Finance Market and Currency Union Integration in the Americas, in Regard to Foreign Corporate Activity on the American Stock Markets

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The purpose of this study is to provide a contribution to the analysis of foreign cross-listing behaviour in general, and on the state of the integration of the American region's capital markets and economies in specific; while also examining the market preferences of U.S. firms in the Americas and around the world in the context of their integration within the Americas; as well as analysing the role of the growth and integration of the Mexican stock exchange into the American financial markets in regard to the 2008 credit crisis and in general. A logistic regression model is developed which takes into consideration exchange, firm, geographic, and industrial regressors in order to determine whether firms prefer listing on the New York Stock Exchange as compared to the Toronto Stock Exchange. Logistic regressions are also run on foreign corporations operating in Bermuda, Mexico and Brazil. Unit-root causality tests and ARCH regressions are run on the economic specific characteristics of the American economies to analyse currency union and finance market integration possibilities. The American economies are more integrated than their stock exchanges, though due to the fact that currency unions are much more political than stock market mergers, it is suggested that stock markets in the Americas will continue to integrate with a greater propensity than currency unions.

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Disclosure Statement

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1. Introduction

A fiat monetary economy will by nature grow into a state of limited integration with other fiat monetary societies in their capital markets and currencies. Two primary issues for an economy are obtaining money and managing the money; the capital markets are where new money is obtained, and the currency, via the country's monetary policy, is how it is managed. Due to contagion issues, however, full integration in either aspect is not desired. For example, Switzerland has abstained from Euro adoption, which in turn insulates and balances the European community from shocks to the Euro in conjunction with other independent currencies. Two ways to measure the integration of economies are: through a cross-sectional approach to determine foreign dispersion of companies in the domestic capital markets, and through a time-series approach to develop estimations of capital market and currency convergence. This paper utilises both approaches yet focuses on the cross-sectional method, which analyses the foreign corporations listed on the American capital markets, to explore integration of the American region's finance markets. The analysis is then extended to the preferences of USA firms in the American economy in specific and around the world in general, to Mexico's integration within the Americas and changes in listing trends since Sarbanes-Oxley, and concludes with a supplementary time-series commentary on capital market and currency union possibilities in the Americas.

Integration of economies entails many different issues, including: regulation, capital markets convergence, foreign corporations operating in the home economies, and currency convergence, among other unforeseen issues. As such, the market characteristics of the countries in the region will be instrumental in determining the degree of and future prospects for integration within the area. The focus of this analysis is on the theory of integration in general, yet centres on convergence in the Americas in specific. The Americas is different from the other two large economic regions of Europe and the Pacific[2] for several reasons. There are only four discernable major economies significantly influencing trade in the area, and of these four the USA, the world leader, is heads above the other three. This has created a situation in the Americas where there are few cross-border economical similarities, thus compromising integration prospects for the Americas region. This does not means that there is not substantial financial integration in the Americas, it just means that the process of merging capital markets and adopting the same currency between neighbours, which helps partners of equals and the smaller economies in the region, is not likely to occur within the Americas any time soon. This

[2] The Pacific is assumed to include Asia and Oceania.

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is different to Europe and the Pacific, where the countries are relatively equal in many aspects; yet, what the Americas does do, is it provides the central capital markets for the world. Therefore, there is much foreign involvement in the American stock exchanges, and thus analysis into which of these markets foreign firms prefer will facilitate understanding of the American capital markets, and consequently the global capital markets.

Corporations have many options available and many factors to consider when cross-listing their stock in a foreign market. Similarly, the market must carefully evaluate potential participants, as well as the facets of the cross-listing process. This study primarily examines the options available and factors applicable to the major stock markets of North and South America for cross-listing firms, as well as provides a secondary analysis of currency unions in the Americas. When one normally considers stock exchanges in the Americas, they will likely review the *New York Stock Exchange* (NYSE); the *Toronto Stock Exchange* (TSX); and *Nasdaq*. The other two largest exchanges in North and South America in terms of market capitalisation are the Brazilian *BOVESPA* and the Mexican *Bolsa Mexicana de Valores* (BMV) exchanges, while the largest stock exchanges in the Caribbean are the *Bermuda Stock Exchange* (BSX) and the *Cayman Islands Stock Exchange* (CSX).[3]

This report is organised as follows. First, the logic of the cross-listing rationale within the integration process is discussed, and then the current state of the American markets today is presented within the framework of the cross-listing rationale and integration. Next, the hypotheses to be analysed are presented building on the framework of the cross-listing rationale and the state of the American markets today, and then the sampling distribution and empirical results are introduced. To conclude, an introspection of the future of the American markets is presented in conjunction with the results and observations provided.

2. The American Markets Today

It could be argued that the European markets cater to the government financing needs of the world, the American markets to the corporate financing needs, and the Pacific markets utilise both. As such, the most distinguishing aspect of the American markets today is the amount of corporate cross-listing activity that takes place, including between and within the American markets themselves. In general,

[3] The Cayman Islands Stock Exchange caters primarily to debt, and is thus not a major part of the study.

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the American markets are characterised by high regulatory standards and significant cross-listing in North America, growth potential in Latin America and the Caribbean, and an equal spread of debt and equity by their corporations and governments' activity on the financial markets.

It is important to remember that the USA is already perhaps the most efficient currency union in the world, as all countries are effectively currency unions comprised of their different regions. The USA has had a uniform currency since 1788, though in the 1800s, when there was a shock in the USA, typically in financial or agricultural markets, one region would be hit particularly hard, and the banking system in that region would lose reserves producing a monetary contraction that would aggravate the effects of the initial disturbance. During these times the USA may have been better off if each region had had its own currency, as changes in exchange rates could have secured equilibrium in interregional payments while monetary policy was directed toward internal stability. This pattern held in the USA until the 1930s when institutional changes, such as increased federal fiscal transfers which pumped high-powered money into regions that were losing reserves and bank deposit insurance, addressed the problem of regional banking shocks (Rockoff, 2000). In fact, Eichengreen noted that in 1991 North America already exhibited characteristics of a currency union, with high labour mobility and stable exchange rates and securities prices across Canada and the USA.

Integration between economies will commonly see regulatory agreements between the countries arise, and a few of these in the Americas include NAFTA and the Multi-Jurisdiction Disclosure System (MJDS). On this note, USA stock prices have been more integrated with both Canadian and Mexican stock prices since the passage of NAFTA (Aggarwal and Kyaw, 2004), and cost savings have been noted for Canadian listers since passage of the MJDS, which is an agreement that allows Canadian and USA firms to bypass some disclosure requirements in each other's markets. In fact, based on individual interviews, it appears that many Canadian nonlisters simply perceive it as unnecessary to list in the USA markets today (Houston and Jones, 2002). A distinguishing trademark of the USA is their higher regulatory standards than many other nations, as evidenced by regulations such as Sarbanes-Oxley (SOX), which are applied even to their neighbours in Mexico and Canada. Analysis of listing Canadian companies shows that they are more concerned with USA GAAP reconciliations and disclosure requirements, while non-listing Canadian companies are more concerned with the overall difficulty of listing, the costs of listing, and USA litigation. Thus, contrary to expectations, USA accounting disclosure and reporting requirements are not perceived to be barriers to USA market entry for Canadian firms, rather they instead appear to be post-entry irritants (Houston and Jones, 2002).

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Another characteristic of integration is spill over into each other's financial markets, creating both negative and positive effects. On the negative side, prices in one country can be dropped by events in another. Canarella et. al., (2009) note that in the last few years, the Mexican stock market has exhibited a tendency toward increased integration with the USA market, as the Peso crises and the stock-market crash in the USA seem to have been reflected in each other's stock markets to a high degree. To further highlight the negative spillovers in the American markets, the USA's contribution to price discovery in the North American markets is directly related to the USA's share of trading and to the proportions of trades on the NYSE and the TSE, and is inversely related to the ratio of bid-ask spreads on the NYSE and the TSE. For example, in response to a positive shock to the C$/US$ exchange rate, stock prices on the TSE rise, whereas those on the NYSE decline, and thus the NYSE may bear a greater burden of adjusting to exchange rate changes (Sabherwal and Eun, 2003).

On the positive side of integration, regional preferences may become more influential on the global stage due to the collaboration from the individuals in the region. For example, the pricing of Canadian stocks occurs primarily in a regionally integrated North American stock market rather than in a global market (Faff and Mittoo, 2000); this allows for a more accurate price and thus more efficient investment for traders. Following, part of the reason for the increased efficiency in asset pricing in the North American markets for USA and Canadian securities, is that they cross-list in high number on the other's exchanges. Jordan (2006) notes how Canadian-based interlisted corporations (CBIs) form the largest single group of interlisted foreign corporations in the United States, by a huge margin, representing over 25% all interlistings on the NYSE and Nasdaq in 2004. Canadian issuers also represent the largest single group of foreign private issuers (FPIs) in the United States, as in 2004, there were nearly five times as many Canadian FPIs as the next largest national group, United Kingdom issuers. Beck and Weber (2005) found empirical results that suggest that the USA and Canadian markets exhibit a pattern of integration that is comparable to that found for regions within the European Monetary Union (EMU), thus suggesting that frictions across North American markets are at least as large as they are across European markets. Oran (1999) also identified significant effects of cross listing of non-USA firms onto the NYSE in terms of changes in the overall risk/return characteristics of stocks and abnormal returns around the initial cross listings.

This study analyses the characteristics of the American financial markets, and some of the results from testing of the hypotheses are presented in short form in this section. Within the Americas, the USA

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prefers Mexico, Brazil prefers the NYSE over the Nasdaq, and over Mexico. Bermuda prefers the USA, and Mexico and Canada prefer the USA. Around the world, the American corporations have a rather normal distribution, though the USA does have a significant amount of corporations listed in England, except that Bermuda and the Cayman Islands have a larger presence overseas than in the Americas. Since SOX, foreign corporations have preferred Canada and Mexico to the USA, except for those from China. Regarding integration prospects in the Americas, the Mexican BMV has been steadily growing quite close with the USA markets in terms of the amount of USA corporations listed on the BMV, though the Mexican and Brazilian economies are statistically different from the USA and Canadian. Regarding the stock markets, all the American stock markets show statistical similarities in their variables, thus suggesting that stock market integration could be closer than currency union convergence in the Americas. A few traits immediately stand out when analysing the American financial markets. Brazil is a massive economy yet only has 12 foreign entrants on their exchange since 1995, and Canada, the USA's biggest trading partner, has 0 fortune 500 USA companies listed on the TSX. Further, Mexico has many large foreign participants, including many fortune 500 USA companies and other major international companies. These countries from the western hemisphere are not represented on any major American stock exchange: Barbados, Bolivia, Costa Rica, Cuba, El Salvador, French Guiana, Guatemala, Guyana, Haiti, Honduras, Jamaica, Nicaragua, Paraguay, Suriname, Uruguay; as well as several other small Caribbean island nations.

The TSX has only one corporation listed before 1995, and that is BP, which is an energy company with a legitimate physical presence in Canada. It should be noted, however, that none of the major USA Fortune 500 companies were identified as either delisted or listed companies. What this suggests, possibly, is that the MJDS has created an atmosphere of mutuality between the Canadian and USA markets, and thus the corporations have no need to cross-list. There is also a possibility that the proprietary data obtained from the TSX was not 100% complete; this creates another question, as the data that was collected on first observation yields a positive response that it is complete, as it provides corporations that have legitimate presences in Canada. Thus, although the question of listing preferences in Canada seems answered due to the concentration of energy corporations in Canada, and the effect that the MJDS likely has on corporate listing preferences between Canada and the USA, there is a slight possibility that this question is still unanswered due to the ambiguous historical activity of major USA, and even European, corporations on the TSX, especially considering Canada's integrated role in the mainstream Western societies. South Africa, Australia, and the UK are the three most represented foreign countries on the TSX after the USA. Bermuda and Switzerland are the most

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represented on the Bovespa, and the USA, the UK, and Brazil are the most represented in Mexico. Israel is the most represented on the Nasdaq, and China, Brazil, and the UK are the most represented on the NYSE. Mexico has no companies in Canada, Brazil, or Bermuda, and only lists in the USA in the Americas. Bermuda has a quite diverse presence in the Americas, as they have listings on more American stock exchanges than any other country, including the USA.

Government Listings in the Americas and of American Firms

There is a delicate relationship between government and the financial markets. The financial markets should ideally be heavily regulated by the national government, so as to ensure foreign institutions are not infiltrating the domestic economy. The governments, however, also must utilise the financial markets from time to time for their own business needs. It is preferable for a government to use their domestic equity and debt markets for their financing needs, however, when those are not sufficient, they may feel the need to utilise other countries' capital markets as well. Therefore, when discussing the capital market integration in the Americas, understanding if the region's governments do utilise foreign exchanges is important, as is knowing the markets in the region that the other countries prefer for their government financing needs. The activity of American governments on other world stock exchanges can shed light on what creates their government cross-listing needs within the Americas region, as theory suggests that the government will first utilise their domestic capital markets, then their region's capital markets, and then the world's capital markets. **Table XVI.** shows that the American governments prefer the four primary European exchanges that all countries prefer for their foreign financing needs: Frankfurt, Luxembourg, London, and Switzerland. **Table XVII.** describes how the American governments are interacting in the global financial markets, and according, it seems as if the American governments utilise the global financial markets quite efficiently, and even more so than Europe or Asia-Pacific.

The American governments do look to their home exchanges first for their financing needs, though the American governments then look to the world capital markets before the regional capital markets, which demonstrates an operating inefficiency by the American governments in the capital markets. In the Americas, however, the Mexican BMV is the only capital market used by other American governments. The USA markets cater primarily to USA domestic governmental entities, with the NYSE hosting a couple European governments as well. The Canadian and BOVESPA trade OTC, which does not mean that there are not foreign governments traded in Brazil or Canada, it just suggests that considering the transparency a government needs for its financing decisions, it is unlikely that

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there are many foreign government debt issuances traded OTC; the BSX and the CSX also do not have any foreign governments listed on their stock exchanges. As **Table I.** describes, the province of Quebec is listed on the BMV for municipal debt needs, Freddie Mac is listed on the BMV for equity, and the USA Treasury is listed on the BMV for 'diversified financials.' There are also a couple foreign supranational organisations listed on the BMV: the Inter-American Development Bank from the USA, and the Central American Bank for Economic Development from Honduras.

Table I. Government Entities Cross-Listed in the Americas

Country	Government	Offering	Listing Date	Market	Issues
Canada	Province of Quebec	Debt	1/2006	Mexico	1
Honduras	C. Amer. Bank Economic Integrat.	Debt	1/2007	Mexico	1
Israel	State of Israel	Debt	1/1999	NYSE	1
New Zealand	Republic of New Zealand	Debt	1/2001	NYSE	1
USA	Freddie Mac	Equity	3/2008	Mexico	-
USA	Inter-American Development Bank	Debt	4/2004	Mexico	2
USA	Inter-American Investment Corp.	Debt	11/2007	Mexico	1
USA	USA Treasury T-Bills	Govt?	4/2006	Mexico	-
USA	USA Treasury T-Bonds	Govt?	4/2006	Mexico	-
USA	USA Treasury T-Notes	Govt?	4/2006	Mexico	-

This table shows the distribution of foreign governments listed on American exchanges.

3. Empirical Analysis

Two ways to analyse economy integration are with time series analyses looking at trends in the economic indicators and stock market factors between economies, and with cross-sectional analysis of specific foreign involvement in the economies. Due to the relatively small similarities between the American economies and capital markets, analysis of the specific foreign corporate activity in the American markets is arguably more insightful for this region, and for exploring this region's financial integration within the world's three primary regions of Asia-Australia, Europe, and the Americas.

The first primary hypothesis of this study analyses corporate, country, industry, and market specific variables via logistic regression to attempt to quantify the most likely influences on cross-listing decisions for a corporation in the American markets. There has been significant research completed on this topic, though this paper adds to the current literature in seven significant ways: (1) brings together seven of the major American stock exchanges, covering North and South America, in a logit analysis of foreign firms focusing on the USA and Canadian exchanges (2) analyses the listing movements of major USA firms onto other American stock exchanges (3) offers insight on the listing activities of USA firms around the globe (4) examines the Mexican BMV's integration within the Americas and consequently its role in the 2008 credit crisis (5) looks at the changes in the American markets since

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Sarbanes-Oxley (6-7) and the second section utilises a two-step time series procedure to analyse capital market convergence and monetary union possibilities in the Americas.

Before proceeding, it is important to note that more dates could have been added for the time snapshots, such as a date for NAFTA passage, however, due to scope issues and the greater propensity of corporate activity surrounding SOX passage, inclusion of this time period in this study is not necessary. For the purposes of this paper, the full sample of all delisted and listed cross-listed corporations in the Americas is focused on; however, the most informative information from the other samples has been added herein with the comprehensive full study of all listed and delisted foreign corporations on American exchanges since cross-listing began in earnest in the Americas. As well, each individual country can be analysed as to which American exchanges they prefer, though in this paper the preferences of the primary American countries are focused on, i.e., that of the USA, Canada, Brazil, Bermuda, and Mexico. Further, due to the statistically low amount of listings by the other American counties, empirical analyses focusing on them would not be feasible.

There are two primary hypotheses investigated in this study. The first concerns capital market integration in the Americas, and the second pertains to monetary and currency union assimilation in the Americas. Currently in the Americas, stock market convergence is a more visible analysis, as there has been less currency union steam anywhere in the Americas. The capital markets in the Americas, however, have already begun to merge, and thus there is a wealth of experimentation possible in this area. As such, the first hypothesis, that of the state of finance market integration in the Americas, has several clearly delineated main points.

4. Sampling Distribution

The sampling distribution details both the variables collected and the data sources used. The variables to be used were determined based on analysis of prior studies and after consideration of the current financial climate. Data sources utilised include both free-access databases and proprietary data obtained via correspondence.

4.1 Variables

Variables used include both the logistic cross-sectional, and the unit-root time series. There are 28 cross-sectional variables and 42 time series variables utilised. For the logistic cross-sectional study,

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there are: seven company specific variables, fourteen country specific variables, three industry specific variables, four market specific variables, and one time specific variable included. For the economy-specific series analysis there are 21 variables, which include: six income and productivity indicators, eight investment, savings, and government purchases variables, six monetary stabilisation policy variables, and one general indicator. The stock market-specific time series analysis utilises 21 variables: seven performance indicators, seven liquidity variables, and seven general identification factors.

4.1.1 Logistic Cross-Sectional

The firm specific variables account for size (assets), liquidity (sales), profitability (net income), growth prospects or book-to-market ratio (BTM), market cap or market value of equity (MVE), and efficiency of operations or return on assets (ROA). There is also one firm-level indicator variable included, Big5 auditor used in year of listing, and one time period indicator variable included, the year 2002 and SOX. Firms consistently face decisions when it comes to dealing with their market presence. It is commonly accepted that market conditions and firm characteristics are the strongest factor in influencing firms' listing decisions (Hansen et al., 2008). Further, Dhaliwal (1983) uncovered a 'size effect' in regards to firms cross-listing behaviour, as very small firms on the exchanges display substantially higher risk-adjusted rates of return than do their larger counterparts, thereby suggesting a higher cost of equity capital. And so, the firm's total assets, total sales, net income, market value of common equity, and book-to-market ratios in year of listing are used to control for firm specific features. Market value of equity is defined as the corporation's stock price multiplied by the number of basic common shares outstanding for the year of listing. Book-to-market ratio is calculated as the ratio of total shareholders' equity to MVE in the year of listing. If shareholders' equity is negative, BTM is assigned a value of zero. Return on assets is calculated as net income scaled by total assets in the year of listing.

Another issue that will arise when a firm decides to cross-list on a new exchange is that modifications must be made to the firm's accounting system; managers always have the opportunity to smooth income by selecting among accepted accounting methods or by applying given accounting methods in particular ways. Accordingly, when firms list their stock on foreign stock exchanges with more stringent accounting requirements than their home exchange, they may be forced to make even more modifications to their accounting systems (Sheikholeslami, 1994). For this reason, an indicator variable equal to 1 if the firm employed a Big5 auditor in the year of listing is included. This study looks at listing preferences on the major American finance markets, with most of the data being since 1980. As

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such, the midpoint date would be arguably be 1995 for a time analysis; however, this study uses 2002 for a time break due to the passage of the Sarbanes-Oxley Act and the perceived greater impact that law has had on listing preferences in the Americas than any other recent regulations, such as NAFTA. Sarbanes-Oxley is included as a variable to account for the effect of the act on companies listing in North America; SOX is also equal to 1 if the firm listed after SOX implementation. If this act is in fact pushing firms to list in markets with cheaper governance costs than those in the USA, then other American markets should see an increase in listing activity after the fact. The effect of this act is still debatable even 5 years after its issuance, as Lang (2008) notes that there are actually fewer of the less profitable firms with weaker governance that are not listing; the bigger, financially stable firms are still listing with the same propensity since SOX.

