Thesis

Corporate Taxation and Cross-border Mergers and Acquisitions

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INTRODUCTION

"In this world nothing can be said to be certain, except death and taxes" – Benjamin Franklin

Should a country be able to control their own rates of corporate taxation, or should taxation be harmonized across countries? The question of fiscal sovereignty hangs heavy over the current economic environment as companies are publically berated for doing what they believe is best for their shareholders: minimizing their tax liabilities.

The blurred line between tax avoidance and tax evasion has brought rise to consultancy firms specialized in advising companies on how to best minimize their tax burden. These firms seek to advise their clients on how to best exploit tax loopholes to avoid their various tax liabilities, and ultimately maximize value for their shareholders. Meanwhile, regulatory agencies, seek to clamp down on these actions by increasingly pushing through measures to minimize base erosion and profit shifting, bringing the argument of tax minimization efforts towards the realms of tax evasion. Their goal is to curb tax avoidance by companies altogether, as they seek to maximize the tax revenue brought in by governments. This dichotomy of thought leaves international corporations treading a thin line between their twin goals of maximizing shareholder value (Friedman, 1970) and abiding by the law.

Companies deal with this tax minimization problem in a plethora of different ways. Apple has embarked on a huge share buyback program that sought to return to their shareholders' part of the mountainous profits they have made in recent years in a more tax efficient way than through dividends (Apple, 2015). Starbucks has been known for its transfer pricing practices, allowing it to shift profits from higher taxation regions to those with more favourable tax rates, in view to minimize their exposure to high tax regions (Bergin, 2012). Google's taxation practice has also been under close scrutiny, even escalating to police raids on their office in Paris (Reuters, 2016). The ways in which companies can avoid tax are as numerous as they are dynamic. However, this study focuses on cross-border mergers and acquisitions as a method of tax minimization for corporates. This being the physical relocation of a company's headquarters to another country via the acquisition of another company in the desired jurisdiction. Some examples of this include Terex's scrapped tax inversion to Finland (Reuters, 2016), Burger King's acquisition of the Canadian-based Tim Hortons (Reuters, 2014), and Medtronic's successful tax inversion to Ireland in 2015 (Financial Times, 2015).

More recently and acrimoniously, Allergan's collapsed $160b takeover bid for Pfizer, potentially the second largest takeover in history and the largest proposed tax inversion ever, was shelved due to expected sweeping changes in the US Treasury Department's stance on tax inversions (Financial Times, 2015). However, with M&A activity at record levels in 2015, and the question of where a company should

be domiciled is still more pertinent than ever. The potential for a change of tax domicile to generate shareholder value will invariably lead to cross-border mergers and acquisitions, as companies will continue to seek to acquire companies in lower-tax jurisdictions to avail of these lower tax rates until their relevant regulatory authorities state otherwise.

Furthermore, technological advancement has improved the operational and legal mobility of modern companies, allowing them to choose from a wider range of inversion partners than they could do so in the past. This list of partners will only increase as countries converge in quality of infrastructure and standards of living. The expanding list of viable inversion partners increased in the same manner as the level of cross-border mergers and acquisitions has across developed economies. In 2014 alone, the level of cross-border mergers and acquisitions reached $399 billion, with 223 of these deals topping $1 billion (Zhan, 2015), therefore for potential of tax inversions could not have been higher across this period.

Given these facts and the tumultuous regulatory environment related to corporate taxation, this study focuses on the effect changes in relative corporate taxation have on the number and volume of cross-border mergers and acquisitions in a sample of high-income OECD countries. The paper is divided into seven sections in the following order: literature review, where the prominent literature on mergers and acquisition is explored; hypothesis formation, where three separate hypotheses are formed relating to the effect of corporate taxation on cross-border merger and acquisition activity; regression, where the methodology, data, and equation structure are discussed; results, where the results of the regression exercise are explored; discussion, where the study's issues are addressed; conclusion; and finally recommendations for future study, where relevant yet unexplored topics are explored and discussed in relation to potential future studies.

The purpose of this paper is to determine whether there is sufficient empirical evidence to conclude that changes in relative corporate taxation have a consistent and lasting effect on the levels of cross-border mergers and acquisitions between country pairs across high-income OECD countries. This question is expanded to not only the number of cross-border mergers and acquisitions between country pairs, but also the volume of cross-border mergers and acquisitions between these countries. The significance of the relationship is explored, and then the interpretation of the corporate taxation coefficient is explored. In conjunction to this, the impact of the various control variables is also examined.

LITERATURE REVIEW

1.1 Mergers & Acquisitions

Throughout the M&A literature, there are two overarching yet contrasting theories that seek to explain why companies engage in M&A activity: Shareholder value creation, and hubris.

First, companies seek to create value for shareholders of the acquiring firm by availing of synergies, improved market power, economies of scale, growth, avoiding bankruptcy, elimination of competition and tax benefits. This indicates that M&A activity is premised on the belief that the combined entity can become more efficient than if the two firms remained separate, subject to anti-trust and anti-monopoly approval (Manne, 1965). However, the control premium paid during the acquisition has a substantial effect on whether M&A create value for shareholders of the acquiring firms.

A critique of this view of M&A activity by Mandelker, 1974, found that, under the hypothesis that the market for acquisitions is perfectly competitive and with the hypothesis that information regarding mergers is efficiently incorporated in the stock prices, the acquiring firms and their shareholders sustained losses after mergers. The control premium was found to transfer wealth from the shareholders of the acquiring firm to the shareholders of the target, representing an abnormal return of approximately 14%, on average, for the target shareholders (Mandelker, 1974).

Despite this critique, managers still seek to gain value for their shareholders through M&A activity, with Jarrel et al. finding that the premiums in takeovers represent real wealth gains and are no simply wealth redistribution (Jarrell, 1988) Further to the total price and control premium paid for an M&A transaction, the structure of the exchange medium and the transacting process itself can affect the value gains in mergers. Hansen, 1987, describes how under asymmetric information a signalling equilibrium develops whereby the target uses both exchange medium offered (debt and/or equity) and the amount of any stock offer as signals of the acquiring firm's value. This choice affects the control premium required and the tax effects on the acquiring side (Hansen, 1987).

Continuing in this vein, Agrawal and Jaffe, 2000, found that long-run performance is negative following mergers, finding that method of payment and performance extrapolation are stronger predictors of this under-performance than speed of price-adjustment and EPS myopia (Agrawal, 2000). This highlights a distinction in the literature between whether M&A transactions have created value for shareholders in the short-run and long-run.

Other factors affecting shareholder value creation include "strategic fit", "process", and cultural dynamics. Strategic fit restructuring is broad based and global in scope, for every company that wishes to restructure and refocus on its desired primary business, a buyer must be found to take the unwanted activities. However, this is only possible is the divesting firm has analysed their competitive situation and have evaluated their own potential for strategic acquisitions (Haspeslagh, 1991). Barney, 1988, finds that M&A between strategically related firms have been found to generate abnormal returns for shareholders of bidding firms. However, this is only when bidding firms have private and uniquely valuable synergistic cash flows with targets, imitable and uniquely valuable synergistic cash flows with targets, or unexpected synergistic cash flows. Furthermore, if bidding firms overestimate the value of targets the economic value brought to the firm through these synergies will be outweighed by the price paid for the target (Barney, 1988).

The economic value of these transactions can only be realized through effective integration of the target and the acquirer. Larsson and Finkelstein, 1999, discuss how synergy realization is a function of the similarity and complementarity of the two merging businesses, the extent of interaction and co-ordination during the organizational integration process, and the lack of employee resistance to the combined entity. The success metric in this case is not accounting or market returns, but rather the degree of synergy realization which depends on: the strategic potential of the combination, given the similarities present across businesses and their production and marketing complementarities; the degree of organizational integration post-deal; and the lack of employee resistance (Larsson, 1999).

The importance of shareholder value creation and synergy realization on the decision of whether to embark on an M&A transaction is an important one, but this paper does not seek to verify whether these synergies that are generated by M&A activity are met. It does, however, seek to determine whether corporate taxation, a significant factor in the achievement of cost synergies, is a driver of this activity. Whether these synergies are achieved should be subject to future study.

Other literature also explores more fundamental causes of M&A activity, such as stock market levels. Behavioral corporate finance, which sees corporate actions as a response to market mispricing or market timing, has also been explored. There is a powerful incentive for firms to get their equity overvalued, so that they can make acquisitions with stock, effectively reducing the price of their acquisition or providing more favorable terms in a merger. Firms with overvalued equity might be able to make acquisitions, while firms with undervalued, or relatively less overvalued, equity become takeover targets themselves (Shleifer, 2002). Therefore, relative stock market returns may have a substantial impact on whether a firm would want to acquire another. However, with this comes an incentive to raise a firm's stock price even through earnings manipulation (D'Avolio, 2001). From a simple glance at the total M&A market figures and stock market prices, there seems to be positive correlation between the two, as they have similar cyclicality.

Expanding the research on the fundamental causes of M&A activity, are aggregate merger wave studies. In contrast to behavioral corporate finance studies, Harford's 2005 aggregate merger wave study found that market-timing variables have little explanatory power relative to the 'neoclassical' elements such as economic, regulatory and technological shocks including macro-level capital liquidity. This view of industries responding to shocks by reorganizing through M&A, thus creating a clustering of M&A activity, contrasts sharply with the behavioral view where rational managers take advantage of consistent pricing errors in the market to buy assets with their overvalued stock. Harford also found that the relation between asset values and merger activity reflects the capital liquidity effect rather than any misvaluation effect. Not all shocks will propagate a wave; sufficient capital liquidity must be present to accommodate the necessary transactions. This macro-level liquidity component causes industry merger waves to cluster even if industry shocks do not (Harford, 2005).

Therefore, a measure of credit tightness should be taken into account. Capital reallocation has been found to be pro-cyclical, yet the costs or frictions involved in reallocating capital, such as credit tightness, are countercyclical, where liquidity encompasses the informational and contractual frictions that hinder capital reallocation. This implied cost of reallocating capital has also been found to be 2.6 times higher in recessions than on average (Eisfeldt et al., 2006).

However, the pro-cyclicality of these frictions will be positively correlated to growth and contractions in a country's GDP and GDP growth, therefore the majority of the variation attributed to credit tightness should be captured within these variables. Further, as there are both statistically significant results for both behavioral and neoclassical theories as drivers of M&A activity, this study includes both GDP and GDP growth variables in all models.

