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The objective of this study is to examine country-specific factors that are related to the Securities and Exchange Commission's (SEC) issuance of foreign-related Accounting and Auditing Enforcement Releases (AAERs). Foreign-related AAERs include sanctions issued against foreign firms registered in the U.S. and against domestic firms with foreign operations. The country-specific factors examined include the foreign countries' accounting models, perceived level of corruption, and relative economic presence in the U.S. market. An

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investigative bias exists if the SEC is not investigating these alternative forms of risk in proportion to their existence within these populations of firms. Failure to scrutinize any portion of these firms exposes stakeholders to the additional risk of unchecked intentional misstatements.

Research on the international investigative patterns of the SEC is important for three reasons. First, multinational corporations are the fastest growing population among publicly-listed firms. In 1988, only 26 foreign firms were registered with the SEC. By 1998, this number had increased to more than 1,100 (SEC Annual Report, 1998). The SEC signaled its recognition of the rapidly expanding international marketplace when it formed the Office of International Affairs (OIA) in 1989. The OIA was given "primary responsibility for the negotiation and implementation of information-sharing agreements and for developing legislative and other initiatives to facilitate international cooperation" (SEC Annual Report, 1990: 20).

Second, fraud is an expensive international problem. Worldwide fraud losses are estimated at five cents for every dollar spent (Kerber, 2008). Recognition of this problem is evident as early as the *Securities and Exchange Act of 1934*. Discussing the need for regulation, the Act recognizes that securities prices are established by transactions throughout both the U.S. and foreign countries and that these prices are susceptible to manipulation (SEC, 1934). Evidence of this manipulation is that publicly-traded companies suffer median losses from fraud of $142,000 per incidence of fraud (ACFE, 2008).

Third, while the SEC has important enforcement responsibilities, it possesses limited resources. One of the reasons the SEC was

formed was "to ensure the maintenance of fair and honest markets" (Securities and Exchange Act, 1934, Section 2). Although the SEC is the only organization within the U.S. government to generate excess revenues over expenses, as with any government entity it must operate with a limited amount of resources. *The Sarbanes-Oxley Act* (U.S. Congress, 2002) recognizes that the SEC's resources are stretched in an increasingly high risk environment. The Act requires public accounting firms to pay to the SEC both registration and annual fees, and issuers to pay annual accounting support fees to support the investigative activities of the Public Company Accounting Oversight Board, which is under the jurisdiction of the SEC (U.S. Congress, 2002). Not only must investigative resources be stretched to address new and increased risks, but the costs of learning how to investigate within new accounting models and business environments uses resources that would otherwise be devoted to investigations.

Given resource constraints, growth in international business, and increasing fraud risk, the SEC may not be investigating alternative forms of risk in proportion to their existence within the population of listed firms. The SEC's objectives of prevention and deterrence are compromised to the extent that intentional misstatements are overlooked for any portion of the registrant population.

As a first study in this area, it evaluates whether accounting models, corruption, and economic presence are macro-level risk factors that explain the issuance of AAERs, and whether these relationships suggest an investigative bias by the SEC. These three factors are employed in this study to represent different types of risk to an investor, risk which may threaten the goal of "the safeguarding of securities and funds related thereto" (Securities and Exchange Act, 1934, Section 2). Anchoring and adjustment theory was used to predict that the SEC is more likely to issue AAERs for companies that use a familiar, US-based accounting model than for companies that use an unfamiliar model. Use of the Fair Presentation/Full Disclosure model— the same type employed within the U.S.— is predicted to be positively related to the issuance of an AAER. Use of either the Legal Compliance or Inflation-Adjusted accounting models is predicted to have a negative relationship with AAER issuance. The theory of differential association was used to predict a positive relationship between countries with higher levels of perceived corruption and AAER issuance. Finally, a positive relationship is predicted for firms with larger relative market presence in the U.S. economy.

This study makes two contributions to the existing literature. First, although prior research (e.g., Beasley et al., 1999, 2000) evaluates AAER composition (e.g., types of respondents and misstatements), no study has tested whether macro-level risk factors can explain the SEC's issuance of AAERs. Second, while numerous papers have discussed the regulatory environment faced by foreign firms (e.g., Breeden, 1994; Cochrane, 1994; Decker, 1994) the literature lacks study of SEC investigations of international firms and tests for association with unique risk factors in international markets. This study's results should increase knowledge in both of these research areas.

The remainder of the paper is organized as follows. The next section develops the theory and hypotheses related to the factors examined for association with AAERs. Section III describes research method. Section IV presents the results. Section V discusses implications,

limitations, and avenues for future research.

