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Corporate Inversions: Going Beyond Tax Incentives

Finance Working Paper N° 529/2017
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Burcin Col
Pace University

Rose Liao
Rutgers University

Stefan Zeume
University of Michigan

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Abstract

We study tax and non-tax incentives for corporate inversions in a hand-collected dataset of 691 inversions out of 11 home countries into 45 host destinations over the 1996-2013 period. Even though lower tax rates generally attract inversions, only two in five firms invert into tax havens and two thirds of firms invert into host destinations with lower statutory tax rates than those faced at home. Moreover, firms invert to geographically close destinations with similar governance standards. Using staggered country-pair level policy changes as experiments, we find that host-country governance may explain why not all firms invert.

Keywords: Inversions, Tax havens, Tax avoidance, Corporate governance, Cross-border flows

JEL Classifications: G34, H26

Burcin Col
Assistant Professor of Finance
Pace University, Lubin School of Business
One Pace Plaza
New York, NY 10038, United States
phone: +1 212 618 6478
e-mail: bcol@pace.edu

Rose Liao*
Assistant Professor of Finance
Rutgers University, Rutgers Business School
1 Washington Park, Office 1152
Newark, NJ 07102, United States
phone: +1 973 353 5308
e-mail: liao@business.rutgers.edu

Stefan Zeume
Assistant Professor of Finance
University of Michigan, Ross School of Business
701 Tappan Street
Ann Arbor, MI 48109, United States
phone: +1 734 764 8127
e-mail: zeume@umich.edu

*Corresponding Author

Corporate Inversions: Going Beyond Tax Incentives

Burcin Col[†]
Pace University

Rose Liao[‡]
Rutgers University

Stefan Zeume[†‡]
UIUC

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Abstract

We study tax and non-tax incentives for corporate inversions in a hand-collected dataset of 691 inversions out of 11 home countries into 45 host destinations over the 1996-2013 period. Even though lower tax rates generally attract inversions, only two in five firms invert into tax havens and two thirds of firms invert into host destinations with lower statutory tax rates than those faced at home. Moreover, firms invert to geographically close destinations with similar governance standards. Using staggered country-pair level policy changes as experiments, we find that host-country governance may explain why not all firms invert.

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[†] Associate Professor, Department of Finance, Pace University, bcol@pace.edu.
[‡] Associate Professor, Department of Finance, Rutgers University, liao@business.rutgers.edu.
[‡†] Corresponding author. Assistant Professor, Department of Finance, University of Illinois Urbana-Champaign, Gies College of Business, 1206 S 6th Street, Champaign, IL 61820, zeume@illinois.edu.

In 1982, a Louisiana-based construction firm, J. Ray McDermott & Company, flipped its corporate structure so that one of its cash-rich Panama-based subsidiaries became the parent firm. The shareholders of the original firm exchanged their shares for shares in the Panama-based parent, and benefitted from a substantial reduction in corporate income taxes owed by the firm due to the territorial tax system and lower tax rates in Panama.

Transactions of this type, called "corporate inversions," have since gained in popularity. In 2014 alone, U.S. firms with a combined market capitalization exceeding half a trillion dollars announced their intention to invert (Babkin et al. 2017). Among the deals that received substantial media attention is the Pfizer–Allergan merger announced in 2015. Had this merger been completed, it could have cut Pfizer's effective tax rate from 26% to 15%, reducing the company's tax burden by $2.1 billion in the next year. Policymakers, however, have long considered inversion firms 'unpatriotic corporate deserters' for their tendency to dodge domestic tax obligations. In April 2016, the U.S. Department of the Treasury proposed new rules making it harder to avoid taxes by means of inversions which ultimately led to withdrawal of the Pfizer–Allergan deal. Despite their increasing popularity and their large economic and political consequences, the extent of our knowledge about inversions is still quite limited.

Two key features of corporate inversions have emerged from the academic literature and the media so far. First, taxes are the main driver of inversion activity. Second, the U.S. is a key home country from which firms invert.[1] In this paper, we examine whether non-tax considerations are an important reason for corporate inversions. One way to investigate other non-tax incentives is

[1] Desai and Hines (2002) and Seida and Wempe (2004), for instance, document that tax motives are the main drivers of inversion activity by U.S. firms. The media uses the terms "inversion" and "tax inversion" almost interchangeably. A Factiva search over all articles containing the words "corporate" and "inversion" over the last ten years returns 10,461 articles, 8,716 (83%) of which also contain the word "tax." [1] And just like academic articles, most of these articles focus on U.S. firms. Lastly, politicians have "blamed" firms for inverting for tax reasons.

to use the international environment as a laboratory since good experiements are hard to come by in a single country setting. Specifically, we hand-collect data on 691 corporate inversions from 11 home countries into 45 host destinations over the 1996-2013 period to study the drivers of corporate inversions on a global scale.[2] The novelty of our dataset lies in extending the sample of inversions to non-U.S. firms, which allows us to make use of a variety of staggered country-pair level policy changes to identify drivers of inversion activity. Our definition of a corporate inversion requires a firm to change its country of incorporation. This definition broadly follows the literature. For instance, Cortes et al. (2016) define inversions as changes in incorporation country while remaining listed in the U.S..[3]

From our data, the need to look beyond the U.S. and beyond tax motives arises immediately. Among the 691 inversions in our sample, more than 68% are out of home countries other than the U.S. (Panel A, Figure 1). Similarly, only 21% of inversions in U.S. dollar values are out of the U.S. (Panel B, Figure 1). In fact, inversions are very common among firms in Canada (284; 41%) and the United Kingdom (104; 15%), challenging the popular notion that inversions are a U.S.-only phenomenon.

--- Figure 1 about here ---

Challenging the other popular notion that corporate inversions are purely tax-driven, Figure 2 shows that three in five inversions occur into non-tax havens (Panel A) and among these, half are into destination countries with higher statutory tax rates than those faced at home (Panel B). Further challenging that notion, there are inversion flows going from the U.S. to Canada (with

[2] We describe our data, which we obtain from Swiss-based data company SIX Financial Information, in Section 2.
[3] Specifically, while our definition captures inversions studied by Cortes et al. (2016), such as Tyco International Plc's inversion to Ireland in 1997 or Trenwick Ltd.'s inversion to Bermuda in 2001, our definiton also captures additional inversions that do not fulfill their listing requirement. Examples of inversions additionally included in our sample are Fruit of the Loom Inc's inversion to the Cayman Islands in 1999 and the PXRE Group (now: Argo Group International Holdings Ltd) inversion to Bermuda in 1999. The SEC filings associated with these latter two inversions mention tax saving motives. Our results are robust when we remove inversions by U.S. firms not listed in Cortes et al. (2016)'s Appendix B.1.

lower taxes) and from Canada to the U.S. at the same time (Panel C).

--- Figure 2 about here ---

We first document the manner in which international factors affect the cross-sectional pattern of inversion flows. Geography clearly matters for inversion flows; holding other things constant, the shorter the distance between two countries, the more likely we are to observe inversions between the two countries. In addition, inversions are more likely to occur between countries where the host destination provides a relative tax advantage. Firms are also more likely to invert out of economically developed countries with higher growth rates. Perhaps more importantly, host destinations with lower governance standards attract fewer inversions.

Intrigued by these cross-sectional patterns of inversion flows, we focus on the tax consideration and the governance characteristics, both of which experienced significant changes for some country pairs during our sample period due to the staggered passage of bilateral double taxation treaties (DTTs) and tax information exchange agreements (TIEAs). Our findings suggest that an improvement in tax benefits generated by country-pair level DTTs leads to a 2.1% increase in the number of inversions at the country-pair level. And in further support of governance considerations, we find that inversion activity between country-pairs increases by 5.5% following passage of bilateral agreements between countries that improve transparency, namely TIEAs. These experiments help ruling out that our results are driven by potential omitted country-pair characteristics.

These results suggest that the tax savings associated with a corporate inversion are likely to be at least partly offset by increased monitoring costs. Though some firms that invert out of the U.S. may still fall under U.S. Federal Securities Law provisions, the monitoring of such firms becomes costlier, particularly when they invert to weak governance countries (see Cortes et al.,

2016). We build intuition from existing models of the expropriation costs associated with tax vehicles, such as Desai et al. (2007). Specifically, researchers argue and show that the channels firms use to mask resources from tax authorities may also be used to funnel resources into the pockets of controlling shareholders or managers (Desai et al., 2007), and lower transparency can result in a lower corporate tax burden but may also increase the cost of raising external capital (Ellul et al., 2016).

In our last set of results, we examine at the firm level the implications arising from the tax motive and the governance considerations. While these firm-level results can provide some assurance to our earlier findings, we caution from interpreting them causally—it remains, after all, a firm's choice to invert.

We find that inversions into lower tax destination countries and offshore financial centers are accompanied by a decrease in effective tax rates, reduced financial constraints, and an increase in firm value. These findings suggests that inversion decisions seem to align well with shareholders' interests. There is little evidence that firms suffer in their ability to raise external capital after inversion.

For the governance consideration, we find that instutional ownership generally increases after an inversion; however, institutional owners appear to withdraw from inversions into poorly governed locals, suggesting that inversions into weakly governed entities may indicate potential agency conflicts and increased monitoring costs for institutional owners. We further explore company disclosure and governance standards of the inverted firms by examining financial reporting quality. If the inverted firms can capture the benefits of low taxes without compromising governance standards, they are less likely to engage in earnings management. On the other hand, Durnev et al. (2017) show that offshore firms are more likely to engage in

earnings management than non-offshore firms as they operate in weaker legal environments and the secrecy policies of OFCs make it easier and less risky for managers to do so. Generally, inversions do not appear to be associated with a change in levels of earnings management. However, we find evidence that earnings management as measured by accruals declines for inversions into low tax countries and offshore financial centers. This is unsurprising given that there is less scope and necessity of aggressive earnings management in low-tax environments. For instance, in a zero-tax environment, there is little need to manage earnings. We find weak evidence that earnings management increases as firms invert into more poorly governed countries, consistent with the increased monitoring costs.

Our study adds to several strands of literature. First and foremost, our study evaluates the extent to which various international factors influence the decision of firms to invert. Our results suggest that in addition to the tax factor, both geography and governance are important determinants to inversion flows. Policymakers (and the media) have portrayed firms that invert as unpatriotic, poorly run firms.[4] However, these negative connotations reflect tax collectors' perspectives rather than shareholders' perspectives. Here, we find inversions to be corporate actions conducted in the interest of maximizing firm value. They occur if the costs arising from the opaqueness of such restructurings are more than offset by the potential for tax savings. Ultimately, our setting is reflective of the possible tensions that may arise between firms making decisions in shareholders' interests and governments seeking to correct distributive failures (e.g., Bénabou and Tirole 2010).

[4] The OECD Base Erosion and Profit Shifting report (http://www.oecd.org/ctp/ beps-2014-deliverables-explanatory-statement.pdf) states the realigning of taxation and economic activities as a key priority for governments. In the U.S., inversions have invoked a sharp response from the government ever since the first such deal by McDermott. In particular, the American Jobs Creation Act of 2004 (JOBS Act, P.L. 108-357) restricts firms' ability to save taxes through inversions without changing ownership. Specifically, under the Act, inverted corporations are treated as U.S. corporations for tax purposes if more than 80% of their shareholders are U.S.-based.

One key take-away of our paper is that country-pair inversion levels are determined by monitoring and expropriation costs associated with host country governance standards. Firms may choose to overcome some of these costs by improving their firm-level governance mechanisms, as documented by Cortes et al. (2016). Yet, from their result that the value of cash holdings of inverters declines, it appears reasonable to conclude that the gains from improvements in firm-level governance are more than offset by the costs associated with inverting into weak governance countries.

With this governance angle, our paper extends the literature that has largely focused on tax motives as primary drivers of inversions out of the U.S. Such tax advantages arising to U.S. firms include, for instance, not having foreign income taxed at the U.S. rate and being able to engage in earnings stripping. Specifically, Desai and Hines (2002) find that tax motives explain 26 corporate inversions of U.S. multinationals in the 1982–2002 period. Seida and Wempe (2004) show that 12 inversions of U.S. firms in the 1993-2002 period lowered firms' effective tax rates. Evidence on the stock price reaction to corporate inversions is mixed. Seida and Wempe (2004) document that the firm value reaction to inversions reflects reductions in effective tax rates. Yet, analyzing stock price reactions around the announcement dates and board of director approval dates of 20 U.S. inversions between 1983 and 2002, Cloyd et al. (2003) find no such effect, and Bailey and Liu (2014) find offshore incorporations to be associated with lower Tobin's *q*. The idea that governance considerations may prevent inversion activity may explain some of these mixed results.