In addition to the creation of shareholder value, the second overarching theory for M&A activity is the hubris theory. This theory states that management tend to act in their own self-interest by empire building through acquisition (Baumol, 1959). During periods of industry consolidation and favourable economic conditions, the pressure for management to grow through acquisitions increases, as they seek to expand for maximization of management utility reasons, rather than for maximization of shareholder wealth (Firth, 1980). Furthermore, it has been found that turnover rates in acquired top management teams are significantly higher than 'normal' turnover rates, and that visible senior executives are likely to turn over sooner than their less-visible colleagues (Walsh, 1988). This may create an incentive for management of target firms to block a potentially value enhancing transaction, as they seek to maximize their own utility.

However, Jensen & Ruback find that, with the exception of actions that exclude potential bidders, it is difficult to find managerial actions related to corporate control that harm shareholders. In their view the takeover market is an arena in which alternative management teams compete for the rights to manage corporate resources (Jensen, 1983). Despite the difficulty of measurement, managerial decisions, such as where a firm is domiciled and which geographical regions they should be present in, are a key part of the M&A decision making process. However, within this study, the phenomenon of empire building shall not be included due to its difficulty to prove and quantify effectively. Therefore, the control variables and the variable of interest, relative corporate taxation, focus on the creation of shareholder theory behind M&A activity.

1.2 Taxation in Mergers & Acquisitions

As mentioned earlier, synergies, more specifically cost synergies, are a key driver in the market for corporate control. Auerbach & Reishus (1987) find that,

> *"corporations and their shareholders reap windfall gains via tax reductions, the Treasury may be unintentionally subsidizing takeover activity that must be paid for by others in the fiscal system."*

This buttresses the idea of migration of firms as detrimental for the entire fiscal system. However, they further explain that combining firms may become more efficient due to their reduced tax burden creating an incentive for the firm to invest in income generating ventures, allowing scope for revenue synergies between these merging entities. They then argue that, regardless of whether tax incentives that create merger activity are desirable or not, it is paramount to understand the impact of these tax incentives on CBMA. They also found that the potential transfer of unused tax credits and tax losses was the most significant tax-related driver of mergers and acquisitions in the US in the 1970s and 1980s.

Scholes & Wolfson (1989) also find that the tax laws passed in the 1980s, culminating with the tax reform act of 1986, has a "first order effect" on M&A activity in the US. They also found that while the act discouraged transactions between US corporations, it increased the demand for M&A transactions between US targets and foreign acquirers. This highlights the impact that taxation has on not only domestic M&A decisions but also provides an indication of its importance in cross border mergers and acquisitions.

1.3 Cross Border Mergers & Acquisitions (CBMA)

After reviewing the literature of M&A transactions, the vast majority of studies are concerned with domestic transactions. However, additional cross-border specific factors need to be taken into account when discerning the potential causes and scale of CBMA, such as: exchange rates, local stock market value,

geographic proximity etc. A nearly exhaustive list of determinants of CBMAs can be found in Erel et al.'s 2012 paper, "Determinants of cross-border mergers and acquisitions", however this paper focuses on the broader country specific economic determinants of CBMA, rather than the company specific or process drivers.

Specifically, they found that bilateral trade, distance, GDP per capita, real GDP growth, real currency returns, real stock market returns, valuation effects (market to book ratio), accounting disclosure, and legal standards, in addition to this paper's variable of interest, taxation, in a country have a statistically significant effect on the number of CBMA in a country. They also cite that the parallel FDI literature may be useful in understanding the determinants of CBMA.

The OECD defines foreign direct investment (FDI) as:

> *"a category of cross-border investment made by a resident entity in one economy (the direct investor) with the objective of establishing a lasting interest in an enterprise (the direct investment enterprise) that is resident in an economy other than that of the direct investor."*

Under this definition, CBMA falls under the umbrella term of FDI. As the parallel literature of foreign direct investment (FDI) is vast, this paper will focus on CBMA specific FDI only. However, this expanded literature proved to be far from extraneous to this study, as many of the factors that affect FDI in a broader sense are also sighted as impactful on CBMA. For example: Blonigen and Piger (2014) cite GDP terms and geographic features as strong determinants of FDI, which is also found in most CBMA literature; Froot & Stein (1989) suggest that a depreciation of the domestic currency in a country can lead to foreign acquisitions of certain domestic assets; and Hines (1993) suggests that state taxes significantly influence the pattern of FDI in the US. The parallels to the empirical causes of FDI and CBMA are evident, and can serve to further support the rationale for these various factors as causes of CBMA. Again, in these studies they highlight the importance of taxes in cross border investment decisions.

The conclusion of this literature review is that corporate taxation has had a significant impact on CBMA in the past, and has the theoretical foundations to potentially remain influential on CBMA decisions in the future. Thus, this study aims to discover whether relative corporate taxation is still influential as a predictor of CBMA across Europe and North America.

HYPOTHESIS FORMATION

Following the previous literature review, it is certain that the value creation driver of CBMA underpins the importance of corporate tax regulation within the CBMA decision making process, as managers seek to create value for shareholders. From this observation, this paper seeks to either support or reject three similar yet separate hypotheses.

Hypotheses:

1. Changes in relative corporate tax regulation have a significant effect on cross-border merger and acquisition activity.

   From this hypothesis, this paper seeks to discern whether changes in relative corporate taxation have a statistically significant effect on both the scaled number and volume of CBMAs between a country pair.

2. A decrease in a country's relative corporate tax rate will increase in-bound mergers and acquisitions activity.

3. An increase in a country's relative corporate tax rate will increase out-bound mergers and acquisitions activity.

   From these hypotheses, this paper seeks to distinguish whether the coefficient of the difference in corporate taxation rates of the acquiring company's country of origin and the target company's county of origin is positive. An increase in relative corporate taxation of a country is expected to increase CBMAs of companies in countries with relatively lower corporate taxation by the companies in this country, creating a positive correlation between increased relative corporate tax rates in the acquiring country and the number and volume of CBMA in the target's country of origin.

DATA

The following methodology, from data collection to regression building, mainly reflects only part of the momentous work done by Erel et al. in their 2011 paper, "Determinants of Cross-Border Mergers and Acquisitions". Updated sample data for a different time period, and alternative twists to the dependent variable are added, and a one-year time lag is given to the corporate income tax and control variable data to add predictive rather than contemporaneous power to the models. It is also important to note that the updated sample includes transaction levels both during and after the financial crisis, which may change the results somewhat.

The merger sample was taken from Security Data Corporation's (SDC) Mergers and Corporate Transactions database announced between 1996 and 2015 and completed by the end of 2015, with a minimum transaction value of $1m. It excludes LBOs, spin-offs, recapitalizations, self-tender offers, exchange offers, repurchases, partial equity-stake purchases, acquisitions of remaining interest, and privatizations. Further, deals were removed from countries with incomplete stock market data between 1995 and 2015. This removed deals from Iceland, Poland, and Slovakia. Removing deals from countries with incomplete stock market returns resulted in the elimination of 1,079 deals worth a combined $100.06 billion from the study. The resultant sample contains 92,917 transactions from 21 high-income OECD countries, with a total transaction value of $23.994 trillion, of which 18,912 are cross-border mergers and acquisitions worth a cumulative $6.179 trillion.

Items collected from SDC include: date announced, date unconditional, target name, target primary Standard Industrial Classification (SIC) code, target nation, acquirer name, acquirer primary SIC code, acquirer nation, percentage of shares acquired, percentage owned after transaction, value of transaction in dollar terms, acquirer ultimate parent, and acquirer ultimate parent nation.

Corporate tax rates are taken from the OECD database of corporate tax rates between 1995 and 2015. The rate used where available is the country's combined corporate income tax rate. This shows the basic combined central and sub-central (statutory) corporate income tax rate given by the adjusted central government rate plus the sub-central rate. The only country in the sample where this was not available was Luxembourg prior to the year 2000. In this case the central government corporate income tax rate is applied instead.

To control for the volume of business done between each country pair, bilateral trade flows are included, calculated as the maximum bilateral imports and exports between the country pair. Bilateral imports (exports) are calculated as the value of imports (exports) by target country from (to) the acquirer country as a percentage of total imports (exports) by target country, all of which were collected from the

United Nation Commodity Trade Statistics database for the period 1994 and 2014. All entries where the reporter was also the partner were removed totalling of 67 entries. Furthermore, the data for Belgium and Luxembourg was aggregated before 1999 as Belgium-Luxembourg. An average split between the total exports and imports of each country was calculated for the period where they were observed separately, 1999 and 2014. This gleaned an average export split of 96.2% for Belgium and 3.8% for Luxembourg, and an average import split of 94% for Belgium and 6% for Luxembourg. These average splits were applied to the aggregated Belgium-Luxembourg data to estimate the exports and imports of each country for the period of 1994 and 1998.

The distance between each country's capital city was calculated using the Great Circle Distance between each country pair. Their latitudes and longitudes were obtained from mapsofworld.com.

GDP per capita (constant 2005 US$) was taken from The World Bank's "World Databank" and the log of this was taken. Each country's annual real rate of growth of GDP was also found by deflating the rate of growth of GDP in each country by its annual inflation in consumer prices. Both inflation and growth in GDP were taken from The World Bank's "World Databank".

As legal differences are factors that could potentially lead to cross-border mergers and acquisitions (Rossi & Volpin, 2004), each country is assigned a value in Djankov et al.'s 2008 anti-self-dealing index, where the difference is taken between the acquirer's value and the target's value. Further, the standard of accounting in each country is taken La Porta et al's 1998 index of "Rating on Accounting Standards". Where there was no index value available, the closest comparable country was used. For Ireland, the United Kingdom's index; for Luxembourg, Belgium's index; for the Czech Republic and Hungary, Austria's index was used.

To measure for a country's stock market perceived over/under-valuation, following Fama and French's methodology, each country's monthly market-to-book ratio is taken and is then averaged per year. The difference between the acquirer (i) and target (j) firm's country of origin's MTB ratio is then calculated for each country pair. Further, Monthly country-level stock market total returns were calculated from each country's stock market total return index in local currency terms, taken from Datastream. To calculate real stock market total returns, the monthly Consumer Price Index (CPI) for each country was also obtained from Datastream, for Luxembourg CPI was found from inflation.eu in 1994. All nominal total returns were then converted to 1994 price levels. Then, the average of these real returns was taken for each year and each country, and the difference was taken between each country pair.