Hypothesis Development

International Accounting Models

Three accounting models are used around the world— Fair Presentation/Full Disclosure, Legal Compliance, or Inflation-Adjusted. The U.S. uses the Fair Presentation/Full Disclosure accounting model (Saudagaran, 2001). The information contained in the financial reports is primarily used by external investors. The reports are designed to allow external investors to make fully-informed investing decisions (Gernon & Meek, 2001). The International Accounting Standards Board (IASB) uses this model as the template for developing internationally-accepted accounting standards (IASB, 2001).

Countries (e.g., France, Germany, Japan) that base their legal systems on code law use the Legal Compliance model (Saudagaran, 2001). The financial reports prepared in this system are tailored to internal investors. This model is effective in these countries because the majority of investment originates from internal investors such as large banks or majority shareholders who possess inside knowledge of firm operations. A one book system is employed— the same set of financial statements for government and shareholder purposes. Unlike the Fair Presentation/Full Disclosure model, in which presentation fairness is paramount, users of this model must only comply with the minimum reporting standards defined by their government. Whether any additional reporting takes place is left to the preparers' professional judgment. This format makes income smoothing acceptable, and widely used in practice (Gernon & Meek, 2001). When these firms agree to list in the U.S. market, they agree to abide by the U.S.'s accounting rules, which prohibit earnings smoothing and reserve accounts. What is acceptable in the home country is a form of "manipulation and control" (Securities and Exchange Act, 1934, Section 2) that the SEC must prevent.

Countries facing high inflation (e.g., Argentina, Bolivia, Brazil, Chile, Israel, Mexico, Peru, and Uruguay) generally select the Inflation-Adjusted model. This model uses the Fair Presentation or Legal Compliance model as a basis and then adjusts for inflation using one of two methods. General Purchasing Power Accounting adjusts all balance sheet items to reflect the national currency's purchasing power. Current Cost Accounting recognizes assets and expenses at their replacement cost on the reporting date for the financial statements (IFAC, 2001).

When investigating domestic firms, the SEC works within the Fair Presentation/Full Disclosure model in all of its cases; however, international investigations require a change in focus to three potential models instead of one. Anchoring theory suggests that an individual's ability to change focus may be compromised because decisions are based upon, or "anchored" on an initial value (Tversky & Kahneman, 1986). Given that all domestic investigations and many international investigations require expertise in the Fair Presentation/Full Disclosure model, SEC enforcement officials should be anchored to this accounting model. Shifting resources from investigating domestic firms to foreign firms requires an adjustment to consider alternative accounting models. Previous studies, both in psychology (e.g., Tversky & Kahneman, 1986; Whyte & Sebenius, 1997) and in accounting (e.g., Kinney & Uecker, 1982; Biggs & Wild, 1985; Heintz & White, 1989) have shown that adjustments can be insufficient when decisions are anchored to a particular option. In this case, an

insufficient adjustment would entail enforcement officials conducting a significant portion of international investigations in countries that employ the same model as the U.S.. The cost of this insufficient adjustment would be the loss of prevention and deterrence needed for firms that use the Legal Compliance and Inflation-Adjusted models in their business activities.

Tversky and Kahneman (1986) discussed the effects of anchoring in systems such as the SEC in which all components need to function properly. The probability of failure for any one component of the enforcement system may be low; however, if one component fails, the entire enforcement system fails. Tversky and Kahneman found that anchoring bias led people to underestimate probabilities of failure in these types of systems. For the SEC, this bias would entail underallocating investigative resources to countries employing the alternative models. This potentially leads to investment decisions based on financial statements laden with misstatements.

Social decision scheme theory (Whyte & Sebenius, 1997) provides a basis for extending individual anchoring effects to group settings such as regulators' investigative choices. In the first stage of group decision-making, individuals enter a group setting with personal preferences for a particular alternative (Stasser, 1999). As group members interact to reach a decision, a social decision scheme emerges where members' personal preferences are combined and a group decision is reached (Hinsz, 1999). Whyte & Sebenius (1997) studied the effect of multiple anchors on group judgment and found consistent anchoring and adjustment bias in group decisions as well as individual judgments.

In the context of this study, SEC enforcement officials should be anchored to investigating the Fair Presentation/Full Disclosure accounting model because of their extensive experience and familiarity with the model. Conversely, such anchoring and adjustment bias should lead to the underinvestigation of alternative accounting models. Stated formally:

H1: The use of the Fair Presentation/Full Disclosure model within a country will be positively related to the issuance of AAERs.

H2: The use of the Legal Compliance model within a country will be negatively related to the issuance of AAERs.