The country specific variables tested are: English speaking, Africa, UK territory, South or Central America, Asia-Australia, Europe, Caribbean, Israel, China, UK, emerging, common law, tax haven, and difference in trade to test for foreign dependence. The industry specific variables of energy, tech, or non/tech are added to control for preferences in industrial relocation. Studies have investigated the effects of geography and company type on cross-listing preferences; for example, the cross-listings of European companies appear to have sharply different motivations and consequences depending on whether they cross-list in the United States or within Europe (Pagano et al., 1999). Saudagaran (1988) further advises that the two of the primary influences on a corporation's decision to list their stock onto foreign exchanges are the company's main line of business and the nationality of the company. Moreover, the relative size of a corporation within its domestic capital market also influences its decision to list abroad, with corporations in smaller domestic capital markets being more likely to participate in foreign exchanges, with an additional influence being the extent of a company's dependence on foreign consumer and product markets. For these reasons, the indicator variables relating to the different geographic areas and industries are included.

Type of home government can also affect the cross-listing decision of a foreign firm. Georgieva and Lee (2007) agree, as they write that countries with common law systems will gravitate to countries with similar cultural and regulatory regimes. For this reason a country-specific indicator variable of home government, equal to 1 for common law is included; indicator variables English speaking and tax haven also flow from this same reasoning. The reason for including emerging country as an indicator is that emerging countries typically experience higher degrees of corruption and have less developed regulatory regimes; as such, firms from these countries should prefer markets with similar regulatory

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structures. As well, the country specific variable diff_trade is included to control for foreign market dependence, which is calculated by the difference in home and foreign government trade balance in the year of listing scaled by home country GDP. Indicator variables are included for industry type, as studies have shown that in matching companies from Australia, Canada, and the USA by size and industry, the degree of capital market integration varies across industries. Global industry stocks such as oil and mining stocks are priced in a relatively integrated capital market while regional industry stocks such as consumer and capital goods stocks are priced in segmented markets (Faff and Mittoo, 2000).

As market conditions have also been shown to impact a corporation's listing decision, several explanatory exchange-specific variables are used: the difference in the turnover of domestic shares, the difference in index returns, the difference in share value, and the percentage change in total companies per exchange in year of listing. Domestic as opposed to total values are used for these values to provide a more consistent sample of corporations that typically list on the respective exchanges. Saudagaran (1988) similarly notes that index price, share volatility, and share volume have shown to be three of the best exchange-level indicators for cross-listing preference. Velocity, turnover, or liquidity is the ratio between the turnover of domestic shares and their market capitalisation for the year. Index return is measured as the percentage of the exchange's index return for the year. Value of share trading refers to the total number of shares traded multiplied by their respective matching prices for the year of listing, and the percentage change of companies is measured as the change in total companies listed on the exchange for the 12 calendar months preceding the listing event.

4.1.2 Two-Step Time Series

As the primary focus of the paper is to add to the cross-listing literature by focusing on the stock-market attributes of foreign corporations in the Americas at their listing dates, there is less attention devoted to the time series variables used for the unit root and ARCH tests. They are, however, the traditional variables used for such analyses, and thus this type of analysis provides additional explanation of integration attitudes in the Americas. Both the economy-specific and stock market-specific tests employ 21 variables for a total of 42. As income, monetary stabilisation policy, and stock market indicators can commonly indicate signs of congruence among regions and nations, these types of indicators are included in the time series tests (Aggarwal and Kyaw, 2004).

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In the economy analysis, 21 variables are examined. There are six income and productivity indicators: gross domestic product (GDP) in USA dollars, percentage change in GDP, gross national income (GNI), output gap, GDP in terms of purchasing power parity (GDP-PPP), and GDP-PPP as a percentage of the world GDP. Investment, savings, and government purchases are represented with eight indicators: investment, foreign direct investment, foreign direct investment percentage of GDP, gross savings, gross external debt, gross government debt percentage of GDP, current account balance (CAB), and CAB percentage of GDP. There are six indicators commonly used for monetary stabilisation policy analysis: short-term interest rates, long-term interest rates, exchange rates, inflation rate, unemployment rate, and poverty rate. The overall population level is also included as a general variable. Output gap is calculated as the difference between potential GDP and actual GDP, with potential GDP being calculated from a detailed calculation entailing an estimated production function and the adding of an estimated total factor productivity to the amount contributed by the potential capital and labour. Since the USA is included in this analysis, the exchange rate is based on third party, that of the Swiss Franc. As poverty rate calculations can differ by country, it is calculated as the percentage of the people living under the poverty line for that country, as per the IMF website.

For the stock market study, 21 variables are used. These include seven performance indicators: index levels, equity market cap, bond market cap, PE ratio, gross dividend yield, total performance, index performance. Seven liquidity variables are regressed: value of share trading, value of bond trading, equity turnover, value of domestic equity trading, value of foreign equity trading, value of domestic bond trading, and value of foreign bond trading. Seven general identification factors are utilised, number of companies, stock market's importance in the national economy, gross capital formation, domestic equity capital raised, foreign equity capital raised, domestic bond capital raised, foreign bond capital raised. PE ratio is calculated by dividing the market capitalisation by the total market earnings of the stocks included in the main index of the stock exchange. Gross dividend yield is determined by dividing the total dividends distributed by the domestic companies composing the main index by their market capitalisation. Total performance is calculated by adding the annual stock price index performance and the gross dividend yield paid during a given year. Index performance is calculated as the percentage change in index level from the previous year. Turnover is calculated as value of share trading divided by equity market cap. Stock market's importance in the national economy is calculated as equity market cap divided by GDP. Capital raised is the exchange’s investment flows-capital raised divided by the national gross fixed capital formation (GFCF). Gross fixed capital formation is obtained

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from the IMF website, and is measured as the total value of a country's acquisitions less disposals of fixed assets for a given year.

4.2 Data Sources

Multiple data sources are used for both the cross-sectional and the time series collections. The cross-sectional data collection took substantially more time to complete, as many of the variables had to be cross-referenced and hand-collected from old listing prospectuses and annual financial information forms. The time series data collection was more straight-forward.

4.2.1 Logistic Cross-Sectional

A total of 28 variables are applied in hypothesis one. Seventeen are indicator variables and 11 are numerical values. Of the 11 numerical values, four are exchange-specific variables, and six are firm-specific variables, with three being logs of the numerical values for better standardisation. Thirteen indicator variables are used for geographic region or country, and two indicator variables are included for industry. Two more indicator variables are included for company specific characteristics, and diff_trade is the one country-specific quantitative variable. All variables are measured in terms of USA dollars.

As shown in Table **XXV.**, a total of 694 (NYSE) + 632 (Nasdaq) + 189 (TSX) + 106 (TVSX) + 310 (BMV) + 10 (BOVESPA) + 58 (BSX) corporations from each exchange for a sample total of 1,994 foreign firms listed on American exchanges. Due to incomplete information: 25 firms are dropped from the NYSE, 28 from the Nasdaq, 1 from the TSX and 3 from the TVSX, 6 firms are eliminated from the BMV sample, and 22 from the BSX. This drops the total sample to 1,909 foreign firms listed on American exchanges for statistical regression analysis purposes. For the Bermudian, Brazilian and Mexican exchanges there is a small amount of foreign firms which have delisted from these exchanges since 1996, with 23 from Bermuda, 1 from Brazil, and 57 from Mexico. Of the 23 plus delisted BSX group firms 22 are obtained, of the 108 delisted TSX Group firms 102 delisted firms are obtained, of the 314 plus delisted Nasdaq firms 163 are obtained, and of the 331 delisted NYSE firms 172 are obtained. Table **XXI.** shows these delistings and listings of foreign corporations by year onto the American exchanges. As such, based on the data obtained from the individual exchanges and other sources on delistings of foreign corporations in the Americas, and the subsequent sample that was able to be obtained, the author is confident that the sample collected provides a thorough and comprehensive population from which to analyse the cross-listings of foreign corporations onto

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American exchanges since their inception. The sample size with current listings only totals 1131, though when the delistings are added the sample size grows to 1994.

The first items to be collected were the listings of the current foreign firms from the respective exchanges. The NYSE and NASDAQ provide this data directly on their websites. TSX responded to email inquiries and provided listings, and BMV, BOVESPA, and BSX provided the information on their websites as well. Second, the delisted firms were collected. For the USA exchanges, a Google search was used, as well as the SEC website. The BSX provides that data on their website, and the TSX provided a proprietary listing. Brazil has not had much turnover through the years, so no delisted firms are obtained for Brazil, even though if they were needed it is questionable whether they would have been able to be located. No delisted Mexican firms were able to be located after an exhaustive search online and multiple requests to the Mexican stock exchange, providing the only missing link in the study. ADR data from the Bank of New York and Citibank provided supplementary data for CUSIP (Committee on Uniform Security Identification Procedures), year of listing, and industry data for cross-checking purposes. After the lists of foreign companies were collected for each exchange, firm specific data was needed. The Compustat database was used to extract data on total assets, net income, sales, BTM, and MVE in the year of listing. For companies not available, such as many TSX, BMV, BOVESPA, and BSX firms, the SEDAR database, company websites, and Yahoo Finance provided the necessary data. Next all the corporations' annual reports were searched through to identify which firms had employed a big 5 auditor in the year of listing. Some of this data had already been retrieved in an earlier step with SEDAR, though the remaining is collected via EDGAR, SEDAR again, and company websites. The logs of MVE, Assets, and Sales are used for better standardisation in the logistic model. If sales are zero or BTM, then logsales is assigned a value of 0, and if shareholder's equity is negative, then BTM is assigned a value of 0.

Indicator variables were then assigned. Companies are assigned indicator variables equal to 1 if they are from an emerging country, as reported by the World Bank. Tax haven is an indicator variable included to control for how authoritative and strict the home tax regime is; firms will gravitate towards similar exchanges, with the USA being the most strict as a result of legislation such as SOX. Asia/Australia, Europe, Caribbean, South/Central America, Israel, China, UK, UK Territory, and Africa are indicator variables equal to one if the firm is domiciled in a country that belongs to the respective region at the time of the listing. A common law home government, English speaking country, and having a Big5 auditor in year of listing also result in a one for the indicator variable.

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Industry indicators are included for energy, tech, and non/tech[4]. The final country specific variable needed was diff_trade, which is defined as the difference between home and foreign government trade balance in the year of listing scaled by home country GDP.[5] The trade balances are obtained from the International Monetary Fund (IMF) website, with GDP data obtained from there as well. Similar to the exchange-specific indicators, the Canadian values are then subtracted from the USA values to arrive at the final value for difference in trade.[6] These could be different for each exchange, though there are infinite possibilities as to what vales can be assigned; as such, and due to the time required to locate all the data, one set was finalised on with the USA acting as the primary, Canada acting as the primary when the USA was not part of the calculation, and England being used as a proxy in the Canadian and USA corporations cross-listed onto each other's exchanges. Perhaps Mexico or Brazil could have been used here, however, the use of England offers a new distinguishing aspect to the study, and also represents a legitimate choice of cross-listing market, as London is one of the most desired foreign stock exchanges around the world.

The exchange specific variables presented the greatest challenge in collection. The preference would be to use the value in the month of listing, however, it is difficult to obtain month of listing values for some of the less transparent exchanges and more obscure variables for all years and months. For this reason, year of listing is used for all variables in order to standardise the data sets and tests. All exchange specific factors are calculated using the USA exchange data as the primary, where applicable, as with the diff_trade variable. For example, when calculating TSX's index return differential, TSX data is subtracted from NYSE data. This creates diff_liquidity, diff_index return, diff_share differential, and diff_percentage of company turnover. Exchange specific variables were retrieved from the World Federation of Exchanges website, DataStream, and through direct correspondence with the individual exchanges. Additionally, the London Stock Exchange's main index FTSE is used for the calculation of exchange level variables of Canadian firms on USA exchanges and USA firms on Canadian exchanges, in order to provide the next most realistic option for exchange level and difference in trade variable comparisons.

[4] Non/tech is dropped from the regression to avoid the dummy trap.

[5] For example, for a Chinese listed firm on the NYSE: the USA/China trade balance scaled by USA GDP in the year of listing, minus the Canada/China trade balance scaled by Canadian GDP in year of listing.

[6] This is true for the Canadian and USA exchanges; for the other American exchanges, the respective country trade difference, i.e. Mexico, Brazil, or Bermuda, is subtracted from the Canadian trade difference. For USA and Canadian corporations cross-listed onto Canadian or USA exchanges, UK values are substituted appropriately, as a Canadian corporation cross-listing onto a USA exchange is usually not deciding between the USA or Canada.

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To analyse the activity of USA firms in the Americas and around the world in hypothesis **(C),** the international stock exchanges are examined. This involves separating the foreign firms from the domestic firms for the 52 international stock exchanges that report to the World Federation of Exchanges, and examining the presence and type of USA and American corporations on each. For hypothesis **(D),** that of the Mexican BMV's integration status, the BMV website was consulted to determine the foreign corporations listed in Mexico for both debt and equity. From there, the debt listings were analysed, and as many of the debt listings in Mexico are from financial institutions, the decision was made to gather the information of the foreign financial institutions listed in Mexico, for both debt and equity, and to then analyse their listing characteristics in regard to integration and contagion events recently and currently occurring both in the Americas and around the globe to provide perspective on the activity on the BMV.

4.2.2 Two-Step Times Series

A total of 42 variables are applied in hypothesis two, and all are numerical values. For the economy study there are six income and productivity indicators; eight investment, savings, and government purchases variables; six monetary stabilisation policy variables; and one general indicator. For the stock market study there are seven performance indicators, seven liquidity variables, and seven general identification factors. The majority of the variables for the economy time series analysis were obtained from the International Monetary Fund website. There were a few variables that were incomplete, such as: output gap, savings rates, investment rates, foreign direct investment rates, interest rates, poverty rates, unemployment rates, and exchange rates. Output gap had to be calculated for Mexico and Brazil. This was accomplished by using a methodology supplied by the International Monetary Fund that they used themselves to calculate the variables.[7] Savings, investment, and foreign direct investment data was partially supplied by the IMF, and was supplemented by the *Earthtrends* searchable database. Short and long term interest rates for all four countries were obtained from their central bank websites. Poverty and unemployment rates for Brazil and Mexico were obtained from their central banks as well and were confirmed with a Google search based on historical trends. The exchange rates are based on conversion to the Swiss Franc and were obtained from a Google search; even though the US dollar is the most widely used exchange rate indicator, since the USA is part of this study it made sense to use a neutral country for the exchange rate comparisons. For the stock market data, the World Federation of Exchanges provided all of the information. Their website provides a wide array of stock market

[7] De Masi, P. (1997) IMF Estimates of Potential Output: Theory and Practice, IMF Working Paper No. 97/177

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indicators for the major international stock exchanges, and this process was quite simple and straightforward.

4.3 Limitations

Several limitations presented themselves that made the data collection process more difficult. The primary issue was that delistings were not able to obtained for the Mexican exchange, though they were obtained for all other American exchanges going back to the mid 1990s. As much of the exchange information was obtained from the World Federation of Exchanges database, any data limitations from that database could be debilitating; as such, exchange info only goes back to 1996 on the World Federation of Exchanges database and is why two samples are used~~one for post 1995 and one with the full sample minus two the exchange variables of diff_sharevalue and diff_percentage of company turnover. In terms of classical assumptions fulfilment, several issues did present themselves. Of the three primary assumption issues; heteroscedasticty, autocorrelation, and model specification, the latter, model specification is the most pressing issue. Due to the large amount of variables used, it is difficult to say if all variables are truly needed in the final regression, or if all necessary explanatory variables have been culled from the error term. Another issue may be the standardisation of all variables. The size and scale variables were standardised using their logs, and the index variables were calculated using the same primary variables with the USA info serving as the model. The use of many dummy variables makes model creation more difficult as well, as dummy variable transformation can get rather mathematically involved.[8] One can conclude, however, that this sample reasonably represents the actual population of foreign corporations listing on American exchanges, as there are very few companies left out. Although this is not a representative sample of all firms listing on all American markets from market inception, it does provide a fair sample for use in today's economy.

5. Logistic Empirical Model

The principle aims of the logistic regressions of the first hypothesis are to determine: **(A)** whether firms prefer listing on the NYSE as compared to the TSX **(B)** which market USA firms prefer for cross-listing within the American region **(E)** what changes in listing preferences have occurred since SOX. In order to test this research hypothesis, a probabilistic multi-factor random effects maximum likelihood logistic (logit) regression model is employed to run several different regressions: **(A)** NYSE (0) v. TSX(1); NYSE(0) v. Canada(1); Nasdaq(0) v. TVSX(1); Nasdaq(0) v. Canada(1); USA(0) v.

[8] Sweeny, R., and Ulveling, E. (1972) A transformation for simplifying the interpretation of coefficients of binary variables in regression analysis, *The American Statistician* **26,** 30-32.

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Canada(1); **(B)** USACanada (1) v. USAMexico (0); USACanada (1) v. USABermuda (0); CanadaUSA (0) v. CanadaMexico; BrazilUSA (0) v. BrazilMexico (1); BermudaUSA (0) v. BermudaOther (1) USATSX (0) v. USATVSX(1); CanadaNYSE (0) v. CanadaNasdaq (1); **(E)** SOXNYSE (0) v. SOXNasdaq (1); SOXUSA (0) v. SOXOther (1); SOXUSA (0) v. SOXCanada (1); SOXUSA (0) v. SOXMexico (1); SOXCanada (0) v. SOXMexico (1). Hypotheses **(C)** and **(D)**, that of American corporations around the world and the BMV's role in the American markets respectively, are also explored briefly in this section.

Cross-sectional confirmation can often yield more relevant results than can a time series estimation, though the more precise cross-sectional sample can be tested in ways that can yield time series results as well. There are two specific cross-sections culled from this data in order to offer a time perspective on the cross-section of primary data. One is the state of the listed corporations on the American stock exchanges in 2010, and the other is a full sample of all listed and delisted corporations in the Americas. Additional samples could have been separated, though in the spirit of conciseness and relevance these two primary samples are tested. These two primary samples are dual tested for the five NYSE-TSX studies, and are also compared for the two primary SOX analyses. The other three SOX analyses and the nine country specific studies use only the full sample of all listed and delisted corporations. In all equations and charts, the control variable (0) is represented by the first word and the test variable (1) is represented by the second word, In a logistic regression, negative coefficients suggest an inclination towards the control variable (0), and positive coefficients suggest an inclination towards the test variable (1).

Prob (NYSE =0) (1)

$$= \alpha + \beta 1 logMVE + \beta 2 logAst + \beta 3 logSales + \beta 4 ROA + \beta 5 NI + \beta 6 BTM + \beta 7 Big5 + \beta 8 SOX + \beta 9 English + \beta 10 Energy + \beta 11 Tech + \beta 12 Africa + \beta 13 UKTerr + \beta 14 South/CentralAmerica + \beta 15 Asia/Australia + \beta 16 Europe + \beta 17 Caribbean + \beta 18 Israel + \beta 19 China + \beta 20 UK + \beta 21 Emerging + \beta 22 Diff\_Trade + \beta 23 CommonLaw + \beta 24 TaxHaven + \beta 25 Diff\_Liquidity + \beta 26 Diff\_IndexReturn + \beta 27 Diff\_NCompanies + \beta 28 Diff\_ShareValue + \varepsilon$$

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5.1 NYSE (0) v. TSX (1)

This sample includes foreign companies listed on the NYSE, TSX, Nasdaq, and TVSX that are from Europe, Asia-Australia, Africa, South America, Central America, Mexico and the Caribbean (no USA or Canadian corporations are included). Mexico, Brazil, and Bermuda are not included in this primary analysis for three reasons: (1) most of the firms on the BMV are USA firms, and the others are all major international companies listed in the USA as well (2) Brazil has less than ten foreign firms total and all have specific interests in the Brazilian economy (3) the number of firms in Bermuda are few and particular to the services of the BSX, i.e., financial services and holding companies. Therefore none of these three exchanges is as relevant as the NYSE, Nasdaq, or the TSX for mass-scale foreign cross-listing purposes in the Americas. Canadian firms cross-listed on the USA exchanges and USA firms cross-listed on the Canadian exchanges are also not included because those firms are not deciding between Canada or the USA, they are just taking advantage of a geographical and political opportunity, though they are analysed in section 5.2 in the context of individual American countries' corporate listing preferences in the American region.

5.1.1 NYSE and TSX

The initial model regresses the foreign listings of the NYSE against those of the TSX both pre and post 1995.[9] In the Current Listings sample, energy firms prefer the TSX over the NYSE, as well as firms have preferred the TSX over the NYSE since SOX. Firms with a high market value of equity and a Big5 auditor in the year of listing prefer the NYSE to TSX, while firms from English speaking countries, Europe, and from UK territories, energy firms and technology firms prefer the TSX. In the Delistings and Listings sample a high ROA suggests a preference for the NYSE, listing after SOX is more common on the TSX, energy firms prefer the TSX, firms from emerging countries prefer the NYSE, and liquidity seems to be more important on the NYSE. For all samples, a high MVE predicts success perfectly for listing on the NYSE, while Israel is dropped because Israeli firms are only listed on USA exchanges.

[9] 1995 is chosen as a cutoff point because exchange summary data is not available for diff_NCompanies and diff_ShareValue for pre-1995.

