its tax payment was the 13th largest of any firm in Australia. In another example, Tatts discloses that its most significant contribution to sustainability is "our financial contribution to the broader community via our tax contribution..." It then breaks down taxes paid by state.

¹⁹ Mirvac, for example, now maintains a document called "2016 Tax Corporate Governance Statement: Our Approach to Tax," where they note "Mircvac Limited did not pay any income tax in relation to the 2015 and 2016 financial years, as its income was able to be offset by these historical tax losses." On December 18, 2015, TechnologyOne issued a press released that clarified "its effective tax rate in response to the ATO's corporate tax transparency report," and notes that receipt of the R&D tax credit is partially responsible for their "effective tax rate being less than 30%."

²⁰ See http://taxboard.gov.au/files/2015/10/Letter_from_tsr_anti-hybrid.pdf

²¹ The details of these analyses will be provided upon request.

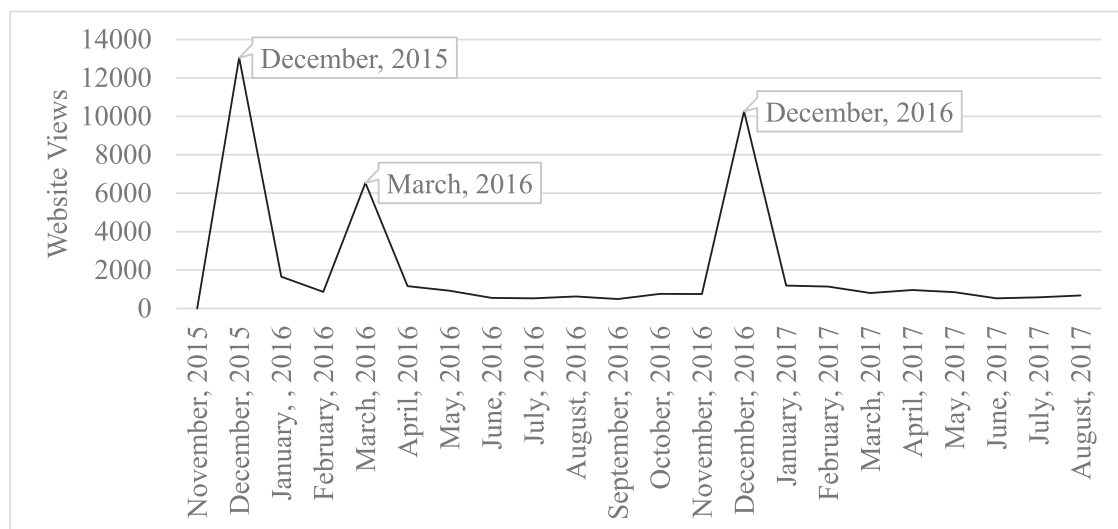


Fig. 5. Views of ATO corporate tax transparency website.

Notes. Figure 5 depicts the monthly number of website views to the Corporate Tax Transparency website, <https://data.gov.au/dataset/corporate-transparency>, obtained from site usage statistics provided by the Australian government at <https://data.gov.au/site-usage/dataset?month=&publisher=australiantaxationoffice>.

information acquisition costs (Dyreng et al., 2017). Kaniel and Parham (2017) describe a channel through which the media impacts consumers called the “prominence channel”, whereby the media increases visibility. We can explore this channel in the tax context because firms with the same (publicly available) tax data experience negative media coverage, while others do not.

The prominence channel is relevant here because it is not clear the extent to which consumers looked at the disclosed information on the ATO website, read about the disclosures in the media, or both. In the tax shelter setting, looking directly at the information required tedious searches of court documents. Here, looking directly at the information was relatively easy – the ATO publicly posted the data on a widely accessed webpage. Indeed, usage statistics indicate that the information was viewed over 13,000 times in December of 2015 (the release month of public and foreign-owned firm data) and over 6000 times in March of 2016 (the release month of private firm data), and was one of the most widely accessed datasets the Australian government provides to the public.²² Fig. 5 shows that these usage statistics are significant relative to other months. While some views constitute stakeholders other than consumers, the fact the data about private firms was widely accessed suggests some consumers viewed the data.

With this background, we first consider whether being subject to disclosure has a negative effect on sentiment. Being subject to disclosure raises the level of scrutiny that consumers might consider a negative signal about the firm. Moreover, if consumers are unaware of the legislative details regarding which firms were selected for disclosure, being subject to disclosure could be interpreted as *selective* regulatory scrutiny. Our first hypothesis is:

H2a. Consumer sentiment is unchanged for firms subject to public disclosure.

Next we consider whether, conditional on being subject to disclosure, there is a differential effect on sentiment for companies that are revealed to have paid no tax. One notable and easily accessible piece of information (i.e., no calculations are required) in the data was the zero tax liability reported by a large number of firms. Given that a zero tax liability in Australia for many firms does not necessarily indicate aggressive tax avoidance, relative to, for instance, being accused of tax shelter involvement, a decline in sentiment would suggest that some firms unfairly experienced costs to public disclosure. Our second hypothesis is:

H2b. Consumer sentiment is unchanged for firms subject to public disclosure of no tax payments.

Finally, we consider whether, conditional on being subject to disclosure, negative media coverage affects sentiment. It was relatively straightforward to access the data directly, but if consumers learned of firms’ tax data from media coverage, or if media visibility impacts consumer sentiment, then we may observe a decline in sentiment only for those firms highlighted specifically by name in a major news source. Thus, our third hypothesis is:

²² See <https://data.gov.au/site-usage/dataset?month=&publisher=australiantaxationoffice> for usage statistics.