For changes in currency valuation, each country's monthly national exchange rates were taken from Datastream using WM/Reuters (WMR), whose closing bids are based on 16:00 Greenwich Mean Time. The nominal exchange rate returns were calculated by taking the first difference of the monthly natural logarithm of the nominal exchange rates. Then these returns were deflated to represent 1994 price levels, using a similar methodology to the market returns to find the real exchange rate returns. For countries in the European Monetary Union, the Euro and the corresponding CPI for EMU countries was used after their entry to the EMU. This implies that each country in the EMU have the same exchange rate after their entry. In this study's same, this includes: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain. All joined in 1999, bar Greece that joined in 2001. The EMU monthly inflation data was taken from the OECD CPI database. The average annualized difference was calculated, and the difference between the acquirer and the target country was taken.

As a predictive regression, a one-year lag was set for all independent variables. Further, for Luxembourg in 1996 – 1999 & 2005 & 2010 & 2013, Switzerland in 1998 and The Czech Republic in 1996, the scaling factor of total domestic deals was zero. This meant that the independent variable was N/A when there were no cross-border M&A deals in that year for the relevant country pairs. In these cases, a 0 figure was inputted instead.

REGRESSION

METHODOLOGY

The following independent variables were regressed with a one-year time lag to their respective dependent variable, X_{ijt+1}. This was done on a progressive basis from regression 1 (R1) to regression (R12) beginning with the number of CBMA as the independent variable, then applying the same process with the volume of CBMA as the independent variable. This was done to create six different control regressions and to observe the effect that the addition of corporate taxation as an explanatory variable would have on these regressions.

These independent variables, both the control variables and the corporate taxation variable, were given a one-year time lag as to imply a predictive rather than contemporaneous regression. However, this assumption of a one-year time lag could cause issues, as it must be duly noted that corporations are notified in advance and plan for certain changes in regulation, such as corporate tax rates, and can adjust accordingly.

DESCRIPTION OF VARIABLES

X_{ijt+1} Various combinations of the annual cross-border M&A pairs in year t+1, where the target is from country i and the acquirer is from country j (where $i \neq j$). This figure is then scaled by the sum of the relevant number or volume of domestic deals in the target country i (X_{iit+1}) and that of relevant cross-border deals between country i and j (X_{ijt+1}).

1- **Total Number X_{ijt+1}** – The total number of cross-border deals in year t+1, where the target is from country i and the acquirer is from country j (where $i \neq j$). This figure is then scaled by the sum of the number of domestic deals in the target country i (X_{iit+1}) and that of cross-border deals between country i and j (X_{ijt+1}).

2- **Total Volume X_{ijt+1}** – The total volume of cross-border deals in year t+1, where the target is from country i and the acquirer is from country j (where $i \neq j$). This figure is then scaled by the sum of the volume of domestic deals in the target country i (X_{iit+1}) and that of cross-border deals between country i and j (X_{ijt+1}).

Tax_{ijt} The average difference between acquirer (j) and target (i) company's country of domicile's combined central and sub-central corporate tax rates, in year t.

$Trade_{ijt}$ The maximum of bilateral import and export between a country pair. Bilateral import (export) is calculated as the the value of imports (exports) by target country from (to) acquirer country as a percentage of total imports (exports) by target country. This is based on the Harmonized System definition, which is a multipurpose international product nomenclature developed by the World Customs Organization.

$Dist_{ijt}$ The great circle distance between the capital cities of countries i and j. The longitude and latitude of each country's capital city were taken. The the great circle distance between each capital city was calculated using the general formula: *3963 * arccos [sin(lat1)*sin(lat2) + cos(lat1)*cos(lat2)*cos(lon2 - lon1)]*.

$logGDP_{ijt}$ The (average) differences between acquirer (j) and target (i) firm's country of domicile's logarithmic annual Gross Domestic Product (GDP, in USD) divided by population (World Bank).

$GDPgrowth_{ijt}$ The (average) differences between acquirer (j) and target (i) firm's country of domicile's annual real growth rate in Gross Domestic Product (GDP, in USD) (World Bank).

$CR12_{ijt}$ The (average) difference between the annual real bilateral USD exchange rate return of the acquirer (j) and target country (i). National exchange rates as of 16:00 GMT were acquired from WM/Reuters, and then these figures were deflated to 1994 levels.

$MR12_{ijt}$ The (average) difference between acquirer (j) and target (i) firm's country of domicile's annual local real stock market return. The total returns of each stock market were collected in each country's local currency. These are then deflated to 1994 price levels.

$Disclosure_{ijt}$ The differences between acquirer (j) and target (i) firm's country of domicile in the index created by La Porta et al's 1998 "Rating on Accounting Standards".

$Legal_{ijt}$ The differences between acquirer (j) and target (i) firm's country of domicile in the Anti Self-Dealing Index created by Djankov et al, 2008.

REGRESSIONS

Regression 1: Macroeconomic Controls

$$X_{ijt+1} = \alpha_{ijt} + Trade_{ijt} + logGDP_{ijt} + GDPgrowth_{ijt}$$

Regression 2: Macroeconomic Controls + Tax

$$X_{ijt+1} = \alpha_{ijt} + Tax_{ijt} + Trade_{ijt} + logGDP_{ijt} + GDPgrowth_{ijt}$$

Regression 3: Geographic Controls

$$X_{ijt+1} = \alpha_{ijt} + Trade_{ijt} + logGDP_{ijt} + GDPgrowth_{ijt} + Dist_{ijt}$$

Regression 4: Geographic Controls + Tax

$$X_{ijt+1} = \alpha_{ijt} + Tax_{ijt} + Trade_{ijt} + logGDP_{ijt} + GDPgrowth_{ijt} + Dist_{ijt}$$

Regression 5: Disclosure Quality and Legal Controls

$$X_{ijt+1} = \alpha_{ijt} + Trade_{ijt} + logGDP_{ijt} + GDPgrowth_{ijt} + Disclosure_{ijt} + Legal_{ijt}$$

Regression 6: Disclosure Quality and Legal Controls + Tax

$$X_{ijt+1} = \alpha_{ijt} + Tax_{ijt} + Trade_{ijt} + logGDP_{ijt} + GDPgrowth_{ijt} + Dist_{ijt} + Disclosure_{ijt} + Legal_{ijt}$$

Regression 7: Market to Book Ratio

$$X_{ijt+1} = \alpha_{ijt} + Trade_{ijt} + logGDP_{ijt} + GDPgrowth_{ijt} + MTB_{ijt}$$

Regression 8: Market to Book Ratio + Tax

$$X_{ijt+1} = \alpha_{ijt} + Tax_{ijt} + Trade_{ijt} + logGDP_{ijt} + GDPgrowth_{ijt} + MTB_{ijt}$$

Regression 9: Currency and Market Returns

$$X_{ijt+1} = \alpha_{ijt} + Trade_{ijt} + logGDP_{ijt} + GDPgrowth_{ijt} + CR12_{ijt} + MR12_{ijt}$$

Regression 10: Currency and Market Returns + Tax

$$X_{ijt+1} = \alpha_{ijt} + Tax_{ijt} + Trade_{ijt} + logGDP_{ijt} + GDPgrowth_{ijt} + CR12_{ijt} + MR12_{ijt}$$

Regression 11: All Controls

$$X_{ijt+1} = \alpha_{ijt} + Trade_{ijt} + logGDP_{ijt} + GDPgrowth_{ijt} + Dist_{ijt} + CR12_{ijt} + MR12_{ijt} + MTB_{ijt} + Disclosure_{ijt} + Legal_{ijt}$$

Regression 12: All Controls + Tax

$$X_{ijt+1} = \alpha_{ijt} + Tax_{ijt} + Trade_{ijt} + logGDP_{ijt} + GDPgrowth_{ijt} + Dist_{ijt} + CR12_{ijt} + MR12_{ijt} + MTB_{ijt} + Disclosure_{ijt} + Legal_{ijt}$$

RESULTS

M&A ACTIVITY 1996-2015
(Tables 1&2)

Over the period, in the 21 countries in the sample, there were a total of 92,917 M&A transactions representing a total volume of $23.994t. Over time we observe the ebbs and flows of M&A activity representing "merger waves" in the sample with both the total number and volume of M&A transactions over $1m in the sample notably peaking in 1998, 2007, and 2014.

Further, there were a total number of 18,912 CBMA transactions in the sample worth over $6.179t. We also find that the percentage of CBMA varies whether it is measured as the total number or volume of M&A activity. The annual CBMA percentage as a function of the total number of deals varies from 16% (1996 & 1997) to 25% (2000). Whereas, the annual CBMA percentage as a function of the total volume of deals in that year experiences a larger variation, ranging from 16% (1996 & 1997) to 35% (2007). This indicates that the CBMA transactions in this sample exhibit more volatility in volume rather than number over the 20-year sample period. It appears that the relative size of CMBA deals increases not only in number at the peak of merger waves, but even more so in relative transaction volume.

Further, it is important to note that the US as an acquirer also represents the majority of transactions in the sample in both number (53%) and volume (59%). More recently, the US represented 52% of the total number and 65% of the total volume of 2015 M&A activity in the sample. This highlights the importance of M&A activity in the USA and the USA's dominance in the field, especially in this high-income OECD country sample. They are then followed by the UK and Canada in the total.

REGRESSION RESULTS

1. *Overall significance (Table 3)*

All the regressions in this study were found to be statistically significant overall. The F-stat was significant at the 99% level for each model, suggesting significant correlation between both the corporate taxation variable and both the scaled number of CMBA and the scaled volume of CBMA. These F-statistics range from 7.6316 in regression 3 of the number of CBMA to 127.29 in regression 12 of the number of CBMA. This was as expected, as the control variables and corporate taxation have all been shown to be statistically significant in previous studies.

To test whether there is an increase or decrease in overall significance with the introduction of corporate taxation, each control regression combination was treated with the addition of the corporate tax variable. The difference between the the treated regressions and the untreated increased the F-statistic of

each model dramatically, ranging from 16.812 in model 8 of number of CBMA to 52.437 in model 2 of volume of CBMA. The overall increase in overall significance of each model therefore increased substantially with the introduction of corporation taxation as a predictor of both the scaled number and volume of CBMA.