H3: The use of the Inflation-Adjusted model within a country will be negatively related to the issuance of AAERs.

Corruption

The second country-specific factor that presents a risk to shareholders is corruption. Cross-country evaluation of corruption levels is an emerging topic in the accounting literature (Kimbro, 2002). The pervasiveness of corruption is not uniform across countries (Transparency International, 2001). The theory of differential association (Wells, 1997) suggests that a more comprehensive process of learning criminal behavior occurs in countries with higher levels of corruption. Individuals within these countries learn how to commit crimes and rationalize their criminal behavior.

The level of corruption in a country includes both the frequency of corruption and the total value of bribes paid (Transparency International, 2001). Therefore, as the level of corruption increases, so does the risk of doing business in that country. In a country with more corruption, legitimate business efforts have a higher probability of being affected by corrupt activities.

In order to measure and evaluate corruption risk, enforcement officials need a valid measure of relative corruption across countries. One such measure is

Transparency International's Corruption Perception Index (Transparency International, 2001). This composite index provides a relative ranking of countries based upon surveys conducted with business people and risk analysts. If the SEC is evaluating and responding to corruption risk, then more foreign-related AAERs will be issued against firms in countries with higher levels of perceived corruption, ceteris paribus. Stated formally:

H4: The level of perceived corruption within a country will be positively related to the issuance of AAERs.

Economic Presence

The final country-specific factor that presents a risk to shareholders is the relative economic effect a country has upon the U.S. economy. When foreign firms register stock in the U.S., their activities become part of the U.S. economy. As more firms from a foreign country register and operate within the U.S., that country's impact on the U.S. economy increases. Alternatively, the more business U.S. firms conduct in a foreign country, the greater the influence that country has on the U.S. economy. In response, the SEC should adjust their investigative strategy to provide adequate assurance to stakeholders. Therefore, ceteris paribus, the greater a relative influence a country has on the U.S. economy, the greater the enforcement resources that need to be devoted to investigate activities within that country.

Using these relative measures of economic presence for foreign registrants and the foreign operations of U.S. firms, the final two hypotheses are the following:

H5: The percentage of total foreign registrants will be positively related to the issuance of foreign registrant AAERs.

H6: The percentage of total U.S. exports will be positively related to the issuance of foreign operation AAERs.

Method

Sample

The original sample consists of AAERs from 1982-2003. AAERs were first issued in 1982 beginning with AAER No. 1, and 2003 ends with AAER No. 1936, for a total of 1,936 records. The full text of each AAER was obtained from the SEC Accounting Rules manuals (SEC, 1982-2003). Each AAER was studied to determine if a foreign firm or foreign operation was involved in the allegations. A foreign registrant is defined as a foreign issuer, a company whose stock is traded in the United States but is owned by foreign interests. Foreign operations of U.S. corporations is defined here as a wholly-owned foreign subsidiary, or foreign sales, financing, or licensing agreements.

To be included in the sample, a specific country must be named, and activities within the country must be involved in the allegations. Additionally, the country's accounting model must be known by the IASB. In a few cases, more than one country was involved in the charges. When this occurred, the countries were separated into two observations and assigned their own accounting model. A small number of AAERs were excluded because of ambiguous information about geographic location. A total of 1587 AAERs were excluded because they involve domestic allegations—misconduct by U.S. firms within the U.S..

The Corruption Perception Index (CPI) (Transparency International, 2001) ranks and measures 91 countries on a continuous scale from one to ten. A higher index score indicates less corruption. For a country to be included in the survey, at least three of the seven contributing sources must provide data about that country. If a country is not listed in the

CPI, its index score is estimated as the average of countries within its geographic region as defined by Transparency International.

Two measures of economic presence are needed given the two categories of foreign firms under examination. For foreign registrants, the measure of economic presence is the percentage of total foreign registrants that are from that particular country. For example, in the year 2002, 899 foreign registrants were listed on the New York Stock Exchange, NASDAQ, and the American Stock Exchange combined (NYSE, NASDAQ, AMEX, 2002). For each country, the number of foreign registrants from that country divided by the total number of foreign registrants (i.e., 899) provides a relative measure of foreign registrant presence. Each country must have listed foreign registrants on the NYSE, NASDAQ, or AMEX during the year 2002 to remain in the sample.

For the foreign operations of U.S. firms category, a relative measure can be provided by total U.S. exports. The Office of Trade and Economic Analysis provides the "Global Distribution of U.S. Exports" (2001). In the year 2001, U.S. exports totaled $731 billion. The relative measure is calculated as a country's specific U.S. export level divided by total U.S. exports. Each country must have received U.S. exports in the year 2001 to remain in the sample. Ultimately, the final sample included 276 AAER observations.