H2c. Consumer sentiment is unchanged for firms experiencing negative media coverage.

To test these hypotheses, we analyze two data sources. The first is data from YouGov, an international market research firm that monitors sentiment daily for thousands of well-known brands across the world using online surveys. The second is data from a survey designed by us and executed by TurkPrime in Australia. Using these datasets, we examine changes in consumer sentiment surrounding the tax disclosure events in Australia in December, 2015 and March, 2016.

4.2. Data and empirical tests – YouGov data

We obtain daily YouGov data at the respondent-level for 230 brands in Australia from June of 2015 to June of 2016 to examine the December 2015 disclosure event. As YouGov covers large, international brands, and the December disclosure includes the largest foreign-owned and listed firms, the YouGov data are suitable for examining public firms. Our sample includes the panel of brands covered by YouGov in December 2015, retaining brand/day observations with at least 30 respondents for November 2015 through January 2016. Table 4, Panel A displays the descriptive statistics for this sample. There are 218,087 survey respondent/day/brand observations, with 159,256 of those observations representing brands owned by firms subject to disclosure. To examine H1a, we estimate the following difference-in-difference specification:²³

$$\begin{aligned} \text{You Gov Measure} = & \beta_0 + \beta_1 \text{December 17, 2015} + \beta_2 \text{Subject to Disclosure} \times \text{December 17, 2015} \\ & + \text{Firm Fixed Effects} + \varepsilon \end{aligned} \quad (1a)$$

where *YouGov Measure* is either *Reputation*, *Impression*, or *Buzz*. *Reputation (Impression)* equals -1 if the brand had a negative reputation (impression), 0 if it had neither a negative nor a positive reputation (impression), and $+1$ if it had a positive reputation (impression).²⁴ *Buzz* is -1 if over the last two weeks they heard anything negative about the brand, 0 if they heard nothing, and $+1$ if they heard something positive. *December 17, 2015* is 1 for December 17, 18 or 19, 2015, and 0 otherwise. *Subject to Disclosure* is equal to 1 if the firm was subject to disclosure, and 0 otherwise. The coefficient β_2 captures the change in sentiment following public disclosure for firms subject to disclosure, relative to other firms. To examine H1b, we estimate the following:

$$\text{You Gov Measure} = \beta_0 + \beta_1 \text{December 17, 2015} + \beta_2 \text{Paid No Tax} \times \text{December 17, 2015} + \text{Firm Fixed Effects} + \varepsilon \quad (1b)$$

where *YouGov Measure* and *December 17, 2015* are as defined above and *Paid No Tax* is equal to 1 if the brand owner was disclosed as having paid no tax, and 0 otherwise. We estimate Eq. (1b) in the sample of firms for which *Subject to Disclosure* equals 1 , so the coefficient β_2 captures the change in sentiment following public disclosure of no tax paid, relative to public disclosure of a paid some tax. To examine H1c, we estimate the following:

$$\begin{aligned} \text{You Gov Measure} = & \beta_0 + \beta_1 \text{December 17, 2015} + \beta_2 \text{Covered by Media} \times \text{December 17, 2015} \\ & + \text{Firm Fixed Effects} + \varepsilon \end{aligned} \quad (1c)$$

where all variables are defined previously except *Covered by Media*, which equals 1 if the firm experienced negative media coverage in a major Australian news source, and 0 otherwise.²⁵ We also estimate Eq. (1c) in the sample of firms for which *Subject to Disclosure* equals 1 , so the coefficient β_2 captures the change in sentiment following negative media coverage, relative to no (less prominent) media coverage.

Panel B of Table 3 tabulates the estimation results. Across all three dependent variables, we fail to document a significant effect, consistent with this disclosure event in Australia not meaningfully changing consumer sentiment. Thus, we are unable to reject any of our stated null hypotheses in a sample of relatively large firms with strong global brands. This result may reflect that for large, influential brands public perception is not easily shaken or that there was already a widespread belief that these firms did not pay their “fair share” of taxes, and thus the disclosure did not constitute “new news.” Interestingly, we fail to find a significant result in Column 9, where firms are literally receiving more *Buzz* suggesting not all consumers are heavily influenced by the media. In any case, these results line up with those reported in Section 3 where we fail to see public firms increasing tax payments, which we would expect to see if firms experienced high costs to public scrutiny of not paying tax from consumer backlash.

²³ Because respondents might provide responses for multiple brands, we cluster standard errors at the respondent-level. As we include firm fixed effects, we do not include any firm-specific time-invariant indicator variables.

²⁴ *Reputation* and *Impression* have a correlation of 0.50 across the population of YouGov data. *Reputation* captures what the respondent believes others think of the brand, while *Impression* captures what the respondent thinks.

²⁵ Coverage of this disclosure event in Australia occurred in a number of ways including Twitter, blogs, etc. Consistent with prior literature, we focus on major news sources. Specifically, we search Factiva, in Australia, on December 17th and 18th, for news types “Corporate/Industrial News”, “Political/General News”, or “Selection of Top Stories/Trends/Analysis,” in the highest circulating newspapers (*Herald-Sun*, *Daily Telegraph*, *Courier Mail*, *The Sydney Morning Herald*, and *The West Australian*), plus the Australian Broadcast Corporation, for the search string (ATO OR “paid no tax”). We then read the resulting articles and recorded the names of firms/brands we judged to have received negative coverage in the media. The notes from this exercise are available from the authors upon request.

