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# Is Earnings Management Affected by Human Development and Economic Freedom?

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**Abstract**

Based on the idea that insiders (i.e., managers and controlling shareholders) engage in earnings management to mask their diversion and rent seeking activities from outsiders, this paper presents international evidence supporting both a "diversion hypothesis" where earnings management is decreasing in economic freedom, and a "penalty hypothesis" where earnings management is increasing in human development.

## 1. Introduction

Economic development research suggests that the level of economic freedom and human development have beneficial effects on growth, output and investment (Ayal and Georgios, 1998; Berggren, 1999; Dawson, 1998; Easton and Walker, 1997; Gwartney et al. 1999). The international accounting development literature suggests also that economic freedom and human development increase and promote disclosure in general and the mandatory requirements of global stock exchanges (Laporte et al. 2000; Riahi-Belkaoui, 1997; 2000). The quality of information is also crucial to human development because it provides outsiders with a basis to monitor and also exercise economic and human rights (Berggren, 1999; Grubel, 1998; Kaufman, 1999; Leuz et al. 2001). Accordingly, this paper examines how human development and economic freedom affect insiders' incentives to "manage" earnings disclosed in public financial reports based on competing hypotheses advanced by Leuz et al. (2001). Our empirical results suggest that earnings management is a decreasing function of economic freedom and an increasing function of human development.

The accepted thesis in accounting is that insiders engage in both earnings management and income smoothing. Earnings management is aimed at changing the level of reported economic performance through various accounting choices resulting in misleading some stakeholders or influencing the contractual outcomes (Healy and Wahlen, 1999). Income smoothing is aimed at normalizing the income through a reduction of the variability of earnings. Both earnings management and income smoothing are aimed at minimizing the likelihood of outsiders questioning the management of the firm by insiders. The results of both earnings management and income smoothing are an inaccurate depiction of the level and variance of firm performance that minimizes the possible intervention of outsiders.

Both earnings management and income smoothing are a direct result of the conflict between firms' insiders and outsiders.[1] Diversion activities used by insiders to further their own economic situation and wealth are "masked" through the management of the level and variability of earnings to be communicated to outsiders. High economic freedom and human development limit the ability of managers to engage in diversion activities as outsiders are more likely to monitor and exercise their financial decisions and firm valuation. He has published more than twenty-five research papers in many leading journals, including the *Journal of Accounting Research, The Accounting Review, Journal of Accounting, Auditing and Finance, Journal of Business Finance and Accounting, Journal of Business Research, Decision Sciences* and *International Journal of Forecasting.* He has presented papers at several national and international conferences and had served as a reviewer for most of the leading accounting journals.

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economic and human rights. Basically, the paper argues that both economic freedom and human development hamper the ability of insiders to conceal their diversion activities and therefore the ability to manage and mask the financial performance of the firm.

The relationship between human development and economic freedom on one side and earnings management on the other side is predicated on two competing hypotheses: the "diversion" hypothesis and the "penalty" hypothesis (Leuz et al., 2001). The diversion hypothesis predicts that insiders will engage in less earnings management to mask their rent seeking activities from outsiders when economic freedom and human development are high as the economic and human climate is less tolerant and more monitoring of asset diversion.[2] The penalty hypothesis predicts that the same insiders will resort to more earnings management when economic freedom and human development are high as they need to have a greater need to hide their asset diversion to avoid a higher expected penalty.

We rely on the same data base used by Leuz et al. (2001) to test the competing hypotheses concerning the association between economic freedom, human development, and earnings management. The sample consists of firms from 31 countries between 1990 and 1999. The measures used to capture earnings management are: (a) the smoothness of reported earnings relative to the underlying cash flow, (b) the negative correlation of changes in the accounting component of earnings, namely accruals, and operating cash flows, (c) the magnitude of accounting accruals relative to the magnitude of operating cash flows, and (d) the degree of loss avoidance.