Model

Regression analysis was performed using the following equation:

$$AAER_i = b_o + b_1AM + b_2CPI_i + b_3I_1REG_i + b_4 I_2OPS_i + e_i \quad (1)$$

where:

$AAER_i$ = the number of AAERs issued against companies from or working in country i within each category type;

b_o = the intercept term;

AM = a categorical variable which designates the accounting model the country employs (i.e., Fair Presentation/Full Disclosure, Legal Compliance, or Inflation-Adjusted);

CPI_i = the Corruption Perception Index Score for country i;

I_1 = an indicator variable that equals one if the AAERs are in the foreign registrants category and zero otherwise;

REG_i = the percentage of total foreign registrants for country i;

I_2 = an indicator variable that equals one if the AAERs are in the foreign operations category and zero otherwise; and

OPS_i = the percentage of total U.S. exports for country i.

The hypotheses suggest that the regression coefficients b_3 and b_4 will be positive while b_2 will be negative. If b_1 is significant, which is the prediction, then further analyses will determine whether each of the accounting models within this categorical variable individually make a significant contribution and do so in their hypothesized direction.

Results

Descriptive Results

Of the 276 cases found in the 1982-2003 AAER population, 223 (81%) fall in the foreign operations category. The remaining 53 (19%) comprise the foreign registrant category. Table 1 breaks these cases out by year. In 1982, 1983, 1989 and 1990, all of the AAERs were filed against domestic firms. No foreign registrants were targeted for investigation until 1995. In this same year, a similar statistically significant increase in attention to foreign operations is present as well (one-tailed t-test, $p < 0.01$). Foreign AAERs represent the largest

Table 1
AAERs Citing Foreign Registrants and Foreign Operations of U.S. Corporations by Year 1982-2003

Year*	Number of Foreign Registrant AAERs	Number of Foreign Operations AAERs
1982	0	0
1983	0	0
1984	0	3
1985	0	1
1986	0	3
1987	0	1
1988	0	1
1989	0	0
1990	0	0
1991	0	3
1992	0	2
1993	0	4
1994	0	5
1995	1	8
1996	4	14
1997	2	18
1998	7	18
1999	8	17
2000	5	19
2001	9	34
2002	7	39
2003	13	40

*1982 is the first year the SEC issued AAERs, beginning with AAER No. 1. 2003 AAERs conclude with AAER No. 1936.

percentage of annual AAERs in 2001, at 40 percent of the total number filed.

Table 2 presents the 45 countries targeted in foreign-related AAERs. The first two columns list each country and the accounting model used. 60 percent of the countries in the sample utilize the Fair Presentation/Full Disclosure accounting model, 26 percent use the Legal Compliance accounting model, and 14 percent use the Inflation-Adjusted accounting model. The corruption results indicate that the countries in the sample have an average CPI score of 5.2 (SD = 2.4). Singapore, Canada, and the Netherlands are perceived to be the least corrupt countries, with scores of 9.2, 8.9, and 8.8 respectively. Nigeria, Indonesia, Azerbaijan, and Bolivia are perceived to be the most corrupt countries, with scores of 1.0, 1.9, 2.0, and 2.0 respectively. The last column presents the number of AAERs in which each country is named. Canada ranks first with 36 cites. Fellow NAFTA cohort Mexico and trading partners the United Kingdom and Japan rank in the top five with 11, 22, and 16 respectively. A bit surprising is the lack of AAERs issued against other European Union countries, which have been part of the U.S. economy since the Marshall

Plan. Italy, France, and Germany only garner three, four, and five AAERs respectively over the 22 year period.

The economic presence variables are made up of two categories, foreign registrants and foreign operations. Canada dominates the foreign registrants category, with firms from Canada comprising 22 percent of the foreign registrant population. Overall, countries involved in AAERs comprise 47 percent of the total foreign registrant population. Countries involved in foreign operations AAERs account for 84 percent of total U.S. exports. NAFTA trading partners comprise 36 percent of all exports, with 22 percent going to Canada and 14 percent to Mexico. The United Kingdom is the third largest trading partner involved in foreign operations AAERs, accepting 10 percent of all U.S. exports.

The foreign registrant results indicate that none of the AAER firms reside in Inflation-Adjusted user countries. A majority (62%) of the foreign registrants investigated used the Fair Presentation/Full Disclosure accounting model. The remaining 38 percent employed the Legal Compliance model. The Chi-square goodness-of-fit test examines whether or not the accounting models are investigated with equal frequency. The results (c^2= 31.28, $p < 0.01$) indicate that investigations occur predominantly in Fair Presentation/Full Disclosure user countries. In the foreign operations category, the Fair Presentation/Full Disclosure model again holds the majority and significantly dominates investigations (c^2= 72.98, $p < 0.01$).