The difference in overall significance between the regressions of the scaled number of CMBA and the scaled volume of CBMA varied when different control variables were introduced. In regression set 1 the number of CBMA model has a higher overall significance, however, when corporate tax was introduced to the model in regression set 2 the volume of CMBA model exhibited higher overall significance. In regression sets 3 & 4, a similar pattern was found. The the introduction of the corporate taxation variable allowed the models with macroeconomic and distance controls to predict the volume of CBMA more significantly than they did the number of CBMA.

However, in regression sets 5&6 and sets 7&8, the number of CBMA models showed higher overall significance than their value of CBMA counterparts. Disclosure quality, legal controls, and MTB predictors attributed more explanatory power to the number of CBMA than the volume of CBMA.

In regression sets 9 & 10, the volume of CBMA exhibited a larger f-statistic, suggesting that the introduction of the currency and market return control variables had added a larger predictive power to the model to the models predicting the size of CBMA between countries.

Regressions 11 & 12 demonstrated a substantially larger overall significance of the number of CBMA models than the volume of CBMA models, suggesting that the combination of all the control variables was superior in predicting the number of CBMA rather than the volume of CBMA.

Despite the tumultuous differences in the overall significance between the models, given their control variables, the increase in the f-statistic was consistently larger in the volume of CBMA models than the number of CBMA models when the corporate taxation treatment was introduced. This suggest that an increase in the difference in corporate taxation between two countries has a more significant effect on the volume of CBMA than the number of CBMA between two countries.

2. *Impact of changes in relative corporate taxation*

To substantiate the significance of the corporate taxation treatment in each model, we must move further from only the F-statistic of overall significance, but also discern the changes in each model's R-squared, and the coefficient of the corporate taxation variable. This section will outline these changes for both the number and volume of CBMA, and discuss their economic significance.

2.1 Number of CBMA (table 4)

Regressions 1&2: Macroeconomic controls

The low R-squared of both models R1 (0.00389) and R2 (0.02562) was surprising, as Bilateral Trade, GDP, and GDP Growth were found to glean a much higher R-squared in Erel et al., 2011. However, as we move to our variable of interest, the R-squared increased by 0.02173 from R1 to R2 after the application of the corporate taxation treatment. Despite the low R-squared figures of R1 and R2, there was still a substantial increase in explanatory power of the model when the corporate tax variable was introduced. This result supports H1.

The coefficient of the corporate taxation variable was also found to be 0.16834, and significant at the 99% level. This significant positive correlation between the corporate tax variable and the scaled number of CBMA, suggests that the number of CBMA increases when the relative corporate taxation of the buyer increases to that of its target. This result supports H2 & H3, as a 1 percentage point increase in corporate taxation will lead to a .16% increase in the predicted number of CBMA between a country pair.

Regressions 3&4: Geographic controls

Again, the low R-squared of both models R3 (0.00438) and R4 (0.02647) was surprising, as Bilateral Trade, GDP, GDP Growth, and Geographic distance between each country's capital city were found to glean a much higher R-squared than found in Erel et al, 2011. However, after the introduction of the corporate taxation variable, the increase in R-Squared between R1 and R2 was 0.02208. This increase in explanatory power supports H1.

The coefficient of the corporate taxation variable was found to be 0.1699 and significant at the 99% level. This is a marginal increase over the R2 figure suggests that corporate taxation has a larger effect on the predicted number of CBMA, given the additional distance control variable. Furthermore, in addition to the marginal increase in magnitude, this positive and significant result buttresses H2 & H3.

Regressions 5&6: Disclosure Quality and Legal controls

In regressions 5&6 the R-squared increased somewhat, R5 (0.07865) and R6 (0.11071). the introduction of the Disclosure and Legal controls to the initial controls of R1 proved to increase the explanatory power of the model. Again, the control model experienced an increase in R-squared when the corporate tax variable was introduced. This increase was of 0.03206, a larger increase than the previous

models. From this, the introduction of corporate taxation adds substantial predictive power when discerning the number of CBMA, supporting H1.

The coefficient of corporate taxation in R6 was found to be 0.21144, and significant at the 99% level. This statistically significant positive correlation between the level of corporate taxation between the country of the acquirer and the country of the target indicates that acquirers are more likely to be from countries with a relatively higher level of corporate taxation. Therefore, this result buttresses H2 & H3.

Regressions 7&8: Market to book ratio

Returning to the lower-end of the spectrum of R-squared results, R7 (0.04368) & R8 (0.06289), exhibit lower than expected R-squared results based on previous studies. However, the addition of the MTB coefficient did cause the initial control model, R1, to experience an increase in explanatory power. This follows from the logic that the valuation effect causes mergers and acquisitions, where companies in countries with a seemingly over-valued stock market are likely to be acquirers of companies in countries with a seemingly under-valued stock market, as they seek to leverage their over-priced stock valuations to create value through mergers and acquisitions. Between R7 & R8, the introduction of the corporate taxation variable also increased the R-squared of R7 by 0.01921, again supporting H1.

The coefficient of corporate taxation in R7 of 0.15845, and significant at the 99% level, indicates that acquirers are more likely to be from countries with a relatively higher level of corporate taxation. Therefore, this result further supports H2 & H3.

Regressions 9&10: Currency and Market Returns

The introduction of the currency and market returns variables only proved to add a minute explanatory power from R1 (0.00389) to R9 (0.00468). This is surprising, as both of these variables were expected to add more explanatory power, given previous studies. However, from this extremely marginal increase in R-squared, when the corporate taxation variable was introduced, in R10, the R-squared experienced an increase of 0.02159. This increase in explanatory power supports H1.

The coefficient of this corporate taxation variable was found to be 0.16812 and significant at the 99% level. This statistically significant positive correlation between the corporate tax variable and the predicted number of CBMA continues to support H2 & H3.

Regressions 11&12: All controls

The addition of all of the control variables to the model, should have increased the explanatory power of model R1 substantially, as all of the control variables have been found to be statistically significant in the past. R1 (0.00389) to R11 (0.10347), was the largest increase in R-squared by any control variable set, as expected. This large increase in R-squared continued to experience an increase in explanatory power when the corporate tax variable was introduced, with an increase in R-squared of 0.02827 to 0.13174 in R12; the largest R-squared in this study. This increase in explanatory power between R11 & R12 after the application of the corporate taxation treatment, supports H1.

The coefficient of this corporate taxation variable was 0.19978 and significant at the 99% level. The statistical significance and the positive coefficient of this variable lends further support to H2 & H3.

Summary of increase in R-squared

With R-squared values ranging from 0.0039 in R1 to 0.13175 in R12, there was substantial variability in the results of the 12 regressions related to the number of CBMA. However, with every set of control variables the introduction of the corporate taxation variable caused the models to experience an increase in R-squared, with a minimum increase of 0.019121 between R7 & R8 and a maximum increase of 0.03206 between R5 & R6. The average increase of the R-square after the corporate taxation treatment was 0.02416, indicating that the average increase in explanatory power attributable to the corporate taxation variable on the predicted number of CBMA was 2.416%.

Summary of corporate taxation coefficients

The corporate taxation variables varied across the different treated models, ranging from 0.15846 in R8 to 0.21145 in R6. Despite this variability all of the variables were positive and statistically significant at the 99% level. The average coefficient was found to be 0.17935, suggesting that on average an increase of relative corporate taxation of 1% will increase the number of CBMA between the relevant country pair by 0.17935%.

Support or rejection of hypotheses

Hypothesis 1: Each model was statistically significant overall and every control model experienced an increase in R-squared, on average, of 0.02416, with the minimum value being 0.019121, with the addition of the corporate taxation variable. Therefore, the additional variation attributable to changes in relative

corporate taxation does have a statistically significant effect on the scaled number of CBMAs between a country pair, of on average 2.416%. This verifies H1.

Hypotheses 2&3: Each corporate taxation coefficient was found to be both positive and significant at the 99% level, ranging in value from 0.15846 in R8 to 0.21145 in R6, with the average coefficient of 0.17935. These positive and significant results support H2 & H3, as the positive coefficient suggests an increase in relative corporate taxation of a country increases CBMAs of companies in countries with relatively lower corporate taxation by the companies in this country, creating a positive correlation between increased relative corporate tax rates in the acquiring country and the number of CBMA in the target's country of origin.

2.2 Volume of CBMA (table 5)

Regressions 1&2: Macroeconomic controls

Similar to the results in the number of CBMA regressions, the R-squared in these models were unexpectedly small, R1 (0.00328) and R2 (0.02853), especially as Bilateral Trade, GDP, and real GDP growth have been found to have much more explanatory power in previous studies. However, the increase in R-square was found to be 0.02525, indicating an increase of explanatory power with the addition of the corporate taxation variable of 2.525%. This increase in overall significance attributable to corporate taxation is consistent with H1.

The coefficient of the corporate tax variable was also found to be positive, with a value of 0.26343, and significant at the 99% level. This is an increase in magnitude over the R1 of the number of CMBA models, however this positive and statistically significant result is consistent with H2 & H3.

Regressions 3&4: Geographic controls

The addition of the Geographic Distance variable to R1 to form R3 created a marginal increase in R-squared from 0.00327 to 0.00362, which is still unexpectedly small. However, with the introduction of the corporate tax variable in R4 the R-squared increased to 0.02921, an increase of 0.02559 over from R3. This increase supports H1.

The coefficient of the corporate tax variable in R4 was found to be 0.26547 and significant at the 99% level, larger yet similar to its number of CBMA counterpart. This significant positive correlation is in line with H2 & H3.

Regressions 5&6: Disclosure Quality and Legal controls

The addition of the Disclosure Quality and Legal controls to R1 to form R5 did not have the same dramatic increase increase in R-squared as in their number of CBMA equivalent, but it did experience a large increase from 0.00327 in R1 to 0.03310. R5 then experienced another substantial increase in R-squared with the introduction of the corporate tax variable, increasing by 0.03233 to reach 0.06544 in R6. Despite the R-squared of R6 not being the largest in this study, the change in R-squared between R5 & R6 was the largest in any model pairs in this study. This large increase in explanatory power with the introduction of the Corporate Tax variable supports H1.

The coefficient of the corporate taxation variable in R6 was found to be larger than its number of CBMA equivalent, with the largest coefficient of any model in this study with a value of 0.30822. This result was also found to be significant at the 99% level of significance. These two factors demonstrate that the coefficient is both positive and statistically significant, strengthening the argument tabled by H2 & H3.