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Table II. Prob(NYSE=0; TSX=1)

	2008 Current Listings				Delistings/Listings			
	Post 1995		Full Sample		Post 1995		Full Sample	
Parameter	**Estimate**		**Estimate**		**Estimate**		**Estimate**	
Log MVE			-2.07	**				
ROA					-1.54		-1.73	***
Big5			-1.87	***				
SOX	1.69	***			2.81	*	2.53	**
English			2.44	**				
Energy	1.71	***	3.28	*	2.93	*	3.14	*
Tech			2.24	**				
UKTerr			2.27	**				
Europe			1.83	***				
Emerging					-2.02	**	-2.24	**
Diff_Liquidity					-2.5	**	-3.46	*

The 2008 Current Listings sample includes 300 firms in the post-1995 sample (92% concordant with a chi-square of 259.08), and 372 firms in the full sample (87% concordant with a chi-square of 269.85). The Delistings/Listings sample includes 546 firms in the post-1995 sample (95% concordant with a chi-square of 444.73), and 618 firms in the full sample (93% concordant with a chi-square of 457.84).

5.1.2 NYSE and Canada

Duly noted, more variables are significant when the entire sample of Canadian firms is used. In the Current Listings post 1995 sample, firms employing a Big5 auditor in the year if listing and firms from countries identified as tax havens prefer the NYSE, while firms from English speaking countries and Europe, from UK and USA territories, and energy firms prefer Canadian exchanges. Post SOX firms have preferred Canadian exchanges to the NYSE. For the full sample, a high MVE again supports a NYSE listing, as does employing a Big5 auditor in the year of listing. Firms from English speaking countries and UK territories, European firms, and energy and technology firms again prefer Canadian exchanges to the NYSE. A major difference in the full sample is that difference in trading velocity, or liquidity, in the month of listing suggests that this factor is more relevant to Canadian exchanges over the NYSE. For the Delistings and Listings sample, high sales and ROA identifies firms preferring the NYSE, and companies from Africa, South and Central America, Asia, Australia, and Europe prefer the NYSE. Energy firms and those listing since SOX prefer Canadian exchanges, and liquidity and share value may be more important on the NYSE, while number of companies may be a factor influencing listings on Canadian exchanges. For all samples, MVE predicts success, while Israel is also again dropped from both samples because Israeli firms are only listed on USA exchanges.

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Table III. Prob(NYSE=0; Canada=1)

	2008 Current Listings				Delistings/Listings			
	Post 1995		Full Sample		Post 1995		Full Sample	
Parameter	**Estimate**		**Estimate**		**Estimate**		**Estimate**	
Log MVE			-2.04	**				
Log Sales					-2.63	*	-2.38	**
ROA							-2.19	**
Big5	-1.74	***	-1.83	***				
SOX	1.77	***			2.49	**	1.91	***
English	1.69	***	2.53	**				
Energy	2	**	3.28	*	2.82	*	3.39	*
Tech			2.26	**				
Africa							-1.68	***
UKTerr	1.86	***	2.29	**				
S/C America							-1.64	***
Asia/Austral							-2.04	**
Europe	1.71	***	2.12	**			-2.77	*
Emerging								
Tax Haven	1.69	***						
Diff_Liquidity			1.66	***	-1.82	***	-3.78	*
Diff_NCompanies					1.86	***		
Diff_ShareValue					-1.97	**		

The 2008 Current Listings sample includes 320 firms in the post-1995 sample (93% concordant with a chi-square of 320.3), and 392 firms in the full sample (89% concordant with a chi-square of 339.74). The Delistings/Listings sample includes 586 firms in the post-1995 sample (93% concordant with a chi-square of 559.89), and 658 firms in the full sample (91% concordant with a chi-square of 577.01).

5.1.3 Nasdaq and Canada

In all tests, MVE is again dropped as is Israel, as they both predict complete success for listing on the Nasdaq over Canadian exchanges. In the Current Listings sample, greater amount of assets in the year of listing predicts the firm listing on the Nasdaq over the Canadian exchanges. Energy firms prefer the Canadian exchanges over Nasdaq, as do firms from South and Central America, Asia and Australia, and firms from countries with common law governments. Post SOX firms have preferred Canadian exchanges over Nasdaq. Here a major difference from the NYSE-Canada regression is difference in trading velocity, or liquidity, in the month of listing, is now correlated with Nasdaq over the Canadian exchanges, contrasted to this variable being correlated with the Canadian exchanges over the NYSE. A possible explanation is that the NYSE has the lowest average share turnover of the all the exchanges, while Nasdaq has the highest. Nasdaq and the TVSX were also regressed though there were no significant observations. The absence of many significant observations for the Nasdaq and Canada regressions suggests that the Nasdaq is not as integrated with the TSX as is the NYSE.

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Table IV. Prob(Nasdaq =1; Canada=0)

	2008 Current Listings			Delistings/Listings	
	Post 1995	Full Sample		Post 1995	Full Sample
Parameter	**Estimate**	**Estimate**		**Estimate**	**Estimate**
Log Assets		-2.24	**		
SOX		2.48	**		
Energy		2.25	**		
S/C America		1.68	***		
Asia/Austral		2.4	**		
Common Law		1.91	***		
Diff_Liquidity		-3.54	*		

The 2008 Current Listings sample includes 229 firms in the post-1995 sample (no significant results), and 257 firms in the full sample (85% concordant with a chi-square of 219.54). The Delistings/Listings sample includes 550 firms in the post-1995 sample (no significant results), and 581 firms in the full sample (no significant results).

5.1.4 USA and Canada

For the Current Listings sample, one difference noted in the USA v. Canada regression is that market value equity is now correlated with Canadian exchanges opposed to USA, a change from the NYSE regressions; though the rest of the variables agree. This result produces more questions, as the summary statistics show that market value of equity is definitely higher in the USA exchanges. Firms with large amounts of assets and sales, employment of Big5 auditors in the year of listing, and those from the Caribbean, the UK, and tax havens prefer USA exchanges. Firms from USA and UK territories, energy firms, those from English speaking and common law countries, and those from South and Central America and emerging countries prefer Canadian exchanges. Post SOX firms have preferred Canadian exchanges to USA exchanges. In the Delistings and Listings sample, similar variables are significant, though market liquidity is suggested to be influential in USA listings.

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Table V. Prob(USA =0; Canada=1)

	2008 Current Listings				Delistings/Listings			
	Post 1995		Full Sample		Post 1995		Full Sample	
Parameter	**Estimate**		**Estimate**		**Estimate**		**Estimate**	
Log MVE	2.84	*	3.33	*				
Log Assets	-2.79	*	-3.05	*				
Log Sales	-1.99	**	-2.29	**	-2.9	*	-2.69	*
Big5	-2.79	*	-2.66	*				
SOX	2.3	**	2.61	*	2.39	**	2.81	*
English	2.2	**	2.2	**				
Energy	2.62	*	4	*	3.22	*	3.71	*
UKTerr	2.36	**	2.64	*				
S/C America	1.71	***						
Europe	1.82	***	1.86	***				
Caribbean	-1.71	***	-1.72	***	-1.72	***		
UK	-1.71	***						
Emerging	1.81	***						
Common Law	1.86	***	1.89	***				
Tax Haven	-2.02	**	-1.68	***				
Diff_Liquidity					-4.56	*	-5.33	*

The 2008 Current Listings sample includes 475 firms in the post-1995 sample (91% concordant with a chi-square of 354.66), and 574 firms in the full sample (85% concordant with a chi-square of 361.74). The Delistings/Listings sample includes 1012 firms in the post-1995 sample (92% concordant with a chi-square of 671.69), and 1114 firms in the full sample (90% concordant with a chi-square of 683.43).

5.2 American Corporations Cross-Listed in the Americas

USA firms have listings all over the world, though they primarily list in Mexico and Canada. USA firms are also well-represented overseas in locations such as London and Tokyo; all of the major USA firms have cross-listings in either Canada, Mexico, or Bermuda, however, and as such analysis of these three markets within the Americas should provide insight into the listing preferences of USA corporations. As it is, there are many more USA corporations listed in other world regions than the other countries in the Americas, including Canada, Mexico, and Brazil. Canada and Mexico, their two direct neighbours, see the majority of USA corporate listings worldwide. The purpose of this test is to determine which American markets USA firms prefer to cross-list in, and if there are any discernible trends about USA corporate cross-listing behaviour that can be deduced both in the world at large, and specifically within the Americas region. The statistical test focuses on Canada and Mexico, the two largest markets of USA cross-listed firms, yet observations are also made based on USA corporate listings in Bermuda. In terms of the listing activities of the other major American countries, Canada, Brazil, and Bermuda have statistically observable trends within the American region as well, though Mexico only has listings on the USA exchanges within the Americas.

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There are no USA firms in Brazil, and the ones in Bermuda are of a different type than those in Canada and Mexico. Bermuda simply occupies a distinct niche in the region, and in the world for that matter, serving primarily as a zone of incorporation for companies doing business all over the globe. Therefore, within the Americas region, Canada and Mexico represent the two countries that USA companies typically look to for cross-listings, although there are several USA firms in Bermuda. Canada serves USA companies that have business interests in Canada, especially mining and energy firms, and has 0 fortune 500 USA firms listed on the TSX. Mexico, contrastingly, has the typical array of USA fortune 500 firms, and even USA government agencies, more typical of the USA firm distributions seen on the major exchanges of Tokyo and London, while Bermuda has a few financial services firms from the USA. Country specific variables are dropped from this regression.

Prob (USACanada =0) (2)

$$= \alpha + \beta 1 logMVE + \beta 2 logAst + \beta 3 Sales + \beta 4 ROA + \beta 5 BTM + \beta 6 Big5 + \beta 7 SOX + \beta 9 Energy + \beta 10 Tech + \beta 19 Diff\_Trade + \beta 22 Diff\_Trade + \beta 26 Diff\_Liquidity + \beta 27 Diff\_IndexReturn + \beta 28 Diff\_NCompanies + \beta 29 Diff\_ShareValue + \varepsilon$$

5.2.1 USA Canada v. USA Mexico v. USA Bermuda

Although Canada and Mexico are both primary trading partners of the USA, one may reasonably expect for Canada to cater more to USA corporate interests because of their more established regulatory systems and financial markets and cultural similarities including a common language. A logistic regression is run on the assumption that USA firms would prefer Canada (0) to Mexico (1), Canada (0) to Bermuda (1), and Bermuda (0) to Mexico (1). SOX predicts failure perfectly for all three regressions, and diff_trade predicts failure perfectly for the two Canada regressions. This means that Bermuda has seen more activity since SOX than Canada by USA corporations, Mexico has seen more activity by USA corporations since SOX than either Bermuda or Canada, and that the USA's trade balance with Mexico and Bermuda may be directly increasing USA corporate activity in those countries. USA corporations with higher sales prefer Mexico over Canada and Bermuda, those with a higher ROA prefer Bermuda to Mexico, and those utilising a Big5 auditor in the year of listing prefer the BMV to the BSX. USA energy corporations prefer the TSX to the BSX, and technology companies prefer the BMV to the BSX. In terms of exchange characteristics, the liquidity of the BSX may attract

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USA listings to Bermuda, and the value of share trading on the BMV and TSX may attract USA corporations to Mexico and Canada.

Table VI. USA Canada v. USA Mexico v. USA Bermuda

	Canada-Mexico				Canada-Bermuda				Bermuda-Mexico	
	Post 1995		Full Sample		Post 1995		Full Sample		Full Sample	
Parameter	**Estimate**		**Estimate**		**Estimate**		**Estimate**		**Estimate**	
Log Sales	2.85	*	2.6	*					2.43	**
ROA									-1.75	***
Big5									2.67	*
Energy					-2.62	*	-2.17	**		
Tech									2.06	**
Diff_Liquidity					2.83	*	2.8	*	-2.43	**
Diff_ShareValue					-1.88	***	-2.3	**	2.35	**

The Canada-Mexico sample includes 339 firms in the post-1995 sample (77% concordant with a chi-square of 380.3), and 343 firms in the full sample (80% concordant with a chi-square of 380.6). The Canada-Bermuda sample includes 179 firms in the post-1995 sample (38% concordant with a chi-square of 37.84), and 183 firms in the full sample (68% concordant with a chi-square of 68.62). As all firms in the Bermuda-Mexico sample have listed since 1995, the full sample includes 194 firms (55% concordant with a chi-square of 62.8).

5.2.2 Bermudian, Brazilian, Canadian, and Mexican Companies in the Americas

There are two regressions run on the Bermudian companies, one each for Brazil and Canada, and none for Mexico. Within the Americas, Bermuda has foreign corporations on exchanges in the USA, Canada, and Brazil, Canada has foreign corporations in Mexico and the USA, Brazil has foreign corporations in the Mexico and the USA, and Mexico only has foreign corporations in the USA. Bermudian corporations have preferred non-USA exchanges since SOX, while there were no significant observations found from the Bermudian corporations on the Brazilian v. Canadian exchanges analysis. Canadian companies with a high MVE prefer Mexico over the USA, while Canadian corporations employing a Big5 auditor in the year of listing prefer the USA over Mexico. Brazilian corporations high in sales and net income prefer Mexican exchanges to USA exchanges.

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Table VII. Bermudian, Brazilian, Canadian, and Mexican Companies in the Americas

	Canada USA-Mexico				Brazil USA-Mexico		Bermuda USA-Other	
	Post 1995		Full Sample		Full Sample		Full Sample	
Parameter	**Estimate**		**Estimate**		**Estimate**		**Estimate**	
Log MVE	2	**	2.09	**				
Log Sales					1.95	***		
NI					1.71	***		
Big5	-1.89	***	-1.9	***				
SOX							2.52	**

The Canada-USA/Mexico sample includes 272 firms in the post-1995 sample (63% concordant with a chi-square of 40.04), and 288 firms in the full sample (67% concordant with a chi-square of 42.42). As all firms in the Brazil-USA/Mexico sample have listed since 1995, the full sample includes 83 firms (42% concordant with a chi-square of 16.8). As all firms in the Bermuda-USA/Other sample have listed since 1995, the full sample includes 51 firms (49% concordant with a chi-square of 23.27).

5.2.3 USA-TSX/TVSX and Canada-NYSE/Nasdaq

Two regressions are run to test whether Canadian corporations prefer the NYSE (0) over the Nasdaq (1), and whether USA corporations prefer the TSX (0) over the TVSX (1). USA corporations with a high MVE prefer the TSX over the TVSX, while a higher liquidity and number of companies in the year of listing may draw USA companies to the TVSX. When the Nasdaq has a high amount of share trading, Canadian companies may look to the Nasdaq over the NYSE. Canadian companies that have large amounts of assets and sales prefer the NYSE, while those with high net income prefer the Nasdaq. The NYSE has been more attractive to Canadian corporations since SOX, and companies with Big5 auditors prefer the NYSE to the Nasdaq. Energy corporations from Canada prefer the NYSE, while technology corporations from Canada prefer the Nasdaq. A high trade differential in the year of listing suggests that USA corporations may choose the TVSX, while Canadian corporations may choose the NYSE for their cross-listing needs.

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Table VIII. USA-TSX and Canada-NYSE

	USA Corporations on TSX/TVSX				Canadian Corporations on NYSE/Nasdaq			
	Post 1995		Full Sample		Post 1995		Full Sample	
Parameter	**Estimate**		**Estimate**		**Estimate**		**Estimate**	
Log MVE	-3.47	*	-3.65	*				
Log Assets					-2.74	*	-2.64	*
Log Sales					-2.52	**	-2.55	**
NI					1.78	***	1.98	**
Big5							-2.06	**
SOX					-2.28	**	-2.02	**
Energy					-2.56	*	-1.89	***
Tech					3.07	*	3.47	*
Diff_Trade	2.03	**			-2.56	**	-2.65	*
Diff_Liquidity	2.08	**	1.7	***				
Diff_IndexReturn								
Diff_NCompanies	1.87	***			-3.55	*	1.92	***
Diff_ShareValue					3.97	*		

The USA-TSX/TVSX sample includes 162 firms in the post-1995 sample (60% concordant with a chi-square of 129.3), and 166 firms in the full sample (57% concordant with a chi-square of 126.35). The Canada-NYSE/Nasdaq sample includes 261 firms in the post-1995 sample (66% concordant with a chi-square of 238.78), and 277 firms in the full sample (67% concordant with a chi-square of 255.09).

5.3 American Corporations Around the Globe

Again, this analysis is mutually dependent on hypothesis **(B).** Additionally, the USA corporations are targeted because of the USA's dominance, and their financial corporations are focused on because of their conspicuousness, and due to scope limitations, the USA financial corporations on the BMV are the primary analysis. For a current sample snapshot of USA corporate foreign presence: (1) there are five USA firms listed on the Tokyo Stock Exchange, and all are major USA banks; (2) there are no major USA firms in Canada or Brazil, and everyone of the big USA firms is listed on the Mexican exchange; (3) the London stock exchange sees a rather normal distribution of USA firms; (4) there are also a few normal distributions across the rest of Europe. The USA generally stays within the Americas, as the majority of their listings are in Mexico, Canada, Bermuda, with of course a few using the Cayman Islands for processing needs. London has as wide a distribution as does New York of all countries' firms, and so it should also be expected for many USA firms to be registered in London. That said, nowhere else besides London and Mexico does the USA really have a substantial wide-ranging corporate presence on the stock markets. What this means is that even though Canada and Bermuda have a generous amount of USA listings as well, the listings they cater to are more specific to the economies of Canada and Bermuda, while London and Mexico have many different types of companies. Even from Australia to Germany and in other countries, the few USA firms listed have

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legitimate business in the country.[10] Japan is perhaps the most interesting, as the only USA corporations listed in Japan are all major USA banks. Of course listing onto the stock exchange is not the only way to engage in business in a country, though stock market presence is one observation that can be made.

5.4. Mexican BMV's Role in the 2008 Credit Crisis

As such, and the reason why Tables **XXII.** and **XXIII.** are included to clarify the proceeding observation, is that many USA and European financial institutions have recently issued significant amounts of debt in Mexico, while only two total non-financial institutions have done so. The Mexican stock exchange works like a private placement for foreign companies, whereby Mexican citizens can buy foreign stocks through their own exchange, with the Mexican stock exchange mainly just acting as a middle man. This allows foreign corporations to secure less-transparent private placements to the Mexican people, and the Mexican exchange to gain visibility and influence in the global financial markets. The problem with financial institutions pursuing many listings, is that they have no legitimate business in any area sans the domestic market whose citizens they cater to. It really is a quite primitive business model, as how could one realistically expect to stay in business if they have no concrete business base. Financial institutions have no concrete business base, because what they deal in is an imaginary, intrinsically worthless mechanism, fiat currency. Sooner or later, if financial institutions are allowed to pursue business in different markets based on new models they develop, there will likely be disasters in a computerised fiat monetary economy.

Equally interesting is that these debt issuances came around the same time as some of these financial institutions were failing, and thus this suggests that the Mexican stock exchange has become much more integrated with the USA, Canada, and thus the world since the 2008 credit crisis as a result of the USA and European financial institutions which raised significant amounts of debt in the Mexican financial markets from 2006-2009. Further, the listing of the USA Treasury (2006) into some sort of arrangement with the Mexican stock exchange, as well as the continued push by USA governmental agencies such as Freddie Mac (2008) onto stock exchanges such as the BMV, must be acknowledged in regard to the fiscal policies pursued by the USA government, as well as their financial institutions, which possibly led to the undermining of the USA financial system during the 2006-2009 time period. The Province of Quebec from Canada is also listed on the BMV for municipal project debt needs.

[10] There is also a USA governmental agency listed on the Mexican exchange, Freddie Mac; this is a government agency, however, it seems to act as a corporation as well.

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Mexico has occupied both the role of the market for other governments' listing needs in the Americas, as well as has become the defacto exchange in the Americas that large corporations prefer for their on-demand financing needs, much like the London, New York, or Frankfurt exchanges do. Mexico has also seen extraordinary action in their stock exchange from USA and European financial institutions since 2006. It can thus be said that, in the American markets, the financial institutions from the USA in specific and all American corporations in general, do in fact base much of their activity in the American financial markets on their level of action in global markets, and vice versa.

5.5 Time Trends 2002, 2008

To test further, a date is then used as a cut-off point to determine how American policy is affecting listing behaviour by foreign firms onto American exchanges. A recent highly publicised event is the passage of the Sarbanes-Oxley Act, which aims to tighten controls over publicly traded firms on USA exchanges. A similar test which could also be run would use the year of implementation of NAFTA of 1994, or any other significant event. The influence of the SOX act on American listing behaviour by foreign firms is tested using a logistical procedure similar to that introduced for the comparison of the NYSE and TSX, in that pre-SOX, or 8/2002, is represented by a 0 and post-SOX, or post 8/2002, is represented by a 1, as it is expected that firms have listed less on USA exchanges and more on Canadian exchanges since this date, as well as we can analyse if firm characteristics have changed since passage of this law.