The results of the study show that earnings management is negatively associated with the level of economic freedom across countries and positively associated with the level of human development as measured by a life expectancy index. As implied by the "diversion" hypothesis, earnings management is limited in countries with a high level of economic freedom where outsiders are more inclined to monitor and exercise their economic rights. As implied by the "penalty" hypothesis, earnings management is higher in countries with a high level of human development where managers have a greater need to hide their asset diversion to avoid a higher expected penalty.

The findings are found to be robust to controls for differences in economic development, technological achievement and political risk.

The study builds on findings on the role of human development and economic freedom on both economic growth and accounting disclosures (e.g. Riahi-Belkaoui, 2002; Bushman, Piotroski and Smith, 2001; Francis et al. 2001). This study adds the evidence that the quality of information internationally is related to both the levels of human development and economic freedom. This is possible given that some studies document that earnings management might actually increase the informativeness of earnings by signaling to investors information held by managers.

It adds to a growing literature on the differences in firms' financial disclosures across countries in general and the research on the simple relation between earnings and stock prices around the world (e.g. Alford et al., 1993; Joos and Lang, 1994; Pope and Walker, 1999; Land and Lang, 2000), by suggesting that the level of economic freedom and human development fundamentally influence the properties of reported earnings.[3]

The remainder of the paper is organized as follows. Section 2 covers the specific hypothesis of the study. The earnings management measures used by Leuz et al. (2001) are described in section 3. The independent and control variables are presented in section 4 and 5. The empirical results are presented in section 6 followed by the conclusions of the study.

## 2. Human Development, Economic Freedom and Earnings Management

The principal-agent conflict between a firm's insiders and its outside investors suggests that insiders are more inclined to mask firm performance to minimize outsider and/or legal intervention and/or to present a financial picture that can be deemed as financially attractive by outsiders. This "camouflage" activity is at the essence of the concept and techniques of earnings management. It is the intentional intervention of insiders in the external financial process with the intent of obtaining more private gain that defines the earnings management process (Schipper, 1989). The main private gain is the weakening of outsiders' ability to monitor and discipline insiders as a result of information asymmetries between insiders and outsiders created by earnings management. The only recourses left to outsiders are to a) write contracts that confer to them rights to discipline insiders (e.g. to replace managers), and/or b) to vote with their feet and reinvest their capital in other less earnings management prone firms. Both actions are more likely to depend on the level of human development and economic freedom. Both levels of human development and economic growth are found to cause economic growth and facilitate the exercise of human and economic rights (Riahi-Belkaoui, 2002; Ali, 1977; Farr and Wolfernberger, 1998).[4]

Therefore, earnings management activities in the context of human development and economic freedom call for two competing hypotheses as follows:

1. One may argue that earnings management will be more widespread in countries with low level of human development and economic freedom. This "diversion" hypothesis is based on the thesis that insiders are more inclined to mask firm performance as the likelihood of outsiders exercising their human and economic rights is low.

2. Similarly, one may argue that earning management will be more widespread in countries with high level of human development and economic freedom where greater expected penalties are possible. This "penalty" hypothesis is based on the thesis that the higher penalties existing in countries with high level of human development and economic freedom motivate insiders to hide their rent seeking activities.

## 3. Earnings Management Measures

The four earnings management measures used by Leuz et al. (2000) are drawn from the extensive earnings management literature (Healy and Wahlen, 1999). The measures focus on the use of income smoothing and the use of discretion to hide firm performance and are based on the properties of earnings that capture smoothing behavior and use of discretion. They are as follows:

a. The smoothing of reported earnings using accruals is measured by the ratio of the variability of reported earnings to the variability of actual cash flows from operations, with a low value indicative of insiders using their discretion to measure smooth reported earnings. The extent of smoothing in a given country is measured by the median ratio for firms' ratios from that country. Cash flow is computed as the difference between operating income for the current year and a calculated accrual component of earnings. The calculated accrual component of earnings is computed as follows (Dechow et al. 1995):