Regressions 7&8: Market to book ratio

The R-square of both R7 (0.02767) & R8 (0.05079) were found to be smaller than their number of CBMA counterparts, however the increase in R-squared between R7 & R8 was larger, 0.02312 compared to 0.01921. This increase in R-squared between these model pairs indicates that the introduction of the corporate tax variable contributed explanatory power to the model in predicting the volume of CBMA, supporting H1.

The coefficient of this corporate tax variable was found to be 0.25233. Again, this was larger than its number of CBMA counterpart. This combined with its statistical significance at the 99% level, contribute to the validity of H2 & H3.

Regressions 9&10: Currency and Market Returns

The addition of Currency and Market Returns to the initial control regression saw an increase in the R-squared from R1 (0.00327) to R9 (0.00476). This marginal increase is in line with the number of CBMA findings. When the corporate tax variable was introduced in R10, the R-squared increased to 0.02989. This increase in R-squared was found to be higher in this volume of CBMA model pair than the number of CBMA model pair, with an increase of 0.02513 versus 0.02159, respectively. However, both results therefore support H1.

The coefficient of the corporate taxation variable was found to be 0.26326, and significant at the 99% level. Therefore, the magnitude of the introduction of the corporate tax variable was larger on the volume of CBMA than the number of CBMA, with the latter's coefficient being 0.16812. But, since both results were found to be positive and statistically significant, both support H2 & H3.

Regressions 11&12: All controls

This model pairing should be expected to glean the most explanatory power of any of the control variable models, as all of the variables in this regression have been found to be statistically significant on CBMA activity in the past. This expectation was met with R11 having the largest R-squared in the volume of CBMA model pairings, with a value of 0.05082. Which, despite being the largest in with this dependent variable, is half that of the number of CBMA equivalent. However, the increase in R-squared when the corporate tax variable was introduced in R12 was larger, with an increase of 0.02899, supporting H1.

The coefficient of this corporate tax variable was found to be 0.29366 and significant at the 99% level of significance. This positive and significant result is the final support of H2 & H3 in this study.

Summary of increase in R-squared

The R-squared of the models in the volume of CBMA regressions exhibited substantial variability, ranging from 0.00328 in R1 to 0.07982, which was still a smaller range than that of the number of CBMA figures. However, despite the variability, each model experienced an increase in R-squared that was larger than their equivalent number of CBMA counterparts when the corporate tax variable was introduced. The average increase in R-squared of the volume of CBMA models was found to be 0.02674, with a maximum increase in R-squared of 0.03233 between models R5 & R6 and a minimum increase of 0.02313 between models R7 & R8. These values were all found to be larger than their number of CBMA counterparts, while indicating that the relative corporate taxation between a country pair added additional explanatory power of, on average, 2.674% when predicting the volume of CBMA between a country pair.

Summary of corporate taxation coefficients

The coefficient of corporate taxation variables in the volume of CBMA models varied from 0.25233 in model R8 to 0.30822 in model R6. Each of these coefficients were found to be larger than their number of CBMA counterparts. Further, the average coefficient was found to be 0.27233, suggesting that an increase of relative corporate tax by 1% predicts an increase in the volume of CBMA of 0.27233%

Support or rejection of hypotheses

Hypothesis 1: Each model was statistically significant overall and every control model experienced an increase in R-squared, on average, of 0.02674, with the minimum value being 0.02313, with the addition of the corporate taxation variable. Therefore, the additional variation attributable to changes in relative corporate taxation does have a statistically significant effect on the scaled volume of CBMAs between a country pair, by on average 2.674%. Thus, verifying H1.

Hypotheses 2&3: Each corporate taxation coefficient was found to be both positive and significant at the 99% level, ranging in value from 0.25233 in R8 to 0.30822 in R6, with the average coefficient of 0.2744. These positive and significant results support H2 & H3, as the positive coefficient suggests an increase in relative corporate taxation of a country increases CBMAs of companies in countries with relatively lower corporate taxation by the companies in this country, creating a positive correlation between increased relative corporate tax rates in the acquiring country and the volume of CBMA in the target's country of origin.

2.3 Differences in explanatory power and impact of relative corporate taxation in predicting the Number of CBMA and Volume of CBMA

The R-squared for the control models (R1, R3, R5, R7, R9, R11) were found to be larger in the number of CBMA models than they were in the volume of CBMA models, except for R9, where the volume of CBMA R-squared was only marginally higher by the the infinitesimal amount of 0.00008. Therefore, the control variables were found to be stronger overall predictors of the number of CBMA between a country pair than the volume of CBMA between each country pair.

However, for every model where the corporate taxation variable was introduced, the increase in R-squared was found to be larger in the volume of CBMA model pairs than in the number of CBMA model pairs. This suggests that the corporate taxation variable has additional explanatory power attributable when predicting the volume of CBMA than the number of CBMA. However, this difference is marginal, as the difference in average increase in R-squared per model pair is 0.02416 for the number of CBMA, and 0.02673 for the volume of CBMA, adding 2.416% and 2.673% of explanatory power respectfully. In cases R2 and R4, this additional increase lifts the R-squared of the volume of CBMA models over the value for their equivalent number of CBMA models from an initial inferior R-squared.

In addition to the R-squared experiencing a larger increase after the addition of the corporate taxation variable in the volume of CBMA models, the coefficients of the corporate taxation variables in each model are larger in the volume of CBMA models than their number of CBMA counterparts, with their

average coefficients being 0.27440 and 0.17935 respectfully. This suggests that corporate taxation as a predictor of CBMA not only adds more explanatory power to the volume of CBMA models, but also changes in relative corporate taxation between country pairs affects the volume of CBMA more greatly than the number of CBMA. This result was as expected, because if a 1% increase in corporate taxation increases the number of deals by a certain factor, with the transactions in this study being over $1m, by definition the increase in the volume of CBMA should a multiple of that factor by at least 1. Since in many cases these CBMA are over $1m, the impact of corporate taxation should be larger on the volume rather than the number of deals.

3. Control variables & Intercept

In this section, the "number of CBMA" control variables will be discussed and compared to their relative results in Erel et al 2011. This will be followed by a comparison of these effects on the volume of CBMA between country pairs rather than the number of CBMA activity between these country pairs. Finally, economic implications will be discussed.

3.1 - Bilateral Trade

The bilateral trade variable was chosen to permeate the entirety of the study, as the closeness of countries in terms of trade is a key factor in determining the likelihood of CBMA activity. This conclusion was verified in the number of CBMA regressions, as the coefficients from R1 to R12 were found to be significant at the 99% level. The coefficients did vary somewhat, ranging from 0.05054 in R9 to 0.15021 in R12. In comparison to the results of Erel et al 2011, the coefficients found in this study were found to be substantially smaller in magnitude than their results. However, their significance is found to be in line with the significance in this study, where they find significance at the 99% and 95% level for their relevant regressions.

Expanding these control variables to the "volume of CBMA" between country pairs, more variability was found in both the magnitude and significance of the bilateral trade coefficient. These coefficients experience greater fluctuation, varying between 0.03112 in R1 and 0.16125 in R12. All bar R1, R3, and R9, are significant at the 99% level of significance. R3 and R9 were found to be significant at the 90% level. However, R1 was found to be insignificant. With three quarters of the regressions being significant at the 99% level, and only one being insignificant, the impact of bilateral trade appears to extend to the volume of CBMA as well.

These positive and significant results for both dependent variables indicate that the more bilateral trade there is between two countries, the more likely they are to experience CBMA activity. However, the

smaller results than expected also indicate that that the sample may be incomplete to effectively use this variable. With major trade partners such as China, Japan, and Russia all missing from the sample, the data only takes into account a fraction of total bilateral trade to and from the countries in question.

3.2 - Log GDP per capita

The GDP per capita of a country is a long standing indicator of the relative wealth of a nation and its inhabitants. The rationale between the effect of this variable on CBMA is that wealthier a country is, the more likely the country's companies are to acquire targets in countries in lower GDP regions. However, the results varied wildly in significance, magnitude, and sign in the "number of CBMA" regressions. These results ranged from -0.0332 in R6 to 0.0167 in R3. All bar R7 and R8 were significant at the 99% level, where R7 and R8 were found to be significant at the 95% and 90% level of significance. The fluctuation in significance, magnitude, and sign of these coefficients is in line with the relevant results in Erel et al. 2011, however, all the results in this study were found to be significant at minimum 90% level of significance.

When the study was extended to the "volume of CBMA" between country pairs, the variability in significance, magnitude, and sign of the log GDP coefficient continued. These coefficients ranged between -0.0217 in R6 and 0.03084 in R3, which as a max and min were consistent with the "number of CBMA" results. However, all results bar R5 and R11 were found to be significant at the 99% level of significance, with both R5 and R11 being found to be insignificant.

The wild variation in significance, magnitude, and sign in both the "number of CBMA" regressions and the "volume of CBMA", despite the vast majority of regressions being statistically significant, suggests that the relative log GDP per capita is a poor predictor of CBMA activity between country pairs.

3.3 - Real GDP growth

The difference in real GDP growth between countries should be a good indicator of the CBMA activity between a country, as companies was to exploit the opportunities inherent in higher growth regions such as the BRICS countries. A way companies can do this is through acquisition of companies in these higher growth regions. Therefore, in this study, I expected the coefficient of this variable to be negative, resembling the expansion of companies from lower growth economies into those with higher growth rates.

However, the results varied significantly in magnitude, significance, and sign, like the log GDP results. These results in the "number of CBMA" regressions ranged from -0.1719 in R12 to 0.0054 in R1 & R3. Further, only half of the coefficients were found to be statistically significant. This is in line with the results of Erel et al. 2011. When the study was expanded to the "volume of CBMA" regressions,

interestingly these fluctuations reduced, with results ranging from -0.2524 in R12 to -0.0552 in R1 & R3. All of the coefficients were negative and three quarters of these were found to be statistically significant. Following the predicted pattern.

There are various factors that may make the growth rate in GDP a less reliable predictor of CBMA activity. The increased risk inherent in emerging market economies would deter the acquisition of companies in these countries and may even cause a reversal of the predicted pattern, with countries from EMs purchasing those in more developed countries to reduce their overall risk profile. Further, as CBMA is only a subsection of FDI, other methods of expansion are possible to gain exposure to higher growth economies with less risk. Join ventures for example are a way to leverage the expertise of local partners while reducing downside risk, and can be more attractive than full CBMAs. However, for the volume of CBMA, more so than the number of CBMA, there was some evidence that expansion into higher growth economies through CBMA activity can be partially explained by the difference in the two country's relative growth rates, with the acquirer expanding from a lower growth environment into a higher paced one.