Prob (Pre-8/2002 =0; Post-8/2002=1) (3)

$$= \alpha + \beta 1 logMVE + \beta 2 logAst + \beta 3 Sales + \beta 4 ROA + \beta 5 BTM + \beta 6 Big5 + \beta 7 SOX + \beta 8 English + \beta 9 Energy + \beta 10 Tech + \beta 11 USATerr + \beta 12 UKTerr + \beta 13 South/CentralAmerica + \beta 14 Asia/Australia + \beta 15 Europe + \beta 16 Caribbean + \beta 17 Israel + \beta 18 China + \beta 19 Diff\_Trade + \beta 20 Emerging + \beta 21 China + \beta 22 Diff\_Trade + \beta 23 Emerging + \beta 24 CommonLaw + \beta 25 TaxHaven + \beta 26 Diff\_Liquidity + \beta 27 Diff\_IndexReturn + \beta 28 Diff\_NCompanies + \beta 29 Diff\_ShareValue + \varepsilon$$

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5.5.1 SOX-USA Exchange Listings Only

Israeli firms have listed less since SOX and Chinese firms have listed more onto USA exchanges post SOX. Exchange index return has become less important on USA exchanges since SOX, suggesting that foreign firms do not value obtaining the greater market value for themselves that USA exchanges can provide. Difference in number of companies and of share value in month of listing have become less important since SOX; this result suggests that, as with the index return observation previously noted, that exchange specific advantages are less important as a listing incentive onto USA exchanges to prospective foreign firms since passage of SOX. High net income has remained an important forecasting tool for identifying foreign firms which may migrate to USA exchanges, while firms from UK territories have also listed more onto USA exchanges since SOX passage. The odds ratios indicate that: return on assets in year of prospective listing and being from a UK territory are possible factors influencing a firm's decision to list on American stock exchanges since SOX. In the Delistings and Listings sample, firms with high ROA, BTM, and technology firms listed more before SOX, while firms from South and Central America, Asia and Australia, Europe, the Caribbean, and China have listed more since SOX, while Israeli firms and those from tax havens listed more before SOX. Trade balances have become less important in cross-listing in the Americas since SOX, though market liquidity has become more important since SOX. The NYSE has been preferred over the Nasdaq since SOX.

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Table IX. SOX~~USA Listings Only

	2008 Current Listings				Delistings/Listings			
	Post 1995		Full Sample		Post 1995		Full Sample	
Parameter	**Estimate**		**Estimate**		**Estimate**		**Estimate**	
NI			1.71	***				
ROA					-3.14	*	-3.19	*
BTM					-2.65	*	-2.25	**
Tech					-3.16	*	-3.53	*
UKTerr			1.8	***				
S/C America					3.03	*		
Asia/Austral					4.71	*	3.2	*
Europe					2.92	*	1.79	***
Caribbean					3.01	*		
Israel	-1.71	***	-3.1	*	-2.81	*	-2.76	*
China	3.18	*	4.29	*	5.13	*	6.17	*
Tax Haven					-2.81	*		
Diff_Trade					-4.13	*	-3.8	*
Diff_Liquidity					2.73	*	2.78	*
Diff_IndexReturn	-3.18	*	-3.85	*	-4.95	*	-5.4	*
Diff_NCompanies	-4.66	*			-6.07	*		
Diff_ShareValue	-4.42	*			-4.83	*		
ZZZ					-4.54	*	-3.31	*

The 2008 Current Listings sample includes 508 firms in the post-1995 sample (23% concordant with a chi-square of 154.06), and 621 firms in the full sample (16% concordant with a chi-square of 126.52). The Delistings/Listings sample includes 1148 firms in the post-1995 sample (28% concordant with a chi-square of 389.13), and 1266 firms in the full sample (22% concordant with a chi-square of 326.48).

5.5.2 SOX-All American Listings

The indicator variable ZZZ representing country is added for the entire SOX sample to determine whether firms prefer the other American or USA exchanges more since SOX; this variable is significantly positive for both samples, thus indicating that foreign firms prefer other American exchanges since SOX passage. Chinese firms have again listed more since SOX, and all four exchange level factors were more important prior to SOX, indicating that firms do not care about exchange level factors as much when making listing decisions. Net income has again become an important indicator for identifying firms that may list onto North American exchanges post SOX, as well as Israeli firms have listed less since SOX. In the Delistings and Listings sample, more variables are significant, though the same factors are influential. Firms with higher sales, those from Asia and Australia, and from the Caribbean have listed more, though those with a high ROA, technology firms, Israeli firms and those from tax havens have listed less since SOX. One difference in the samples is that market liquidity is more important post-2002 in the full sample, though less important in the Current Listings sample.

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Table X. SOX-All American Listings

	2008 Current Listings				Delistings/Listings			
	Post 1995		Full Sample		Post 1995		Full Sample	
Parameter	**Estimate**		**Estimate**		**Estimate**		**Estimate**	
Log Sales					2.07	**	2.15	**
NI	1.7	***					2.08	**
ROA					-2.04	**	-2.09	**
Tech					-2.45	**	-2.72	*
Asia/Austral					2.67	*		
Caribbean					2.27	**		
Israel	-2.29	**			-2.43	**	-2.25	**
China	4.01	*	2.88	*	5.52	*	6.56	*
Tax Haven					-3.12	*	-2.88	*
Diff_Trade					-3.7	*		
Diff_Liquidity			-2.7	*			1.84	***
Diff_IndexReturn	-4.76	*	-4.14	*	-6.71	*	-6.4	*
Diff_NCompanies			-5.38	*	-6.29	*		
Diff_ShareValue			-2.78	*				
ZZZ	3.61	*	3.47	*	12.41	*	15.23	*

The 2008 Current Listings sample includes 674 firms in the post-1995 sample (23% concordant with a chi-square of 209.76), and 791 firms in the full sample (20% concordant with a chi-square of 210.19). The Delistings/Listings sample includes 1739 firms in the post-1995 sample (37% concordant with a chi-square of 952.06), and 1861 firms in the full sample (39% concordant with a chi-square of 937.34).

5.5.3 SOX-Canada, Mexico, and the USA

Since SOX, firms from Asia/Australia, the Caribbean, South/Central America, Europe, and emerging countries have listed more, while tech firms, those from tax havens, African firms, and Israeli firms have listed less. Firms with high return on assets have listed less since SOX, while those with a high net income have listed more. Chinese firms have listed more onto USA exchanges since SOX, though less onto Canadian and Mexican exchanges since 2002. Trade, liquidity, index return, and number of companies appear to have been more important for cross-listing decisions in the Americas before SOX, while share value was more important before when deciding between the USA and Mexico, though share value has been more important when deciding between Canada and Mexico since SOX. Mexico has been preferred over both Canada and the USA since SOX, and Canada has been preferred over the USA.

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Table XI. SOX-Canada, Mexico, and the USA

	USA-Canada				USA-Mexico				Canada-Mexico			
	Post 1995		Full Sample		Post 1995		Full Sample		Post 1995		Full Sample	
Parameter	**Estimate**		**Estimate**		**Estimate**		**Estimate**		**Estimate**		**Estimate**	
NI							2.04	**				
ROA	-2.45	**	-2.21	**	-2.36	**	-2.59	*				
Tech	-2.7	*	-3	*	-3.21	*	-3.52	*				
Africa									-1.73	***		
S/C America					3.59	*	2.1	*				
Asia/Austral	3.13	*	2.03	**	4.95	*	3.41	*				
Europe					3.08	*	2.01	*				
Caribbean	2.23	**			3.73	*	2.22	*				
Israel	-2.68	*	-2.83	*	-3.18	*	-2.9	*				
China	5.38	*	6.2	*	5.28	*	6.21	*	-1.64	***		
Emerging									2.19	**	1.74	**
Tax Haven	-3.18	*	-3.03	*	-3.07	*	-2.82	*				
Diff_Trade					-5.44	*	-5.04	*				
Diff_Liquidity	-1.65	***							-2.94	*	-2.42	**
Diff_IndexReturn	-6.48	*	-5.93	*	-5.67	*	-5.94	*	-2.78	*		
Diff_NCompanies	-5.15	*			-5.6	*			-3.06	*		
Diff_ShareValue					-4.31	*			6.29	*		
ZZZ	7.19	*	6.83	*	5.56	*	5.93	*	2.41	**	4.23	*

The 2008 USA-Canada sample includes 1435 firms in the post-1995 sample (24% concordant with a chi-square of 462.52), and 1557 firms in the full sample (23% concordant with a chi-square of 460.21). The USA-Mexico sample includes 1453 firms in the post-1995 sample (48% concordant with a chi-square of 953.15), and 1570 firms in the full sample (45% concordant with a chi-square of 953.18). The Canada-Mexico sample includes 590 firms in the post-1995 sample (50% concordant with a chi-square of 240.45), and 595 firms in the full sample (33% concordant with a chi-square of 162.27).

6. Two-Step Time Series Analysis

First the data is analysed for unit roots, then those unit roots which are significant are regressed against each other via an ARCH analysis to determine which variables are most dependent on each other, and thus which variables are most important for each stock exchange or economy. Then the most important variables from each stock market and economy can be compared against those from the other stock markets and economies to determine which stock markets and economies have both the most variables in common, and which variables seem to be most important for all the stock exchanges and economies, and within and between each of the stock exchanges and economies. Regarding the time series economy wide currency union analysis, it is presumed that the USA and Canada will again show the most similarities, and that Mexico will show similarities with both the USA and Brazil. As for the stock market time series analysis, it is hypothesised that the NYSE, Nasdaq, and TSX will be the most

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common. To test this theory a stochastic two-step time analysis procedure is implemented which analyses unit roots for stationarity, and then tests the stationary time series elements via an ARCH analysis. All the variables in this time series analysis exhibit stochastic properties, though in the economy data some of the variables do exhibit trends.

6.1 Currency Unions

Regarding the unit roots, Canada, Mexico, and the USA all have 18 variables with stationary trends, while Brazil only has 15, which is still a close number to 18. The USA is the only country where output gap and inflation are stationary, while Brazil is the only country where investment, gross savings, and exchange rates are not stationary. The USA and Canada both are not stationary in their external debt, while Brazil and Mexico are both not stationary in regards to their current account balance as a percentage of GDP. As such, Mexico seems to be straddling the line between Latin America and North Americas, by being close to all Brazil, Canada, and the USA, though all these countries show significant similarities to each other in their economies. Political and intangible effects must be considered as well, though, suggesting that a currency union in the Americas needs more to happen than just looking good on paper.

As for the ARCH results of the variables determined to be stationary from the unit root tests, the USA has the most significant variables, followed by Mexico, Brazil, and Canada. The ARCH results on the American economies significant unit roots show that the GDP measures are all relatively significant for each economy. The USA's most significant variables are GDP-USA, GNI, GDP-PPP, and poverty rates; Mexico's are population, GNI, and CAB; Canada's are exchange rates, population, FDI, and GDP-PPP; and Brazil's are GDP-USA, GDP-PPP, and population. As such, the GDP and population variables may forecast best when currency union convergence may occur in the Americas.
In terms of specific partners, the USA has the most significant variables, and Canada the least, thus these two countries may in actuality be the furthest away from joining a currency group. Mexico has similarities with both the USA and Brazil, and so Mexico may be the first major member from the Americas to pursue a currency union.

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Table XII. Unit Roots Economies

Unit Roots	Brasil	Canada	Mexico	USA
GDP USA	Y	Y	Y	Y
GNI	Y	Y	Y	Y
OuputGap	**N**	**N**	**N**	Y
GDP Change	**N**	**N**	**N**	**N**
GDP PPP	Y	Y	Y	Y
GDP PPP %World	Y	Y	Y	Y
Investment	**N**	Y	Y	Y
FDI	Y	Y	Y	Y
FDI %GDP	Y	Y	Y	Y
Gross Savings	**N**	Y	Y	Y
Inflation	Y	Y	Y	**N**
Emplolyment	Y	Y	Y	Y
Population	Y	Y	Y	Y
Govt. Debt %GDP	Y	Y	Y	Y
Gross External Debt	Y	**N**	Y	**N**
CAB	Y	Y	Y	Y
CAB %GDP	**N**	Y	**N**	Y
Poverty	Y	Y	Y	Y
IRShort	Y	Y	Y	Y
IRLong	Y	Y	Y	Y
Exchange Rates	**N**	Y	Y	Y
Totals	**15**	**18**	**18**	**18**

This table contains unit root tests of stationarity for the four major American economies for 21 variables.

Table XIII. ARCH Results Economies

Unit Roots	Brasil	Canada	Mexico	USA
GDP USA	6	1	6	12
GNI	3	2	7	8
OuputGap	-	-	-	4
GDP Change	-	-	-	-
GDP PPP	8	3	2	13
GDP PPP %World	4	1	3	7
Investment	-	2	4	7
FDI	2	3	3	1
FDI %GDP	4	1	5	1
Gross Savings	-	2	5	5
Inflation	1	2	6	-
Emplolyment	1	-	4	3
Population	6	3	7	5
Govt. Debt %GDP	3	2	3	-
Gross External Debt	1	-	6	-
CAB	1	1	7	5
CAB %GDP	-	1	-	2
Poverty	4	2	-	9
IRShort	1	2	2	5
IRLong	3	1	2	2
Exchange Rate	-	3	4	2
Totals	**48**	**32**	**76**	**91**

This table contains ARCH tests of the stationary times series elements for the four major American economies for 21 variables.

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6.2 Finance Markets

The unit roots tests for the American finance markets show that the NYSE and the TSX have the most variables in common, followed by Nasdaq, the BOVESPA, and the BMV and BSX. None of the exchanges have any stationary elements in their amount of foreign bond capital raised, amount of foreign equity capital raised, total return, or index performance. The BOVESPA and Nasdaq are the only exchanges not stationary in their value of bond trading, while the BSX is not stationary in its number of companies and the BMV is not in its stock market's importance in the economy or the amount of capital raised. Turnover is not relevant on the BMV or BSX, while the PE Ratio is not on the BMV, BOVESPA, or BSX, though the gross dividend yield is relevant on the NYSE and TSX. Foreign bond trading is only significant on the NYSE, while foreign equity trading is only not relevant on the NYSE and domestic bond trading is only not relevant on the BOVESPA. Domestic equity capital raised is not relevant on either the BMV or BSX, while domestic bond capital is not significant on the BOVESPA, BSX, or Nasdaq. Index levels, value of share trading, equity market cap, bond market cap, and amount of domestic equity trading are all stationary for all six major American stock exchanges.

For the ARCH results, the NYSE has the most significant variables, followed by the Nasdaq, the Brazilian BOVESPA, the Canadian TSX, the Mexican BMV, and the Bermudian BSX. These results are possibly similar to what one may have expected, for Canada maybe to be more significant than the BOVESPA. One reason the BOVESPA may be more significant, is that they are a relatively closed-exchange to foreigners, which may allow them to operate more efficiently due to fewer obligations to outside interests. The most significant variables for the NYSE are equity market cap, bond market cap, and PE ratio; the most relevant on the Nasdaq are equity market cap, turnover, and stock market in the economy; for Brazil they are equity market cap, turnover, and number of companies; Canada emphasises stock market in the economy and turnover; in Mexico amount of domestic bond capital raised is most important; and in Bermuda index levels, stock market in the economy, capital raised, and foreign equity trading are all significant. As such, equity market cap seems to be the most important indicator between the NYSE, Nasdaq, and BOVESPA, while Canada and the Nasdaq both emphasise turnover, and Canada and Bermuda both place significance on the stock market's role in the economy. Mexico's stock exchange seems to have little in common with the other Americas stock exchanges, nor does Bermuda's.

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Table XIV. Unit Roots Finance Markets

Unit Roots	BMV	BOVESPA	BSX	Nasdaq	NYSE	TSX
Index Performance	**N**	**N**	**N**	**N**	**N**	**N**
Value of Share Trading	Y	Y	Y	Y	Y	Y
Equity Market Cap	Y	Y	Y	Y	Y	Y
Value of Bond Trading	Y	**N**	Y	**N**	Y	Y
Bond Market Cap	Y	Y	Y	Y	Y	Y
Number of Companies	Y	Y	**N**	Y	Y	Y
Stock Market Economy	**N**	Y	Y	Y	Y	Y
Capital Raised	**N**	Y	Y	Y	Y	Y
Turnover	**N**	Y	**N**	Y	Y	Y
PER Ratio	**N**	**N**	**N**	Y	Y	Y
Gross Dividend Yield	**N**	**N**	**N**	**N**	Y	Y
Total Return	**N**	**N**	**N**	**N**	**N**	**N**
Index Levels	Y	Y	Y	Y	Y	Y
Foreign Bond Trading	**N**	**N**	**N**	**N**	Y	**N**
Domestic Bond Trading	Y	**N**	Y	Y	Y	Y
Foreign Equity Trading	Y	Y	Y	Y	**N**	Y
Domestic Equity Trading	Y	Y	Y	Y	Y	Y
Foreign Equity Capital	**N**	**N**	**N**	**N**	**N**	**N**
Domestic Equity Capital	**N**	Y	**N**	Y	Y	Y
Foreign Bond Capital	**N**	**N**	**N**	**N**	**N**	**N**
Domestic Bond Capital	Y	**N**	**N**	**N**	Y	Y
Totals	**10**	**11**	**10**	**13**	**16**	**16**

This table contains unit root tests of stationarity for the six major American stock markets for 21 variables.

Table XV. ARCH Results Finance Markets

Unit Roots	Bermuda	Brasil	Canada	Mexico	Nasdaq	NYSE
Index Levels	2	4	3	2	2	3
Value of Share Trading	1	2	1	2	2	1
Equity Market Cap	-	7	2	2	4	7
Value of Bond Trading	1	-	3	2	-	2
Bond Market Cap	-	-	1	-	1	6
Turnover	-	5	4	-	5	3
Stock Market Economy	2	3	4	-	4	4
Number of Companies	-	5	1	2	3	-
Capital Raised	2	2	1	-	3	-
PER Ratio	-	-	2	-	2	5
Gross Dividend Yield	-	-	2	-	-	2
Foreign Bond Trading	-	-	-	-	-	2
Domestic Bond Trading	-	-	-	-	3	2
Domestic Equity Trading	-	2	1	2	1	-
Foreign Equity Trading	2	2	3	2	2	-
Domestic Equity Capital	-	-	-	-	3	3
Domestic Bond Capital	-	-	2	4	-	1
Totals	**11**	**32**	**30**	**18**	**35**	**41**

This table contains ARCH tests of the stationary times series elements for the six major American stock markets for 21 variables.

7. Summary

From the market's perspective, acceptance of any type of firm is not an efficient policy; even if they are large corporations that will generate massive cash offerings with large commissions due to home

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market bankers. To achieve optimal operating efficiency, the market must choose corporations that align with its political and geographic interests. Cross-listing activity in the world did not begin until the 1980s and 1990s, though once it did it moved quickly, and since then we have seen stock markets merge, and even currency unions begin to form around the world. The Americas is already a highly integrated region, though the results suggest that further integration and congruence is possible with their economies and finance markets. Political and intangible effects are more influential in currency unions, as stock market mergers are oftentimes no more than a corporate business transaction. As such, it is likely that the finance markets in the Americas will merge before there is an outright currency union.

The results show that the assumptions most would commonly have about American exchanges and their companies are correct, although there are minor discrepancies between regression samples. For example, larger companies prefer USA exchanges and energy companies prefer Canadian exchanges, and there has been a decrease of foreign companies listing on USA exchanges since the passage of the Sarbanes-Oxley Act in 2002. The economies of the USA, Canada, and Mexico are highly integrated with each other, and Brazil shows similarities as well. As for finance markets, there is less integration, though the NYSE, Nasdaq, TSX, and BOVESPA show the most similarities. There are several questions, however. Brazil is the largest stock exchange and economy south of Mexico in the western hemisphere. That said, they have only nine total foreign companies listed from all regions of the world; which is rather surprising considering the large amount of foreign enterprises that conduct business in Brazil. Canada, similarly, has 0 fortune 500 USA companies listed. The question then arises ‘Why would this be?’ This is a rather ambiguous question, because only the Brazilian or Canadian exchanges could answer this question truthfully, however, there is a reasonable hypothesis that can be suggested. That is, that the unrestrained influx of private companies onto the home exchange is not helpful to the home country. Some persons in the home country prosper, such as the investment banks who procure the transaction, though the overall welfare of the home country is decidedly hurt, and thus Brazil and Canada may be protecting their economies better than others.

The argument then proceeds that in today’s economy with highly integrated markets, the funds being traded are actually of even distribution from all corners of the world, and so it doesn’t matter in which market a firm actually lists, as the domestic market will be no more subjected to potential loss of capital than the foreign participants. In a perfectly integrated global economy this would be the case, yet such is not reality; in actuality, the domestic market is much more represented than the foreign

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market. In some cases, such as London and New York, there is much more equal dispersion of funds to domestic and foreign participants; however, these are the exception and not the norm. In most markets, allowing foreign entrants in with little restraint leads to a nearly wholly transfer of funds from the home market to the foreign market. The foreign market is now richer and the home market is now poorer. Therefore, Canada has little incentive to allow USA firms to list onto their exchanges, unless their economic motives are closely aligned of course, and Brazilian firms have little reason to allow a lot of foreign firms into their market. Canada and Brazil, though, will attempt to list onto the NYSE and Nasdaq.

7.1 Future Research Areas

As discussed in section three, one primary way this study can be extended is with additional point in time tests, and with in-depth analysis of each individual country's preferences regarding the American exchanges. Additional variables, calculated using the month of listing, and Canada Mexico difference, rolling averages, Canada as the primary instead of the USA, delisted corporations per month. A nested logit model could be developed that tests: after listing in a desired exchange, is there a specific type of capital that the firm on that exchange prefers. For example, is there a preference for equity over debt once the firm has chosen between the Canadian or USA exchanges. Thus, the many different types of offerings available and which markets cater to which type more could be an interesting area of future research. Further, the legal condition of the company as compared to deciding which market to list in could shed light on why a company would choose a particular market. Obtainment of the full compliment of delisted corporations would be beneficial, though marginally so considering the percentage of delisted corporations that was able to be procured, and likely would only be possible by someone with intimate knowledge of the respective stock exchanges, especially the Mexican stock exchange. Also, forecasts could be created based on which variables are significant, though this would be empirically detailed to appropriately analyse all relevant variables, and also considering the highly political nature of currency unions and finance market integration, may not be extremely productive.