Our finding that well-governed corporate inversions are attractive to institutional investors is tightly linked to the work by Leuz et al. (2010), who show that fewer institutional investors are attracted to poorly governed foreign firms. Similarly, Lang et al. (2003), Doidge et al. (2004),

Bailey et al. (2006), and Hail and Leuz (2009) show that foreign firms with cross-listings in the U.S. have higher valuations, especially if they are from poorly governed countries. While these studies have focused on firm-level variation in governance, we find transparency at the country-pair level is an important factor. The challenge of our international setting lies in controlling for institutional features that may explain inversion activity at the home country, destination country, and/or country-pair level. But regulatory shocks that occur at different points in time at the country-pair level help us address some of that challenge.

1. Institutional details

There are various ways in which firms can invert. One common way is through a "triangular" stock transaction merger, which involves the creation of a new foreign corporation and a domestic "merger subsidiary," owned by the new foreign corporation. The parent corporation is then merged into the domestic merger subsidiary and becomes a subsidiary of the new foreign parent. For stockholders, the shares of the old parent automatically becomes shares of the new foreign parent. Other forms of inversions include "asset transfers", where the domestic parent transfers its assets to a newly created foreign corporation, and "drop-down" transactions, where the domestic parent transfers its assets to a foreign corporation, but the foreign corporation transfers some of those assets to a domestic subsidiary (Brumbaugh, 2003).

Firms that undertake inversions cite a number of reasons such as competitiveness, greater operational flexibility, improved cash management, and an enhanced ability to access international capital markets (Marples and Gravelle, 2014).[5] Nevertheless, the most prominent reason for inversions is their potential for tax savings. Many firms that undertake inversions have indicated that they expect significant tax savings from inversions. For example, in 2016, when

[5] See, for example, Ingersoll-Rand proxy statement on Nov. 2, 2001 and Stanley Works press release on Feb. 8, 2002.

Johnson Controls merged with Tyco International to be reincorporated in Ireland in a $14 billion deal, the forecasted annual tax savings were around $150 million.[6] In the UK, a wave of inversions that include media giants such as WPP, United Business Media as well as Shire, the pharmaceutical group followed when Labour Government proposed to implement major changes to the tax code that threatened to bring almost all passive income earned abroad into the U.K.

The tax incentives for inversions revolve around the potential tax savings that arise from no longer being subject to worldwide treatment of foreign source income and having better opportunities to relocate profits in a tax-advantageous way after the inversion. Put simply, after an inversion, all foreign operations can be made subsidiaries of the new foreign parent. With the new parent incorporated in a country with a territorial tax, future foreign income is tax-exempt.[7] Furthermore, inverting firms and their shareholders can significantly gain from increased flexibility in allocating taxable profits to low-tax countries, e.g., through royalty payments and transfer pricing arrangements. Alternatively, firms can create tax-deductible expenses in high-tax countries, a technique referred to as earnings stripping.

All these potential savings should outweigh the tax consequences that can potentially arise from triggering capital gains at the firm level or shareholder level. Given that most inversions are structured as taxable stock transfers, a primary tax cost associated with inversions is the capital gains tax liability.[8] Moreover, the withholding taxes on subsequent payments to the new foreign parent company are also among the potential costs but could easily be avoided by a

[6] See, press release on Jan. 25, 2016 by Johnson Controls available at https://www.johnsoncontrols.com/media-center/news/press-releases/2016/01/25/johnson-controls-and-tyco-to-merge.

[7] For example, after an inversion by a U.S. company, the future foreign income from that U.S. company's foreign subsidiaries may be effectively repatriated tax-free by lending or otherwise investing in the related foreign firm. These borrowed funds could then be used, for example, to pay dividends to shareholders or make loans to the U.S. firm. The restructuring of worldwide operations to avoid repatriation taxes are the most widely cited reasons for inversions (Desai and Hines, 2002).

[8] In a contemporary paper, Babkin et al. (2017) show that while foreign and tax-exempt investors, along with the CEO, disproportionately benefit, inversions simultaneously reduce the wealth of many taxable shareholders.

careful choice of a new corporate home.

Despite potential tax savings, inversions are far less frequent in reality. There could be multiple other factors and considerations at play. At the center of the discussions are frequently shareholders, who may find inversions to be less attractive when there is an increase in monitoring cost (see, for instance, Cortes et al. 2016, Desai et al. 2007). Further, many of the inversion transactions result in diluting shareholder control, which results in even less control over the inverted company.

Additionally, since inversions are often conducted through cross-border acquisitions, factors that are associated with the calculus of cross-border mergers are also often in play. For example, cultural or geographic differences can increase the costs of combining two firms (see Erel et al. 2012). Governance-related differences across countries can motivate a merger if the combined firm has better protection for target-firm shareholders because of higher governance standards in the country of the acquiring firm (see Bris and Cabolis, 2008). Firms certainly trade-off tax savings with the associated costs of inversion and only choose to invert if the benefits outweigh the costs.

2. Inversion Data

In this section, we describe the sample composition and provide some summary statistics of corporate inversion activity. We identify inversion events through changes in the first two digits of firms' ISIN identifiers (i.e., changes in the domicile or incorporation country code) during the 1996-2013 period. Our data are from SIX Financial Information, a Swiss-based data company that gathers information from over 1,500 global exchanges, multilateral trading facilities, and

institutional contributors.[9]

We focus on the corporate inversions of firms out of eleven major Organisation for Economic Co-operation and Development (OECD) countries with the largest share of cross-border merger and acquisition (M&A) activities: Australia, Canada, France, Germany, Italy, Netherlands, Spain, Sweden, Switzerland, U.K., and U.S. (Erel et al. 2012). We cross-check the validity of the dates and corporate actions for all North American firms in our sample by going through company filings on the Securities and Exchange Commission's (SEC's) EDGAR database.

We identify a total of 691 corporate inversions into 45 destination countries. Panel A of Table 1 provides the corporate inversions by home country and host destination. The majority of inversions are conducted by firms that invert out of Canada (284), the U.S. (218), and the U.K. (104). Host destinations include 45 countries and non-sovereign territories, 20 of which are classified as tax havens based on Dharmapala and Hines's (2009) definition and 12 of which are classified as offshore financial centers (OFCs) based on Durnev et al. (2017).[10]

--- Table 1 about here ---

Tax havens receive more than 38% of inversion flows. But the list of destination countries is headed by the U.S. (188) and Canada (86), followed by three major tax havens/OFCs: Bermuda (66), the Cayman Islands (42), and the British Virgin Islands (58). Six of the top ten host countries are tax havens. At the country-pair level, a picture of geographic and economic ties arises, as evidenced by high numbers of inversion flows from Canada to the U.S. (171) and vice versa (76). But, importantly for our structured study of inversion flows and country

[9] SIX Financial Information's international securities coverage and scope is comparable to Worldscope or Capital IQ with over 15 million instruments and consists of market and reference data, as well as historical prices and time series data. For more information see www.six-financial-information.com.

[10] Tax havens include: Bermuda, Virgin Islands, Cayman Islands, Ireland, Luxembourg, Switzerland, Singapore, Marshall Islands, Isle of Man, Anguilla, Bahamas, Antigua and Barbuda, Belize, Cyprus, Liechtenstein, Malta, Panama, and Saint Kitts and Nevis.

characteristics, inversions flow into a wide range of destination countries.

The industry distribution of corporate inversions are presented in Panel B of Table 1. We use the industry classifications provided by SIX Financial and report the Top 10 industries for the inverted firms.[11] Financial services, miscellaneous services and metals & precious stones are the top 3 industries respectively and constitute around 40% of the inversion sample.

While inversions have increased in popularity in the U.S. in recent years, they are not a recent phenomenon. In our international sample, there are ~20 inversions per year between 1996 and 2007, and ~30 inversions per year from 2008 to 2013 (see Figure 1).

Our data suggests that inversions are unlikely driven by tax motives alone. First, the number of inversions into tax havens is lower than the number of inversions into other destinations in any given year (see Panel A, Figure 2). Second, in some years (2002, 2004, and 2010), there are as many inversions from lower-tax countries to higher-tax destinations as there are from higher-tax countries to lower-tax destinations (see Panel B, Figure 2). Lastly, even though Canada provides tax advantages over the U.S., inversion flows between the two countries go both ways in most years and in some years, the number of inversions from Canada into the U.S exceed those from the U.S. into Canada (see Panel C, Figure 2).

Overall, inspection of the time series of inversion activity should alleviate concerns one may have about corporate inversions being clustered in a certain year, such as during the recent global financial crisis. This is important to our later tests where we employ the time series data.

3. Country Characteristics and Corporate Inversions

We next investigate the relation between the magnitude of corporate inversion activity and home and destination country characteristics. We examine simple correlations, inspect the time

[11] SIX Financial industry classifications are available for our full sample whereas SIC classifications are available for one-third of our sample. Further categories beyond the Top 10 are available upon request.

series of inversion activity, and examine cross-sectional regressions.

3.1 Correlations

We report summary statistics for country characteristics, differences between home and destination countries, and corporate inversion activity in Table 2. Panel A displays time series observations (averaged over the available years for each country), while Panel B displays average differences between home country and destination country characteristics, and Panel C shows the correlations between the characteristics of the destination countries and the number of corporate inversions they attract. Details on the variable construction and data sources are in the Appendix.

--- Table 2 about here ---

Statutory tax (%) in the sample range from 0% to 38%, with a mean of 22% (median of 26%). *GDP per capita* is lowest for Ghana ($533) and highest for Liechtenstein ($102,115), with an average around $30,000. *GDP growth* ranges between 0.59% and 7.46%, with a mean of 2.95%. *Market capitalization* is, on average, 76% of *GDP* while average *turnover* is 62%. For governance variables, the lowest scores are for Malaysia and Papua New Guinea (i.e., low *voice and accountability* and high *corruption*) and the highest score is for Finland (i.e., high *voice and accountability* and low *corruption*). *Merger quality index* is static and ranges between 0 and 4. *Offshoreness* measures attitudes towards Offshore Financial Centers (OFCs) and ranges between 0 and 5, with larger values indicating a greater degree of offshore attitude, i.e. tax haven-like characteristics.

When we compare country characteristics at the country-pair level, we find that host destinations have significantly lower tax rates than home countries, with a mean statutory difference of 11.84% (median difference of 4.50%) and effective rate difference of 4.5% (median

difference of 4.86%), both significant at the 1% level (Panel B, Table 2). On average, host destinations score lower in terms of governance. This is not surprising since the majority of firms are inverting out of the U.S., the U.K., and Canada, all of which have relatively strong governance. While, on average, host countries have higher *GDP per capita* (potentially reflecting the fact that a considerable fraction of host destinations constitute tax havens), they have lower market development (measured by *market capitalization* and *turnover*, both scaled by *GDP*). Finally, host destinations rank higher on the *merger quality index*, which is usually associated with a higher propensity of cross-border mergers (Bris et al. 2010) and *offshoreness*, which suggests that they have more of an offshore attitude (Durnev et al. 2017).

In line with corporate inversions being motivated by tax rates, we document a negative correlation between statutory corporate tax rates in the host destination and the number of inversions (Panel C, Table 2). Our governance measures are positively correlated with the number of inversions, which suggests that strong governance (or at least a small difference in governance standards) attracts corporate inversions. Finally, wealthy host destinations with low growth rates and well-developed capital markets also seem to attract inversions.

3.2 Cross-sectional regressions

We examine the characteristics that are associated with inversion activity using OLS regressions at the country-pair level. Our dependent variable is the logarithm of total number of inversions in 1996-2013 ($Inv_{a,b}$) from home country *a* to host destination *b* (where $a \neq b$).[12,13] In all regressions, we include host-country fixed effects, control for home country characteristics,

[12] This approach of examining cross-border flows at the country-pair level follows Rossi and Volpin (2004), Ferreira et al. (2009), and Erel et al. (2012). Note that the pairs are ordered, so that, for example, there would be a U.S.-Canada dummy variable, as well as a Canada-U.S. dummy variable.