Results of Hypothesis Testing

The regression equation outlined above contains both qualitative (categorical variable AM) and quantitative variables. Given this, a General Linear Regression Model (GLM) is the appropriate choice of regression analysis (Neter et al., 1996). Ordinary Least Squares Regression (OLS) would not be optimal in this situation because with a categorical indicator variable, sometimes referred to as allocated codes, numbers are arbitrarily assigned to variables within the category (e.g., 1 = Fair Presentation/Full Disclosure, 2 = Legal Compliance, 3 = Inflation-Adjusted). Within OLS, the theoretical assumption underlying allocated codes is that the change in the mean response from one category, in this case accounting model, to another is of equal distance between these three categories. GLM regression does not make this assumption when using a categorical, or class, variable (Neter et al., 1996). In addition, although the AAER data is gathered over multiple years, as is reflected in Table 1, this time-series data is evaluated in a cross-sectional manner. The dependent variable is a count of the number of AAERs attributed to a country over the time period—not year by year, but in the aggregate, as is reflected in Table 2. Hence, given that the data is not panel data, GLM estimation is used and not Generalized Least Squares. This approach also results in no risk of serial correlation.

GLM regression is used to prove whether the overall model and its variables are significant. If the AM categorical variable is significant, additional analyses will be necessary to prove H1, H2, and H3 individually. Here, the Tukey Test for significant differences between classes can be used, as well as Partial F-testing using dummy indicator variables (Lomax, 2001). The complete variance-covariance matrix shows that covariances range from -0.21 (Legal Compliance vs. Inflation-Adjusted accounting models) to 0.37 (AAER vs. REG). Lomax (2001) suggests that a moderate level of correlation exists at the 0.50 (or -0.50 for a negative) level.

Table 2
Countries with Foreign-Related AAERs

Country	Accounting Model[1]	CPI Score[2]	Number of AAERs
Antigua	FP	3.5†	1
Argentina	IA	3.5	4
Australia	FP	8.5	8
Azerbaijan	FP	2.0	2
Bahamas	FP	3.5†	7
Belgium	LC	6.6	5
Bolivia	IA	2.0	8
Brazil	IA	4.0	18
British Virgin Islands	FP	3.5†	9
Bulgaria	FP	3.9	1
Canada	FP	8.9	36
Cayman Islands	FP	3.5†	1
Chile	IA	7.5	6
Columbia	FP	3.8	3
Costa Rica	FP	4.5	4
France	LC	6.7	4
Germany	LC	7.4	5
Hong Kong	FP	7.9	7
India	FP	2.7	5
Indonesia	FP	1.9	7
Ireland	FP	7.5	3
Israel	IA	7.6	1
Italy	LC	5.5	3
Ivory Coast	LC	2.4	2
Japan	LC	7.1	16
Liberia	LC	2.3†	5
Liechtenstein	LC	7.6	1
Luxembourg	LC	8.7	7
Malaysia	FP	5.0	4
Mexico	IA	3.7	11
Netherlands[3]	FP	8.8	7
Nigeria	FP	1.0	8
Peru	IA	4.1	3
Philippines	FP	2.9	2
Republic of Palau	FP	6.6†	2
Russia	FP	2.3	9
Singapore	FP	9.2	4
South Africa	FP	4.8	1
South Korea	LC	4.2	3
Spain	LC	7.0	1
Switzerland	LC	8.4	6
Taiwan	FP	5.9	6
Thailand	FP	3.2	3
United Kingdom	FP	8.3	22
Venezuela	FP	2.8	5
Total Number of Countries			**45**
Total Number of AAERs			**276**
Mean		**5.2**	

Table 2
(continued)

Country	Accounting Model[1]	CPI Score[2]	Number of AAERs
Standard Deviation		**2.4**	

Notes:
[1]FP = Fair Presentation/Full Disclosure accounting model used.
IA = Inflation-Adjusted accounting model used.
LC = Legal Compliance accounting model used.

[2]The Corruption Perception Index ranks countries on a zero to ten scale. A high score indicates low corruption while a low score indicates high corruption. Finland leads the 2001 survey with the lowest corruption score (9.9). Bangladesh has the highest corruption score of the 91 ranked countries (0.4).

[3]Netherlands includes Netherlands Antilles.