Table 3
Consumer response: YouGov data.

| Panel A. Descriptive data | | | | | | | | | |
|---|----------------------|----------------------|----------------------|----------------------|--------------------|--------------------|----------------------|--------------------|--------------------|
| Variable | n | Mean | S.D. | 0.25 | Mdn | 0.75 | | | |
| Reputation | 218,087 | 0.188 | 0.542 | 0 | 0 | 1 | | | |
| Impression | 218,087 | 0.2522 | 0.5823 | 0 | 0 | 1 | | | |
| Buzz | 218,087 | 0.1056 | 0.4311 | 0 | 0 | 0 | | | |
| December 17, 2015 | 218,087 | 0.031 | 0.173 | 0 | 0 | 0 | | | |
| Subject to disclosure | 218,087 | 0.730 | 0.444 | 0 | 1 | 1 | | | |
| Paid no tax | 159,256 | 0.263 | 0.440 | 0 | 0 | 1 | | | |
| Covered by media | 159,256 | 0.258 | 0.438 | 0 | 0 | 1 | | | |
| Panel B. Regression results | | | | | | | | | |
| Variables | (1) Reputation | (2) Impression | (3) Buzz | (4) Reputation | (5) Impression | (6) Buzz | (7) Reputation | (8) Impression | (9) Buzz |
| December 17, 2015 | -0.002106 (-0.10) | -0.003882 (-0.18) | 0.028829* (1.69) | -0.005165 (-0.31) | 0.026337 (1.48) | 0.019288 (1.29) | -0.021604 (-1.14) | 0.016987 (0.86) | 0.016654 (1.05) |
| December 17, 2015 X Subject to disclosure | -0.008449 (-0.44) | 0.030445 (1.46) | -0.009470 (-0.59) | | | | | | |
| December 17, 2015 X Paid no tax | | | | -0.021303 (-1.30) | 0.000960 (0.05) | 0.000260 (0.02) | | | |
| December 17, 2015 X Covered by media | | | | | | | 0.040960* (1.65) | 0.035576 (1.36) | 0.010012 (0.45) |
| Firm fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Respondent clustering | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 218,087 | 218,087 | 218,087 | 159,256 | 159,256 | 159,256 | 159,256 | 159,256 | 159,256 |
| R-squared | 0.0578 | 0.0770 | 0.0433 | 0.0581 | 0.0877 | 0.0490 | 0.0581 | 0.0877 | 0.0490 |

Notes. Reputation is -1 if the consumer indicated the brand had a negative reputation, 0 if they did not believe it had a negative or positive reputation (but were still aware of the brand), and +1 if the consumer believed the reputation was positive. Impression is -1 if the consumer answers that the brand has a negative impression, 0 if they did not have a positive or negative impression, or (but were still aware of the brand), and +1 if the consumer had a positive impression of the brand. Buzz is -1 if over the last two weeks the consumer has heard anything negative about the brand, 0 if had heard nothing about the brand, and +1 if had heard something positive about the brand. December 17, 2015 is equal to 1 for December 17, 18 or 19th, 2015, and 0 otherwise. Subject to Disclosure is equal to 1 if the firm that owns the brand had its tax return data included in the December 17, 2015 disclosure, and 0 otherwise. Paid no tax is equal to 1 if the ATO disclosure reveals a zero tax payable for the firm that owns the brand, and 0 otherwise. Covered by Media is equal to 1 if the firm that owns the brand was highlighted in an Australian news source based on a search of all Factiva articles on March 22, 2016 for either "ATO" or "tax transparency", and 0 otherwise. In Panel B, standard errors are clustered by respondent, with t-stats displayed in parentheses below the coefficient estimates. *, **, and *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively (two-tailed).

4.3. Data and empirical tests – TurkPrime data

As YouGov captures large, global brands, the data are not suitable for learning about the impact of tax disclosure on consumer sentiment regarding smaller, private, firms. Therefore, we administered a survey in Australia through TurkPrime, Amazon's online platform, surrounding the March 22, 2016 disclosure to examine changes in sentiment about generally smaller Australian private firms. We asked Australians about their impression of 30 firms on two separate days prior to the March 22 disclosure (March 17 and 20) and three separate days after (March 23 and 27, and April 21). TurkPrime ensured a minimum of 1400 respondents for each date. The number of responses per firm varies depending on the level of familiarity respondents have with that firm and whether, conditional upon familiarity with the firm, they answered all the questions. No respondent participated more than once. Our sample appears to be reflective of the Australian population.²⁶

Because we had to design the survey before we learned which companies would be subject to disclosure, selecting the sample for the survey was not straightforward. We chose the 30 Australian private companies for our survey in two steps. First, we collected information on financial accounting sales from the BvD Orbis database and selected the largest 100 private firms. Second, we ran an initial survey to gauge familiarity with these 100 firms, and retained the 30 firms on the list with the highest level of familiarity. For up to 15 companies with which a respondent was familiar, we asked the following questions, across the five survey dates:

- (1) In your personal opinion, how favorable is your perception of X?
- (2) Assuming you were in a position to need to do business with a company like X, how likely is it that you would do business with X, instead of one of its competitors?
- (3) How ethical do you think X is?
- (4) Do you feel that X pays as much in taxes as it should?
- (5) Have you heard of any recent scandals involving X?"