[13] Note that each observation is a "country pair" and we have firms from 11 home countries inverting to 45 host destinations. When we remove country pairs from that sample that denote inversions from one country to itself, the resulting total number of observations is 484 (45*11-11)=484.

and focus on country-pair differences.[14,15]

--- Table 3 about here ---

The results in Panel A of Table 3 suggest that tax motives are associated with corporate inversions. More inversions occur between country-pairs where the host destination provides a relative tax advantage as measured by the difference between home and host statutory and effective corporate tax rates (columns 1 and 2).[16] Consisent with our earlier univariate results on country-level governance, we document more inversions between country-pairs that have relatively similar governance standards than those that do not. In other words, the results in columns (3) - (7) suggest that in all aspects of governance, host destinations with lower governance standards attract fewer inversions.

Next, we explore whether the gravity model originated in the international trade literature can help interpret inversion flows. Inversions may be associated with higher transaction costs due to geographic distance between home and host country. The gravity model suggests that the flow between a pair of countries should be proportional to their economic sizes and inversely related to the distance between them (see Rose, 2000). Our results conform to the hypothesis; first we document fewer inversions as the distance between home and host increases. Second, we document a higher number of corporate inversions from home countries that are economically more developed and have higher growth rates.

Our results in gravity, or proximity angle may also imply that firms invert for better access to

[14] This method helps us minimize loss of sample size. While the country-level control variables are mostly available for home countries, they are missing for the small host destinations. In unreported tables, we also check whether our results are robust to alternative clustering, such as clustering at the home country or host country level. The results are similar to those reported here.

[15] We also estimate our equations with stricter requirements that each country-pair must have at least one inversion deal during the sample period. The results from these alternative specifications are qualitatively similar to those presented here.

[16] We also examine whether tax differences on their own without other country characteristics provide explanatory power for inversion flows and find that they are statistically and economically significant.

the market of the new host country. Thus, we further explore whether firms' presence in their home and host country increases subsequent to an inversion vis-à-vis other countries by collecting data on geographic sales and assets from Orbis. In panel regressions where the left-hand side variable is the natural logarithm of sales and assets, we identify sales and assets in home and host countries after inversions through interacted dummy terms. Our results do not show any significant increase in either sales or assets following a corporate inversion. While insignificant however, the signs of the coefficients are consistent with the gravity angle, that is, sales and assets increase slightly in host countries and sales decrease slightly in home countries.[17]

In columns (8) and (9), we test whether our results are sensititve to alternative proxies for cross-border inversion flows. In column (8), we scale the ratio of the total number of inversion deals in 1996-2013 ($Inv_{a,b}$) by the sum of all inversions into the host destination *b* (Inv_b) to account for cross-border flow into the host destination. In column (9), we use the logarithm of the market capitalization of inversion deals in 1996-2013 to analyze the dollar value of the inversion deals. We find similar results as before, that is, both tax rate and governance differences between the host destination and the home country are significantly related to the relative number and dollar amount of inversions.[18]

To mitigate concerns that our results are driven by the countries that have the largest number of inversions, we repeat our analysis using probit regressions and report the results in Panel B of Table 3.[19] In the probit regressions, the dependent variable is a dummy variable that equals to 1

[17] The results of this additional analysis are available upon request.
[18] Because the number of observations varies drastically by home and host countries, in unreported tables, we show that our results hold when we estimate Table 3 Panel A using the Weighted Least Squares regressions with weights being proportional to the number of observations in countries. We thank the anonoymous referee for this suggestion.
[19] In unreported tables, we show that our results hold when we exclude the U.S./U.K. as home countries that had the largest number of inversion deals. We also examine whether tax havens are driving our results and find that all results continue to hold when we exclude tax havens as hosts.

if a country-pair experienced at least one inversion over the sample period. As such, all countries are treated equal in the probit regressions regardless of the number of inversion deals. The results are consistent for those found in Panel A: Tax rate and governance differences between the host destination and the home country are significantly related to the occurrence of at least one inversion. Again, consistent with the overall pattern, firms are more likely to invert into host destinations with lower tax rates than their home country.[20] Regarding governance concerns, except for political stability, low governance differences between home and host destinations remain important in increasing the likelihood of inversions.

4. Inversions and Taxes: Evidence from Double Taxation Treaties

We document above that a high tax differential between home countries and host destinations is associated with greater inversion activity. However, this may be due to omitted home-country, destination-country, or country-pair differences other than tax rates that are also correlated with inversion activity. In this section, we attempt to show causal evidence on the tax motive.

4.1 Methodology

Our identification strategy exploits time-varying country-pair level changes in the tax benefits that are possible with corporate inversions. We exploit the staggered passage of bilateral double taxation treaties (DTTs) over our sample period. DTTs are agreements between two countries that reciprocally reduce withholding tax rates and reflect a more lenient double tax relief regime. The passage of such treaties constitutes a motive for corporate inversions since the profitability of a tax inversion also depends on the dividend repatriation tax rates of the host destination, as well as the double taxation relief between the home country and the host destination.

DTTs have an advantage over using home-country or host-country variations of tax benefits

[20] The global markets for M&As are responsive to tax considerations (e.g., Huizinga and Voget 2009; Voget 2011; Huizinga et al. 2012).

alone because they are uncorrelated with other developments at the home-country or host-destination level that might drive inversion activity. Specifically, DTTs establish tax benefits at the country-pair level at different points in time. Thus, for instance, when the U.S. passed a DTT with Ireland in 1997, we can compare inversion activity between the U.S. and Ireland around that year to inversion activity between the U.S. and other countries that did not pass a DTT with the U.S. around the same year. Additionally, we can compare inversion activity between Ireland and other countries that did not pass a DTT with Ireland in that year. Researchers have used this setting to study the impact of DTTs on foreign direct investment and found either inconclusive evidence (e.g., Blonigen and Davies 2004; Coupé et al. 2008) or a negative impact of DTTs on foreign direct investment (Egger et al. 2006), particularly in their late sample period (Blonigen and Davies 2005).

Formally, we test for the effect of the passage of DTTs on corporate inversion activity by running a pooled panel regression, as follows:

$$Y_{a,b,t} = \alpha_a + \alpha_b + \alpha_t + \beta DTT_{a,b,t} + \gamma' \boldsymbol{X_{a,b,t}} + \varepsilon_{a,b,t}, \quad (1)$$

where $Y_{a,b,t}$ is a measure of inversion activity between home country a and host destination b in year t; α_a is a home country fixed effect; α_b is a host destination fixed effect; and α_t is a year fixed effect. $DTT_{a,b,t}$ is a dummy variable equal to one if a DTT exists between home country a and host destination b in year t. $\boldsymbol{X_{a,b,t}}$ is a vector that contains country-level controls. Of particular interest is coefficient *ß*, which denotes whether, subsequent to the passage of a DTT, inversion activity increases. In equation (1), we use heteroscedasticity-robust standard errors that are double clustered at the home country and host destination levels.[21]

One concern with using equation (1) to study whether the passage of DTTs affects corporate

[21] We experimented with various dimensions of clusters and obtained similar results. Clustering standard errors at the dimensions mentioned here generally produces the most conservative standard errors.

inversion activity is that DTTs could be selectively passed between country pairs for reasons that also affect inversion activity, or between countries that already have substantial inversion activity. Previous studies show that DTTs are more likely passed between countries with a common colonial past and common language (Lejour 2014), as well as between less distant countries (Barthel and Neumayer 2012). In a key robustness test, we alleviate concerns that our analysis is subject to this situation by augmenting equation (1) to include country-pair fixed effects, $\alpha_{a,b}$. These help to rule out that time-invariant country-pair characteristics could potentially drive our results.

One additional concern with examining the passage of DTTs over the sample period is that all the DTTs are signed in one particular year, which might be associated with increased inversion activities for other reasons. However, we find that in an average year, five to six countries signed an agreement with at least one host destination (see Figure 3). At least two of the countries signed a DTT in any year during our sample period.

--- Figure 3 about here ---

A related potential concern is that most of the firms in our sample are affected by the signage of DTTs in a specific year. We find that, in a typical year, only about 10%-20% of the firms in our sample are potentially affected by a DTT (see Figure 3).

4.2 Results

The main results using equation (1) are presented in Table 4. In the most basic specification without any country-pair level controls, we find that the number of inversions between country-pairs increases by 2.2% after these pairs sign a DTT (column 1) after including home country, host destination, and year fixed effects in the model.

--- Table 4 about here ---

Next, we augment this basic specification by other country-level controls (column 2). We find that controlling for other home, host, and country-pair level characteristics, the passage of DTTs results in an increase in corporate inversion activity. Interestingly, there is also more inversion activity from countries with more active stock markets, as presumably a more liquid stock market makes it easier to exchange stocks.

As discussed above, to rule out time-invariant country-pair characteristics that could potentially drive our results, we control for country-pair fixed effects (column 3). This specification allows us to exploit only time series variation between country pairs while controlling for static country-pair differences. Our main results on the impact of DTT signage and inversion activities remain similar both statistically and economically, although bilateral trade is no longer significant to the level of inversion activities.

In the remaining columns, we provide the results of three further robustness tests. First, we scale inversion activity between two countries in any given year by inversion activity at home- and host-country level (column 4). Specifically, we scale by the sum of the number of inversions out of home country *a* and the number of inversions into host destination *b* in any given year. Our main results on the impact of DTT signage and inversion activities is similar to that in Column (1). Second, we measure the inversion activity using the total dollar amount of the market capitalization of inverted firms out of home country *a* and into host destinations *b* in any given year *t* (column 5). Again, we find that the passage of DTTs increases the dollar value of inversion activity between a country pair. Third, to rule out the possibility that our results are mainly driven by large home countries with a lot of inversions, we replace the number of inversions with a dummy variable indicating any form of inversion activity between a country pair in any given year (column 6) and run a probit analysis. We find that the passage of DTTs

increases the likelihood of observing inversion activity. In addition, our results indicate that geography matters; the odds of inverting to a nearby country are substantially higher than the odds of inverting to a country far away.

Overall, we provide some causal evidence of the tax motives of firms that invert. Inversion activity increases by ~2% at the country-pair level after passage of DTTs, representing roughly two inversions per year. However, we find that few firms engage in inversions despite the potential tax advantages they entail.

5. Inversions and Governance: Evidence from Tax Information Exchange Agreements

We document in our cross-sectional analysis above that there is greater corporate inversion activity into host destinations with relatively high governance standards. However, this may be due to omitted controls other than measures of governance. For example, better governed countries also tend to have better institutions, a more efficient banking system and stock markets, as well as less bureaucracy, all of which may also attract inversion activity. In this section, we examine whether corporate inversions are driven by governance motives.

5.1 Methodology

As a shock to the transparency of potential host destinations, we exploit the staggered passage of bilateral TIEAs. TIEAs are agreements between two countries, one of them a tax haven, allowing for the exchange of information about corporations and individuals that is relevant in civil and criminal tax investigations. As such, the passage of TIEAs increases the ability to obtain information about corporations that have inverted into a tax haven, thereby reducing the potential costs associated with opaqueness. The practical relevance of TIEAs is discussed in Hanlon et al. (2015) and Bennedsen and Zeume (2018). Their impact on round-tripping tax evasion (Hanlon et al. 2015), shifts in bank deposits (Johannesen and Zucman 2014), foreign

direct investment (Braun and Weichenrieder 2014), firm value more generally (Bennedsen and Zeume 2018), and the incorporation of secret offshore vehicles (Omartian 2017) has also been documented.

Just like DTTs, TIEAs have one advantage over using other home country or host destination shocks to governance on their own: they are arguably uncorrelated with other developments at the home or host destination level that might drive corporate inversion activity.[22] Specifically, TIEAs establish transparency at the country-pair level at different points in time. Thus, for instance, when the U.S. passed a TIEA with the British Virgin Islands (BVI) in 2002, we can compare inversion activity between the U.S. and the BVI around 2002 to inversion activity between the U.S. and other tax havens that did not pass a TIEA with the U.S. around that time. Moreover, we can also compare that to the inversion activity between the BVI and other countries that did not pass a TIEA with the BVI around that time, such as Canada and the U.K.