Table 3 presents the results of both the GLM regression and supplemental analyses. In the GLM regression, the overall R^2 for the regression equation is 0.46 (F statistic = 8.60, p-value < 0.01), suggesting a statistically significant relationship between the variables of interest and the issuance of AAERs. The results provide support for a significant relationship between the AM category as a whole and the issuance of AAERs, with a Partial F-statistic of 3.22 and a p-value of 0.04. This significant result permits further analysis of each individual accounting model. The first supplemental analysis to determine if there is a significant difference between the Fair Presentation/Full Disclosure, Legal Compliance, and Inflation-Adjusted models is the Tukey Test. The Tukey Test provides a post hoc, pairwise comparison of means to test for significant differences (Lomax, 2001). Results show a significant difference between the Fair Presentation/Full Disclosure and Legal Compliance accounting models at the p-value = 0.05 significance level. The Tukey Test is a conservative test (Lomax, 2001), so Partial F-testing is warranted to see if the Inflation-Adjusted model is also contributing to the significant results in the GLM regression. Using dummy indicator variables, Partial F-testing provides evidence that the Inflation-Adjusted model is significant with a Partial F-statistic of 12.06 and a p-value < 0.01. In addition, this type of testing provides individual signs on the coefficients, which allows conclusions to be drawn on H1, H2, and H3. For H1, the sign is positive as predicted and significant, with a Partial F-statistic of 9.30 and a p-value < 0.01. For H2, the sign is negative as predicted and significant, with a Partial F-statistic of 4.24 and a p-value of 0.04.

Support for these hypotheses provides evidence that the SEC appears anchored in the Fair Presentation/Full Disclosure accounting model. As mentioned above, the Inflation-Adjusted model is significant; however, its coefficient is positive, which is in the opposite direction than that predicted in H3. As described earlier, countries that employ this model can choose either of the other two accounting models as the underlying model and then adjust for inflation. If a majority of the countries in the sample have the Fair Presentation/Full Disclosure accounting model as the underlying model, then this positive relationship to AAER

Table 3
Regression Results

$AAER_i = b_o + b_1AM + b_2\ CPI_i + b_3I_1REG_i + b_4\ I_2OPS_i + e_i$

Variable	Predicted Sign	Coefficient Sign	Partial F-statistic	p-value
AM			3.22	0.04
CPI	-	-	6.39	0.01
REG	+	+	7.28	<0.01
OPS	+	+	22.89	<0.01
Supplemental Analysis:				
FP	+	+	9.30	<0.01
LC	-	-	4.24	0.04
IA	-	+	12.06	<0.01
Full Model:				
R-Square	0.46			
F-statistic	8.60			
p-value	<0.01			

Variable Definitions:

$AAER_i$ = the number of AAERs issued against companies from or working within country i within each category type;
b_o = the intercept term;
AM = a categorical variable which designates the accounting model the country employs (i.e., Fair Presentation/Full Disclosure, Legal Compliance, or Inflation-Adjusted);
CPI_i = the Corruption Perception Index Score for country i;
I_1 = an indicator variable that equals one if the AAERs are in the foreign registrants category and zero otherwise;
REG_i = the percentage of total foreign registrants for country i;
I_2 = an indicator variable that equals one if the AAERs are in the foreign operations category and zero otherwise;
OPS_i = the percentage of total U.S. exports for country i;
FP = an indicator variable that equals one if the country employs the Fair Presentation/Full Disclosure accounting model and zero otherwise;
LC = an indicator variable that equals one if the country employs the Legal Compliance accounting model and zero otherwise; and
IA = an indicator variable that equals one if the country employs the Inflation-Adjusted accounting model and zero otherwise.

issuance could provide explanation for this result.

The results support the H4 prediction that the issuance of AAERs would be inversely related to a country's Corruption Perception Index score. The Partial F-statistic of 6.39 and p-value of 0.01 suggest that a country's corruption level is a risk factor that is systematically addressed in investigations that result in AAERs.

The economic presence results provide support for H5 and H6. Specifically, the H5 results suggest a positive relationship between a country's percentage of foreign registrants and the issuance of AAERs. The Partial F-statistic on the REG variable is 7.28 (p-value < 0.01). H6 predicted a positive relationship between a country's percentage of U.S. exports and the issuance of foreign operations AAERs. The Partial F-statistic on the OPS variable is 22.89 (p-value < 0.01). Support for these hypotheses provides evidence of a positive relationship between the economic presence a country has in the U.S. economy and the issuance of AAERs.