We measure *General Perception*, *Willing to do Business*, *Ethical Perception*, and *Pays Sufficient Tax* along a seven-point Likert scale for questions (1) through (4), respectively (Likert, 1932). A response of 1 indicates “Not Favorable”, “Not Likely”, “Not Ethical”, or “No” while a response of 7 indicates “Very Favorable”, “Very Likely” “Very Ethical” or “Yes”. For question (5), we measure *Heard of Scandal* as an indicator variable equal to 1 if the respondent indicates they have heard of a recent scandal involving the firm, and 0 otherwise. Table 4 Panel A provides descriptive statistics for the data. To test H2a, we estimate a difference-in-difference specification:

$$\begin{aligned} Turk\ Prime\ Measure = & \beta_0 + \beta_1\ March\ 22,\ 2016 + \beta_2\ Subject\ to\ Disclosure \\ & + \beta_3\ March\ 22,\ 2016\ X\ Subject\ to\ Disclosure + \varepsilon \end{aligned} \quad (2)$$

where *TurkPrime Measure* is either *General Perception*, *Willing to do Business*, *Ethical Perception*, *Pay Sufficient Tax*, or *Heard of Scandal*. The variable *March 22, 2016* is equal to 1 for survey responses after the disclosure, and 0 otherwise. *Subject to Disclosure* is equal to 1 if the firm was subject to disclosure, and 0 otherwise. We cluster standard errors by firm and respondent. In Eq. (2), the coefficient β_3 captures the change in consumer sentiment following public disclosure for firms subject to disclosure, relative to firms not subject to disclosure.

While we would ideally be able to test H2b and H2c with the TurkPrime data, data limitations preclude these tests. Instead we predict, based on public data, which firms would be disclosed and, among those, which would be disclosed as having paid no tax or be subject to media coverage. This is because we needed to administer the first two rounds of our survey prior to the disclosure data's release. In the event, our predictions were imperfect, as only one company subject to disclosure in our survey paid no tax or was subject to media scrutiny, providing insufficient variation. As a result, we cannot rigorously test H2b or H2c with the TurkPrime data.

We present the results of estimating Eq. (2) that tests H2a in Table 4. The estimated coefficient on the interaction term is negative and statistically significant in Columns 1 through 4. This result is consistent with consumers interpreting firms' inclusion in the disclosure regulation, and the resulting increase in scrutiny, negatively. Taken together with our earlier results from the YouGov data, consumer sentiment surrounding tax disclosure appears more fragile for relatively smaller firms. In Column 5, whether the respondent has heard of the firm being involved in a scandal increases after the disclosure, but—surprisingly—not more so for firms subject to disclosure. This possibly reflects many of the headlines in the media referring to companies paying no Australia tax, rather than naming specific firms. These results are consistent with the patterns observed in Section 3, whereby private firms appear more eager to avoid disclosure and increase tax payments than public firms, most likely to temper, at least in part, consumer backlash.

²⁶ Based on observable information, our respondents appear representative of the general Australian population. According to the Australia Bureau of Statistics, <http://www.abs.gov.au/ausstats/abs@.nsf/0/151AA7593B394934CA2573210018DA4A?OpenDocument> 49.7% of Australians are male and in our sample 49.5% are male. Using the midpoint of a range for age (e.g., respondents who answered they are between 20 and 29 are assumed to be 25), the average age of our respondents is 36, whereas the median age in Australia is 37.4. Finally, respondents had average income of 75,000 AUD, whereas average income in Australia is 81,920 AUD (<http://www.abs.gov.au/ausstats/abs@.nsf/mf/6302.0>).

Table 4
Consumer response: TurkPrime data.

| Panel A. Descriptive data | | | | | |
|---------------------------|--------|-------|-------|-----|--|
| Variable | n | Mean | S.D. | Mdn | |
| General perception | 32,407 | 5.013 | 1.629 | | |
| Willing to do business | 31,867 | 4.860 | 1.731 | 5 | |
| Ethical perception | 29,192 | 4.813 | 1.635 | 5 | |
| Pays sufficient tax | 23,231 | 4.504 | 1.866 | 5 | |
| Heard of scandal | 35,466 | 0.155 | 0.362 | 0 | |
| March 22, 2016 | 40,249 | 0.647 | 0.478 | 1 | |
| Subject to disclosure | 40,249 | 0.284 | 0.451 | 0 | |

| Panel B. Regression results | | | | | |
|--|---------------------------|-------------------------------|---------------------------|---------------------------|-------------------------|
| Variables | (1) General perception | (2) Willing to do business | (3) Ethical perception | (4) Pay sufficient tax | (5) Heard of scandal |
| March 22, 2016 | 0.009 (0.35) | 0.004 (0.14) | -0.002 (-0.07) | -0.019 (-0.43) | 0.013** (2.42) |
| Subject to disclosure | -0.199 (-0.94) | -0.089 (-0.42) | -0.203 (-0.94) | -0.269 (-1.00) | 0.007 (0.10) |
| March 22, 2016 X subject to disclosure | -0.081** (-2.37) | -0.092*** (-2.61) | -0.061* (-1.89) | -0.146*** (-3.27) | -0.010 (-1.20) |
| Observations | 29,884 | 29,373 | 26,831 | 21,122 | 32,588 |
| R-squared | 0.0017 | 0.0022 | 0.0016 | 0.0145 | 0.0021 |