Formally, we test for the effect of the passage of TIEAs on inversion activity by running a pooled panel regression, as follows:

$$Y_{a,b,t} = \alpha_a + \alpha_b + \alpha_t + \beta TIEA_{a,b,t} + \gamma' \boldsymbol{X_{a,b,t}} + \varepsilon_{a,b,t}, \quad (2)$$

where $TIEA_{a,b,t}$ is a dummy variable equal to one if a TIEA exists between home country *a* and host destination *b* in year *t*. All other variables are defined as for equation (1). As before, in a key variation of this specification, we additionally augment this setup by including country-pair fixed effects, $\alpha_{a,b}$, which makes some of the time-invariant controls redundant. In equation (2), we employ heteroscedasticity-robust standard errors double clustered at the home and host levels.[23]

One concern with studying the more than 600 TIEAs passed by sample countries during our

[22] Bennedsen and Zeume (2018), for instance, document that the passage of TIEAs is not associated with economic links between country pairs.

[23] We have experimented with various dimensions of clusters and obtained similar results. Clustering standard errors at the dimensions mentioned here generally produces the most conservative standard errors.

sample period is that most of them were passed at one specific point in time that might coincide with another development associated with increased inversion activities but unrelated to governance. However, even though roughly one-third of TIEAs are signed in 2009 and 2010, some of the earlier TIEAs affected a large number of firms (Figure 4). Indeed, with a few exceptions, 20%-30% of firms are subjected to at least one additional TIEA in any given year.

--- Figure 4 about here ---

5.2 Results

The main results on inversion activity around the passage of TIEAs, following equation (2), are presented in Table 5. In the most basic specification without country-pair specific controls, we find that the number of inversions between country-pairs increases by 4.5% after these pairs sign a TIEA (column 1).

--- Table 5 about here ---

Next, we augment the basic specification with home country and country-pair controls. The main result—an increase in inversion activity subsequent to the passage of TIEAs—remains quantitatively similar (column 2). We then make use of a further strength of our specification. We control for country-pair fixed effects (column 3), which allows us to exploit only time series variation in the signing of treaties between countries while controlling for static country-pair differences. Even under these conditions, our results are economically similar.

Our results are also robust to alternative measures of inversion activity, such as with the amount of market capitalization of inversion firms and scaling the number of country-pair level inversions by inversion activity at the home country and host destination levels, as well as conducting probit regressions as before. The results are shown in columns (4)-(6).

Overall, inversion activity increases by ~5%-6% at the country-pair level after passage of

TIEAs, representing roughly 3-4 inversions per year. This is consistent with a causal interpretation of the governance motive. In addition, our results indicate that firms are much more likely to invert to a nearby country than to a country far away.

6. Corporate Outcomes around Inversions

In this section, we examine whether there is any association between corporate inversions and firm outcomes. Specifically, we analyze whether tax-driven inversions actually reduce firms' effective tax rate, thereby creating shareholder value. Moreover, we examine how institutional owners respond to inversions that may raise concerns about expropriation and whether inversions have implications for earnings management. Our analysis is exploratory and we do not attempt to make a causal statement about the effect of inversions on firm outcomes.

6.1 Methodology

We analyze how certain firm characteristics respond to corporate inversions by running a pooled panel regression, as follows:

$$Y_{i,j,k,t} = \alpha_i + \alpha_j \times \alpha_k \times \alpha_t + \beta_1 \textit{ after Inversion} + \beta_2 \textit{ Control After} + \gamma' \boldsymbol{X_{i,j,k,t}} + \varepsilon_{i,j,k,t}, \quad (3)$$

where $Y_{i,j,k,t}$ is an outcome measure for firm i in industry j and country k at year t; α_i is a firm fixed effect; $\alpha_j \times \alpha_k \times \alpha_t$ controls for *country x industry x year* fixed effects; *After Inversion* dummy equals one for firms that inverted for all years following the inversion (including the year of inversion);[24], *Control After* is a dummy variable that is defined similarly for control firms; and $\boldsymbol{X_{i,j,k,t}}$ is a vector that contains firm-level controls. Throughout, our key variable of interest is the *After Inversion* dummy. In equation (3), we use heteroscedasticity-robust standard errors clustered at the home country level.

Note that we employ firm fixed effects to address a range of concerns arising from the

[24] Results are robust to focusing on two-year and five-year event windows, suggesting that observed effects are immediate.

fact that certain firm characteristics might be predictive of inversion activity. Furthermore, in order to address the concern that industry- or country-level shocks at specific points in time may also impact both inversion decisions and changes in firm characteristics, we control for country times industry times year fixed effects. Last but not least, because firms that invert might be different from non-inverting firms over time, we repeat our analysis on a subset of firms that invert and control firms that are matched by home country, 2-digit SIC code, and firm size (two years prior to the inversion).

6.2 Tax-driven inversions

In Table 6, we explore outcomes of corporate inversion activity with a focus on the tax benefits that arise from such activity. In Panel A, the dependent variable is the effective tax rate (*ETR*), calculated as the total income tax expense divided by income before taxes. In order to test whether tax motives are associated with lower taxes, we interact the *After Inversion* dummy with two tax measures: the percentage tax rate differences between home country and host destination, and the offshoreness index, which is increasing in offshore attitude of host destination.

--- Table 6 about here ---

In column (1), we find that corporate inversions do not appear to be associated with changes in effective tax rates on average. However, they are associated with a decline in effective tax rates when the difference between the home country tax rate and the host destination tax rate is larger (column 2), and when host destinations have more of an offshore attitude (column 3). This is in line with the tax motive for corporate inversions. Economically, a 1 percentage point increase in the tax gap between home and host is associated with a 0.1 percentage point or 0.6% (=0.1/0.179) decline in effective tax rates. Moreover, a decline in country-level tax rates by 4.5 percentage points (the inversion country-pair median) is associated with a 0.45 percentage point

or 2.5% decrease in effective tax rates. The results are statistically and economically similar when we consider only a subset of control firms that are matched to inverted firms based on country, industry, and size (columns 4-6).

We next examine whether tax-driven inversions are associated with changes in firms' access to finance. In Panel B of Table 6, we report our results using the HP measure, an index proposed by Hadlock and Pierce (2010) incorporating firm size and age. Overall, we find a negative association between tax-driven inversions and financial constraints, that is, firms inverting into destinations with lower taxes (columns 2 and 5) and more offshore attitude (columns 3 and 6) experience reduced financial constraints.[25] At first glance, this result is seemingly at odds with Ellul et al. (2016) who show that when firms reduce transparency in an effort to reduce taxes, their financial constraints may become more binding. However, our setting differs from theirs in that our firms experience a reduction in effective tax rates through lower statutory corporate tax rates in tax havens while their firms do not change incorporation country and actively engage in tax avoidance strategies instead.

Finally, we examine whether a decrease in effective tax rates is associated with an increase in firm value. In Panel C of Table 6, we find that, on average, corporate inversions are not associated with changes in Tobin's *q* (columns 1 and 4). However, inversions into low-tax destinations are indeed supported by shareholders (columns 2-3 and 5-6). A 1 percentage point larger tax gap between home and host is associated with a 0.4% (=0.007/1.629) increase in Tobin's *q*.[26] The evidence so far is in line with the concept that inversions that are likely tax-

[25] Our results are similar when we use the Whited and Wu (2006) measure, which is based on a standard intertemporal investment model augmented to account for financial frictions.

[26] The economic magnitude is similar to the 17% cross-listing premium found in Doidge et al. (2004) and larger than the magnitudes found by those studying the valuation of corporate governance in the international context. For example, Aggarwal et al. (2010) find that decreasing an average firm's governance score by the average governance gap between an international firm and a matching U.S. firm reduces Tobin's *q* by 6.2%. Durnev and Kim (2005)

driven lead to a decrease in effective tax rates, which is supported by shareholders.

Certain firm characteristics that drive inversion decisions could also be related to company performance, which could introduce a self-selection bias. In order to address this concern we ran Heckman selection model. In the first stage, we include several firm-characteristics that help predict which firms are more likely to invert. These firm characteristics include firm size (sales), effective tax rate, ADR, insider ownership, and dividend yield.[27] We then include the Inverse Mills ratio in the second stage of Tobin's q regressions to correct for the sample selection bias. In unreported regressions, the Inverse Mills ratio is significant for 8 out of 10 cases conforming to the sample selection bias. Our main results remain robust.

6.3 Governance considerations

We next examine the role of governance in attracting or detracting institutional owners. It is possible that a corporate inversion into a country with much lower governance standards scares off institutional owners because they might become subject to expropriation, or because the move of country of incorporation conflicts with institutional owners' investment objectives. Alternatively, it is possible that institutional owners, foreseeing the potential for expropriation, increase their stake to obtain more control over a firm's activities after the inversion. For instance, institutional investors may provide effective monitoring (e.g., Gillan and Starks 2003; Hartzell and Starks 2003) and impose better governance (Ferreira and Matos 2008; Ferreira et al. 2009; Aggarwal et al. 2011).

Given the typically limited coverage of governance measures for international firms, we focus on institutional ownership as a proxy for firm-level governance quality. The results in Table 7

find that a one standard deviation increase in comprehensive governance scores results in a 9% increase in Tobin's *q*.

[27] Our results are robust to also using other characteristics such as intangibles, cash holdings, and leverage ratio. We are only including these firm characteristics one at a time since including all will reduce our sample size dramatically. The results are available upon request.

show that overall, corporate inversions are followed by an increase in institutional ownership (columns 1-6). Yet institutional owners appear to withdraw from inversions into weakly governed locals, as proxied by *corruption* (columns 2 and 5) and *voice and accountability* (columns 3 and 6).[28] Indeed, inversions into strongly governed countries are associated with a 3.5-4.3 percentage point increase in institutional ownership. Yet inverting to Brazil (anti-corruption level of -0.14 in 2006) instead of France (with anti-corruption level of 1.46 in 2006) is associated with a drop in institutional ownership of 7.2 percentage points (0.045*(1.46+0.14)) relative to inversions into host destinations with similar anti-corruption levels. This result aligns with the concept that institutional owners may associate inversions into weakly governed entities with potential agency conflicts.

--- Table 7 about here ---

6.4 Earnings Management

In order to further explore company disclosure and governance standards of the inverted firms, in this section, we look at financial reporting quality. If the inverted firms can capture the benefits of low taxes without compromising governance standards, they are less likely to engage in earnings management. On the other hand, Durnev et al. (2017) show that offshore firms are more likely to engage in earnings management than non-offshore firms as they operate in weaker legal environments and the secrecy policies of OFCs make it easier and less risky for managers to do so.

We construct two earnings management measures used in Leuz et al. (2003) and Hope (2003): (i) σ(EBIT)/σ(CF), a firm-level standard deviation of operating earnings divided by the standard deviation of cash flow from operations in the past five years, which is decreasing in the degree of earnings management and (ii) Accrual, a ratio of firms' absolute value of accruals

[28] The results remain similar when we use other dimensions of governance.

scaled by the absolute value of cash flow from operations, which is increasing in the degree of earnings management.

Table 8 reports the results where we use earnings management measures as the dependent variable and repeat our firm-level inversion tests considering both tax and governance aspects in Panels A and B, respectively. In general, inversions do not appear to be associated with a change in the degree of earnings management (columns 1 and 4 in both panels). However, we find that the inversions that go into lower tax destinations as well as those destinations with more offshore attitude and tax-haven like characteristics are associated with less earnings management (Panel A, columns 5 and 6). This is not surprising considering that there is less need for earnings management, at least for tax-related reasons, in low-tax environments. On the governance side, earnings management is likely to increase as firms invert into weakly governed countries which is consistent with Durnev et al. (2017) findings (Panel B, columns 2 and 6).

--- Table 8 about here ---

7. Conclusion

So far, the question of why firms invert has been focused on tax motives, while it remained unclear why most firms elect not to invert. Using a hand-collected data set of 691 corporate inversions out of 11 home countries into 45 host destinations over the 1996-2013 period, we confirm that tax motives explain some but not all inversion activity. We then establish that gravity models and governance considerations also explain inversion activity. Specifically, geographic distance and lack of host country transparency inhibit inversion activity. We exploit staggered experiments at the country-pair level to allow for a causal interpretation of our results.