Sensitivity Analysis

Given the US's significant business relationship with Canada, the possibility exists that the AAERs involving Canada could be driving the regression results. To address this question, the same regression was performed without Canada in the sample. This change eliminates 20 AAERs from the foreign registrant sample and 16 AAERs from the foreign operations sample. The results are presented in Table 4.

The regression equation's R^2 remains significant, but it decreases from 0.46 to 0.31 (F statistic = 4.38, p < 0.01). The results continue to provide support for the relationship between the AM categorical variable and the issuance of AAERs (Partial F-statistic = 3.47, p-value = 0.03). As with our full sample testing, this significant result warrants further testing within the AM category. The Tukey Test again demonstrates a significant difference between the Fair Presentation/Full Disclosure and Legal Compliance accounting models at the p-value = 0.05 significance level. Partial F-testing demonstrates that the Inflation-Adjusted model also contributes to the category's significance, with a Partial F-statistic of 9.78 and a p-value < 0.01. Using indicator variables again provides support for H1 and H2. H1 is positive and significant, with a Partial F-statistic of 9.18 and a p-value < 0.01. H2 is negative and significant, with a Partial F-statistic of 3.45 and a p-value of 0.06. Consistent with the full sample testing, support for these hypotheses provides evidence that the SEC appears anchored in the Fair Presentation/Full Disclosure accounting model. As mentioned above the Inflation-Adjusted model is significant, but as before its coefficient is in the opposite direction than predicted in H3.

One difference in the regression results is that H4 is unsupported (Partial F-statistic = 0.70, p-value = 0.41). There is no significant relationship between a country's corruption level and the issuance of AAERs. Another difference between the two regression results is in the foreign registrant economic presence variables. In the original regression the coefficients for both REG and OPS were highly significant, supporting H5 and H6; however, when Canada is removed from the sample the foreign registrant presence variable becomes insignificant (Partial F-statistic = 1.15, p-value = 0.29). Beyond Canada, results provide evidence that economic presence is not related to

Table 4
Regression Results Excluding Canadian AAERs

$AAER_i = b_o + b_1AM + b_2\ CPI_i + b_3I_1REG_i + b_4\ I_2OPS_i + e_i$

Variable	Predicted Sign	Coefficient Sign	Partial F-statistic	p-value
AM			3.47	0.04
CPI	-	-	0.70	0.41
REG	+	+	1.15	0.29
OPS	+	+	13.08	<0.01
Supplemental Analysis:				
FP	+	+	9.18	<0.01
LC	-	-	3.45	0.06
IA	-	+	9.78	<0.01
Full Model:				
R-Square	0.31			
F-statistic	4.38			
p-value	<0.01			

Variable Definitions:

$AAER_i$ = the number of AAERs issued against companies from or working within country i within each category type;
b_o = the intercept term;
AM = a categorical variable which designates the accounting model the country employs (i.e., Fair Presentation/Full Disclosure, Legal Compliance, or Inflation-Adjusted);
CPI_i = the Corruption Perception Index Score for country i;
I_1 = an indicator variable that equals one if the AAERs are in the foreign registrants category and zero otherwise;
REG_i = the percentage of total foreign registrants for country i;
I_2 = an indicator variable that equals one if the AAERs are in the foreign operations category and zero otherwise;
OPS_i = the percentage of total U.S. exports for country i;
FP = an indicator variable that equals one if the country employs the Fair Presentation/Full Disclosure accounting model and zero otherwise;
LC = an indicator variable that equals one if the country employs the Legal Compliance accounting model and zero otherwise; and
IA = an indicator variable that equals one if the country employs the Inflation-Adjusted accounting model and zero otherwise;

the issuance of AAERs for foreign registrants. With respect to the foreign operations of U.S. registrants, this economic presence hypothesis (H6) is still supported even when Canada is removed from the analysis (Partial F-statistic = 13.08, p-value < 0.01). There remains a positive relationship between the economic presence a country has in the U.S. economy and the issuance of AAERs.

Implications, Limitations, and Future Research

The results of this study have implications for policy, practice, and research. From an investigative policy perspective, the SEC appears anchored in the Fair Presentation/Full Disclosure accounting model, and cognizant of the effect that foreign operations of domestic firms have on the U.S. economy. Adjustments are evident with respect to varying corruption levels, although this result appears to be driven by the AAERs issued against Canadian firms. In addition, other than these AAERs issued against Canadian firms, the SEC does not appear to be sensitive to the economic presence foreign registrant countries have within the U.S. market. This suggests the SEC has recognized Canadian firms' impact on the US's economy and financial markets and has properly adjusted its investigative focus to address risks from this segment of the population; however, the SEC has not made a similar adjustment with respect to corruption, and to other foreign firms that have a significant impact on our economy. Even with major trading partners such as Mexico and the United Kingdom, stakeholders in foreign firms that conduct business in these countries may face exposure to unchecked, intentional misstatements; however, findings of an investigative bias in favor of the US-based accounting model remain robust regardless of Canada's inclusion in the analysis.