The overall trend of cross-listing in foreign markets has seen change over time. Through the mid 1990’s the majority of firms that were listing abroad on USA exchanges were European (Pagano et al., 1999). Now what we are seeing is a shift in regulation and increased cooperation between Canada and the USA, the emergence of Mexico and Brazil as legitimate financing options for foreign firms, and consequently a more equitable distribution of corporations onto exchanges both in the Americas and around the world to that which best suits their needs. The USA financial markets have long been a

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destination where firms could expect to reap large equity offerings with access to a large export market. The firms that typically prefer the USA are large in size, have high foreign sales before cross-listing, and high R&D spending after cross-listing (Posen, 2004). Notwithstanding the money that can be made with cross-listings, acceptance of all these types of firms by the USA, or by any market, is not an efficient business model.

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Table XVI. American Governments' Listings Preferences

		1st	2nd	3rd	4th	5th	6th
N.Amer	**Canada**	Swixx	Frankfurt	Luxembourg	London	Australia	Mexico
	Mexico	Luxembourg	Frankfurt	Swixx			
	USA	Luxembourg	Frankfurt	Swixx	Mexico	London	Australia/Italy
S.Amer	**Argentina**	Luxembourg	Frankfurt	Swixx	EuroNext	London	
	Belize	Frankfurt	Luxembourg				
	Brazil	London	Frankfurt	Luxembourg	Swixx		
	Chile	Frankfurt	Swixx	Luxembourg			
	Colombia	Frankfurt	Luxembourg	Swixx			
	Ecuador	Luxembourg	Frankfurt				
	Guyana	London					
	Peru	London	Luxembourg	Frankfurt	Swixx		
	Uruguay	Luxembourg	Frankfurt	London	Swixx		
	Venezuela	Frankfurt	Luxembourg	Swixx			
Caribb	**Aruba**	Luxembourg					
	Bahamas	Luxembourg	Frankfurt				
	Barbados	Luxembourg	London	Frankfurt			
	Cayman Is.	Frankfurt	London				
	Costa Rica	Luxembourg	Frankfurt				
	Cuba	London					
	Dominican Rep	Luxembourg					
	El Salvador	Luxembourg	Frankfurt				
	Guatemala	Luxembourg	Frankfurt				
	Jamaica	Frankfurt	Luxembourg				
	Panama	Luxembourg	Swixx	Frankfurt			
	St. Vincent Gren	Luxembourg					
	Trinidad Tobago	Luxembourg	London				

This table shows American Governments' Listing Preferences.

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Table XVII. American Governments' Proportional Utilisation of the Global Markets

		Listed Entities	Total Issues	*Region Totals* Entities	*Region Totals* Issues	% Entities	% Issues	*Region Totals* Entities	*Region Totals* Issues
N.Amer	**Canada**	54	361			0.0861	0.0607		
	Mexico	3	62			0.0048	0.0104		
	USA	37	1063	**94**	**1486**	0.0590	0.1789	**0.1499**	**0.2500**
S.Amer	**Argentina**	12	105			0.0191	0.0177		
	Belize	2	4			0.0032	0.0007		
	Brazil	12	87			0.0191	0.0146		
	Chile	4	8			0.0064	0.0013		
	Colombia	4	44			0.0064	0.0074		
	Ecuador	2	8			0.0032	0.0013		
	Guyana	1	2			0.0016	0.0003		
	Peru	5	27			0.0080	0.0045		
	Uruguay	4	41			0.0064	0.0069		
	Venezuela	4	47	**50**	**373**	0.0064	0.0079	**0.0797**	**0.0628**
Caribb	**Aruba**	1	1			0.0016	0.0002		
	Bahamas	2	4			0.0032	0.0007		
	Barbados	3	6			0.0048	0.0010		
	Cayman Is.	3	3			0.0048	0.0005		
	Costa Rica	2	10			0.0032	0.0017		
	Cuba	1	5			0.0016	0.0008		
	Dominican Rep	1	4			0.0016	0.0007		
	El Salvador	2	7			0.0032	0.0012		
	Guatemala	2	4			0.0032	0.0007		
	Jamaica	2	16			0.0032	0.0027		
	Panama	3	23			0.0048	0.0039		
	St. Vincent Gren	1	1			0.0016	0.0002		
	Trinidad Tobago	2	3	**25**	**87**	0.0032	0.0005	**0.0399**	**0.0357**

This table shows American Governments' Proportional Utilisation of the Global Markets.

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Table XVIII. Summary Statistics Foreign Corporations on American Stock Exchanges

		Bovespa	BMV	BSX	NYSE	NYSE/CAN
					non Can	Can firms
MVE	**mean**	22390.82	92129.82	5468.05	10155.75	3410.99
	median	782.38	25460.33	889.09	2638.46	1773.00
Assets	**mean**	12048.79	108405.56	31412.54	37388.25	15722.43
	median	699.58	19763.00	1372.86	3443.82	1778.74
Sales	**mean**	3419.13	28515.33	4074.45	7256.13	2619.53
	median	261.93	13317.00	224.65	1424.00	985.97
NI	**mean**	357.28	2565.64	180.59	566.02	224.14
	median	61.14	1106.00	25.55	148.67	73.00
ROA	**mean**	0.06	0.26	-0.14	0.26	0.04
	median	0.05	0.04	0.02	0.09	0.01
BTM	**mean**	0.65	0.50	0.84	0.71	0.71
	median	0.67	0.40	0.93	0.49	0.62
Diff_Trade	**mean**	0.00	-0.72	8.11	0.06	-0.52
	median	0.02	0.04	8.22	0.02	-0.56
Diff_Liquid.	**mean**	27.91	49.06	0.64	0.27	0.10
	median	26.60	43.40	0.63	0.13	0.15
Diff_IdxRet.	**mean**	-27.54	-18.54	-0.12	0.03	-0.01
	median	-36.50	-19.20	-0.09	0.00	0.05
Diff_Ncomp.	**mean**	-8.23	-22.60	-0.05	0.00	-0.03
	median	-12.00	-7.00	-0.07	0.00	0.00
Diff_ShrVl.	**mean**	-61.57	-4.80	-0.55	0.00	0.01
	median	-89.00	-21.90	-0.45	0.04	0.01
	Big5	0.90	0.99	0.69	0.95	0.96
	SOX	0.90	0.99	0.86	0.26	0.38
	English	0.40	0.69	0.50	0.25	1.00
	Energy	0.00	0.18	0.06	0.17	0.42
	Tech	0.20	0.35	0.11	0.32	0.17
	Non/Tech	0.80	0.46	0.83	0.52	0.41
	Africa	0.00	0.01	0.00	0.02	0.00
	UKTerr	0.40	0.00	0.06	0.07	0.00
	S/C Amer.	0.20	0.12	0.03	0.25	0.00
	Asia/Aust.	0.00	0.05	0.17	0.29	0.00
	Europe	0.40	0.20	0.28	0.37	0.00
	Caribbean	0.40	0.00	0.06	0.08	0.00
	Israel	0.00	0.00	0.00	0.01	0.00
	China	0.00	0.02	0.17	0.14	0.00
	UK	0.00	0.06	0.14	0.12	0.00
	Emerging	0.20	0.13	0.08	0.44	0.00
	C. Law	0.80	0.97	0.78	0.65	1.00
	Tax Haven	0.60	0.04	0.25	0.13	0.00

These descriptive statistics indicate relative relationships between the firms. This table presents descriptive statistics for the sample of 1,994 foreign listings on American stock exchanges as of January 2010.

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Table XVIII. Summary Statistics Foreign Corporations on American Stock Exchanges

		NASDAQ non Can	NASDAQ/CAN Can firms	TSX non US	TSX/US US firms	TVSX non US	TVSX/US US firms
MVE	**mean**	2994.49	768.01	545.48	817.69	128.72	20.78
	median	218.55	118.84	107.35	90.97	4.18	3.68
Assets	**mean**	1498.73	600.64	781.64	896.55	12.47	25.27
	median	118.90	49.52	57.75	41.86	3.50	2.64
Sales	**mean**	842.13	190.04	710.03	514.14	4.46	24.26
	median	55.10	21.57	1.25	5.51	0.00	0.02
NI	**mean**	27.56	1.38	12.56	-27.90	-0.38	-1.17
	median	2.20	7.04	-2.20	-2.65	-0.25	-0.31
ROA	**mean**	-0.05	-0.07	-0.11	-0.19	-0.28	-0.94
	median	0.02	0.07	-0.05	-0.07	-0.07	-0.19
BTM	**mean**	0.52	0.48	0.74	0.57	0.69	0.66
	median	0.35	0.05	0.45	0.39	0.46	0.40
Diff_Trade	**mean**	0.04	-0.44	0.02	5.08	0.04	5.71
	median	0.01	-0.49	0.00	5.28	0.01	5.50
Diff_Liquid.	**mean**	2.32	2.31	-0.34	-0.35	-1.36	0.03
	median	0.05	2.11	-0.30	-0.41	-1.90	-0.30
Diff_IdxRet.	**mean**	0.04	0.09	0.01	0.02	-0.04	0.03
	median	0.03	0.07	0.01	0.02	0.01	0.03
Diff_Ncomp.	**mean**	-0.04	-0.06	0.02	-0.01	0.01	-0.02
	median	-0.05	-0.07	0.03	0.00	0.04	-0.03
Diff_ShrVl.	**mean**	0.09	0.20	-0.05	0.06	-0.06	0.10
	median	0.00	0.14	-0.06	0.01	-0.01	0.04
	Big5	0.88	0.85	0.80	0.64	0.43	0.29
	SOX	0.30	0.12	0.84	0.68	0.58	0.68
	English	0.45	1.00	0.84	1.00	0.63	1.00
	Energy	0.07	0.14	0.85	0.58	0.70	0.65
	Tech	0.65	0.61	0.06	0.24	0.05	0.24
	Non/Tech	0.29	0.25	0.10	0.17	0.25	0.11
	Africa	0.01	0.00	0.11	0.00	0.05	0.00
	UKTerr	0.09	0.00	0.16	0.00	0.18	0.00
	S/C Amer.	0.02	0.00	0.05	0.00	0.05	0.00
	Asia/Aust.	0.52	0.00	0.42	0.00	0.40	0.00
	Europe	0.35	0.00	0.32	0.00	0.33	0.00
	Caribbean	0.10	0.00	0.11	0.00	0.18	0.00
	Israel	0.22	0.00	0.00	0.00	0.00	0.00
	China	0.18	0.00	0.06	0.00	0.23	0.00
	UK	0.13	0.00	0.20	0.00	0.28	0.00
	Emerging	0.29	0.00	0.27	0.00	0.38	0.00
	C. Law	0.76	1.00	0.91	1.00	0.65	1.00
	Tax Haven	0.15	0.00	0.20	0.00	0.30	0.00

This table is a continuation of the summary statistics.

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Table XIX. Summary Statistics American Stock Markets

Variable	BMV	BOVESPA	BSX	Nasdaq	NYSE	TSX
Index Levels	11152.26	22091.59	2557.21	1744.47	5569.68	7713.12
Value of Share Trading	60227.87	203268.52	100076.8	10958177.58	10730810.63	589085.1
Equity Market Cap	180534.89	390985.47	1876.37	2375388.48	9262567.75	854703.7
Value of Bond Trading	3457.5	499.05	0.96	44.36	3043.65	2013.37
Bond MarketCap	24080.35	16165.43	251.58	417.03	1748375.95	4500.44
Number of Companies	259.38	469.71	50.75	4041.95	2281.9	2347
StockMarket Importance	30.77	41.61	80.53	22.9	90.08	95.86
Capital Raised	1.5	6.61	5.61	0.43	6.8	11.81
Turnover Velocity	33.13	45.31	5.65	364	93.63	59.11
P/E Ratio	16.09	17.03	9.44	61.07	29.16	39.74
Gross Dividend Yield	1.89	5.35	3.9	1.75	2.45	2.29
Total Return	28.65	187.85	11.66	16.96	10.35	9.4
Index Performance	26.75	179.13	8.75	14.92	8.71	8.01
Foreign Bond Trading	0	0	0	16.25	88.5	0
Domestic Bond Trading	3457.5	488.52	0.96	28.09	2959.95	2013.37
Foreign Equity Trading	3488.57	628.2	99903.88	773277.54	1413346.5	3612.22
Domestic Equity Trading	56387.23	202614.18	172.93	10080633.47	9451515.15	584293.79
Foreign Equity Capital	0	0	0	0	0	0
Domestic Equity Capital	1483.68	12813.53	5.82	35524.15	132362.45	22815.89
Foreign Bond Capital	0	0	17.47	0	47085.41	0
Domestic Bond Capital	1603.56	7390.26	17.19	0	1690306.33	1323.1

This table shows Summary Statistics of American Stock Markets.

Table XX. Summary Statistics American Economies

Variable	Brazil	Canada	Mexico	USA
GDP USA	607.62	681.9	468.87	7898.76
GNI	551.93	655.48	415.58	7853.71
Output Gap	0.46	-0.14	1.45	-1.03
GDP Change	2.64	2.5	2.54	2.7
GDP PPP	1052.88	717.03	833.33	7899.1
GDP PPP %World	3.09	2.08	2.43	22.55
Investment	19.69	20.75	19.28	19.44
FDI	11.95	19.55	10.68	99.81
FDI %GDP	1.67	2.25	1.96	1.11
Gross Savings	17.97	20.6	21.23	15.55
Inflation	396.59	3.6	31.57	3.71
Employment	6.76	8.66	3.8	6.19
Population	157.04	28.97	89.47	265.64
Govt. Debt %GDP	33.01	76.16	36.07	61.26
Gross External Debt	163.85	101.81	133.85	478.2
CAB	-7.97	-3.06	-9.16	-274.25
CAB %GDP	-1.72	-0.95	-1.96	-2.77
Poverty	17.39	12.76	20.26	13.34
IRShort	27.12	7.18	27.36	5.83
IRLong	33.1	7.89	26.98	7.25
Exchange Rate	2288.32	0.87	369.58	1.54

This table shows Summary Statistics for American Economies.

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Table XXI. Annual Listings and Delistings of Foreign Corporations in the Americas

	Bermuda	Brazil	Mexico	Nasdaq	NYSE	TSX
1995 Foreign Firms		1	0	361	246	62
Foreign Delistings		0	0	N/A	5	8
1996 Foreign Firms		1	0	389	304	58
Foreign Delistings		0	0	N/A	5	12
1997 Foreign Firms		1	4	500	355	58
Foreign Delistings		0	0	30	12	7
1998 Foreign Firms		1	4	441	391	49
Foreign Delistings		0	0	61	9	12
1999 Foreign Firms	23	1	4	429	405	47
Foreign Delistings	2	0	0	N/A	19	7
2000 Foreign Firms	25	3	4	488	433	42
Foreign Delistings	2	0	0	N/A	35	7
2001 Foreign Firms	28	3	5	445	461	38
Foreign Delistings	3	0	0	N/A	24	8
2002 Foreign Firms	32	2	6	381	472	35
Foreign Delistings	1	1	0	N/A	24	10
2003 Foreign Firms	33	2	79	343	466	38
Foreign Delistings	2	0	4	N/A	22	3
2004 Foreign Firms	37	1	175	340	459	33
Foreign Delistings	2	0	0	N/A	27	9
2005 Foreign Firms	37	1	175	336	458	33
Foreign Delistings	0	0	0	N/A	26	5
2006 Foreign Firms	38	3	203	321	451	52
Foreign Delistings	0	0	0	N/A	30	4
2007 Foreign Firms	38	3	203	319	451	52
Foreign Delistings	7	0	20	45	72	10
2008 Foreign Firms	36	9	248	296	415	86
Foreign Delistings	4	0	33	27	21	6
2009 Foreign Firms	35	9	247	294	498	83
Total Delistings	**23**	**1**	**57**	**163**	**331**	**108**

This table shows Annual Listings and Delistings of Foreign Corporations in the Americas.

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Table XXII. Financial Corporations Listing Debt on the Mexican BMV since 2006

Issuer	Listing Date	Issues	Maturity Range	Amount Raised
Goldman Sachs	11/2004	**13**	2016-2037	899.1
AIG	4/2004	2	2016-2017	304
Barclays Bank	2/2007	1	2022	130
BNP Paribas	6/2007	2	2010-2017	37.2
BMW USA Capital	6/2007	3	2011-2013	90.40
Calyon	11/2006	**5**	2010-2016	116.72
Commonwealth Bank Australia	8/2006	2	2015-2022	168.00
Colverie Public Limited	2/2008	2	2018-2040	20.14
Credit Suisse	11/2003	1	2010	17.00
Credit Suisse USA	5/2006	1	2016	72.00
Deutsche Bank	11/2003	**7**	2011-2033	343.28
General Electric Capital	9/2007	2	2018-2022	449.60
Bear Stearns	6/2007	1	2017	80.00
HSBC Bank	11/2007	1	2010	4.00
ING Bank NV	4/2006	1	2013	88.00
JP Morgan	5/2003	**10**	2010-2027	717.25
Kaupthing Bank HF	10/2007	1	2012	184.00
KBC Internationale NV	7/2007	1	2010	4.00
Kommunalbanken AS	10/2007	1	2014	80.00
Export/Import Bank Korea	10/2007	2	2013-2017	88.00
Lehman Brothers	11/2006	1	2013	240.00
Merrill Lynch	7/2004	**9**	2012-2037	1050.40
Met Life	8/2006	1	2016	72.00
Monumental Global Funding	3/2006	1	2016	80.00
Morgan Stanley	11/2004	4	2016-2027	752.00
Nordic Investment Bank	3/2006	1	2011	80.00
Rabobank Netherlands	10/2006	2	2015-2017	120.00
Santander International	7/2007	3	2017-2022	462.16
Sigmun Finance	11/2009	1	2029	24.00
Societe General	11/2006	**6**	2010-2014	79.62
SLM Corporation	8/2006	1	2016	80.00
Toyota Motor Credit	3/2006	3	2014-2017	300.00
FideiComiso	5/2007	4	2018-2037	-
Bank of New York Mellon	2/2003	**28**	2016-2042	-
Bank of America	11/2004	1	2020	24.00

This table shows Financial Corporations Listing Debt on the Mexican BMV since 2006.

Table XXIII. Financial Corporations Listing Equity on the Mexican BMV since 2006

Issuer	Listing Date	Price	Shares(millions)	Market Cap	USA Dollars
Goldman Sachs	11/2004	2086.10	496.1	0.00	81553.52
AIG	4/2004	368.00	130.447	0.00	3782.86
Credit Suisse	11/2003	633.70	1189.98	754090.33	59423.98
Deutsche Bank	11/2003	934.10	581.85	543509.82	42829.77
JP Morgan	5/2003	553.70	3426.63	1897326.14	149513.49
Morgan Stanley	11/2004	395.00	1084.70	428456.50	33763.32
Bank of America	10/2004	202.00	4049.06	817910.73	64453.17

This table shows Financial Corporations Listing Equity on the Mexican BMV since 2006.

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Table XXIV. American Corporations' Listings Around the Globe

Cayman Islands	Financial Services Companies	Other Companies	
EuroNext	2	0	
Hong Kong	70	592	
London	17	27	
Singapore	2	15	
Tokyo	1	1	
			Total = 727
British Virgin Islands	**F/S**	**Other**	
Austria	0	1	
London	5	32	
Luxembourg	0	1	
Maritius	1	0	
Singapore	0	2	
Swixx	0	2	
			Total = 44
Argentina	**F/S**	**Other**	
London	0	2	
Luxembourg	0	4	
Spain	2	0	
Swixx	0	1	
			Total = 9
Belize	**F/S**	**Other**	
London	3	0	
			Total = 3
Chile	**F/S**	**Other**	
London	1	0	
Spain	1	2	
			Total = 5
Netherlands Antilles	**F/S**	**Other**	
Austria	2	1	
EuroNext	2	2	
Israel	0	1	
London	2	1	
Luxembourg	1	0	
Swixx	1	1	
			Total = 14
Puerto Rico	**F/S**	**Other**	
Spain	1	0	
			Total = 1

This table shows American Corporations' Listings Around the Globe.

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Table XXIV. American Corporations' Listings Around the Globe

USA	Financial Services Companies	Other Companies	
Australia	0	4	
Austria	0	1	
EuroNext	3	30	
Frankfurt	0	19	
Irish	1	0	
Israel	0	3	
Japan	5	1	
Korea	0	2	
London	7	51	
Luxembourg	0	1	
New Zealand	2	0	
Nordic	0	0	
Singapore	0	3	
Switzerland	1	27	
			Total = 161
Mexico	**F/S**	**Other**	
Irish	0	1	
Spain	3	8	
			Total = 12
Canada	**F/S**	**Other**	
Australia	0	2	
Australia	0	2	
EuroNext	2	1	
Hong Kong	0	1	
Johannesburg	0	8	
London	1	37	
New Zealand	0	2	
Swixx	1	1	
			Total = 58
Bermuda	**F/S**	**Other**	
EuroNext	1	1	
Hong Kong	82	387	
Johannesburg	0	2	
London	11	33	
Luxembourg	2	4	
Singapore	14	95	
			Total = 632
Brazil	**F/S**	**Other**	
EuroNext	0	1	
Luxembourg	0	2	
Spain	3	12	
			Total = 18

This table shows American Corporations' Listings Around the Globe.