Notes. *General Perception*, *Willing to do Business*, *Ethical Perception*, and *Pays Sufficient Tax* are measured using a seven point Likert scale according to how respondents answered questions (1) through (4), respectively, about a given company (Company X). A response of 1 indicates “Not Favorable”, “Not Likely”, “Not Ethical”, or “No” while a response of 7 indicates “Very Favorable”, “Very Likely”, “Very Ethical” or “Yes” depending on the question being asked. Question (1): In your personal opinion, how favorable is your perception of X? Question (2): Assuming you were in a position to need to do business with a company like X, how likely is it that you would do business with X, instead of one of its competitors? Question (3): How ethical do you think X is? Question (4): Do you feel that X pays as much in taxes as it should? We measure *Heard of Scandal* as an indicator variable equal to 1 if the respondent indicates that they have heard of a recent scandal involving the company, and 0 otherwise. *March 22, 2016* is equal to 1 for survey responses collected after the March 22, 2016 disclosure, and 0 otherwise. *Subject to Disclosure* is equal to 1 if the firm’s tax return data was included in the March 22, 2016 disclosure, and 0 otherwise. In Panel B, standard errors are clustered by firm and survey respondent, with t-stats displayed in parentheses below the coefficient estimates. *, **, and *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively (two-tailed).

5. Does disclosure of tax information affect equity prices?

5.1. Hypothesis development

Much of the existing literature on tax avoidance focuses on how shareholders of public firms view tax avoidance. The public firm setting is complicated by the fact that tax reporting decisions occur in a principal-agent framework (Crocker and Slemrod, 2005). Managers have private information about the availability of legal avenues for tax reduction, so incentives are often aligned through complex compensation contracts. As residual claimants, it is in the shareholders' best interest for the manager to engage in some level of tax avoidance, net of any costs of doing so. These may be direct costs arising from settling tax disputes, or they may be indirect costs, such as those from consumer backlash (declines in sentiment), political backlash (changes in tax rules or regulation), or a decline in the optimal amount of tax avoidance in the absence of disclosure.

Public disclosure of tax information has the potential both to increase costs of tax avoidance and reduce private information. Consequently, a priori public disclosure may have either negative or positive effects to shareholders. Consider, for instance, that in addition to the potential decline in consumer sentiment described earlier, investors might also anticipate a policy backlash that is harmful to the firm. Indeed, the statistics ultimately generated by the disclosure event—that more than one-third of firms remitted no tax—apparently resonated with some portion of the Australian public, and certainly played a role in the political debate over corporate tax reform.²⁷ Alternatively, investors may learn something new about the firm's tax reporting due to, for instance, the low level of convergence in Australia between accounting income and taxable income (Alford et al., 1993), reducing agency costs (Desai and Dharmapala, 2006).

Which effect dominates is an empirical question and depends on many things including the amount of backlash the firm experiences (or, is expected to experience), whether any new information revealed to investors about the firm's tax reporting decisions is positive or negative, and how firms respond (or are expected to respond). Existing research has detected a small, short-term, negative market reaction to news of tax shelter involvement (Hanlon and Slemrod, 2009; Gallemore et al., 2014). However, a zero tax liability does not carry the same negative connotation as tax shelter involvement, does not necessarily involve future payments for fines or penalties, nor does it necessarily constitute new information. Financial accounting information serves as a proxy for the level of tax payments by the firm, and is already publicly available.

We search for a reaction by investors by examining stock returns in the 3-day window surrounding two key dates – April 3, 2013 and December 17, 2015. Searching for a response across both dates allows us, in part, to separate out some of the key factors described above. For instance, April 3, 2013 was when the intent to pass legislation was announced, along with the details of how firms would be selected for disclosure; however, no tax information about firms was disclosed. December 17, 2015 was the date on which tax information was first disclosed. Therefore, results from our April tests cannot be attributed to the arrival of new information.

H3a: Equity prices are unchanged following anticipation of public tax disclosure.

H3b: Equity prices are unchanged following public tax disclosure.

5.2. Data and empirical tests – April 3, 2013

As no information was disclosed on April 3, in order to react appropriately to the new legislation, investors needed to predict which firms would ultimately be subject to disclosure. Moreover, to anticipate costs of disclosure, investors would also need to predict the content of the disclosure. For consistency, we assume in these tests that investors focus on what the media ultimately highlighted after the disclosure event – no-tax companies.²⁸ We also assume that financial accounting data is used by investors to predict which firms would be subject to disclosure and whether the firm would be disclosed as a firm that pays no tax.²⁹ To test H3a, we estimate the following regression equation during the period March 1 to May 31 of 2013:

$$\text{Three Day Buy and Hold Return} = \beta_0 + \beta_1 \text{Paid No Tax} + \beta_2 \text{April 3, 2013} + \beta_3 \text{Paid No Tax} \times \text{April 3, 2013} + \varepsilon \quad (3a)$$

where *Three Day Buy and Hold Return* is, unsurprisingly, the three-day buy-and-hold return. *April 3, 2013* is equal to 1 for April 3, and 0 otherwise. *Paid No Tax* is equal to 1 if the firm had zero tax expense in fiscal 2012, and 0 otherwise. We cluster standard errors by calendar date. As the disclosure threshold is based on income, which is highly correlated with size, any economy-wide factor that affected large firms differently from small firms could spuriously manifest on the date of the disclosure. To address this issue, we use a sample of firms most likely to be subject to disclosure, and examine the stock price behavior of firms likely to be disclosed as paying

²⁷ For example, *The West Australian* carried a story on December 18, 2015 headlined “Pressure on for company tax reform” that noted how the disclosure was pressuring the Turnbull Liberal Party government to reform the corporate tax law. Labor unions referenced the statistic to criticize corporations (International Transport Workers' Federation, 2016; Australian Council of Trade Unions, 2016). Tax activist groups used the statistic to encourage tax reform (GetUp!, 2016; Oxfam, 2016). The disclosure has been tied to talk of criminalization of some forms of tax planning, including using jail sentences as punishment (Passant, 2016). And, perhaps most importantly, the statistic has been referred to in advocating for tax reform legislation (e.g., Leigh, 2016; Wardell, 2016).