3.4 - Distance

Further to the amount of bilateral trade between two countries, the geographic distance between two nations should be a factor in why CBMA activity should occur. The expectation behind the effect of this variable was that the closer the two countries, the more likely companies in each country should acquire or merge each other, in line with generating synergies such as elimination of headquarters etc. Therefore, the results should indicate a negative relationship between distance and CBMA activity.

However, from the results of both sets of studies, the relationship is positive, indicating that the larger the distance between two countries, the more CBMA activity they experience. The "number of CBMA" regressions saw coefficients of 0.00115 in R3 and 0.00152 in R4, which were statistically significant at the 95% and 99% level of significance, respectively. Further, in R11 and R12 the coefficient was 0.00144, with that result being insignificant in R11 and significant at the 99% level in R12. These small and positive results are in line with what was found in Erel et al 2011. When the study was expanded to the "volume of CBMA" the results were similar, however, the coefficients were slightly larger, ranging from 0.00141 to 0.00235, with all being statistically significant. Compared to R1 & R2, the all R-squared results increased.

Against expectations, the larger the distance the larger the CBMA activity appears to be. From our sample, various reasons could be cited for this result. The willingness of firms to expand into foreign geographies, avoidance of anti-trust and anti-monopoly regulation, and the heavy skew of the within the sample could have all contributed to the positive result.

3.5 - Disclosure

The quality of disclosure of accounting information is a key driver of any investment decision. Firms rely on accurate information from which they can base this investment decision on, and none are larger for a firm than an investment through a merger or acquisition. If the quality of this information is low, there should be less CBMA activity into that country, and vice versa.

However, from the regression results this does not appear to be the case, as the results are positive and statistically significant at the 99% level in all cases. Further, these results are also in line with what was found in Erel et al 2011, and remain positive and significant when expanded to the volume of CBMA activity. Compared to R1 & R2, the all R-squared results increased significantly, therefore this variable in combination with quality of legal institutions, added significant explanatory power to the model.

These results indicate that CBMA activity appears to flow from countries with higher quality accounting disclosure to those with lower levels. This could reflect the fact that the ultimate parent would be in the country with the higher quality of accounting disclosure, increasing certainty for prospective investors and thus reducing the borrowing costs of the target. However, the data used to discern the quality of accounting disclosure was quite antiquated and should be updated in further studies, especially given the vast improvement in reporting technology during the period. Furthermore, as all of the countries in the sample are high-income OECD countries, the disparity of accounting standards between the sample countries should not vary that much.

3.6 - Legal

The quality of legal institutions in a country should affect CBMA activity in a similar manner to the quality of accounting standards, insofar as the certainty of the quality of the firm's purchase include the legal statutes surrounding the deal. Most share purchase agreements should include provisions such as conditions precedent, warranties, etc. that can affect the ultimate value of a deal. Any difference in the quality of legal institutions between two countries may have an effect on enforcement of the conditions set forth in the SPA and hence the likelihood of a transaction occurring. Therefore, if there is a decrease in legal quality between the two countries, it is expected that there will be less activity flowing into the country with poorer legal protection for the investor, while an acquisition into a country with superior legal protection would be more likely. Therefore, a small negative relationship was expected.

However, from the relevant regressions, the opposite was found to be the case, with all results gleaning positive coefficients that were statistically significant at the 99% level. This is the opposite to what was found in Erel et al 2011, where they found and negative and insignificant result. When expanded to

the "volume of CBMA" regressions, similar positive and statistically significant results were found. Further, in combination with the accounting quality variable, all models exhibited a large increase in R-squared when compared to their R1 & R2 counterparts.

This result, even though it was not as expected, highlights the significance of legal institutions in CBMA activity. An alternative explanation may be that the ultimate parent of the merged entity will avail of the higher level of legal protection provided by the acquiring company's country of domicile. However, in this sample all of the countries are classified as high-income OECD countries, so the overall difference in quality of legal institutions between the countries should be small. However, despite this assumption, there different types of jurisdictions treat the investment process very differently, with a notable disparity between how "French" law and an "English" law. However, this imbalance should be nowhere near as exaggerated than the difference between the sample countries and various EMs.

3.7 - Market to book ratio

The market to book ratio is a measure of whether the stock market in a country is potentially overvalued or not. Companies in countries with a relatively higher market to book ratio should be able to avail of their perceived overvaluation to merge with or acquire companies in countries that are undervalued by the market. Therefore, there should be a positive relationship between the difference of the MTB ratio of the acquirer's home stock market and the MTB ratio of the target's home stock market and the CBMA activity between that country pair, as acquiring firms avail of this valuation effect.

As expected, this is what this study found. The MTB variable was found to be positive and significant at the 99% level in all cases. Ranging from 0.01981 in R12 to 0.02738 in R7, reducing in magnitude as more explanatory variables were added to the model. These results were in line to what was found in Erel et al, 2011. Further, the R-squared also increased significantly compared to the original R1 & R2 regressions. When expanded to the "volume of CBMA" regressions similar results with larger positive coefficients were found.

Therefore, there is evidence that the larger the difference between the MTB ratio of the acquirer's home stock exchange and the MTB ratio of the target's home stock exchange, the more likely there is to be CBMA activity between the two countries. The timing aspect of mergers and acquisitions plays a factor in this, as managers seek to leverage market expectations to create value for their shareholders.

3.8 - Real currency returns

The difference in real currency returns should indicate the relative value of each country's different currency over time. Where there is strength in one currency, there can be an opportunity for managers to buy or merge with companies in countries with a relatively depreciated currency on more favourable terms, as they seek to exploit the lag in market adjustment mechanisms. Therefore, the larger the difference in currency returns, the more likely it is that there is going to be CBMA activity between a country pair.

This theory is supported by the majority of results in this study. All coefficients in the "number of CBMA" regressions were found to be positive, ranging from 0.04771 in R12 to 0.14932 in R9. However, the result in R12 was found to be statistically insignificant, while the other regressions were found to be statistically significant at the 90% level at least. This positive coefficient is in line with what was found in Erel et al 2011. However, when extended to the "volume of CBMA" regressions, all results were found to be positive and significant at the 90% level, with R9, R10, and R11 being significant at the 99% level. However, the increase in R-squared in relation to R1 & R2 was marginal at best.

Therefore, most of the results indicate that superior relative currency returns have a significant impact on the CBMA activity between two country pairs, with acquirers being from countries with stronger currency appreciation than that of their targets. However, the lack of significance found in the "number of CBMA" regression R12 was surprising, but this in itself was found to be significant in the "volume of CBMA" regression R12, suggesting that the effect still exists. This issue may due to the fact that only a few countries in the sample experience difference relative currency returns throughout the period, with 12 of the 21 countries being part of the European Monetary Union for the majority of the sample, and various pegs, such as Denmark's, hold for the majority of the period.

3.9 - Real stock market returns

Another measure of whether the valuation effect has an impact on CBMA activity is to look at relative real stock market returns between country pairs over time. The higher the real stock market returns, the higher the probability that companies in this country are overvalued and seek to leverage this to create value for their shareholders by either issuing new stock or acquiring or merging with another company using stock. Therefore, this study expected there to be a positive relationship between CBMA activity and the difference in real stock market returns between the country of the acquirer and country of the target.

Despite this, the results in the "number of CBMA" regressions were found to be neither statistically significant nor unanimously positive, with both R9 & R10 being positive and R11 & R12 being negative. This is in stark contrast to the results found in Erel et al. 2011, as they found a statistically significant

negative relationship between the real stock market returns and the number of CBMA between the country pairs in their study. Further, when applied to the "volume of CBMA", the results were similarly varied, however in R11 they were found to have a positive correlation and be statistically significant at the 95% level. As these were coupled with real currency returns, the increase in R-square was also found to be marginal.

The difference between the results found in this study compared to the results found in Erel et al. 2011 could be due to the sample period. Erel et al. used data spanning between 1990 – 2007, whereas this study includes independent variable data spanning from 1995 – 2014. This study includes the 2007 crisis and the market turmoil following it, where previously unique market movements had become increasingly co-ordinated over time, perhaps eliminating the previously negative correlation between stock market returns and the number of CBMA. However, from this study, the relationship between real stock market returns and CBMA cannot be deciphered.

3.10 - Intercept

The intercept of every model in the "number of CBMA" regressions was found to be statistically significant at the 99% level, ranging from 0.02918 in R12 to 0.03888 in R1. A similar pattern emerged for the "volume of CBMA" data, however the values ranged from 0.03617 in R12 to 0.04854 in R1. From these results it is evident that there was residual CBMA activity within the sample regardless of the independent variables included in the study.

3.11 - Summary of control variable and intercept results

The results of the control variables were mixed compared to expectations and previous studies. Bilateral trade, MTB, real currency returns variables and the intercept were all found to be in line with results from previous studies and expectations. However, the log GDP per capita fluctuated in sign depending on the regression combination, despite being significant. Real GDP growth varied wildly in magnitude, significance, and sign depending on the regression combination. Distance, quality of accounting standards and legal standards, gleaned unexpected results, but were however found to be significant. While the real market returns were found to be mostly insignificant.

DISCUSSION

This section explores the various issues surrounding the regressions in this study and their economic significance of the results.

Firstly, the unexpectedly low R-squared throughout the regressions was somewhat surprising, as the study in Erel et al. 2011, had found R-squared values with a max value of 0.62, whereas in this study the maximum R-square was found to be 0.13174, a significantly lower and unexpected result. Potential sources of this difference in results compared to the reference study could range from model error, human calculation error, change in sample period between the two studies to include the 2007 financial crisis, a broader range of sample countries in the reference study, among others. However, despite the relatively low R-squared results found in this study, the impact of corporate taxation across the range of regressions in this study has contributed support to this study's hypotheses. Changes in corporate taxation still has a significant effect on CBMA activity, with firms aiming to relocate to lower tax regions.