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Table XXV. Country Dispersion on American Exchanges

Country	NYSE	NASDAQ	BMV	BOVESPA	TSX	TVSX	BSX	Total
Argentina	17	4	2	2	0	0	0	**25**
Anguilla	0	0	0	0	0	1	2	**3**
Australia	13	16	2	0	29	5	3	**68**
Austria	1	0	0	0	0	0	0	**1**
Bahamas	2	1	0	0	0	0	1	**4**
Belgium	2	2	1	0	0	0	0	**5**
Belize	0	1	0	0	0	0	1	**2**
Bermuda	32	11	0	4	3	2	N/A	**52**
Brazil	48	2	34	N/A	1	0	0	**85**
British Virgin Is.	1	18	0	0	4	1	2	**26**
Canada	132	155	11	0	N/A	N/A	0	**298**
Cayman Is.	3	12	0	0	2	0	1	**18**
Channel Is.	1	1	0	0	5	1	0	**8**
Chile	27	0	0	0	0	1	0	**28**
China	58	68	4	0	4	5	0	**139**
Colombia	3	0	0	0	2	0	0	**5**
Croatia	0	0	0	0	0	0	1	**1**
Cyprus	0	1	0	0	0	0	0	**1**
Denmark	2	2	0	0	0	0	0	**4**
Dominican Rep.	1	0	0	0	0	0	0	**1**
Finland	4	0	1	0	0	0	0	**5**
France	20	13	11	0	2	0	0	**46**
Germany	16	16	9	0	0	0	1	**42**
Ghana	1	0	0	0	0	0	0	**1**
Greece	10	6	0	0	0	0	1	**17**
Hong Kong	10	10	1	0	1	3	7	**32**
Hungary	1	0	0	0	0	0	0	**1**
India	13	4	0	0	0	0	0	**17**
Indonesia	3	1	0	0	0	0	0	**4**
Ireland	9	13	0	0	0	0	1	**23**
Isle of Man	0	0	0	0	0	0	1	**1**
Israel	6	102	0	0	0	0	0	**108**
Italy	12	2	2	0	0	0	0	**16**
Japan	20	14	7	0	0	0	0	**41**
Korea	11	7	1	0	0	0	1	**20**
Liberia	2	1	0	0	0	0	0	**3**
Luxembourg	4	7	3	0	0	0	0	**14**
Marshall Is.	3	0	0	0	0	0	0	**3**
Mexico	35	5	N/A	0	0	0	0	**40**
Netherlands	23	17	4	1	0	0	0	**45**
Netherlands An.	0	3	0	0	0	0	0	**3**
New Zealand	2	1	0	0	0	1	0	**4**

This table represents the home country distribution of firms listed on the dominant American exchanges. The distribution is accurate as of December 2008.

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Table XXV. Country Dispersion on American Exchanges

Country	NYSE	NASDAQ	BMV	BOVESPA	TSX	TVSX	BSX	Total
Nigeria	0	0	0	0	0	0	1	**1**
Norway	5	3	0	0	0	0	0	**8**
Panama	4	0	1	0	0	0	0	**5**
Papa New Guin.	0	1	0	0	2	0	0	**3**
Peru	4	0	0	0	1	1	0	**6**
Philippines	1	2	0	0	0	0	0	**3**
Poland	0	2	0	0	0	0	0	**2**
Portugal	5	0	1	0	0	1	0	**7**
Puerto Rico	5	1	0	0	0	0	0	**6**
Russia	6	0	0	0	0	0	0	**6**
Singapore	1	9	0	0	0	1	0	**11**
South Africa	6	5	2	0	9	0	2	**24**
Spain	6	2	3	1	0	0	0	**12**
Sweden	2	12	1	0	1	0	1	**17**
Switzerland	13	5	8	2	2	0	1	**31**
Taiwan	6	6	1	0	0	1	1	**15**
Tanzania	0	0	0	0	0	2	0	**2**
Trinidad	0	0	0	0	0	2	0	**2**
Turkey	1	0	0	0	0	0	0	**1**
UK	72	68	20	0	17	11	7	**195**
USA	N/A	N/A	180	0	104	66	22	**372**
Venezuela	4	0	0	0	0	0	0	**4**
USA Virgin Is.	0	0	0	0	0	1	0	**1**
Total	**689**	**632**	**310**	**10**	**189**	**106**	**58**	**1994**

This table represents the home country distribution of firms listed on the dominant American exchanges. The distribution is accurate as of December 2010.

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References

Aggarwal, R. and Kyaw, N. (2004) Equity Market Integration in the NAFTA Region: Evidence from Unit Root and Cointegration Tests, International Review of Financial Analysis 14 (4), 393-406, 2005.

Canarella, G., Miller, S., and Pollard, S. (2009) Dynamic Stock Market Interactions between the Canadian, Mexican, and the United States Markets: The NAFTA Experience, University of Connecticut Economics Working Paper 20084.

DHaliwal, D. (1983) Exchange-listing effects on a firm's cost of equity capital, Journal of Business Research 11, 139-152.

Eichengreen, B. (1991) Is Europe an Optimum Currency Area?, NBER Working Paper No. W3579

Faff, R. and Mittoo, U. (2000) Capital Market Integration and Industrial Structure: The Case of Australia, Canada and The United States, Monash University - Department of Accounting and Finance, RMIT Working Paper 200037.

Georgieva, D., and Lee, W. (2007) Impact of Sarbanes-Oxley Act on Cross-Listing, Unpublished Working Paper, University of Arkansas.

Hansen, B., Pownall, G., and Wang, X. (2008) The robustness of the Sarbanes Oxley effect on the USA capital market, Unpublished Working Paper, University of New Hampshire.

Houston, C. and Jones, B. (2002) Canadian Manager Perceptions of the US Exchange Listings: Recent Evidence, Journal of International Financial Management and Accounting, Vol. 13, 235-253.

Jordan, C. (2006) The Chameleon Effect: Beyond the Bonding Hypothesis for Cross-Listed Securities, Journal of Law & Business, **2006**, 3 (1), pp. 37 – 89.

Electronic copy available at: https://ssrn.com/abstract=3091405

Lang, M. (2008) Discussion of regulation and bonding: The Sarbanes-Oxley Act and the flow of international listings, Journal of Accounting Research 46, 427-433.

Oran, A. (1999) The Effects of Cross-Listing of Non-US Firms on the New York Stock Exchange, Texas Tech University, Unpublished Working Paper.

Pagano, M., Röell, A., and Zechner, J. (1999) The geography of equity listing: Why do European companies list abroad? Unpublished Working Paper, University of Naples.

Piotroski, J., and Srinivasan, S. (2006) Regulation and bonding: The Sarbanes-Oxley Act and the flow of international listings, Journal of Accounting Research 46 (2) 383-425.

Rockoff, H. (2000) How Long Did It Take the United States to Become an Optimal Currency Area?, Newark College of Arts & Sciences - Department of Economics, NBER Historical Working Paper No. 124.

Sabherwal, S. and Eun, C. (2003) Price Discovery for Cross-Listed Stocks, Journal Of Investment Management, Vol. 1, No. 4.

Saudagaran, S. (1988) An empirical study selected factors influencing the decision, Journal of International Business Studies 19, 101-128.

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Appendices, For Online Publication

Appendix I. Americas Economy Unit Roots

Brasil

Variable Tested	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	Z Value
GDP USA	-0.95	-4.34	-3.58	-3.23	Z(t) = 0.9508
GNI	-1.38	-4.34	-3.58	-3.23	Z(t) = 0.8660
GDP PPP	0.22	-4.34	-3.58	-3.23	Z(t) = 0.9959
GDP PPP %World	-2.98	-4.34	-3.58	-3.23	Z(t) = 0.1377
FDI	-1.49	-3.72	-2.99	-2.63	Z(t) = 0.5387
FDI %GDP	-1.37	-3.72	-2.99	-2.63	Z(t) = 0.5988
Inflation	-2.97	-4.34	-3.58	-3.23	Z(t) = 0.1423
Employment	-1.68	-4.34	-3.58	-3.23	Z(t) = 0.7599
Population	0.39	-4.34	-3.58	-3.23	Z(t) = 0.9966
Gross External Debt	-1.43	-4.34	-3.58	-3.23	Z(t) = 0.8512
Govt. Debt %GDP	-1.38	-3.72	-2.99	-2.63	Z(t) = 0.5912
CAB	-1.79	-3.72	-2.99	-2.63	Z(t) = 0.3856
Poverty	0.01	-3.72	-2.99	-2.63	Z(t) = 0.9594
IRShort	-2	-3.72	-2.99	-2.63	Z(t) = 0.2861
IRLong	-1.31	-3.72	-2.99	-2.63	Z(t) = 0.6250
Output Gap	-4.46	-3.72	-2.99	-2.63	Z(t) = 0.0002
Investment	-3.26	-3.72	-2.99	-2.63	Z(t) = 0.0168
Gross Savings	-2.62	-3.72	-2.99	-2.63	Z(t) = 0.0896
CAB %GDP	-2.66	-3.72	-2.99	-2.63	Z(t) = 0.0813
Exchange Rate	-5.03	-3.72	-2.99	-2.63	Z(t) = 0.0000
GDP Change	-5.13	-3.72	-2.99	-2.63	Z(t) = 0.0000

Canada

Variable Tested	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	Z Value
GDP USA	-1.17	-4.34	-3.58	-3.23	Z(t) = 0.9174
GNI	-1.23	-4.34	-3.58	-3.23	Z(t) = 0.9047
GDP PPP	-1.16	-4.34	-3.58	-3.23	Z(t) = 0.9194
GDP PPP %World	-0.87	-4.34	-3.58	-3.23	Z(t) = 0.9597
Investment	-2.54	-3.72	-2.99	-2.63	Z(t) = 0.1066
FDI	-1.26	-3.72	-2.99	-2.63	Z(t) = 0.6470
FDI %GDP	-2.26	-3.72	-2.99	-2.63	Z(t) = 0.1849
Gross Savings	-1.64	-3.72	-2.99	-2.63	Z(t) = 0.4611
Inflation	-2.18	-3.72	-2.99	-2.63	Z(t) = 0.2139
Employment	-1.71	-3.72	-2.99	-2.63	Z(t) = 0.4284
Population	-1.23	-4.34	-3.58	-3.23	Z(t) = 0.9035
Govt. Debt %GDP	-2.11	-3.72	-2.99	-2.63	Z(t) = 0.2423
CAB	-1.35	-3.72	-2.99	-2.63	Z(t) = 0.6072
CAB %GDP	-1.84	-3.72	-2.99	-2.63	Z(t) = 0.3590
Poverty	-1.6	-3.72	-2.99	-2.63	Z(t) = 0.4836
IRShort	-1.62	-3.72	-2.99	-2.63	Z(t) = 0.4723
IRLong	-1.02	-3.72	-2.99	-2.63	Z(t) = 0.7460
Exchange Rate	-1.4	-3.72	-2.99	-2.63	Z(t) = 0.5844
GDP Change	-3.07	-3.72	-2.99	-2.63	Z(t) = 0.0292
Output Gap	-2.75	-3.72	-2.99	-2.63	Z(t) = 0.0651
Gross External Debt	-2.48	-3.72	-2.99	-2.63	Z(t) = 0.0242

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Appendix I. Americas Economy Unit Roots

Mexico

Variable Tested	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	Z Value
GDP USA	-2.39	-4.34	-3.58	-3.23	Z(t) = 0.3850
GNI	-2.06	-4.34	-3.58	-3.23	Z(t) = 0.5705
GDP PPP	-1.69	-4.34	-3.58	-3.23	Z(t) = 0.7568
GDP PPP %World	-1.36	-3.72	-2.99	-2.63	Z(t) = 0.5993
Investment	-2.47	-3.72	-2.99	-2.63	Z(t) = 0.1242
FDI	-1.22	-3.72	-2.99	-2.63	Z(t) = 0.6666
FDI %GDP	-2.11	-3.72	-2.99	-2.63	Z(t) = 0.2389
Gross Savings	-2.48	-3.72	-2.99	-2.63	Z(t) = 0.1213
Inflation	-1.85	-3.72	-2.99	-2.63	Z(t) = 0.3563
Employment	-2.49	-3.72	-2.99	-2.63	Z(t) = 0.1179
Population	0.74	-4.34	-3.58	-3.23	Z(t) = 1.0000
Gross External Debt	-1.89	-3.72	-2.99	-2.63	Z(t) = 0.3385
Govt. Debt %GDP	-1.5	-3.72	-2.99	-2.63	Z(t) = 0.5360
CAB	-2.48	-3.72	-2.99	-2.63	Z(t) = 0.1211
Poverty	-1.91	-3.72	-2.99	-2.63	Z(t) = 0.3298
IRShort	-1.33	-3.72	-2.99	-2.63	Z(t) = 0.6152
IRLong	-1.47	-3.72	-2.99	-2.63	Z(t) = 0.5483
Exchange Rate	-1.73	-3.72	-2.99	-2.63	Z(t) = 0.4150
GDP Change	-4.1	-3.72	-2.99	-2.63	Z(t) = 0.0010
Output Gap	-3.49	-3.72	-2.99	-2.63	Z(t) = 0.0082
CAB %GDP	-2.82	-3.72	-2.99	-2.63	Z(t) = 0.0555

USA

Variable Tested	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	Z Value
GDP USA	-1.53	-4.34	-3.58	-3.23	Z(t) = 0.8202
GNI	-1.52	-4.34	-3.58	-3.23	Z(t) = 0.8238
Output Gap	-2.14	-3.72	-2.99	-2.63	Z(t) = 0.2275
GDP PPP	-1.52	-4.34	-3.58	-3.23	Z(t) = 0.8215
GDP PPP %World	1.72	-3.72	-2.99	-2.63	Z(t) = 0.9982
Investment	-1.27	-3.72	-2.99	-2.63	Z(t) = 0.6442
FDI	-1.57	-3.72	-2.99	-2.63	Z(t) = 0.4991
FDI %GDP	-2.06	-3.72	-2.99	-2.63	Z(t) = 0.2614
Gross Savings	-1	-3.72	-2.99	-2.63	Z(t) = 0.7552
Employment	-1.36	-3.72	-2.99	-2.63	Z(t) = 0.6014
Population	-3.02	-4.34	-3.58	-3.23	Z(t) = 0.1271
Govt. Debt %GDP	-0.49	-3.72	-2.99	-2.63	Z(t) = 0.8947
CAB	0.98	-3.72	-2.99	-2.63	Z(t) = 0.9940
CAB %GDP	-0.73	-3.72	-2.99	-2.63	Z(t) = 0.8382
Poverty	-1.48	-3.72	-2.99	-2.63	Z(t) = 0.5428
IRShort	-1.8	-3.72	-2.99	-2.63	Z(t) = 0.3820
IRLong	-1.04	-3.72	-2.99	-2.63	Z(t) = 0.7386
Exchange Rate	-1.09	-3.72	-2.99	-2.63	Z(t) = 0.7183
GDP Change	-3.14	-3.72	-2.99	-2.63	Z(t) = 0.0235
Inflation	-5.83	-3.72	-2.99	-2.63	Z(t) = 0.0000
Gross External Debt	-3.19	-3.72	-2.99	-2.63	Z(t) = 0.0491

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Appendix II. Americas Economy ARCH Results

Brasil

		Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
GDP USA	GNI	0.82	0.14	5.99	0	0.55	1.09
	GDP PPP	0.76	0.13	5.91	0	0.51	1.01
	GDP PPP %World	-181.01	86.24	-2.1	0.04	-350.03	-11.99
	FDI	5.34	2.48	2.15	0.03	0.48	10.21
	FDI %GDP	-59.7	14.02	-4.26	0	-87.17	-32.23
	Population	-10.64	3.48	-3.06	0	-17.45	-3.83
	Poverty	11.47	3.82	3	0	3.99	18.95
	IRLong	1.95	0.69	2.82	0.01	0.6	3.3
GNI	GDP USA	0.89	0.16	5.43	0	0.57	1.21
	GDP PPP	-0.56	0.22	-2.5	0.01	-1	-0.12
	Employment	14.63	7.5	1.95	0.05	-0.07	29.34
	Poverty	-11.47	5.25	-2.18	0.03	-21.76	-1.18
	IRLong	-1.45	0.76	-1.89	0.06	-2.95	0.05
GDP PPP	GDP USA	0.86	0.28	3.05	0	0.31	1.41
	Population	17.59	2.43	7.23	0	12.83	22.36
	Poverty	-14.92	4.98	-3	0	-24.67	-5.16
GDP PPP %World	GDP PPP	0	0	2.33	0.02	0	0
	Population	-0.04	0.01	-3.99	0	-0.05	-0.02
	Govt. Debt %GDP	-0.01	0	-2.06	0.04	-0.02	0
	Poverty	0.03	0.01	1.95	0.05	0	0.06
FDI	FDI%	7.46	1.58	4.72	0	4.36	10.55
FDI%	GDP USA	-0.01	0	-1.88	0.06	-0.02	0
	FDI	0.11	0.01	9	0	0.08	0.13
Employment	GNI	0.01	0.01	2.08	0.04	0	0.03
Population	GDP PPP	0.04	0.02	2.55	0.01	0.01	0.08
	Govt. Debt %GDP	-0.19	0.08	-2.4	0.02	-0.35	-0.04
Gross External Debt	GDP PPP	-0.14	0.07	-1.98	0.05	-0.28	0
	GDP PPP %World	72.41	37.75	1.92	0.06	-1.57	146.4
	Population	5.19	1.17	4.42	0	2.89	7.49
	Govt. Debt %GDP	1.26	0.43	2.92	0	0.42	2.11
	CAB	-0.67	0.35	-1.92	0.06	-1.35	0.02
Govt. Debt %GDP	GDP PPP	0.1	0.05	1.88	0.06	0	0.19
	GDP PPP %World	-49.1	19.86	-2.47	0.01	-88.03	-10.17
	Population	-2.44	0.63	-3.86	0	-3.68	-1.2
	Gross External Debt	0.3	0.15	2	0.05	0.01	0.59
Poverty	GDP USA	0.03	0.01	3.36	0	0.01	0.05
	GNI	-0.03	0.01	-2.58	0.01	-0.05	-0.01
	GDP PPP	-0.04	0.01	-4.15	0	-0.06	-0.02
	GDP PPP %World	12.48	5.03	2.48	0.01	2.62	22.34
	Population	0.6	0.17	3.51	0	0.27	0.94
IRShort	GDP USA	-0.09	0.05	-1.75	0.08	-0.2	0.01
	FDI %GDP	-9.96	5.55	-1.8	0.07	-20.84	0.91
	Inflation	0.01	0	2.73	0.01	0	0.01
	IRLong	0.63	0.1	6.44	0	0.44	0.82
IRLong	GDP USA	0.17	0.07	2.36	0.02	0.03	0.32
	GDP PPP	-0.16	0.08	-2.03	0.04	-0.31	-0.01
	FDI %GDP	12.02	4.98	2.42	0.02	2.27	21.77
	IRShort	0.97	0.42	2.32	0.02	0.15	1.78

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Appendix II. Americas Economy ARCH Results

Canada

		Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
GDP USA	GNI	1.05	0.2	5.18	0	0.65	1.44
GNI	GDP USA	0.66	0.14	4.73	0	0.39	0.93
GDP PPP	Population	106	8.73	12.15	0	88.89	123.1
	Govt. Debt %GDP	-3.38	0.6	-5.62	0	-4.57	-2.2
GDP PPP %World	GNI	0	0	-1.93	0.05	0	7.99E-006
	GDP PPP	0	0	2.28	0.02	0	0
	CAB	0	0	1.89	0.06	0	0
	Population	-0.06	0.03	-1.77	0.08	-0.12	0.01
	Poverty	-0.02	0.01	-2.68	0.01	-0.03	0
Investment	Gross Savings	0.71	0.15	4.76	0	0.42	1
	CAB %GDP	-0.75	0.26	-2.91	0	-1.25	-0.24
FDI	FDI %GDP	7.8	1.17	6.66	0	5.51	10.1
FDI%	FDI	0.12	0.01	13.84	0	0.1	0.13
Gross Savings	Investment	1.01	0.25	3.97	0	0.51	1.51
	CAB %GDP	0.9	0.21	4.18	0	0.48	1.32
Inflation	IRShort	0.42	0.25	1.69	0.09	-0.07	0.9
Employment	Poverty	0.33	0.14	2.34	0.02	0.05	0.6
	Exchange Rate	-3.03	0.98	-3.08	0	-4.96	-1.1
Population	GDP PPP	0.01	0	12.16	0	0.01	0.01
	FDI	-0.02	0.01	-1.88	0.06	-0.03	0
	Govt. Debt %GDP	0.03	0	7.2	0	0.02	0.04
	Exchange Rate	-0.58	0.33	-1.74	0.08	-1.23	0.07
Govt. Debt %GDP	GDP PPP	-0.22	0.08	-2.77	0.01	-0.37	-0.06
	FDI	0.4	0.23	1.69	0.09	-0.06	0.85
	Inflation	-1.7	0.72	-2.38	0.02	-3.11	-0.3
	Population	24.68	5.38	4.59	0	14.13	35.23
	Exchange Rate	20.06	9.68	2.07	0.04	1.08	39.03
CAB	GDP PPP %World	138.23	81.36	1.7	0.09	-21.24	297.7
	CAB %GDP	7.21	3.82	1.89	0.06	-0.28	14.69
CAB %GDP	Investment	-0.77	0.24	-3.17	0	-1.25	-0.29
	Gross Savings	0.65	0.23	2.78	0.01	0.19	1.11
IRShort	Inflation	0.53	0.27	1.97	0.05	0	1.05
	IRLong	1.06	0.31	3.47	0	0.46	1.66
IRLong	IRShort	0.56	0.13	4.4	0	0.31	0.8