²⁸ Note that a zero tax liability is often the focus of media coverage, particularly in the context of tax payments in a single, relatively high-tax, country – e.g., a typical story headline covering the Starbucks affair in the U.K. read, “Good bean counters? Starbucks has paid no tax in UK since 2009” (Hickman, 2012).

²⁹ Financial Accounting Sales in Orbis is assumed to be the market's proxy for Total Income on the tax return. The correlation between Financial Accounting Tax Expense in Orbis, the market's proxy for Tax Payable on the tax return, and actual Tax Payable in the ATO data is 0.79.

Table 5
Market response.

| Panel A. Descriptive data | | Mean | S.D. | 0.25 | Mdn | 0.75 |
|-------------------------------------|----------|-------|------|-------|------|------|
| | <i>n</i> | | | | | |
| April 3, 2013 test | 14,036 | -0.01 | 0.05 | -0.03 | 0.00 | 0.02 |
| Three day buy and hold return | | | | | | |
| April 3, 2013 | 14,036 | 0.02 | 0.13 | 0.00 | 0.00 | 0.00 |
| Paid no tax | 14,036 | 0.18 | 0.39 | 0.00 | 0.00 | 0.00 |
| Number of entities in group | 13,915 | 101 | 267 | 19 | 36 | 90 |
| Share of institutional shareholders | 14,036 | 0.86 | 0.25 | 0.87 | 0.96 | 1.00 |
| Consumer oriented | 14,036 | 0.07 | 0.26 | 0.00 | 0.00 | 0.00 |
| December 17, 2015 test | 12,758 | 0.00 | 0.05 | -0.03 | 0.00 | 0.02 |
| Three day buy and hold return | | | | | | |
| December 17, 2015 | 12,761 | 0.02 | 0.13 | 0.00 | 0.00 | 0.00 |
| Paid no tax | 12,761 | 0.24 | 0.43 | 0.00 | 0.00 | 0.00 |
| Number of entities in group | 12,700 | 98 | 272 | 18 | 36 | 83 |
| Share of Institutional shareholders | 12,761 | 0.88 | 0.21 | 0.88 | 0.96 | 1.00 |
| Consumer oriented | 12,761 | 0.10 | 0.30 | 0.00 | 0.00 | 0.00 |

| Panel B. April 3, 2013 tests (legislative announcement) | | (1) | (2) | (3) | (4) |
|---|-------------------------------|-----------------------------|-------------------------------------|-------------------|-----|
| Variables | Three day buy and hold return | | | | |
| Paid no tax | 0.000269 | -0.000496 | -0.001323 | 0.000621 | |
| | (0.17) | (-0.30) | (-0.25) | (0.39) | |
| April 3, 2013 | -0.019485*** | -0.019338*** | 0.009067*** | -0.020257*** | |
| | (-9.87) | (-10.06) | (2.92) | (-9.99) | |
| Paid no tax X April 3, 2013 | -0.011831*** | -0.014023*** | -0.024025*** | -0.011975*** | |
| | (-7.44) | (-8.49) | (-4.60) | (-7.52) | |
| Interaction | | -0.000003** | 0.004672* | 0.009483*** | |
| | | (-2.08) | (1.82) | (4.26) | |
| Paid no tax X Interaction | | 0.000007*** | 0.002049 | -0.001561 | |
| | | (3.14) | (0.36) | (-0.48) | |
| April 3, 2013 X Interaction | | 0.000004*** | -0.033242*** | 0.009715*** | |
| | | (2.81) | (-12.95) | (4.36) | |
| Paid no tax X April 3, 2013 X Interaction | | 0.000004 | 0.013733** | 0.008843*** | |
| | | (1.62) | (2.39) | (2.74) | |
| Interaction variable | | Number of entities in group | Share of institutional shareholders | Consumer oriented | |
| Cluster by date | Yes | Yes | Yes | Yes | |
| Observations | 14,036 | 13,915 | 14,036 | 14,036 | |
| R-squared | 0.0029 | 0.0032 | 0.0038 | 0.0051 | |

| Panel C. December 17, 2015 tests (actual disclosure) | | (1) | (2) | (3) | (4) |
|--|-------------------------------|-------------|--------------|-------------|-----|
| Variables | Three day buy and hold return | | | | |
| Paid no tax | -0.000640 | -0.000736 | -0.007947 | -0.000294 | |
| | (-0.52) | (-0.58) | (-1.24) | (-0.23) | |
| December 17, 2015 | 0.023792*** | 0.024832*** | -0.011661*** | 0.022473*** | |
| | (12.62) | (13.09) | (-4.81) | (12.01) | |

(continued on next page)

Table 5 (continued)