As there was found to be a significant effect on CBMA from corporate taxation regulation, countries, regulators, and consultants should take relative taxation seriously when determining their fiscal policies. Countries looking to attract more FDI could use this to attract corporates to relocate through offering more favourable terms of taxation than their rival countries. Meanwhile, countries that choose to charge companies high taxes for the privilege of operating in their country, they should be wary of the potential to experience outbound CBMA activity from their country as companies seek to lower their tax burden. Further, for the regulators seeking to maximise tax revenues, and consultants trying to minimise tax liabilities, changes in corporate taxation over time should prove to impactful on where companies chose to be domiciled and which jurisdictions they want to be regulated by.

Finally, as this study focused on overall tax level in a country, this approach may not accurately depict what sort of differences in taxation are really relevant in discerning the causes of CBMA activity. The addition of the more micro-level taxation measures, such as loss carried forward length, effective tax rate, industry specific taxation, among others could be included to deepen the explanatory power of these models.

CONCLUSION

This study finds that the addition of relative corporate taxation rates between countries creates a significant increase in explanatory power in predicting both the number and volume of cross-border mergers and acquisitions between country pairs. The explanatory power of the models presented increased by on average 2.416% for the number of cross-border mergers and acquisitions, and 2.674% for the volume of cross-border mergers and acquisitions.

Further, it was found that the relationship between cross-border merger and acquisition activity and the changes in relative corporate taxation between two countries was both positive and significant at the 99% level in all models. With an average coefficient of 0.2744 for the number of cross-border merger and acquisitions, and 0.17935 for the volume of cross-border merger and acquisitions. These positive coefficients suggest that an increase in relative corporate taxation of a country increases outbound cross-border merger and acquisition activity of companies to countries with relatively lower corporate taxation by the companies in countries with higher relative rates of corporate taxation.

These two findings suggest that the power of a nation to maintain its fiscal sovereignty is an important competitive factor in attracting FDI in the form of cross-border merger and acquisitions. Significant evidence was found to suggest that companies may seek to embark on cross-border mergers and acquisitions into other countries to avail of lower rates of corporate taxation, to ultimately drive shareholder value. Whether this impact is beneficial or detrimental to the overall economic welfare of a nation is beyond the scope of this study, however the effect of varying corporate taxation rates between countries still has a significant effect on an international firm's decision making process when choosing a country of domicile. Whether this effect will remain in the future remains uncertain, as the battle being waged between tax avoidance specialists and tax collectors only appears to be increasing in intensity.

RECOMMENDATIONS FOR FUTURE STUDY

The topic of "Corporate taxation and cross-border mergers and acquisitions" is a broad one, and there were many avenues of further study that I personally would have liked to explore. This section seeks to recommend areas of future study that could contribute to the broader discussion of fiscal sovereignty in the future.

Firstly, as the sample in this study only contained 21 high-income OECD countries, the effect of corporate taxation on CBMA activity could be expanded to other countries across the world, especially those known for tax inversions in the past. Bloomberg's study on "Tracking Tax Runaways" highlights the countries to which companies tended to tax invert to in the past. Of those not included in this study are Bermuda, Cayman, and Australia, among others. Inclusion of these countries could shed further light on the actual impact of relative corporate taxation on CBMA activity. This expansion could also be done

between states within countries, such as the states in the US, as some states have been given "tax haven" status by the financial press as of late (Bloomberg). Secondly, a more micro-level inspection of a company's leverage pre- and post- deal across deals in the countries in this sample could shed light on the effect of profit shifting that is experienced post-tax inversions (Belz et al., 2013).

Finally, as this study focused on overall corporate tax level in a country, this approach may not accurately depict what sort of differences in taxation are really relevant in discerning the causes of CBMA activity. The addition of more deal-specific taxation variables could shed light on what facets of corporate taxation are really important drivers of CBMA activity. In Keller & Schantz, 2013 they outline sixteen variables that have a significant effect on a firm's overall tax liabilities. Taxation of dividends, loss carry forward period, thin capitalization rules, capital gains tax are but a few of the variables outlined that could add richness to this study.