Governance and geographic proximity are unlikely the only explanation for why some firms choose not to invert. Future research on corporate inversions should further explore the specific

mechanisms through which these factors work and other potential factors that are still unexplored in the literature, especially in a global setting. Some researchers have started exploring these dimensions. For example, Babkin et al. (2017) model how the tax benefits of inversions vary widely across investors depending on their personal tax rates; and Zhou (2017) studies the association between inversions and the cost of equity.

In light of the many high-profile cases of recent inversions, our paper takes an important first step in understanding what drives and inhibits inversion activity. Moreover, even though the media and policymakers often portray corporate inversions as "unpatriotic," inversion decisions seem to align well with shareholders' interests. This is evident from our finding that inversion flows respond to improved transparency between firms' home country and host destinations. Our results highlight the tension between firms making decisions in shareholders' interest and governments seeking to correct distributive failures.

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Table 1: Number of Inversions

The table provides the number of corporate inversions. Panel A provides the sample distribution by home country and host destination. Panel B provides the sample distribution by industry. The industry classifications are based on those provided by SIX Financial Information. Our definition of an inversion requires a firm to change its country of incorporation. The data consists of firms from 11 OECD countries that changed domicile through mergers or reorganizations in 1996-2013. Total number of inversions and % of total firms from home country going to tax haven/OFC are also provided. An $^{+}$ / ^{0} indicates a tax haven /OFC based on Dharmapala and Hines (2009) / Durnev et al. (2017).

Panel A: Home Country and Host Destination

	Home Country											
Host Destination	**Australia**	**Canada**	**France**	**Germany**	**Italy**	**Netherl.**	**Spain**	**Sweden**	**Switzerl.**	**U.K.**	**U.S.**	**Total**
Anguilla$^{+,0}$	0	1	0	0	0	0	0	0	0	0	2	3
Antigua^{+}	0	0	0	0	0	0	0	0	0	0	1	1
Australia	0	13	0	0	0	0	0	0	0	2	1	16
Austria	0	0	1	1	0	0	0	0	0	2	0	4
Bahamas$^{+,0}$	0	0	0	0	0	0	0	0	0	0	2	2
Belgium	0	0	1	0	0	1	0	0	0	0	3	5
Belize^{+}	0	0	0	0	0	0	0	0	0	1	0	1
Bermuda$^{+,0}$	6	16	0	0	0	0	0	0	0	14	30	66
Brazil	0	1	0	0	0	0	0	0	0	0	0	1
Canada	8	0	0	0	0	0	0	0	0	2	76	86
Cayman Islands$^{+,0}$	2	14	0	0	0	0	0	0	0	3	23	42
Curaçao	0	0	0	0	0	0	0	0	0	0	1	1
Cyprus$^{+,0}$	0	1	0	0	0	0	0	0	0	0	0	1
Falkland Islands	0	0	0	0	0	0	0	0	0	1	0	1
Finland	0	0	0	0	0	0	0	4	0	0	0	4
France	0	1	0	0	0	0	0	0	0	6	0	7
Germany	0	2	0	0	1	0	0	0	0	1	1	5
Ghana	0	1	0	0	0	0	0	0	0	0	0	1
Greece	0	0	0	0	0	0	0	0	0	1	0	1
Guernsey	0	3	0	0	0	0	0	0	0	5	1	9
Ireland^{+}	0	4	0	0	0	0	0	0	0	21	5	30
Isle of Man^{+}	1	0	0	0	0	0	0	0	0	4	0	5
Israel	0	0	0	0	0	0	0	0	0	0	6	6
Italy	0	0	0	1	0	0	1	0	0	0	0	2
Jersey	1	9	0	0	0	0	0	0	0	14	1	25
Liechtenstein$^{+,0}$	0	0	0	0	0	0	0	0	1	0	0	1
Luxembourg^{+}	0	2	13	0	0	10	0	1	0	3	0	29
Malaysia	0	0	0	0	0	0	0	0	0	0	1	1
Malta$^{+,0}$	0	0	0	0	0	0	0	0	0	1	0	1
Marshall Islands$^{+,0}$	0	0	0	0	0	0	0	0	0	0	6	6
Netherlands	0	1	1	0	2	0	0	1	0	2	3	10
New Zealand	1	0	0	0	0	0	0	0	0	0	0	1
Norway	0	0	0	0	0	0	0	1	0	0	0	1
Panama$^{+,0}$	0	0	0	0	0	0	0	0	1	0	0	1
Papua New Guinea	2	0	0	0	0	0	0	0	0	0	0	2
Philippines	0	0	0	0	0	0	0	0	0	0	1	1
Puerto Rico	0	0	0	0	0	0	0	0	0	0	2	2
Saint Kitts$^{+,0}$	0	0	0	0	0	0	0	0	0	0	1	1
Singapore$^{+,0}$	0	1	0	0	0	0	0	0	0	1	5	7
Spain	0	0	0	0	0	0	0	0	0	1	0	1

Sweden	0	3	0	0	0	0	0	0	0	1	0	4
Switzerland[+]	0	2	0	1	0	0	0	2	0	2	5	12
U.K.	7	11	0	1	1	1	0	2	3	0	13	39
U.S.	2	171	0	0	2	0	0	0	0	13	0	188
Virgin Islands[+, 0]	0	27	0	0	0	0	0	0	0	3	28	58
Total	30	284	16	4	6	12	1	11	5	104	218	691
% Tax Haven	30%	24%	81%	25%	0%	83%	0%	27%	50%	50%	49%	38%
% OFC	27%	21%	0%	0%	0%	0%	0%	0%	40%	21%	44%	27%

Panel B: Industry Distribution

Industry	Number of observations	Percentage (%)
Financial Services	139	20.12
Miscellaneous Services	73	10.56
Metals & Precious Stones	65	9.41
Mining, Coal & Steel	51	7.38
Computer Hardware, Software, Internet & IT Services	45	6.51
Pharmaceuticals & Biotech	40	5.79
Petroleum	39	5.64
Electrical Appliances & Components	26	3.76
Telecommunication	21	3.04
Insurance	13	1.88
Other/ Non-classifiable	179	25.91
Total	691	100.00

Table 2: Country Characteristics

The table provides summary statistics of country variables for home country and host destination (Panel A), mean and median differences in country characteristics between home country and host destination at the inversion level (Panel B), and pairwise correlations between inversion activity and host destination characteristics (Panel C). Time series variables are averaged over the available years for each country. Inversion activity is measured by the natural logarithm of the total number of inversions attracted by host destinations between 1996 and 2013. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Refer to the Appendix for variable definitions.

	Panel A: Summary Statistics			**Panel B: Home-Host Differences**			**Panel C: Pairwise Correlations**
Variables	**Mean**	**Median**	***N***	**Mean**	**Median**	***N***	***Ln(1+#Inversions)***
Statutory Tax (%)	22.03	26.00	45	11.84***	4.50***	691	-0.27
Effective Tax (%)	23.57	22.88	38	4.50***	4.86***	683	0.27
GDP per Capita ($)	30,191	30,411	37	-6,411***	-7,495***	543	0.44
GDP Growth (%)	2.95	2.47	37	-0.09	-0.05	543	-0.12
Market Cap/GDP (%)	76.31	62.29	31	8.95***	5.79***	471	0.35
Turnover (%)	61.70	54.05	31	17.72***	17.82***	478	0.19
Rule of Law	1.10	1.35	39	0.18***	0.14***	582	0.45
Voice and Accountability	1.05	1.20	39	0.15***	0.22***	582	0.36
Regulatory Quality	1.07	1.23	39	0.11***	0.50***	582	0.45
Corruption	1.16	1.33	39	0.19***	0.20***	582	0.44
Political Stability	0.71	0.98	39	0.03	0.04	582	0.28
Merger Quality Index	2.13	2.00	23	-0.24***	-1.00***	432	0.33
Offshoreness	1.65	1.00	43	-1.13***	0.00***	688	-0.17

Table 3: Cross-sectional Analysis of the Determinants of Corporate Inversion

This table presents estimates of cross-sectional OLS (Panel A) and probit (Panel B) regressions of cross-border corporate inversions in country-pairs. In columns (1) - (7) of Panel A, the dependent variable is the logarithm of total number of inversion deals in 1996-2013 ($Inv_{a,b}$) from home country *a* to host destination *b* (where $a \neq b$). In the regressions for columns (8) and (9), the dependent variables are the number of inversion deals scaled by total number of inversions into the host destination *b* and the logarithm of market capitalization of inversion deals, respectively. In Panel B, the dependent variable is a dummy equal to one if there is any inversion deal between a given country pair and zero otherwise. See the Appendix for variable definitions. In both panels, the host destination fixed effects are included in all regressions. The standard errors in parentheses are clustered at both the home country and host destination levels. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: OLS Regressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
% Statutory Tax (Home less Host)	0.084***		0.073***	0.062***	0.100***	0.070***	0.082***	0.022***	0.527***
	(0.0181)		(0.0143)	(0.0105)	(0.0172)	(0.0124)	(0.0173)	(0.0038)	(0.0893)
% Effective Tax (Home less Host)		2.067**							
		(0.9630)							
Rule of Law (Home less Host)			-0.613*					-0.212**	-4.206**
			(0.3291)					(0.0953)	(1.9096)
Voice and Accountability (Home less Host)				-1.433***					
				(0.4487)					
Regulatory Quality (Home less Host)					-1.833***				
					(0.3871)				
Corruption (Home less Host)						-0.495**			
						(0.2143)			
Political Stability (Home less Host)							-0.400*		
							(0.2079)		
Geographic Distance	-0.076**	-0.091**	-0.081**	-0.081***	-0.076***	-0.084**	-0.068**	-0.034***	-0.471***
	(0.0309)	(0.0441)	(0.0319)	(0.0309)	(0.0294)	(0.0325)	(0.0291)	(0.0031)	(0.0788)
Log(GDP per capita (Home))	0.007	-0.015	0.013**	0.011**	0.009***	0.010**	0.018**	0.007**	0.096***
	(0.0071)	(0.0177)	(0.0062)	(0.0047)	(0.0019)	(0.0050)	(0.0080)	(0.0028)	(0.0369)
GDP Growth (Home)	0.427***	0.542***	0.626***	0.600***	0.968***	0.669***	0.417***	0.216***	4.182***
	(0.1123)	(0.1889)	(0.2008)	(0.1603)	(0.1900)	(0.2021)	(0.1145)	(0.0342)	(0.8963)
% Turnover (Home)	-0.013***	0.002	-0.014***	-0.014***	-0.023***	-0.016***	-0.016***	-0.004***	-0.104***
	(0.0037)	(0.0050)	(0.0037)	(0.0042)	(0.0047)	(0.0041)	(0.0045)	(0.0007)	(0.0190)
Quality Index (Home)	0.432***	-0.116	0.498***	0.487***	1.103***	0.576***	0.449***	0.139***	3.778***
	(0.1226)	(0.2073)	(0.1316)	(0.1353)	(0.2349)	(0.1421)	(0.1326)	(0.0287)	(0.7453)
Observations	484	407	418	418	418	418	418	418	418
Adj. R-squared	0.378	0.338	0.390	0.403	0.415	0.400	0.389	0.202	0.392