Panel C. December 17, 2015 tests (actual disclosure)

| Variables | (1) Three day buy and hold return | (2) | (3) | (4) |
|---|--------------------------------------|-----------------------------|-------------------------------------|--------------------------|
| Paid no tax X December 17, 2015 | -0.004813*** (-3.90) | -0.004296*** (-3.37) | 0.088648*** (13.88) | -0.002083 (-1.66) |
| Interaction | | 0.000006** (2.21) | -0.000165 (-0.06) | 0.007096*** (5.58) |
| Paid no tax X Interaction | | -0.000001 (-0.15) | 0.008306 (1.11) | 0.004689 (1.24) |
| December 17, 2015 X Interaction | | -0.000011*** (-3.90) | 0.040339*** (13.69) | 0.010855*** (8.54) |
| Paid no tax X December 17, 2015 X Interaction | | 0.000002 (0.33) | -0.105278*** (-14.03) | -0.045792*** (-12.11) |
| Interaction variable | | Number of entities in group | Share of institutional shareholders | Consumer oriented |
| Cluster by date | Yes | Yes | Yes | Yes |
| Observations | 12,758 | 12,697 | 12,758 | 12,758 |
| R-squared | 0.0029 | 0.0037 | 0.0036 | 0.0048 |

Notes. *Three Day Buy and Hold Return* is the three-day buy-and-hold return. *April 3, 2013* is equal to 1 for April 3, 2013, and 0 otherwise. For the April 3, 2013 test, *Paid no tax* is equal to 1 if the firm had zero tax expense in 2012 (our best estimate for a zero tax firm), and 0 otherwise. For the December 17, 2015 test, *paid no tax* is equal 1 if a firm had positive tax expense in 2014, but, was disclosed as having paid no tax, and 0 otherwise. *Number of Entities in Group* is a count variable equal to the number of legal entities in the economic group to which the entity in the ATO data belongs. *Share of Institutional Shareholders* is the share of the firm owned by institutional shareholders. *Consumer Oriented* is an indicator variable coded to equal 1 for firms with brands that are covered by YouGov. In Panels B and C, the variable *Interaction* refers to *Number of Entities in Group*, *Share of Institutional Shareholders*, and *Consumer Oriented*, respectively. *, **, and *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively (two-tailed).

no tax.³⁰

We report the results of estimating Eq. (3a) in Table 5, Panel B. The estimated negative interaction term in Column 1 implies that firms with zero financial accounting tax expense reported in the prior period had three-day returns surrounding the April 3 event date that were 1.18 percentage points lower than other firms. This suggests that investors anticipated relatively higher costs of disclosure for the set of firms likely to be disclosed as not paying tax.

In the remaining columns of Panel B, we report the results of cross-sectional tests of response heterogeneity with respect to indicators of these potential costs in order to shed light on whether it is the anticipation of higher costs to disclosure driving the result reported in Column 1. First, we consider group complexity, measured by the number of legal entities in the group from the BvD Orbis data. As highlighted by the ATO, a significant difference between book and tax accounting arises in consolidation. The ATO report notes that “disclosed information will be at the corporate tax entity level; however, these entities may not represent economic groups, and some economic groups contain two or more tax groups and other non-consolidated entities within them.”³¹ Companies with larger groups could experience relatively higher costs from anticipated disclosure if book-tax differences concern consumers, regulators, or politicians. Alternatively, firms with more complex groups may have greater ability to influence the likelihood of disclosure through restructuring and intercompany transactions, lowering the costs of the new rules. In Column 2, the point estimate is not statistically significant.

Second, we consider the proportion of institutional investors, a common proxy for investor sophistication (Bartov et al., 2000). As described earlier, the potential impact to firms from the new disclosure regime in Australia is quite nuanced, and was surely difficult to assess early on. However, Chen (2016) documents a significant amount of negative media coverage surrounding the April 3, 2013 legislative date arguing that disclosure would be costly for firms. We expect that negative media coverage is less likely to influence the analysis of a sophisticated investor. Therefore, our prior was that institutional investors anticipated lower costs of disclosure. In Column 3, we report a significantly positive coefficient for firms with more institutional shareholders (0.0137), consistent with our expectations. This result is also consistent with our inability to document, on average, a sizable decline in consumer sentiment for public firms in Section 4, or a change in firm behavior in Section 3 suggesting that firms themselves anticipated a no-tax disclosure to be costly.

Third, we consider brand value, measured as a binary variable indicating YouGov coverage. Naturally, YouGov polls consumers about brands owned by firms concerned about brand image. On the one hand, these firms could experience relatively higher costs to disclosure from greater consumer backlash. On the other hand, consistent with our inability to find any decline in consumer sentiment in Section 3 in our YouGov sample, these firms may experience relatively lower costs to disclosure because these brands are so well established. In Column 4, we report a significantly positive coefficient for firms covered by YouGov (0.0088), suggesting that the latter effect dominates.

5.3. Data and empirical tests – December 17, 2015

Next, we examine the market reaction to the actual disclosure event. As in our prior tests, reaction surrounding the disclosure could arise from changes in expected costs of disclosure. Unlike our prior tests, however, here investors could also react to the arrival of new information about firms’ tax situation. To test H3b, we estimate the following specification during the period November 1, 2015–January 31, 2016:

$$\begin{aligned} \text{Three Day Buy and Hold Return} = & \beta_0 + \beta_1 \text{ Paid No Tax} + \beta_2 \text{ December 17, 2015} \\ & + \beta_3 \text{ Paid No Tax} \times \text{December 17, 2015} + \varepsilon \end{aligned} \quad (3b)$$

The variable *December 17, 2015* is equal to 1 for December 17, and 0 otherwise.³² To capture the new information about no-tax liability contained in the disclosure, we code *Paid No Tax* equal to 1 if the firm is disclosed as a no-tax firm but had positive zero financial accounting tax expense reported in the prior period. We report the results of estimating Eq. (3a) in Table 5 Panel C.