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APPENDIX

Chart 1

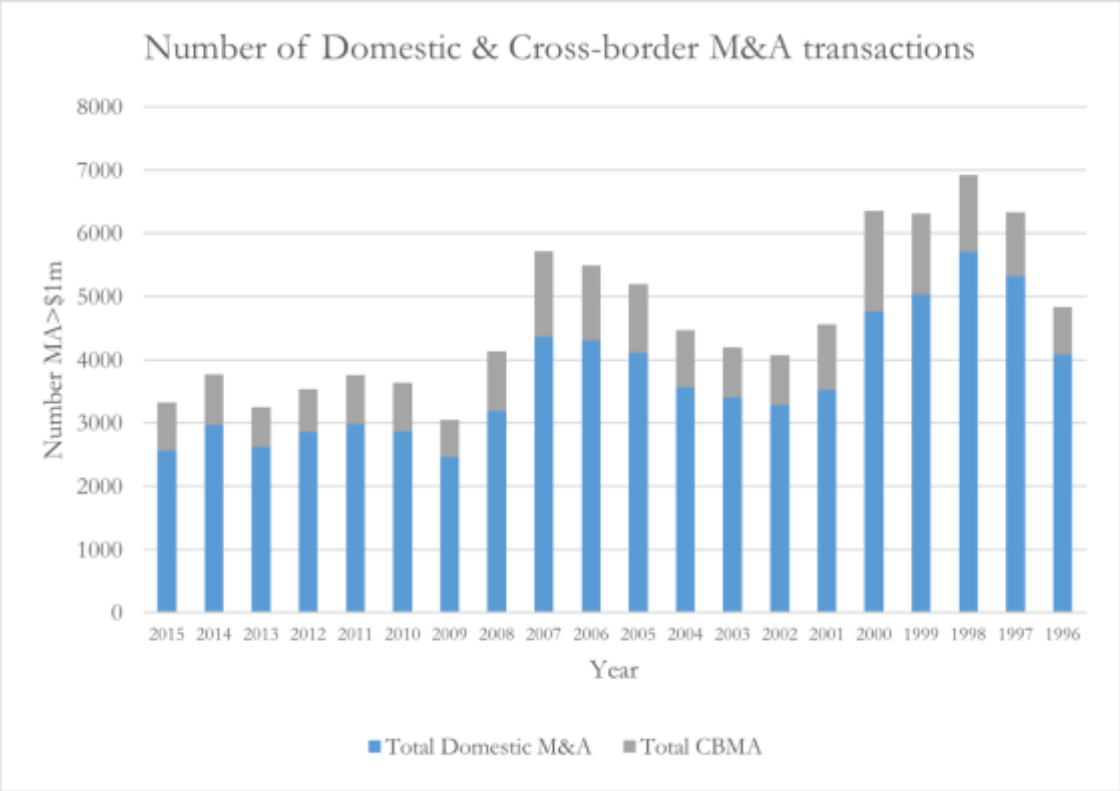

Chart 2

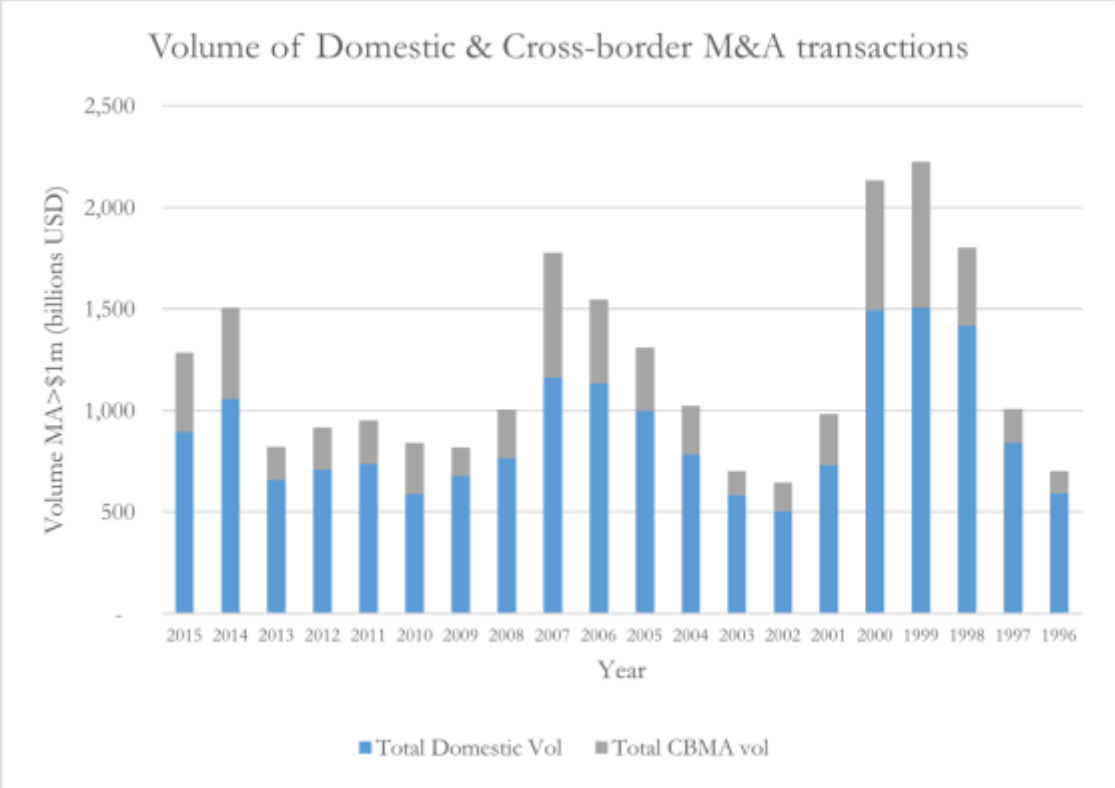

Table 1

		ACQUIRER																				
TARGET	**Total Number**	**AUS**	**BEL**	**CAN**	**CZE**	**DEN**	**FIN**	**FRA**	**DEU**	**GRC**	**HUN**	**IRL**	**ITA**	**LUX**	**NED**	**NOR**	**POR**	**SPN**	**SWE**	**CHE**	**UK**	**US**
	AUS	116	2	6	-	-	4	4	36	-	1	3	9	-	6	1	-	3	6	9	25	28
	BEL	4	255	12	-	4	3	44	19	1	-	8	11	4	43	5	-	7	9	7	72	74
	CAN	3	3	6,730	-	8	6	36	16	1	-	15	10	9	25	13	-	7	22	27	183	1,341
	CZE	15	1	4	134	1	2	6	19	-	2	3	8	3	13	3	-	5	8	3	34	31
	DEN	2	4	8	-	332	19	12	18	-	-	4	3	3	20	57	-	1	98	6	56	71
	FIN	3	3	17	-	10	445	6	17	-	-	4	1	3	13	17	-	7	107	7	37	46
	FRA	6	84	48	-	18	11	1,617	108	-	1	14	77	38	86	17	3	55	46	39	347	395
	DEU	49	30	60	3	28	40	97	1,083	2	2	24	54	31	77	22	4	25	70	67	392	514
	GRC	-	-	2	-	-	-	7	1	195	1	-	3	1	8	-	1	1	1	2	10	7
	HUN	5	2	1	-	-	2	7	9	-	78	-	2	4	9	1	-	2	6	-	13	18
	IRL	3	4	15	-	2	-	6	8	-	-	359	5	1	8	4	1	2	6	4	183	105
	ITA	9	12	10	1	8	11	84	38	6	-	6	1,592	21	33	2	2	45	13	24	157	139
	LUX	-	5	1	1	1	-	7	12	1	-	1	6	19	5	-	-	1	5	6	13	20
	NED	5	38	28	1	17	16	45	57	1	1	22	26	10	444	7	-	12	32	17	245	206
	NOR	2	3	12	-	26	34	12	22	2	-	2	4	6	17	692	1	4	113	8	92	83
	POR	1	7	3	-	1	-	11	7	-	-	1	5	4	6	-	236	54	5	3	27	8
	SPN	5	13	26	-	6	2	85	57	4	-	8	53	9	45	13	38	1,623	20	19	173	139
	SWE	7	4	28	1	65	77	20	45	-	-	9	7	2	37	132	-	7	1,220	17	144	161
	CHE	6	6	19	-	10	6	25	48	-	1	3	20	12	12	7	-	5	12	231	70	126
	UK	11	43	214	-	37	22	168	178	6	2	288	65	27	131	50	5	55	113	68	12,398	1,615
	US	15	59	1,953	-	45	56	277	268	9	2	188	77	29	182	53	4	90	154	183	1,723	44,206
	Total Per Country	267	578	9,197	141	619	756	2,576	2,066	228	91	962	2,038	236	1,220	1,096	295	2,011	2,066	747	16,394	49,333
																					Total Number MA	**92,917**

Table 2

		ACQUIRER																				
TARGET	Total Volume ($m)	AUS	BEL	CAN	CZE	DEN	FIN	FRA	DEU	GRC	HUN	IRL	ITA	LUX	NED	NOR	POR	SPN	SWE	CHE	UK	US
	AUS	17,348	14	348	-	-	156	1,257	18,833	-	27	65	4,298	-	3,073	17	-	706	443	1,845	3,148	2,427
	BEL	265	103,021	622	-	768	337	18,337	3,063	166	-	5,119	493	740	13,547	297	-	222	2,171	2,086	28,918	24,167
	CAN	655	984	826,798	-	1,110	223	52,712	1,433	1	-	596	2,307	8,251	3,313	3,793	-	9,257	3,077	27,657	38,154	255,866
	CZE	1,516	38	570	5,901	4	82	2,155	1,155	-	19	264	5,073	2,155	6,474	201	-	396	157	602	5,975	5,414
	DEN	62	137	698	-	61,199	5,321	2,037	4,919	-	-	63	1,128	309	993	5,505	-	23	8,367	785	14,156	14,249
	FIN	169	43	278	-	7,610	38,665	698	2,026	-	-	533	34	223	2,363	911	-	343	24,839	2,216	5,002	11,605
	FRA	320	20,165	13,724	-	2,629	14,759	560,348	31,721	-	14	9,705	12,255	6,656	11,854	1,262	227	18,904	3,961	32,648	51,676	81,477
	DEU	8,590	10,968	17,501	535	7,575	10,877	64,286	422,744	38	366	2,521	31,112	5,185	14,826	4,301	322	7,070	7,700	22,130	268,306	124,201
	GRC	-	-	161	-	-	-	1,299	6	17,733	5	-	4,690	184	2,587	-	18	17	5	269	746	3,316
	HUN	63	216	6	-	-	88	1,967	4,338	-	3,303	-	391	31	363	1,102	-	5	46	-	789	1,528
	IRL	176	129	911	-	61	-	860	9,144	-	-	31,109	132	550	7,341	101	29	482	51	73	24,032	76,658
	ITA	468	2,305	695	13	405	952	44,723	27,290	1,277	-	109	474,564	1,828	30,941	181	374	7,202	3,925	7,665	15,675	35,920
	LUX	-	1,236	205	2	1,171	-	4,235	23,139	1,999	-	12	3,171	4,767	33,143	-	-	72	2,182	620	11,528	19,144
	NED	197	23,663	2,211	1	6,289	5,210	53,732	16,481	779	1	4,976	12,430	886	274,638	2,829	-	6,863	9,129	6,327	60,312	93,060
	NOR	37	90	498	-	5,894	6,591	6,601	3,548	801	-	8	1,149	611	2,290	104,706	6	648	17,573	490	16,367	18,800
	POR	33	1,374	778	-	22	-	1,408	666	-	-	19	121	1,087	283	-	37,963	7,838	214	40	2,625	706
	SPN	166	524	1,860	-	167	24	27,234	8,827	25	-	617	33,215	773	6,115	1,444	5,257	288,423	1,619	3,796	59,094	20,829
	SWE	1,790	177	1,678	2	7,047	20,829	2,089	11,944	-	-	798	696	855	7,518	11,594	-	1,830	107,181	12,282	56,280	39,617
	CHE	190	349	16,391	-	3,648	442	18,919	23,251	-	463	1,178	2,141	3,518	3,341	1,257	-	1,105	3,612	188,349	14,244	68,849
	UK	1,716	10,821	37,173	-	7,955	2,828	105,149	144,706	3,057	148	24,424	15,790	10,402	198,138	6,214	319	85,521	12,753	80,623	1,476,283	395,230
	US	2,502	73,367	368,136	-	10,849	20,009	189,282	282,554	1,488	57	53,711	35,339	15,059	172,224	14,781	3,563	50,358	41,523	181,191	555,678	12,770,341
	Total Per Country	36,263	249,623	1,291,240	6,456	124,405	127,393	1,159,328	1,041,788	27,365	4,402	135,826	640,530	64,070	795,364	160,495	48,079	487,283	250,529	571,693	2,708,986	14,063,407
																					Total Number MA	23,994,525

Table 3

F-Stat

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Number CBMA	10.952	55.204	9.2413	45.650	143.31	174.15	95.866	112.67	7.9106	37.767	107.59	127.29
Δ *F-Stat*		44.251		36.409		30.840		16.812		29.856		19.701
Vol CBMA	9.2033	61.640	7.6316	50.521	57.483	97.952	59.731	89.844	8.0313	43.111	49.922	72.773
Δ *F-Stat*		52.437		42.890		40.468		30.113		35.080		22.851

Table 4

CBMA Number

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Intercept	0.03888***	0.03627***	0.03609***	0.03256***	0.03758***	0.03417***	0.03784***	0.03542***	0.03882***	0.03623***	0.03338***	0.02918***
Corporate Tax		0.16834***		0.16991***		0.21144***		0.15845***		0.16812***		0.19978***
Bilateral Trade	0.04960***	0.09653***	0.05440***	0.10330***	0.07297***	0.13419***	0.06828***	0.11187***	0.05054***	0.09718***	0.09192***	0.15021***
log(GDP)	0.01664***	0.01265***	0.01670***	0.01269***	(0.0181)***	(0.0332)***	0.01056**	0.00699*	0.01522***	0.01155***	(0.0190)***	(0.0328)***
GDPgrowth	0.00540	(0.0240)	0.00540	(0.0243)	(0.1074)***	(0.1489)***	(0.0502)*	(0.0762)***	0.00328	(0.0287)	(0.1340)***	(0.1719)***
Distance			0.00115**	0.00152***							0.00144	0.00144***
Disclosure					0.00089***	0.00132***					0.00074***	0.00116***
Legal					0.08040***	0.07206***					0.07439***	0.06703***
MTB							0.02738***	0.02653***			0.02168***	0.01981***
CR12									0.14932**	0.11783**	0.10123*	0.04771
MR12									0.01591	0.02758	(0.0287)	(0.0233)
R Squared	0.00389	0.02562	0.00438	0.02647	0.07865	0.11071	0.04368	0.06289	0.00468	0.02628	0.10347	0.13174
Δ R Squared		0.02173		0.02208		0.03206		0.01921		0.02159		0.02827
											Average increase in R Squared after treatment	0.02416

Table 5

CBMA Volume

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Intercept	0.04854***	0.04446***	0.04512***	0.03962***	0.04735***	0.04239***	0.04736***	0.04350***	0.04844***	0.04438***	0.04234***	0.03617***
Corporate Tax		0.26342***		0.26547***		0.30822***		0.25233***		0.26326***		0.29366***
Bilateral Trade	0.03112	0.10456***	0.03700*	0.11340***	0.05240***	0.14164***	0.05236***	0.12177***	0.03285*	0.10589***	0.07557***	0.16125***
log(GDP)	0.03076***	0.02451***	0.03084***	0.02457***	0.00031	(0.0217)***	0.02385***	0.01817***	0.02811***	0.02237***	(0.00107)	(0.0214)***
GDPgrowth	(0.0552)	(0.1014)**	(0.0552)	(0.1017)**	(0.1592)***	(0.2197)***	(0.1185)***	(0.1600)***	(0.06240)	(0.1125)***	(0.1966)***	(0.2524)***
Distance			0.00141*	0.00199**							0.00171**	0.00235***
Disclosure					0.00075***	0.00137***					0.00053***	0.00115***
Legal					0.07610***	0.06395***					0.06972***	0.05891***
MTB							0.03113***	0.02977***			0.02596***	0.02322***
CR12									0.28060***	0.23128***	0.23889***	0.16022*
MR12									0.04586	0.06414**	(0.00100)	0.00696
R Squared	0.00327	0.02853	0.00362	0.02921	0.03310	0.06544	0.02767	0.05079	0.00476	0.02989	0.05082	0.07982
Δ R Squared		0.02525		0.02559		0.03233		0.02312		0.02513		0.02899
											Average increase in R Squared after treatment	0.02673