Panel B: Probit Regressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
% Statutory Tax (Home less Host)	0.283***		0.229***	0.194***	0.314***	0.217***	0.244***
	(0.0602)		(0.0483)	(0.0561)	(0.0632)	(0.0495)	(0.0558)
% Effective Tax (Home less Host)		7.244**					
		(2.9617)					
Rule of Law (Home less Host)			-1.799*				
			(1.0102)				
Voice and Accountability (Home less Host)				-3.448**			
				(1.4234)			
Regulatory Quality (Home less Host)					-4.800***		
					(1.2783)		
Corruption (Home less Host)						-1.345**	
						(0.6253)	
Political Stability (Home less Host)							-0.790
							(0.5602)
Geographic Distance	-0.186***	-0.188***	-0.214***	-0.212***	-0.215***	-0.222***	-0.187***
	(0.0364)	(0.0534)	(0.0378)	(0.0357)	(0.0445)	(0.0401)	(0.0359)
Log(GDP per capita (Home))	0.032	-0.050	0.053*	0.041*	0.042*	0.043*	0.053**
	(0.0249)	(0.0408)	(0.0279)	(0.0211)	(0.0220)	(0.0229)	(0.0263)
GDP Growth (Home)	1.275***	1.612***	1.778***	1.601***	2.605***	1.843***	1.205***
	(0.2014)	(0.4150)	(0.4387)	(0.2638)	(0.4891)	(0.4081)	(0.2063)
% Turnover (Home)	-0.048***	0.008	-0.047***	-0.045***	-0.072***	-0.050***	-0.047***
	(0.0107)	(0.0077)	(0.0101)	(0.0104)	(0.0145)	(0.0103)	(0.0103)
Quality Index (Home)	1.445***	-0.369	1.532***	1.389***	3.144***	1.697***	1.285***
	(0.2839)	(0.5499)	(0.2829)	(0.2969)	(0.6449)	(0.3110)	(0.2830)
Observations	484	407	418	418	418	418	418

Table 4: Double Taxation Treaties and Inversions

This table presents results of pooled panel regressions for the effect of double taxation treaties (DTTs) on inversion activity. In columns (1) - (3), the dependent variable is the logarithm of the total number of inversions from home country *a* to host destination *b* (where *a≠b*) in year *t*. In column (4), the dependent variable is the number of inversions from home country *a* to host destination *b* (where *a≠b*) in year *t* scaled by the sum of the number of inversions out of home country *a* and into host destination *b* in that year *t*. In column (5), the dependent variable is the logarithm of the total dollar amount of market capitalization of firms that inverted from home country *a* to host destination *b* (where *a≠b*) in year *t*. In column (6), the dependent variable is a dummy equal to one if there is at least one inversion from home country *a* to host destination *b* (where *a≠b*) in year *t*. Results are shown for OLS and probit regressions. *DTT* is a dummy equal to one if home country *a* and host country *b* have signed a double taxation treaty (DTT) at time *t*. See the Appendix for variable definitions. Fixed effects are included as denoted. Heteroscedasticity-corrected standard errors double clustered at the home country and host destinations level are in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1) OLS $Ln(1+\#Inv_{a,b,t})$	(2) OLS $Ln(1+\#Inv_{a,b,t})$	(3) OLS $Ln(1+\#Inv_{a,b,t})$	(4) OLS $Relative\ \#Inv_{a,b,t}$	(5) OLS $Ln(1+\$MCAP_{a,b,t})$	(6) Probit $\#Inv_{a,b,t}\ Dummy$
DTT Dummy	0.022**	0.028**	0.021**	0.001***	0.302*	0.459**
	(0.0105)	(0.0138)	(0.0101)	(0.0001)	(0.1632)	(0.2068)
Geographic Distance		-0.004				-0.136***
		(0.0062)				(0.0497)
LN(GDP pc (Home))		0.005	0.003	0.000	0.043	0.052
		(0.0039)	(0.0042)	(0.0001)	(0.0483)	(0.0609)
GDP Growth (Home)		-0.004	-0.003	-0.000	-0.041	-0.024
		(0.0025)	(0.0024)	(0.0000)	(0.0272)	(0.0253)
Import Ratio		4.970***	-3.017	-0.063	-20.050*	7.714**
		(1.0797)	(1.8833)	(0.0390)	(11.5599)	(3.6999)
% Turnover (Home)		0.239***	0.224**	0.005**	2.174***	0.919
		(0.0830)	(0.0886)	(0.0023)	(0.7918)	(0.7985)
Quality Index (Home)		-0.086*	-0.039	-0.001	-0.512	-0.159
		(0.0524)	(0.0464)	(0.0007)	(0.5279)	(0.3220)
Fixed Effects	Home, Host &Year	Home, Host & Year	Country-Pair& Year	Home, Host & Year	Country Pair & Year	Home, Host & Year
Observations	9,196	8,712	8,712	8,712	8,710	8,118
R^2	0.130	0.281	0.499	0.116	0.364	

Table 5: Tax Information Exchange Agreements and Inversions

This table presents results of pooled panel regressions for the effect of tax information exchange agreements (TIEAs) on inversion activity. In Columns (1) - (3), the dependent variable is the logarithm of the total number of inversions from home country *a* to host country *b* (where $a \neq b$) in year t. In Column (4), the dependent variable is the number of inversions from home country *a* to host country *b* (where $a \neq b$) in year *t* scaled by the sum of the number of inversions out of home country *a* and into host country *b* in that year *t*. In Column (5), the dependent variable is the logarithm of the total dollar amount of market capitalization of firms that inverted from home country *a* to host country *b* (where $a \neq b$) in year t. In Column (6), the dependent variable is a dummy equal to one if there is at least one inversion from home country *a* to host country *b* (where $a \neq b$) in year t. Results are shown for OLS and Probit regressions as indicated. *TIEA* is a dummy equal to one if home country *a* and host country *b* have signed a tax information exchange agreement (TIEA) at time *t*. All other variables are defined in the Appendix. Fixed effects are included as denoted. Heteroscedasticity-corrected standard errors double clustered at the home country and host destinations level are in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1) OLS $Ln(1+\#Inv_{a,b,t})$	(2) OLS $Ln(1+\#Inv_{a,b,t})$	(3) OLS $Ln(1+\#Inv_{a,b,t})$	(4) OLS $Relative\ \#Inv_{a,b,t}$	(5) OLS $Ln(1+\$MCAP_{a,b,t})$	(6) Probit $\#Inv_{a,b,t}\ Dummy$
TIEA Dummy	0.045*	0.050**	0.053**	0.001**	0.553**	0.257*
	(0.0249)	(0.0244)	(0.0264)	(0.0003)	(0.2771)	(0.1404)
Geographic Distance		-0.004				-0.132***
		(0.0060)				(0.0195)
LN(GDP pc (Home))		0.004	0.003	0.000	0.037	0.050
		(0.0038)	(0.0040)	(0.0001)	(0.0455)	(0.0482)
GDP Growth (Home)		-0.004	-0.003	-0.000	-0.040	-0.023
		(0.0025)	(0.0023)	(0.0000)	(0.0261)	(0.0373)
Import Ratio		4.958***	-3.037	-0.063	-20.099*	7.504***
		(1.0918)	(1.9299)	(0.0400)	(12.0004)	(1.9375)
% Turnover (Home)		0.234***	0.220**	0.005**	2.126***	0.864
		(0.0799)	(0.0863)	(0.0023)	(0.7707)	(0.8950)
Quality Index (Home)		-0.078	-0.027	-0.000	-0.393	-0.143
		(0.0489)	(0.0434)	(0.0007)	(0.4911)	(0.2462)
Fixed Effects	Home, Host &Year	Home, Host & Year	Country-Pair& Year	Home, Host & Year	Country Pair & Year	Home, Host & Year
Observations	9,196	8,712	8,712	8,712	8,710	8,118
R^2	0.131	0.281	0.500	0.116	0.365	

Table 6: Firm-level Inversion Outcomes: Taxes and Valuation

This table reports OLS estimates for firm-level outcomes of corporate inversions. The sample includes publicly listed firms from 11 countries. Panel A presents outcome regression results where the dependent variable is the effective tax rate. Panel B presents outcome regression results where the dependent variable is the HP measure of financial constraints, an index proposed by Hadlock and Pierce (2010) incorporating firm size and age. Panel C presents regression results where the dependent variable is Tobin's q. *After Inversion* is a dummy equal to one for firms that inverted in years following the inversion (including the year of inversion). *Control After* is a dummy equal to one for control firms in years after their corresponding treated firms invert. Control firms are matched to inverted firms two years prior to inversion based on country, 2-digit industry SIC code, and size. The regressions for columns (1)-(3) use the full Worldscope sample and in the regressions for columns (4)-(6), we restrict the sample to inverted and control firms. Refer to the Appendix for variable definitions. Standard errors are clustered at the home country level. *t*-statistics are in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Effective Tax Rates

	(1)	(2)	(3)	(4)	(5)	(6)
		Full Sample			Inverted Firms & Control Sample	
After Inversion	0.009	0.021**	0.021	-0.002	0.012	0.014
	(0.78)	(2.41)	(1.43)	(-0.10)	(1.01)	(1.31)
*After Inversion * % Tax difference (Home less Host)*		-0.001***			-0.002***	
		(-2.28)			(-2.39)	
*After Inversion * Offshoreness*			-0.037***			-0.016*
			(-3.17)			(-1.91)
Control After	0.017**	0.017**	0.017**			
	(2.42)	(2.42)	(2.42)			
Ln($TA)	0.014***	0.014***	0.014***	0.024***	0.024***	0.025***
	(4.62)	(4.62)	(4.62)	(6.32)	(6.20)	(6.02)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Country x Industry x Year FE	Yes	Yes	Yes	No	No	No
Year FE	-	-	-	Yes	Yes	Yes
Observations	417,976	417,976	417,976	7,260	7,260	7,260
Adj. R^2	0.388	0.388	0.388	0.332	0.333	0.332

Panel B: Financial Constraints

	(1) All	(2) All	(3) All	(4) Matched	(5) Matched	(6) Matched
After Inversion	0.002	0.016	0.034	-0.020	-0.011	0.001
	(0.07)	(0.59)	(1.47)	(-1.21)	(-0.59)	(0.04)
*After Inversion * % Tax difference (Home less Host)*		-0.002***			-0.001***	
		(-3.62)			(-7.35)	
*After Inversion * Offshoreness*			-0.050***			-0.027***
			(-2.80)			(-3.47)
Control After	0.008	0.008	0.008			
	(1.09)	(1.09)	(1.10)			
Ln($TA)	-0.358***	-0.358***	-0.358***	-0.331***	-0.331***	-0.332***
	(-50.96)	(-51.15)	(-51.44)	(-18.18)	(-18.32)	(-18.80)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Country x Industry x Year FE	Yes	Yes	Yes	No	No	No
Year FE	-	-	-	Yes	Yes	Yes
Observations	179009	179009	179009	4843	4843	4843
Adj. R^2	0.997	0.997	0.997	0.994	0.995	0.995

Panel C: Tobin's q

	(1)	(2)	(3)	(4)	(5)	(6)
		Full Sample			Inverted Firms & Control Sample	
After Inversion	-0.063	-0.109	-0.115	0.019	-0.018	-0.018
	(-0.84)	(-1.61)	(-1.59)	(0.29)	(-0.27)	(-0.24)
*After Inversion * % Tax difference (Home less Host)*		0.007***			0.005***	
		(4.08)			(2.83)	
*After Inversion * Offshoreness*			0.119***			0.084
			(3.59)			(1.44)
Control After	-0.135	-0.135	-0.135			
	(-1.60)	(-1.60)	(-1.60)			
Ln($TA)	-0.359***	-0.359***	-0.361***	-0.498***	-0.496***	-0.497***
	(-9.86)	(-9.85)	(-9.63)	(-25.45)	(-25.35)	(-25.08)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Country x Industry x Year FE	Yes	Yes	Yes	No	No	No
Year FE	-	-	-	Yes	Yes	Yes
Observations	461,393	461,393	461,393	8,214	8,214	8,214
Adj. R^2	0.605	0.605	0.605	0.572	0.572	0.573

Table 7: Firm-level Inversion Outcomes: Institutional Ownership and Country-level Governance