From a practice perspective, if the SEC conducts a cost-benefit analysis, the results may suggest that hiring or training additional investigators to work with alternative accounting models would help deter fraud and increase enforcement profits. With increased coverage, more attention also can be paid to countries with higher levels of corruption and economic presence.

As a first study in this area, this research demonstrates the relationship between macro-level, country-specific risk factors and the issuance of AAERs. Future research that expands upon these risk factors can take various forms. For example, when situations subject to these foreign AAERs later result in litigation by investors who claim to have been defrauded, one could examine how the legal outcomes differ from their domestic counterparts, and how enforceable in these situations the court rulings become. Alternatively, with the enactment of the Sarbanes-Oxley Act (U.S. Congress, 2002), the volume of enforcement actions likely will increase significantly. Requirements of the Act could be examined to predict future country-specific investigative associations.

This study has three major limitations. First, when studying fraud, cases have to be both detected and disclosed to become public knowledge. Accordingly, the true distribution of fraud is unobservable. Second, AAERs involve investigations that are publicly announced. The distribution of enforcement investigations that do not reach this stage is private information held by the SEC. AAERs could have a different distribution, which would affect policy implications for the enforcement division. Finally, the distribution of accounting models around the world is undergoing a significant shift. In 2005, the European Union required public firms to follow International Accounting Standards. In addition, the SEC is currently considering

converging U.S. GAAP to the International Accounting Standards. This prospective change will affect enforcement policy in the coming years.

Endnotes

1. In the U.S. alone, the Association of Certified Fraud Examiners estimates that losses from occupational fraud and abuse has risen from $400 billion in 1996 to $994 billion in 2008 (ACFE, 2008).

2. The SEC broadened its investigative net in response to the growth of the international marketplace. Throughout the 1990's, the SEC entered into reciprocal agreements to share evidence with other countries which provide access to information and evidence. In 1989, the SEC made 101 requests for investigative assistance to foreign governments. In the same year, 150 requests for assistance were made by foreign governments to the SEC (SEC Annual Report, 1990). By 1999, requests to foreign governments increased to 275 and requests by foreign governments inflated to 412 (SEC Annual Report, 1998).

3. The Fair Presentation/ Full Disclosure model is also called the Anglo-Saxon or British-American model. Countries that base their legal system on common law use this model. The Legal Compliance model is also called the Continental model.

4. Tversky and Kahneman (1986) refer to structures such as these as disjunctive structures.

5. The institutions that contribute data to compile this index include the World Economic Forum, the World Business Environment Survey of the World Bank, the Institute of Management Development, Pricewaterhouse-Coopers, the Political and Economic Risk Consultancy, the Economist Intelligence Unit, and Freedom House's Nations in Transit. Countries are ranked on a continuous zero to ten scale, with higher scores indicating less perceived corruption.

6. For example, Canadian firms comprise the largest segment of foreign registrants on a country-by-country basis. In addition, the greatest portion of U.S. exports is to Canada.

7. For example, the IASB issued a request for information about the accounting systems within Nicaragua and Saudi Arabia (IASB, 2002). Nicaragua has four AAERs, while Saudi Arabia has five AAERs. These observations are excluded from the sample.

8. Finland leads the 2001 survey with the least corruption and a score of 9.9. Bangladesh is listed as the country with the most corruption, ranked 91 with an index score of 0.4. Western European countries, Canada, and the U.S. dominate the higher rankings. For example, Canada is ranked seventh with a score of 8.9; the United Kingdom is ranked 13th with a score of 8.3; and the U.S. is ranked 16th (and tied with Israel) with an index score of 7.6.

9. The results do not change when these countries are excluded from the analysis.

10. Seven AAERs from Dubai and two AAERs from Cyprus were

excluded because neither country has listed foreign registrants in the year 2002.

11. One AAER from Northern Mariana Island was excluded because there were no U.S. exports to the country in the year 2001. Results are not significantly different when this observation is included and its imports of zero for the year 2001 are included.

12. Coefficient b_3 is predicted to be negative because the CPI score is inversely related to corruption levels.

13. Neter et al (1985) suggest that Variance Inflation Factors (VIFs) greater than 10 indicate a multicollinearity problem. All of the VIFs are less than 1.4.

14. Results are not significantly different when the averaged CPI scores are excluded.

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