In Column 1, we report a small, but statistically significant, negative response to *Paid No Tax* for firms subject to disclosure. This result arises either from investors interpreting the new tax information negatively, consistent with agency costs (Desai and Dharmapala, 2006), or from beliefs that backlash to the firm would be greater than anticipated.³³ To separate out the potential

³⁰ We find similar results across other specifications. For instance, when we look at the effect of being subject to disclosure, there is a significantly negative market response. We also control for size, and analyze only those firms right around the disclosure threshold – both of these specifications produce similar results to those that we report. These results are available from the authors upon request.

³¹ Also in the ATO report: “Entities listed in Report of entity tax information may not be directly comparable to entities reporting as financial groups under corporation law. Many economic groups are made up of multiple entities and lodge returns for each entity in the group, even though they may all be included in one set of financial statements. This can also result in the tax being paid by one entity in the group, for the whole group, and others in the group showing nil tax payable.” See <https://www.ato.gov.au/Business/Large-business/In-detail/Tax-transparency/Tax-transparency-reporting-of-entity-tax-information/>

³² In robustness analysis, we expand the date window, and set the date indicator equal to one for December 16–18; our main result, the negative coefficient in Column 1 of Table 6, Panel C becomes indistinguishable from zero. This could be because increasing the window to include days where investors were not actively pricing the disclosure simply adds noise to the regression result, or could be because of a return reversal as investors decide they overreacted. To test for overreaction, we set the date indicator equal to one for December 21 and 22 (December 19 and 20 are Saturday and Sunday), and find that the coefficient on December 21 and 22 × *Paid No Tax* is not significantly different from zero, failing to support the possibility of a return reversal. Details are available from the authors.

³³ To avoid estimation problems that firms near the threshold of disclosure cause, we also estimated the regressions eliminating the 10 firms closest to the threshold, and the results are qualitatively unchanged.

channels, we run the same cross-sectional tests as before.³⁴ In Column 2, we again fail to find any significant effect attributable to group complexity. In Column 3, we report a large *positive* response to a no-tax disclosure for firms with less sophisticated investors and a small *negative* response for firms with more sophisticated investors. The large response by less sophisticated investors suggests they are more likely to use financial accounting information as a proxy for tax information, and thus, there is more ‘news’ in the disclosure. Moreover, the news is positive, suggesting they think less about agency costs of tax avoidance than more sophisticated investors. Indeed, Khan et al. (2017) recently find evidence consistent with institutional investors encouraging tax avoidance. Finally, in Column 4, we find evidence that the negative response to the actual disclosure of no-tax paid is concentrated in the YouGov sample.³⁵ As we find no evidence of an actual decline in consumer sentiment surrounding the disclosure, it is more likely that investors are anticipating a greater level of political backlash to large, well-known firms.

6. Conclusions

There is currently widespread pressure for action to limit perceived harmful tax practices by businesses. One response has been to increase the amount of information available to taxing authorities for enforcement, while another is to improve accountability and compliance with disclosure to the public. The latter response is of particular concern to firm managers fearing that the costs of public disclosure will outweigh the benefits. For instance, transparency can potentially create compliance burdens, divulge sensitive information, generate confusion about company behavior, and impose reputational damage on firms. Policy discussions generally proceed in a near-absence of evidence of the effects of disclosure.

Our paper seeks to fill this void by considering the recent episode wherein the ATO disclosed firm-level data from Australian company tax returns, including income and taxes payable, for listed and private firms. We analyze changes in firm behavior, consumer sentiment, and share prices. Our results suggest that private companies took more action to avoid disclosure, and the effect of disclosure appears to have raised the tax payments of private companies but lowered the tax payments of public companies, consistent with differences in disclosure costs. Relatedly, private firms experienced a small decline in consumer sentiment, suggesting that expectations of consumer backlash motivated some private firms to avoid disclosure. Finally, we find a small negative investor reaction to both anticipated and actual disclosure. Cross-sectional tests point to anticipated policy backlash resulting in changes to the tax code as the likely source of a reaction. For instance, Australia introduced a diverted profits tax, effective on July 1, 2017. The momentum for this was clearly intensified by public scrutiny of tax information.

Our paper contributes to the literature examining the costs and consequences of public tax-return information, including how specific implementation rules may affect disclosure outcomes. Further, our paper contributes to the growing literature on taxes and reputation. Surveys of tax directors have found that one pervasive fear associated with tax planning is garnering negative attention. Relatedly, several studies have searched for evidence on reputational consequences associated with tax shelter involvement. Our study shows that there can be costs to disclosure outside of the tax shelter context – i.e., even when firms may be obeying the law.

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³⁴ We argue that we are able to separate out the new information channel from the beliefs about indirect costs in these tests because, for instance, we see no good reason why more versus less sophisticated investors would form significantly different beliefs about backlash around the actual disclosure because backlash is now observable. Moreover, we see no reason why investors in YouGov firms would form different opinions about the new information contained in the disclosure than investors in non-YouGov firms.

³⁵ One concern expressed by some Australian firms was that firms that validly paid no tax because they actually earned no income would be perceived as avoiding tax. It is difficult to tell from the ATO data which firms paid no tax for valid reasons, and which did not. However, in a sample of only firms that had no taxable income that remitted no tax, we continue to find a small, negative reaction on the date of the disclosure for firms that paid no tax, suggesting that the market punished even those that potentially had valid reasons for paying no tax. We do not conduct this test for our survey-based tests, as we do not believe it is plausible that Australian consumers would be able to differentiate between a firm paying no tax because it has no income, and paying no tax for other reasons.

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