This table reports OLS estimates for firm-level outcomes of corporate inversions where the dependent variable is institutional ownership. Institutional ownership is computed as the sum of the holdings by all institutions in the firm's stock divided by the firm's market capitalization as in Aggarwal et al. (2011). *After Inversion* is a dummy equal to one for firms that inverted in years following the inversion (including the year of inversion). *Control After* is a dummy equal to one for control firms in years after their corresponding treatment firms invert. Control firms are matched to inverted firms two years prior to inversion based on country, 2-digit industry SIC code, and size. The regressions for columns (1)-(3) use the full Worldscope sample and in the regressions for columns (4)-(6), we restrict the sample to inverted and control firms. Refer to the Appendix for variable definitions. Standard errors are clustered at the home country level. *t*-statistics are in parentheses. *, ** and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
		Full Sample			Inverted Firms & Control Sample	
After Inversion	0.027	0.035*	0.041**	0.031**	0.038***	0.043***
	(1.10)	(1.65)	(2.13)	(2.46)	(2.71)	(3.43)
*After Inversion * Corruption (Home less Host)*		-0.045**			-0.020	
		(-2.02)			(-0.95)	
*After Inversion * Voice & Accountability (Home less Host)*			-0.096***			-0.062***
			(-4.65)			(-3.29)
Control After	-0.016	-0.016	-0.016			
	(-1.21)	(-1.20)	(-1.20)			
Ln($TA)	0.044***	0.044***	0.044***	0.043***	0.043***	0.043***
	(3.02)	(3.00)	(3.00)	(4.45)	(3.94)	(4.00)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Country x Industry x Year FE	Yes	Yes	Yes	No	No	No
Year FE	-	-	-	Yes	Yes	Yes
Observations	215,072	214,786	214,786	4,374	4,088	4,088
Adj. R^2	0.921	0.921	0.921	0.901	0.906	0.906

Table 8: Firm-level Inversion Outcomes: Earnings Management

This table reports OLS estimates for firm-level outcomes of corporate inversions where the dependent variable is *Earnings Management*. Earnings Management is computed as σ(EBIT)/σ(CF), a firm-level standard deviation of operating earnings divided by the standard deviation of cash flow from operations in the past five years in Columns 1-2 and Accrual, a ratio of firms' absolute value of accruals scaled by the absolute value of cash flow from operations in Columns 3-4. *After Inversion* is a dummy equal to one for firms that inverted in years following the inversion (including the year of inversion). *Control After* is a dummy equal to one for control firms in years after their corresponding treatment firms invert. Control firms are matched to inverted firms two years prior to inversion based on country, 2-digit industry SIC code, and size. Refer to the Appendix for variable definitions. Standard errors are clustered at the home country level. *t*-statistics are in parentheses. *, ** and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

Panel A: Earnings Management and Taxes

	(1) σ(EBIT)/σ(CF)	(2) σ(EBIT)/σ(CF)	(3) Accrual	(4) Accrual
After Inversion	-0.118	-0.111	0.420*	0.410
	(-0.82)	(-1.06)	(1.85)	(1.49)
*After Inversion **	0.009		-0.033***	
% Tax difference (Home less Host)	(0.93)		(-3.11)	
*After Inversion **		0.095		-0.279**
Offshoreness		(0.53)		(-2.39)
Control After	-0.230	-0.230	0.428*	0.428*
	(-1.01)	(-1.01)	(1.73)	(1.73)
Ln($TA)	-0.055*	-0.055*	0.041	0.041
	(-1.72)	(-1.72)	(1.28)	(1.28)
Firm FE	Yes	Yes	Yes	Yes
Country x Industry x Year FE	Yes	Yes	No	No
Year FE	-	-	Yes	Yes
Observations	212842	212842	270133	270133
Adj. R^2	0.443	0.443	0.093	0.093

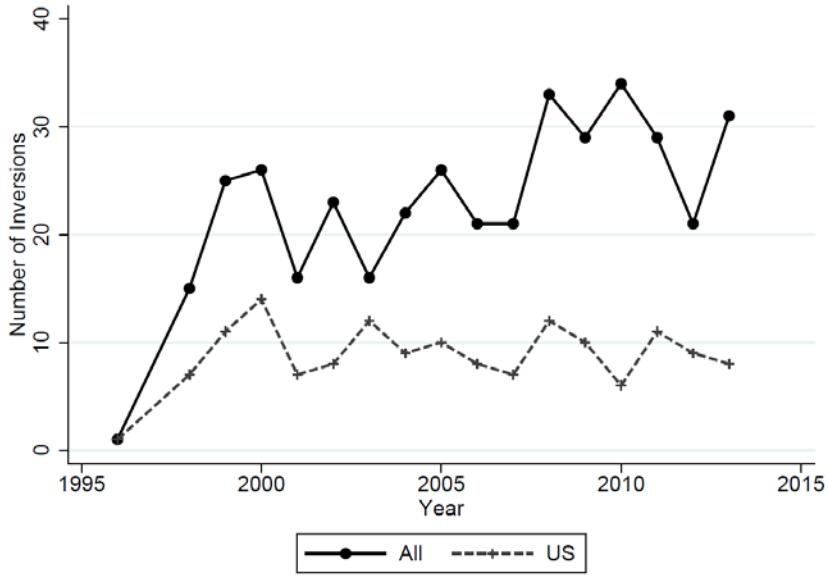
Panel B: Earnings Management and Governance

	(1) σ(EBIT)/σ(CF)	(2) σ(EBIT)/σ(CF)	(3) Accrual	(4) Accrual
After Inversion	-0.020	-0.063	0.539*	0.415
	(-0.11)	(-0.43)	(1.74)	(1.56)
*After Inversion **	-0.487**		0.371	
Corruption (Home less Host)	(-2.15)		(1.26)	
*After Inversion **		-0.265		1.361***
Voice & Accountability (Home less Host)		(-0.65)		(2.67)
Control After	-0.230	-0.230	0.428*	0.428*
	(-1.01)	(-1.01)	(1.74)	(1.74)
Ln($TA)	-0.055*	-0.055*	0.039	0.039
	(-1.71)	(-1.71)	(1.21)	(1.21)
Firm FE	Yes	Yes	Yes	Yes
Country x Industry x Year FE	Yes	Yes	No	No
Year FE	-	-	Yes	Yes
Observations	212550	212550	269660	269660
Adj. R^2	0.444	0.444	0.093	0.093

Figure 1
Corporate Inversions over Time

This figure shows the total number of corporate inversions (Panel A) and their aggregate market value (Panel B) from 1996 to 2013. The solid line represents all inversions; the dashed line represents inversions out of the U.S..

Panel A: Number of Inversions



Panel B: Market Value of Inversions

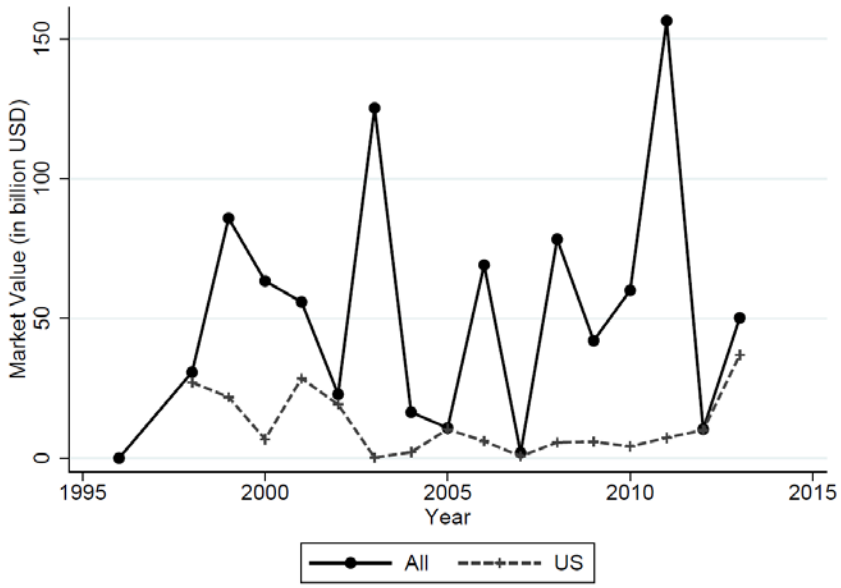
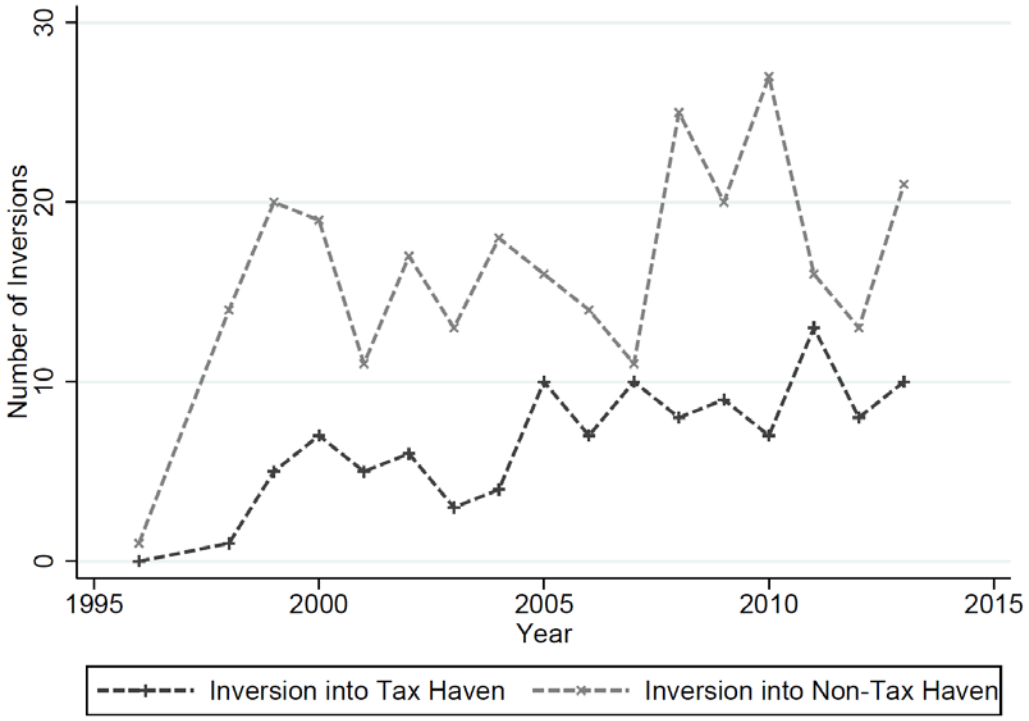


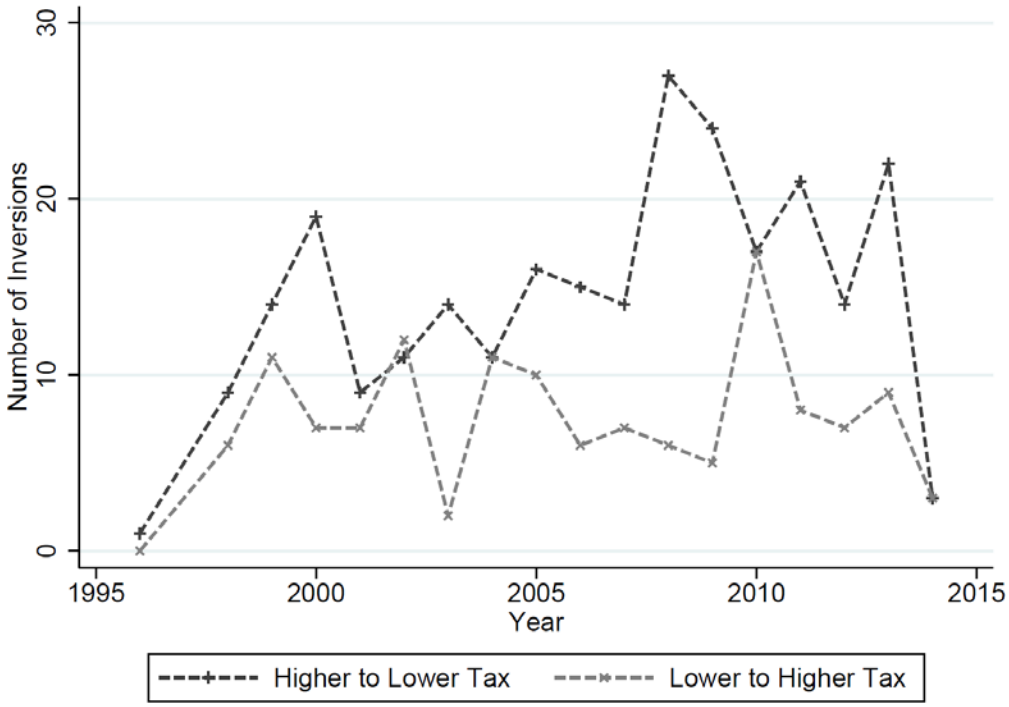
Figure 2
Are Inversions All about Taxes?