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Appendix II. Americas Economy ARCH Results

Mexico

		Coef.	Std. Err.	z	P>|z|	[95% Conf	. Interval]
GDP USA	GNI	0.73	0.23	3.22	0	0.29	1.18
	Employment	-11.06	5.6	-1.97	0.05	-22.04	-0.08
	Govt. Debt %GDP	-3.21	1.68	-1.92	0.06	-6.5	0.07
	Exchange Rate	-0.02	0.01	-2.1	0.04	-0.04	0
GNI	Inflation	0.53	0.27	1.97	0.05	0	1.05
	Investment	36.37	13.16	2.76	0.01	10.58	62.17
	FDI %GDP	47.3	27.03	1.75	0.08	-5.68	100.27
	Gross Savings	-42.08	14.31	-2.94	0	-70.12	-14.03
	Employment	10.22	4.12	2.48	0.01	2.13	18.3
	Gross External Debt	1.04	0.48	2.15	0.03	0.09	1.99
	CAB	2.34	1.05	2.23	0.03	0.28	4.41
	IRShort	-4.23	1.56	-2.7	0.01	-7.29	-1.16
	IRLong	3.32	1.39	2.39	0.02	0.6	6.05
	Exchange Rate	0.02	0.01	2.36	0.02	0	0.04
GDP PPP	Inflation	-0.63	0.37	-1.72	0.09	-1.35	0.09
	Employment	16.72	6.66	2.51	0.01	3.66	29.78
	Population	21.17	2.9	7.29	0	15.48	26.87
	Gross External Debt	-1.76	0.85	-2.08	0.04	-3.42	-0.11
	Govt. Debt %GDP	8.72	2.05	4.26	0	4.71	12.73
	CAB	-3.6	1.89	-1.9	0.06	-7.31	0.11
GDP PPP %World	Population	-0.04	0.02	-1.73	0.08	-0.09	0.01
Investment	GDP USA	-0.01	0	-2.96	0	-0.02	0
	GNI	0.01	0	3.04	0	0	0.02
	FDI	0.12	0.05	2.1	0.04	0.01	0.22
	FDI %GDP	-1.56	0.43	-3.61	0	-2.41	-0.71
	Gross Savings	1.09	0.08	14.07	0	0.94	1.24
	CAB	-0.03	0.02	-1.69	0.09	-0.07	0.01
FDI	Investment	2.25	0.72	3.12	0	0.84	3.67
	FDI %GDP	8.3	0.86	9.61	0	6.61	10
	Gross Savings	-2.68	0.75	-3.58	0	-4.15	-1.22
	Inflation	0.03	0.02	1.66	0.1	0	0.06
	Population	-0.5	0.28	-1.75	0.08	-1.05	0.06
FDI %GDP	GDP USA	0	0	-1.93	0.05	-0.01	0
	GNI	0	0	1.79	0.07	0	0.01
	Investment	-0.37	0.11	-3.35	0	-0.59	-0.15
	FDI	0.1	0.01	7.01	0	0.07	0.13
	Gross Savings	0.43	0.14	3.15	0	0.16	0.7
	Inflation	0	0	-1.78	0.08	-0.01	0
	Population	0.06	0.04	1.72	0.09	-0.01	0.13
	CAB	-0.02	0.01	-1.87	0.06	-0.04	0
Gross Savings	GDP USA	0.01	0	2.54	0.01	0	0.02
	GNI	-0.01	0	-3.26	0	-0.02	0
	Investment	0.88	0.06	13.56	0	0.75	1
	FDI	-0.11	0.05	-2.07	0.04	-0.22	-0.01
	FDI %GDP	1.46	0.41	3.6	0	0.67	2.25
	CAB	0.04	0.02	2.1	0.04	0	0.08

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Appendix II. Americas Economy ARCH Results

Mexico

		Coef.	Std. Err.	z	P>|z|	[95% Conf	. Interval]
Employment	GDP USA	-0.04	0.02	-2.56	0.01	-0.07	-0.01
	GNI	0.03	0.01	1.95	0.05	0	0.06
	GDP PPP %World	-5.69	2.31	-2.46	0.01	-10.22	-1.16
	Govt. Debt %GDP	-0.26	0.16	-1.66	0.1	-0.57	0.05
	Exchange Rate	0	0	-1.98	0.05	0	0
Population	GDP PPP	0.04	0.01	4.6	0	0.02	0.05
	GDP PPP %World	-6.41	2.85	-2.24	0.03	-12	-0.81
	FDI %GDP	3.87	2.16	1.79	0.07	-0.36	8.1
	Inflation	0.03	0.01	2.55	0.01	0.01	0.05
	Gross External Debt	0.1	0.02	4.65	0	0.06	0.14
	Govt. Debt %GDP	-0.33	0.13	-2.61	0.01	-0.57	-0.08
	CAB	0.21	0.06	3.73	0	0.1	0.32
Gross External Debt	Population	4.91	2.11	2.33	0.02	0.78	9.04
Govt. Debt %GDP	GDP PPP	0.05	0.02	2.29	0.02	0.01	0.1
	Gross Savings	0.02	3.11	0.01	1	-6.07	6.1
	Inflation	0.05	0.03	2	0.05	0	0.1
	Population	-1.13	0.51	-2.24	0.03	-2.12	-0.14
	Gross External Debt	0.14	0.06	2.24	0.03	0.02	0.27
CAB	GNI	0.12	0.07	1.66	0.1	-0.02	0.27
	Gross Savings	8.35	4.04	2.07	0.04	0.43	16.27
	Inflation	-0.09	0.04	-2.23	0.03	-0.18	-0.01
	Population	2.48	1.01	2.46	0.01	0.5	4.46
	Gross External Debt	-0.3	0.07	-4.15	0	-0.44	-0.16
	Exchange Rate	0	0	-2.05	0.04	-0.01	0
IRShort	IRLong	0.86	0.3	2.88	0	0.27	1.44
IRLong	GNI	0.05	0.03	1.68	0.09	-0.01	0.11
	Gross External Debt	-0.17	0.07	-2.47	0.01	-0.31	-0.04
	IRShort	0.97	0.06	15.82	0	0.85	1.09
Exchange Rate	GDP USA	-25.1	7.06	-3.55	0	-38.95	-11.26
	GNI	19.84	6.48	3.06	0	7.14	32.55
	GDP PPP %World	-2822.77	1224.82	-2.3	0.02	-5223.37	-422.16
	Employment	-385.51	106.57	-3.62	0	-594.38	-176.65
	CAB	-60.28	31.79	-1.9	0.06	-122.58	2.03

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Appendix II. Americas Economy ARCH Results

		USA					
		Coef.	Std. Err.	z	P>|z|	[95% Conf	. Interval]
GDP USA	GDP PPP	1	0.02	44.93	0	0.96	1.04
GNI	GDP USA	-9.56	0.53	-17.99	0	-10.61	-8.52
	Investment	-152.51	86	-1.77	0.08	-321.07	16.04
	Gross Savings	117.97	69.67	1.69	0.09	-18.58	254.52
	Employment	-225.03	136.95	-1.64	0.1	-493.44	43.39
	CAB	-4.13	1.72	-2.41	0.02	-7.5	-0.76
	Poverty	222.8	120.77	1.84	0.07	-13.9	459.49
	IRShort	-111.23	56.91	-1.95	0.05	-222.78	0.32
Ouput Gap	GDP USA	0.03	.	.	.	.	.
	GNI	0	0	2.34	0.02	0	0
	GDP PPP	-0.03	0	-23.01	0	-0.03	-0.03
	GDP PPP %World	2.66	0.91	2.92	0	0.87	4.44
	Investment	0.7	0.37	1.91	0.06	-0.02	1.42
	Population	-0.48	0.17	-2.8	0.01	-0.81	-0.14
	Govt. Debt %GDP	0.11	0.03	3.99	0	0.05	0.16
	Poverty	-1.03	0.39	-2.62	0.01	-1.81	-0.26
	IRShort	0.29	0.16	1.86	0.06	-0.02	0.59
GDP PPP	GDP USA	1	0.02	45.27	0	0.96	1.04
GDP PPP %World	GDP USA	-0.01	0	-25.98	0	-0.01	-0.01
	Output Gap	0.17	0.08	2.14	0.03	0.01	0.32
	GDP PPP	0.01	.	.	.	.	.
	Population	0.16	0.03	4.77	0	0.09	0.22
	Poverty	0.23	0.13	1.77	0.08	-0.02	0.49
Investment	GDP USA	-0.02	0	-23.87	0	-0.02	-0.02
	GDP PPP	0.02	.	.	.	.	.
	Gross Savings	0.61	0.09	6.75	0	0.44	0.79
	Poverty	1.07	0.19	5.56	0	0.69	1.45
FDI	GDP USA	-0.32	.	.	.	.	.
	GDP PPP	0.35	0.03	11.43	0	0.29	0.42
	FDI %GDP	101.24	7.4	13.69	0	86.74	115.74
	Exchange Rate	29.4	14.41	2.04	0.04	1.15	57.65
FDI %GDP	FDI	0.01	0	12.28	0	0.01	0.01
Gross Savings	GDP USA	0.05	0	20.47	0	0.05	0.06
	GNI	0	0	1.91	0.06	0	0
	GDP PPP	-0.05	.	.	.	.	.
	Investment	1.17	0.24	4.89	0	0.7	1.64
	Poverty	-1.27	0.53	-2.39	0.02	-2.3	-0.23
Employment	GDP USA	-0.03	0	-28.85	0	-0.03	-0.03
	GNI	0	0	-2.44	0.02	0	0
	GDP PPP	0.03	.	.	.	.	.
	GDP PPP %World	-1.48	0.57	-2.6	0.01	-2.59	-0.36
	Investment	-0.45	0.16	-2.76	0.01	-0.76	-0.13
	Gross Savings	0.28	0.14	1.99	0.05	0	0.55
	Population	0.21	0.12	1.74	0.08	-0.03	0.44
	CAB	-0.01	0	-4.49	0	-0.02	-0.01
	Poverty	0.7	0.15	4.62	0	0.41	1
	IRShort	-0.23	0.08	-2.72	0.01	-0.4	-0.06
Population	GDP USA	0.03	.	.	.	.	.
	Output Gap	-1.01	0.37	-2.72	0.01	-1.74	-0.28
	GDP PPP	-0.02	0	-9.44	0	-0.03	-0.02

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Appendix II. Americas Economy ARCH Results

		USA					
		Coef.	Std. Err.	z	P>|z|	[95% Conf	. Interval]
	GDP PPP %World	5.34	0.51	10.44	0	4.34	6.35
	Govt. Debt %GDP	0.11	0.07	1.63	0.1	-0.02	0.25
	Poverty	-1.22	0.64	-1.91	0.06	-2.47	0.03
CAB	GDP USA	-2.28	0.05	-42.41	0	-2.38	-2.17
	GNI	-0.12	0.03	-3.54	0	-0.18	-0.05
	Output Gap	17.62	10.68	1.65	0.1	-3.32	38.56
	GDP PPP	2.23	.	.	.	.	.
	GDP PPP %World	-90.95	34.19	-2.66	0.01	-157.97	-23.93
	Investment	-28.48	12.31	-2.31	0.02	-52.61	-4.35
	Gross Savings	20.42	8.1	2.52	0.01	4.53	36.3
	Employment	-54.38	10.98	-4.95	0	-75.9	-32.85
	Population	14.07	6.51	2.16	0.03	1.31	26.83
	CAB %GDP	33.48	10.97	3.05	0	11.98	54.98
	Poverty	43.54	12.5	3.48	0	19.04	68.03
	IRShort	-19.02	4.51	-4.21	0	-27.86	-10.17
	IRLong	10.97	6.4	1.71	0.09	-1.57	23.5
CAB %GDP	GDP USA	0.03	.	.	.	.	.
	GDP PPP	-0.03	0	-18.3	0	-0.03	-0.03
	Govt. Debt %GDP	-0.04	0.02	-1.71	0.09	-0.09	0.01
	CAB	0.01	0.01	2.12	0.03	0	0.02
	IRShort	0.26	0.16	1.65	0.1	-0.05	0.58
Govt. Debt %GDP	GDP USA	0.13	.	.	.	.	.
	Output Gap	4.78	1.6	2.99	0	1.65	7.91
	GDP PPP	-0.14	0.01	-17.8	0	-0.16	-0.13
	GDP PPP %World	-13.74	7.12	-1.93	0.05	-27.7	0.22
	Investment	-5.33	2.79	-1.91	0.06	-10.79	0.13
	Population	2.43	1.06	2.3	0.02	0.36	4.51
	CAB %GDP	-3.58	2.19	-1.63	0.1	-7.87	0.71
	Poverty	7.92	3.29	2.41	0.02	1.48	14.36
Poverty	GNI	0	0	2.3	0.04	0	0
	Output Gap	-0.37	0.14	-2.7	0.02	-0.66	-0.07
	GDP PPP %World	1.33	0.57	2.32	0.04	0.08	2.57
	Investment	0.66	0.12	5.45	0	0.4	0.93
	Gross Savings	-0.41	0.11	-3.6	0	-0.66	-0.16
	Employment	0.72	0.2	3.52	0	0.28	1.17
	Population	-0.21	0.1	-2	0.07	-0.43	0.02
	Govt. Debt %GDP	0.06	0.02	3.41	0.01	0.02	0.1
	CAB	0.01	0	2.91	0.01	0	0.02
IRShort	GNI	0	0	-3.31	0.01	-0.01	0
	GDP PPP %World	-3.4	1.41	-2.41	0.03	-6.48	-0.33
	Employment	-1.48	0.59	-2.49	0.03	-2.77	-0.19
	CAB	-0.03	0.01	-3.42	0.01	-0.04	-0.01
	CAB %GDP	1.09	0.49	2.21	0.05	0.01	2.17
	IRLong	0.79	0.23	3.45	0.01	0.29	1.29
IRLong	GNI	0	0	1.96	0.07	0	0.01
	IRShort	0.63	0.18	3.45	0.01	0.23	1.03
Exchange Rate	GDP USA	0	.	.	.	.	.
	GNI	0	0	-1.7	0.09	0	0
	GDP PPP	0	0	8.17	0	0	0
	FDI %GDP	-0.49	0.3	-1.64	0.1	-1.08	0.1

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Appendix III. Americas Stock Exchange Unit Roots

NYSE

Variable Tested	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	Z Value
Index Levels	-1.71	-3.75	-3	-2.63	Z(t) = 0.4253
Value of Share Trading	-1.24	-3.75	-3	-2.63	Z(t) = 0.6548
Equity Market Cap	-1.69	-3.75	-3	-2.63	Z(t) = 0.4349
Value of Bond Trading	-0.19	-3.75	-3	-2.63	Z(t) = 0.9396
Bond Market Cap	0.13	-3.75	-3	-2.63	Z(t) = 0.9677
Number of Companies	-2.24	-3.75	-3	-2.63	Z(t) = 0.1916
Stock Market Economy	-1.99	-3.75	-3	-2.63	Z(t) = 0.2932
Capital Raised	-1.85	-3.75	-3	-2.63	Z(t) = 0.3579
Turnover	-1.22	-3.75	-3	-2.63	Z(t) = 0.6650
PER Ratio	-2.19	-3.75	-3	-2.63	Z(t) = 0.2095
Gross Dividend Yield	-2.43	-3.75	-3	-2.63	Z(t) = 0.1344
Foreign Bond Trading	-1.6	-3.75	-3	-2.63	Z(t) = 0.4814
Domestic Bond Trading	-0.18	-3.75	-3	-2.63	Z(t) = 0.9408
Domestic Equity Trading	-1.58	-3.75	-3	-2.63	Z(t) = 0.4919
Domestic Equity Capital	-2.49	-3.75	-3	-2.63	Z(t) = 0.1171
Domestic Bond Capital	-1.66	-3.75	-3	-2.63	Z(t) = 0.4509
Total Return	-4.6	-3.75	-3	-2.63	Z(t) = 0.0001
Index Performance	-4.51	-3.75	-3	-2.63	Z(t) = 0.0002
Foreign Equity Trading	-4.06	-3.75	-3	-2.63	Z(t) = 0.0011
Foreign Equity Capital	.	-3.75	-3	-2.63	Z(t) = 1.0000
Foreign Bond Capital	-2.89	-3.75	-3	-2.63	Z(t) = 0.0469

Nasdaq

Variable Tested	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	Z Value
Index Levels	-2.22	-3.75	-3	-2.63	Z(t) = 0.2001
Value of Share Trading	-0.6	-3.75	-3	-2.63	Z(t) = 0.8700
Equity Market Cap	-1.95	-3.75	-3	-2.63	Z(t) = 0.3095
Bond Market Cap	-2.14	-3.75	-3	-2.63	Z(t) = 0.2278
Number of Companies	0.02	-3.75	-3	-2.63	Z(t) = 0.9598
Stock Market Economy	-2.31	-3.75	-3	-2.63	Z(t) = 0.1675
Capital Raised	-2.3	-3.75	-3	-2.63	Z(t) = 0.1712
Turnover	-0.01	-3.75	-3	-2.63	Z(t) = 0.9580
PER Ratio	-1.97	-3.75	-3	-2.63	Z(t) = 0.3019
Domestic Bond Trading	-1.86	-3.75	-3	-2.63	Z(t) = 0.3528
Foreign Equity Trading	-0.86	-3.75	-3	-2.63	Z(t) = 0.8014
Domestic Equity Trading	-0.64	-3.75	-3	-2.63	Z(t) = 0.8613
Domestic Equity Capital	-2.31	-3.75	-3	-2.63	Z(t) = 0.1698
Value of Bond Trading	-2.96	-3.75	-3	-2.63	Z(t) = 0.0392
Gross Dividend Yield	-3.42	-3.75	-3	-2.63	Z(t) = 0.0103
Total Return	-4.26	-3.75	-3	-2.63	Z(t) = 0.0005
Index Performance	-4.3	-3.75	-3	-2.63	Z(t) = 0.0005
Foreign Bond Trading	-3.87	-3.75	-3	-2.63	Z(t) = 0.0023
Foreign Equity Capital	.	-3.75	-3	-2.63	Z(t) = 1.0000
Foreign Bond Capital	.	-3.75	-3	-2.63	Z(t) = 1.0000
Domestic Bond Capital	.	-3.75	-3	-2.63	Z(t) = 1.0000

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Appendix III. Americas Stock Exchange Unit Roots

BMV-Mexico

Variable Tested	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	Z Value
Index Levels	0.47	-3.75	-3	-2.63	Z(t) = 0.9838
Value of Share Trading	-1.55	-3.75	-3	-2.63	Z(t) = 0.5103
Equity Market Cap	-1.32	-3.75	-3	-2.63	Z(t) = 0.6205
Value of Bond Trading	-1.07	-3.75	-3	-2.63	Z(t) = 0.7264
Bond Market Cap	-1.6	-3.75	-3	-2.63	Z(t) = 0.4824
Number of Companies	-1.2	-3.75	-3	-2.63	Z(t) = 0.6727
Domestic Bond Trading	-1.07	-3.75	-3	-2.63	Z(t) = 0.7264
Foreign Equity Trading	-2.17	-3.75	-3	-2.63	Z(t) = 0.2173
Domestic Equity Trading	-1.64	-3.75	-3	-2.63	Z(t) = 0.4646
Domestic Bond Capital	-2.1	-3.75	-3	-2.63	Z(t) = 0.2459
Stock Market Economy	-2.63	-3.75	-3	-2.63	Z(t) = 0.0870
Capital Raised	-4.83	-3.75	-3	-2.63	Z(t) = 0.0000
Turnover	-3.51	-3.75	-3	-2.63	Z(t) = 0.0078
PER Ratio	-4.74	-3.75	-3	-2.63	Z(t) = 0.0001
Gross Dividend Yield	-5.74	-3.75	-3	-2.63	Z(t) = 0.0000
Total Return	-5.86	-3.75	-3	-2.63	Z(t) = 0.0000
Index Performance	-5.92	-3.75	-3	-2.63	Z(t) = 0.0000
Foreign Bond Trading	.	-3.75	-3	-2.63	Z(t) = 1.0000
Foreign Equity Capital	.	-3.75	-3	-2.63	Z(t) = 1.0000
Domestic Equity Capital	-3.32	-3.75	-3	-2.63	Z(t) = 0.0142
Foreign Bond Capital	.	-3.75	-3	-2.63	Z(t) = 1.0000