This figure shows the number of corporate inversions into tax havens and non-tax havens (Panel A), the number of inversions from lower to higher and higher to lower tax destinations (Panel B), and the number of inversions from the U.S. to Canada and from Canada to the U.S. (Panel C). The sample period is 1996-2013. Tax havens are as defined in Dharmapala and Hines (2009) and tax rates are statutory tax rates.

Panel A: Inversions into Tax Havens and Non-tax Havens



Panel B: Inversions from Higher to Lower and Lower to Higher Tax Destinations



Panel C: Inversions between the U.S. and Canada

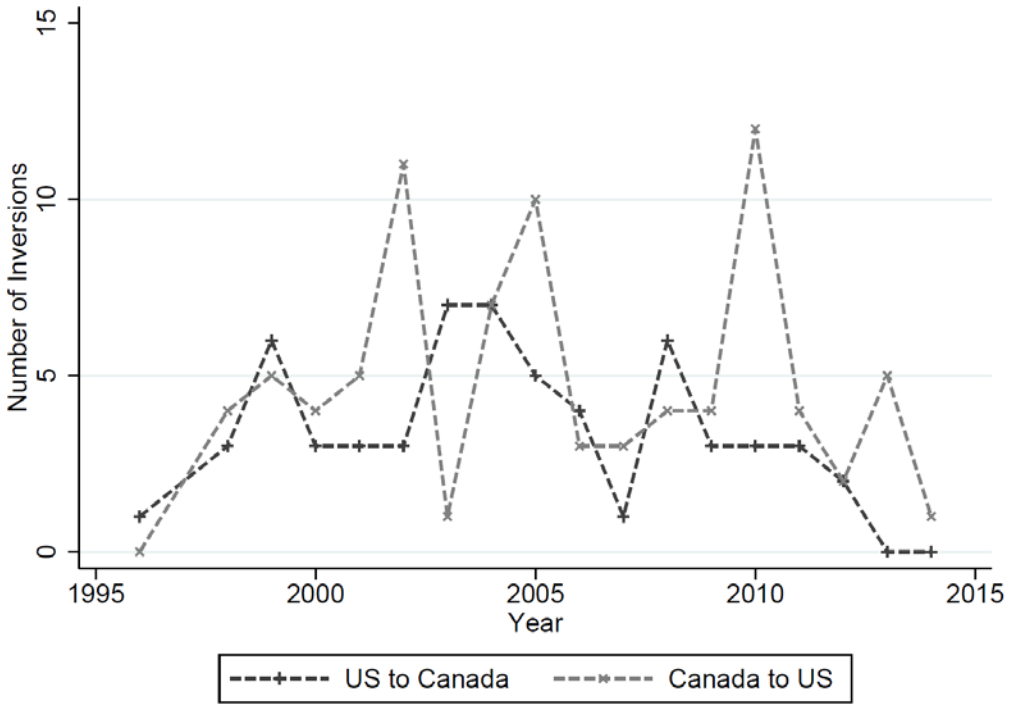


Figure 3: Number of Double Taxation Treaties and Affected Firms

This figure shows the number of home sample countries that signed at least one double taxation agreement (DTT) in any given year (left) and the fraction of sample firms potentially affected by at least one DTT in any given year (right) over the 2000-2012 period. Fractions of potentially affected sample firms are calculated on a yearly basis as the number of firms headquartered in a DTT signatory home country in respective years divided by the number of firms in our sample in that year.

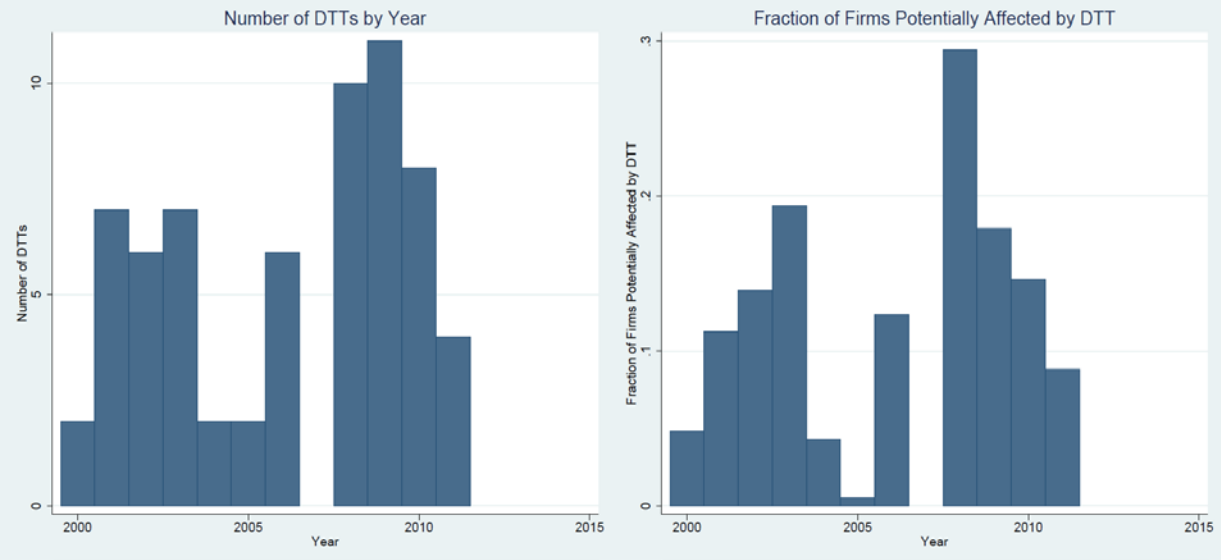
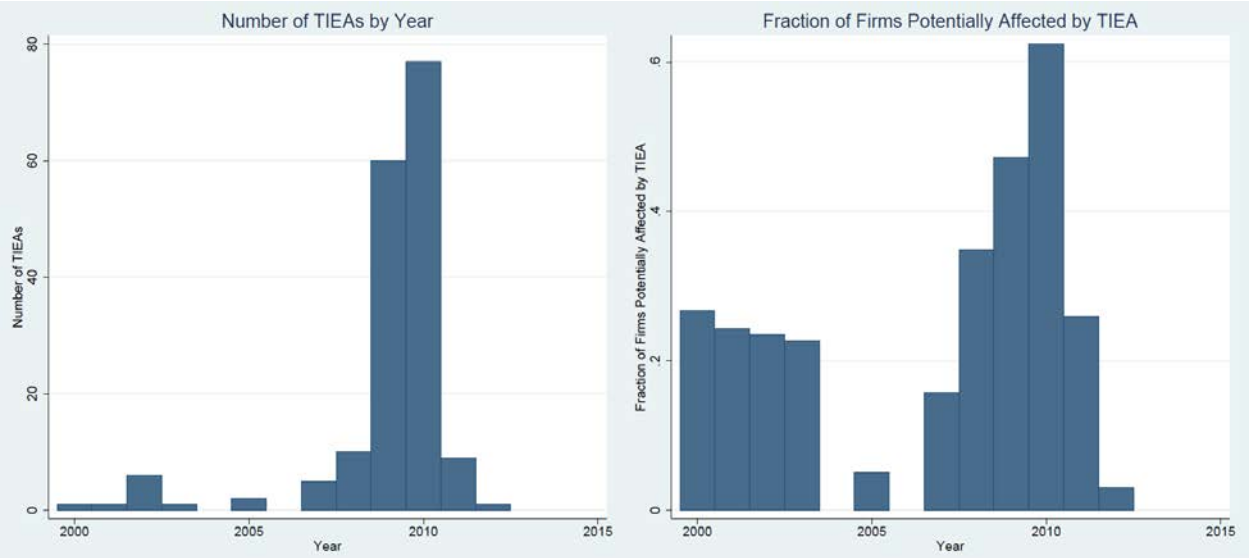


Figure 4: Number of Tax Information Exchange Agreements and Affected Firms

This figure shows the number of tax information exchange agreements (TIEAs) signed each year (left) and the fraction of sample firms potentially affected by at least one TIEA in any given year (right) over the 2000-2012 period. A list of TIEAs is obtained from the OECD (http://www.oecd.org/tax/exchange-of-tax-information/taxinformationexchangeagreementstieas.htm). Fractions of potentially affected sample firms are calculated on a yearly basis as the number of firms headquartered in a TIEA signatory home country in respective years divided by the number of firms in our sample in that year.



Appendix: Variable Definitions and Sources

Variable	Definition	Source
DTT (dummy)	Dummy equals 1 if a double taxation treaty exists between the country pair , zero otherwise.	UNCTAD
TIEA (dummy)	Dummy equals 1 if a tax information exchange agreement exists between the country pair, zero otherwise.	OECD
Import Ratio	Ratio of imports between OD and ND to total imports by OD.	UN COMTRADE
Geographic Distance	The great circle distance between the capitals of countries *i* and *j*. We obtain latitude and longitude of capital cities of each country. We then apply the standard formula: 3963.0 * arccos [sin(lat1) * sin(lat2) + cos(lat1) * cos(lat2) * cos (lon2 - lon1)], where lon and lat are the longitudes and latitudes of the acquirer country ("1" suffix) and the target country ("2" suffix) locations, respectively.	http://www.mapsofworld.com/utilities/world-latitude-longitude.htm
Rule of Law	This captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.	WGI, World Bank Kaufmann et al. (2009)
Voice and Accountability	Reflects perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.	WGI, World Bank Kaufmann et al. (2009)
Regulatory Quality	This captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.	WGI, World Bank Kaufmann et al. (2009)
Corruption	Reflects perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.	WGI, World Bank Kaufmann et al. (2009)
Political Stability	This measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism.	WGI, World Bank Kaufmann et al. (2009)
GDP Per Capita	Measured in 2007 U.S. dollars. Data frequency is annual.	WDI, World Bank
GDP Growth	Average annual real growth rate of GDP 2007 U.S. dollars. Data frequency is annual.	WDI, World Bank
% Market Capitalization	Calculated as the share price times the number of shares outstanding scaled by GDP. Data frequency is annual.	WDI, World Bank
% Turnover	Annual stock market turnover defined as trading volume divided by number of float shares.	WDI, World Bank

Merger Quality Index	Assigns a value of 1 to a country with: pre-merger notification requirements, post- merger notification requirements, mandatory nature of the pre-merger notification and penalties imposed for lack of notification.	Bris et al. (2010), White and Case 2003-2004 Edition of the Worldwide Antitrust Merger Notification Requirements, Cicero (2001), National Regulators, and ISSA Handbook
Offshoreness	It is the Offshore Attitude Index that measures attitudes towards Offshore Financial Centers (OFCs) based on multiple factors such as potential national benefits, political stability, regulations enforcement, the presence of crime, and an inclusion in one of the OFC blacklists: Financial Stability list, FATF list of Non Cooperative Countries and Territories, and OECD list of tax havens. The index is equal to 0 if a country shows a strong onshore attitude; 1 if a country does not show a strong onshore attitude but it was not listed in one of the blacklists; 2, 3, and 4 if a country was present in one, two, or three blacklists, respectively. Finally, one is added to the index if a country or jurisdiction is on the market list of OFCs. The index ranges from 0 to 5, larger values indicating a greater degree of offshoreness.	Masciandaro (2008)
%Statutory Tax	Statutory corporate tax rate (%) in home (host).	KPMG, OECD, and various websites
% Effective Tax	Average corporate effective tax rates in home (host).	Worldscope, Capital IQ
Tobin's q	Market value of equity plus total assets minus book value of equity, divided by total assets.	Worldscope, Capital IQ
ETR	Effective tax rate-total income tax expense divided by income before taxes	Worldscope, Capital IQ
Institutional Ownership	Percentage of shares owned by institutions such as mutual funds, pension funds, bank trusts, and insurance companies around the world.	Capital IQ
HP measure	An index proposed by Hadlock and Pierce (2010) incorporating firm size and age	Hadlock and Pierce (2010)
σ(EBIT)/σ(CF)	Standard deviation of operating earnings divided by the standard deviation of cash flow from operations in the past five years.	Leuz et al. (2003) and Hope(2003)
Accrual	A ratio of firms' absolute value of accruals scaled by the absolute value of cash flow from operations	Leuz et al. (2003) and Hope(2003)

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