BOVESPA-Brasil

Variable Tested	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	Z Value
Index Levels	-0.38	-3.75	-3	-2.63	Z(t) = 0.9128
Value of Share Trading	0.97	-3.75	-3	-2.63	Z(t) = 0.9939
Equity Market Cap	-1.04	-3.75	-3	-2.63	Z(t) = 0.7387
Bond Market Cap	0.45	-3.75	-3	-2.63	Z(t) = 0.9831
Number of Companies	-0.77	-3.75	-3	-2.63	Z(t) = 0.8289
Stock Market Economy	-1.32	-3.75	-3	-2.63	Z(t) = 0.6221
Capital Raised	-2.49	-3.75	-3	-2.63	Z(t) = 0.1183
Turnover	-1.6	-3.75	-3	-2.63	Z(t) = 0.4841
Foreign Equity Trading	-0.55	-3.75	-3	-2.63	Z(t) = 0.8829
Domestic Equity Trading	0.97	-3.75	-3	-2.63	Z(t) = 0.9940
Domestic Equity Capital	-1.12	-3.75	-3	-2.63	Z(t) = 0.7063
Value of Bond Trading	-2.84	-3.75	-3	-2.63	Z(t) = 0.0528
PER Ratio	-3.79	-3.75	-3	-2.63	Z(t) = 0.0030
Gross Dividend Yield	-3.19	-3.75	-3	-2.63	Z(t) = 0.0204
Total Return	-3.13	-3.75	-3	-2.63	Z(t) = 0.0246
Index Performance	-3.16	-3.75	-3	-2.63	Z(t) = 0.0222
Foreign Bond Trading	.	-3.75	-3	-2.63	Z(t) = 1.0000
Domestic Bond Trading	-3.15	-3.75	-3	-2.63	Z(t) = 0.0230
Foreign Equity Capital	.	-3.75	-3	-2.63	Z(t) = 1.0000
Foreign Bond Capital	.	-3.75	-3	-2.63	Z(t) = 1.0000
Domestic Bond Capital	-2.87	-3.75	-3	-2.63	Z(t) = 0.0485

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Appendix III. Americas Stock Exchange Unit Roots

TSX-Canada

Variable Tested	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	Z Value
Index Levels	-1.21	-3.75	-3	-2.63	Z(t) = 0.6682
Value of Share Trading	-0.7	-3.75	-3	-2.63	Z(t) = 0.8460
Equity Market Cap	-1.14	-3.75	-3	-2.63	Z(t) = 0.6982
Value of Bond Trading	-0.04	-3.75	-3	-2.63	Z(t) = 0.9547
Bond Market Cap	-0.33	-3.75	-3	-2.63	Z(t) = 0.9217
Number of Companies	-0.88	-3.75	-3	-2.63	Z(t) = 0.7934
Stock Market Economy	-1.42	-3.75	-3	-2.63	Z(t) = 0.5747
Capital Raised	-1.98	-3.75	-3	-2.63	Z(t) = 0.2978
Turnover	-1.78	-3.75	-3	-2.63	Z(t) = 0.3909
PER Ratio	-2.11	-3.75	-3	-2.63	Z(t) = 0.2406
Gross Dividend Yield	-2.18	-3.75	-3	-2.63	Z(t) = 0.2148
Domestic Bond Trading	-0.04	-3.75	-3	-2.63	Z(t) = 0.9547
Foreign Equity Trading	-0.71	-3.75	-3	-2.63	Z(t) = 0.8451
Domestic Equity Trading	-0.71	-3.75	-3	-2.63	Z(t) = 0.8431
Domestic Equity Capital	-0.95	-3.75	-3	-2.63	Z(t) = 0.7706
Domestic Bond Capital	-0.7	-3.75	-3	-2.63	Z(t) = 0.8458
Total Return	-5.69	-3.75	-3	-2.63	Z(t) = 0.0000
Index Performance	-5.6	-3.75	-3	-2.63	Z(t) = 0.0000
Foreign Bond Trading	.	-3.75	-3	-2.63	Z(t) = 1.0000
Foreign Equity Capital	.	-3.75	-3	-2.63	Z(t) = 1.0000
Foreign Bond Capital	.	-3.75	-3	-2.63	Z(t) = 1.0000

BSX_Bermuda

Variable Tested	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	Z Value
Index Levels	-1.45	-3.75	-3	-2.63	Z(t) = 0.5580
Value of Share Trading	-1.37	-3.75	-3	-2.63	Z(t) = 0.5969
Equity Market Cap	-2.03	-3.75	-3	-2.63	Z(t) = 0.2729
Value of Bond Trading	-1.98	-3.75	-3	-2.63	Z(t) = 0.2951
Bond Market Cap	-1.14	-3.75	-3	-2.63	Z(t) = 0.6994
Stock Market Economy	-1.85	-3.75	-3	-2.63	Z(t) = 0.3569
Capital Raised	-2.12	-3.75	-3	-2.63	Z(t) = 0.2386
Domestic Bond Trading	-1.98	-3.75	-3	-2.63	Z(t) = 0.2951
Foreign Equity Trading	-1.37	-3.75	-3	-2.63	Z(t) = 0.5967
Domestic Equity Trading	-1.99	-3.75	-3	-2.63	Z(t) = 0.2906
Number of Companies	-2.99	-3.75	-3	-2.63	Z(t) = 0.0360
Turnover	-2.82	-3.75	-3	-2.63	Z(t) = 0.0551
PER Ratio	-3.75	-3.75	-3	-2.63	Z(t) = 0.0035
Gross Dividend Yield	-3.05	-3.75	-3	-2.63	Z(t) = 0.0303
Total Return	-3.31	-3.75	-3	-2.63	Z(t) = 0.0146
Index Performance	-3.29	-3.75	-3	-2.63	Z(t) = 0.0153
Foreign Bond Trading	.	-3.75	-3	-2.63	Z(t) = 1.0000
Foreign Equity Capital	.	-3.75	-3	-2.63	Z(t) = 1.0000
Domestic Equity Capital	-3.5	-3.75	-3	-2.63	Z(t) = 0.0080
Foreign Bond Capital	-4.08	-3.75	-3	-2.63	Z(t) = 0.0010
Domestic Bond Capital	-4.2	-3.75	-3	-2.63	Z(t) = 0.0006

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Appendix IV. Americas Stock Exchange ARCH Results

Mexico

		Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Index Levels	Equity Market Cap	0.08	0.01	5.49	0	0.05	0.1
	Value of Bond Trading	-0.51	0.15	-3.44	0	-0.8	-0.22
	Number of Companies	29.45	8.03	3.67	0	13.72	45.18
Value of Share Trading	Foreign Equity Trading	1	0.1	9.87	0	0.8	1.2
	Domestic Equity Trading	0.98	0.03	39.12	0	0.93	1.03
	Domestic Bond Capital	0.48	0.26	1.82	0.07	-0.04	1
Equity Market Cap	Value of Bond Trading	4.44	1.18	3.76	0	2.13	6.76
	Number of Companies	-235.56	129.38	-1.82	0.07	-489.14	18.03
	Index Levels	8.89	2.27	3.92	0	4.45	13.33
Value of Bond Trading	Index Levels	-1.05	0.29	-3.58	0	-1.62	-0.47
	Equity Market Cap	0.08	0.03	2.53	0.01	0.02	0.14
Bond Market Cap	Domestic Bond Capital	-3.07	1.77	-1.73	0.08	-6.55	0.4
Foreign Equity Trading	Domestic Equity Trading	-0.91	0.07	-12.52	0	-1.06	-0.77
	Value of Share Trading	0.94	0.06	14.8	0	0.81	1.06
	Domestic Bond Capital	-0.42	0.24	-1.75	0.08	-0.9	0.05
Domestic Equity Trading	Value of Share Trading	1.02	0.03	40.07	0	0.97	1.07
	Domestic Bond Capital	-0.49	0.27	-1.8	0.07	-1.02	0.04
	Foreign Equity Trading	-1.02	0.11	-9.3	0	-1.23	-0.8

BSX

		Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Index Levels	Value of Bond Trading	200.29	111.71	1.79	0.07	-18.66	419.24
	Foreign Equity Trading	18.7	0.9	2.5	0.03	-7.2	18.1
Value of Share Trading	Foreign Equity Trading	1	0	1269.86	0	1	1
Equity Market Cap	Index Levels	0.21	0.07	2.97	0	0.07	0.36
	Stock Market Economy	18.98	5.87	3.23	0	7.48	30.48
Value of Bond Trading	Index Levels	0	0	2.38	0.02	0	0
Bond Market Cap	Stock Market Economy	-15.1	6.2	-2.44	0.02	-27.25	-2.95
	Capital Raised	4.6	1.79	2.57	0.01	1.1	8.1
Stock Market Economy	Capital Raised	0.22	0.07	3.19	0	0.09	0.36
Foreign Equity Trading	Value of Share Trading	1	0	1262.3	0	1	1

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Appendix IV. Americas Stock Exchange ARCH Results

Brasil

		Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Index Levels	Equity Market Cap	0.08	0.05	1.65	0.1	-0.01	0.17
	Number of Companies	-105.01	64.28	-1.63	0.1	-230.99	20.97
	Turnover	235.52	120.1	1.96	0.05	0.14	470.91
Value of Share Trading	Equity Market Cap	0	0	-1.63	0.1	0	0
	Foreign Equity Trading	0.9	0.11	8.15	0	0.68	1.11
	Domestic Equity Trading	1	0	1523.58	0	1	1
Equity Market Cap	Index Levels	9.81	2.61	3.76	0	4.7	14.92
	Number of Companies	1219.93	443.55	2.75	0.01	350.58	2089.28
	Stock Market Economy	8298.55	1324.83	6.26	0	5701.93	10895.16
	Turnover	-3463.33	1339.62	-2.59	0.01	-6088.94	-837.73
Number of Companies	Index Levels	-0.01	0	-5.01	0	-0.01	0
	Equity Market Cap	0	0	5.4	0	0	0
	Stock Market Economy	-5.43	0.79	-6.88	0	-6.97	-3.88
	Capital Raised	-6.28	2.74	-2.29	0.02	-11.64	-0.92
	Turnover	2.01	0.91	2.2	0.03	0.22	3.79
Stock Market Economy	Index Levels	0	0	-3.18	0	0	0
	Equity Market Cap	0	0	6.53	0	0	0
	Number of Companies	-0.13	0.03	-4.72	0	-0.19	-0.08
	Capital Raised	-0.93	0.5	-1.86	0.06	-1.92	0.05
	Turnover	0.4	0.16	2.46	0.01	0.08	0.71
Capital Raised	Turnover	0.21	0.1	2.12	0.03	0.02	0.4
	Number of Companies	-0.05	0.03	-1.85	0.07	-0.1	0
	Stock Market Economy	-0.31	0.13	-2.4	0.02	-0.56	-0.06
Turnover	Index Levels	0	0	1.75	0.08	0	0
	Equity Market Cap	0	0	-1.7	0.09	0	0
	Number of Companies	0.15	0.08	1.83	0.07	-0.01	0.32
Foreign Equity Trading	Value of Share Trading	1.06	0.34	3.12	0	0.4	1.73
	Domestic Equity Trading	-1.06	0.34	-3.12	0	-1.73	-0.39
Domestic Equity Trading	Value of Share Trading	1	0	522.62	0	1	1
	Equity Market Cap	0	0	1.63	0.1	0	0
	Foreign Equity Trading	-0.9	0.11	-8.17	0	-1.11	-0.68
Domestic Equity Capital	Equity Market Cap	0.05	0.03	1.86	0.06	0	0.1

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Appendix IV. Americas Stock Exchange ARCH Results

Canada

		Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Index Levels	Equity Market Cap	0	0	2.14	0.03	0	0.01
	Stock Market Economy	33.52	16.34	2.05	0.04	1.5	65.54
	Turnover	40.99	23.28	1.76	0.08	-4.64	86.62
Value of Share Trading	Index Levels	6.2	3	2.06	0.04	0.31	12.09
	Stock Market Economy	-417.05	179.85	-2.32	0.02	-769.54	-64.55
	Domestic Equity Trading	0.99	0.02	44.98	0	0.94	1.03
	Domestic Bond Capital	-4.91	2.95	-1.66	0.1	-10.69	0.87
Equity Market Cap	Index Levels	110.69	55.55	1.99	0.05	1.82	219.57
	Bond Market Cap	28.17	16.75	1.68	0.09	-4.66	61.01
	Turnover	-8973.39	4286.3	-2.09	0.04	-17374.38	-572.4
	Gross Dividend Yield	-88375.15	35170.36	-2.51	0.01	-157307.8	-19442.51
Value of Bond Trading	Number of Companies	0.98	0.38	2.6	0.01	0.24	1.73
	Foreign Equity Trading	0.32	0.08	4.03	0	0.17	0.48
Bond Market Cap	Turnover	193.14	100.26	1.93	0.05	-3.35	389.64
Number of Companies	Equity Market Cap	0	0	2.49	0.01	0	0.01
	Value of Bond Trading	0.64	0.2	3.16	0	0.25	1.04
	Capital Raised	-64.85	22.45	-2.89	0	-108.84	-20.85
	Foreign Equity Trading	-0.24	0.08	-2.96	0	-0.4	-0.08
Turnover	PER Ratio	-0.03	0.02	-1.84	0.07	-0.06	0
	Gross Dividend Yield	-9.32	3.22	-2.9	0	-15.62	-3.01
Gross Dividend Yield	Turnover	-0.08	0.04	-2.03	0.04	-0.15	0
	PER Ratio	0	0	-1.95	0.05	-0.01	7.12E-006
Foreign Equity Trading	Value of Bond Trading	2.16	1.2	1.8	0.07	-0.19	4.52
Domestic Equity Trading	Index Levels	-6.43	3.07	-2.09	0.04	-12.45	-0.41
	Value of Share Trading	1.01	0.02	43.47	0	0.97	1.06
	Stock Market Economy	429.72	179.94	2.39	0.02	77.04	782.4
	Domestic Bond Capital	5.34	2.78	1.92	0.06	-0.12	10.8
Domestic Bond Capital	Value of Bond Trading	0.4	0.16	2.47	0.01	0.08	0.72
	Stock Market Economy	-31.92	18.27	-1.75	0.08	-67.72	3.88
	Foreign Equity Trading	-0.15	0.05	-3.27	0	-0.24	-0.06

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Appendix IV. Americas Stock Exchange ARCH Results

Nasdaq

		Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Index Levels	Equity Market Cap	0	0	4.11	0	0	0
	Capital Raised	-454.61	237.72	-1.91	0.06	-920.53	11.3
	Turnover	1.7	0.72	2.34	0.02	0.28	3.12
	Domestic Bond Trading	3.36	1.72	1.95	0.05	-0.01	6.74
	Foreign Equity Trading	0	0	2.74	0.01	0	0
Value of Share Trading	Domestic Equity Trading	1.01	0.2	5.08	0	0.62	1.4
Equity Market Cap	Index Levels	685.85	325.15	2.11	0.04	48.55	1323.14
	Stock Market Economy	53045.46	24177.5	2.19	0.03	5658.44	100432.5
	Capital Raised	548202.5	270839.7	2.02	0.04	17366.53	1079039
	Turnover	-1370.5	456	-3.01	0	-2264.24	-476.76
	Foreign Equity Trading	-0.36	0.11	-3.29	0	-0.57	-0.15
Bond Market Cap	Turnover	1.4	0.35	4.04	0	0.72	2.08
	PER Ratio	-2.85	1.27	-2.25	0.02	-5.34	-0.37
	Domestic Bond Trading	3.16	0.97	3.25	0	1.26	5.06
	Domestic Equity Capital	0	0	1.79	0.07	0	0.01
Number of Companies	Capital Raised	1230.87	719.26	1.71	0.09	-178.86	2640.6
Stock Market Economy	Equity Market Cap	0	3.37E-006	3.59	0	5.50E-006	0
	Number of Companies	0	0	5.56	0	0	0.01
	PER Ratio	0.05	0.03	2.07	0.04	0	0.1
Capital Raised	Index Levels	0	0	-1.63	0.1	0	0
	Equity Market Cap	9.03E-007	3.49E-007	2.59	0.01	2.20E-007	1.59E-006
	Number of Companies	0	0	2.96	0	0	0
	Stock Market Economy	-0.05	0.03	-1.88	0.06	-0.1	0
Turnover	Domestic Equity Capital	0	0	-1.96	0.05	-0.01	-2.95E-006
PER Ratio	Number of Companies	-0.04	0.02	-1.64	0.1	-0.08	0.01
	Stock Market Economy	6.43	3.87	1.66	0.1	-1.15	14.02
Domestic Bond Trading	Bond Market Cap	0.14	0.07	2.06	0.04	0.01	0.27
	Turnover	-0.31	0.08	-3.89	0	-0.46	-0.15
	Domestic Equity Capital	0	0	-3.22	0	0	0
Foreign Equity Trading	Value of Share Trading	0.32	0.16	1.98	0.05	0	0.63
	Equity Market Cap	-1.32	0.64	-2.05	0.04	-2.57	-0.06
	Stock Market Economy	66159.26	39819.34	1.66	0.1	-11885.21	144203.7
Domestic Equity Trading	Value of Share Trading	0.91	0.07	13.27	0	0.77	1.04
Domestic Equity Capital	Turnover	-231.51	64.65	-3.58	0	-358.23	-104.8
	Domestic Bond Trading	-468.5	198.81	-2.36	0.02	-858.15	-78.84

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Appendix IV. Americas Stock Exchange ARCH Results

NYSE

		Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Index Levels	Equity Market Cap	0	0	4.31	0	0	0
Value of Share Trading	Index Levels	6841.07	3612.09	1.89	0.06	-238.5	13920.65
	Equity Market Cap	-3.91	2.33	-1.67	0.09	-8.48	0.67
	Turnover	167378.2	22398.46	7.47	0	123478	211278.3
	PER Ratio	-166282.9	65627.45	-2.53	0.01	-294910.4	-37655.48
	Domestic Equity Capital	-24.76	12.19	-2.03	0.04	-48.65	-0.87
Equity Market Cap	Index Levels	1551.2	231.48	6.7	0	1097.52	2004.89
	Bond Market Cap	-1.47	0.38	-3.9	0	-2.2	-0.73
	PER Ratio	-26668.48	13679.65	-1.95	0.05	-53480.11	143.15
Value of Bond Trading	Bond Market Cap	0	0	-1.83	0.07	0	9.82E-006
	Stock Market Economy	4.36	2.36	1.85	0.07	-0.27	8.98
	Foreign Bond Trading	1.06	0.44	2.43	0.02	0.21	1.92
	Domestic Bond Trading	1.03	0.01	82.12	0	1.01	1.06
Bond Market Cap	Equity Market Cap	-0.35	0.15	-2.39	0.02	-0.63	-0.06
PER Ratio	Equity Market Cap	0	9.17E-006	-1.97	0.05	0	-7.14E-008
	Turnover	0.6	0.22	2.67	0.01	0.16	1.04
	Gross Dividend Yield	-6.74	2.98	-2.27	0.02	-12.57	-0.91
	Domestic Equity Capital	0	0	-1.94	0.05	0	1.52E-006
Gross Dividend Yield	PER Ratio	-0.05	0.02	-2.15	0.03	-0.09	0
Foreign Bond Trading	Equity Market Cap	0	0	2.23	0.03	7.84E-006	0
	Value of Bond Trading	0.81	0.26	3.18	0	0.31	1.31
	Bond Market Cap	0	0	5.1	0	0	0
	Stock Market Economy	-3.79	1.06	-3.59	0	-5.86	-1.72
	Domestic Bond Trading	-0.84	0.26	-3.2	0	-1.35	-0.32
Domestic Bond Trading	Value of Bond Trading	0.97	0.01	85.62	0	0.95	0.99
	Bond Market Cap	0	0	1.88	0.06	-5.82E-006	0
	Stock Market Economy	-4.27	2.27	-1.88	0.06	-8.73	0.18
	Foreign Bond Trading	-1.03	0.43	-2.43	0.02	-1.87	-0.2
Domestic Equity Capital	Turnover	3333.94	1426.78	2.34	0.02	537.5	6130.38
	PER Ratio	-4342.57	2095.58	-2.07	0.04	-8449.83	-235.3
	Gross Dividend Yield	-33218.38	15154.99	-2.19	0.03	-62921.62	-3515.15
Domestic Bond Capital	Bond Market Cap	-1.53	0.86	-1.79	0.07	-3.21	0.15
	Stock Market Economy	49421.78	18582.66	2.66	0.01	13000.44	85843.11
Turnover	Index Levels	-0.03	0.02	-2.12	0.03	-0.06	0
	Value of Share Trading	4.99E-006	1.30E-006	3.84	0	2.45E-006	7.54E-006
	Equity Market Cap	0	9.71E-006	2.05	0.04	9.16E-007	0
	Stock Market Economy	-1.03	0.57	-1.83	0.07	-2.15	0.08
	PER Ratio	1.03	0.3	3.37	0	0.43	1.62
	Domestic Equity Capital	0	0	2.57	0.01	0	0
Stock Market Economy	Equity Market Cap	0	5.19E-006	1.98	0.05	9.16E-008	0
	Bond Market Cap	0	7.43E-006	3.94	0	0	0
	Domestic Bond Capital	0	4.31E-006	2.37	0.02	1.75E-006	0

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