Accruals it = $(\Delta CA_{it} - \Delta Cash_{it}) - (\Delta CL_{it} - \Delta STD_{it} - \Delta TP_{it}) - Dep_{it}$

Where

$\Delta CA_{it}$ = change in total current assets
$\Delta Cash_{it}$ = change in cash/cash equivalents
$\Delta CL_{it}$ = change in total current liabilities
$\Delta STD_{it}$ = change in short term debt included in current liabilities
$\Delta TP_{it}$ = change in income taxes payable
$Dep_{it}$ = depreciation and amortization expense

b. The use of discretionary accruals to buffer "undesirable" cash flow shocks, resulting in a negative correlation between accruals and cash flows, is measured by the contemporaneous correlation between the change in accounting accruals and the change in operating cash flows.

c. The use of the level of accruals to misstate the firm's actual economic performance is measured by the magnitude of accruals scaled by the absolute value of the firms' cash flow from operations, with extreme values of this ratio indicative of large scale use of discretion to manipulate accounting earnings.

d. The use of accounting discretion to avoid reporting small losses is measured by the ratio of "small" profits to small losses using after-tax earnings scaled by total assets with a higher ratio indicative of greater loss avoidance activity and earnings management. (Burgstahler and Dichev, (1997).

For each of these four earnings management measures, Leuz et al. (2001) ranked countries such as a higher rank implies a higher level of earnings management, and averaged the ranks of all four measures to produce an "aggregate earnings management measure." This aggregate measure to be used as the dependent variable is shown in Table 1 for all the countries included in this study.

## 4. Independent Variables

The two independent variables to be used in this study are measures of human development and economic freedom. They are chosen as follows

1. Human development is measured by the United Nations Life Expectancy Index for most of the regressions and for purpose of testing the sensitivity of the results by the UN Human Development index.

   a. The life expectancy index measures the relative achievement of a country in life expectancy at birth. For Country X, with a life expectancy of 72.7 years in 1999, the life expectancy index is 0.795 (72.7-25)/(85-25). The study relies on the 1990-1999 average life expectancy index (U.N. 2001).[5]

   b. The human development index (HDI) is a summary measure of human developments measuring the average achievement in a country in three basic dimensions of human development: a) a long and healthy life, b) knowledge, c) a decent standard of living. It is computed as simple average of the life expectancy index, the education index and the GDP index. This study relies on the 1990-1999 average human development index (U.N. 2001)

2. Economic freedom is measured by the 1999 summary economic freedom index from Gwartney, Lawson and Samida (2001).[6]

**5. Control Variables**

The following stack of control variables is also introduced to test the robustness of our measures:

1. 'Economic Development' measured by the 1990-1999 average U.N. GDP index (U.N. 2001). Assuming a goal post of $40,000, for Country X, with a GDP per capita of $2,215 in 1998, the index is 0.517 ((log(2,215) – Avg (100)) / (log(40,000) –log (100)) To test the robustness of the results to this choice of an economic development measure, one of the regressions will rely on the 1990-1999 average log GNP as a measure of economic development.

2. "Technological Achievement" measured by the 1999 U.N. Technological achievement index (TAI) aimed at capturing how well a country is creating and diffusing technology and building a human skill base reflecting capacity to participate in the technological innovations of the network age. (U.N. 2001).[7]

3. Political risk measured by the political risk index provided by Political Risk Services (PRS) Inc. The convention is the higher the index the lower the political risk. The rating ranges between 0 and 100. Political risk can be described as the probability of an event occurring over a period of time and is usually associated with major changes in government policies precipitated by dramatic episodes such as war, insurrection or political violence (Jodice, 1985; Monti-Belkaoui and Riahi-Belkaoui, 1998)

## 6. Results

Table 2 presents the results for the effects of economic freedom and human development on earnings management. All the results of the five models are robust to the introduction of continental dummies and legal system dummies.[8] The expected signs are either significantly negative for economic freedom and human development as suggested by the diversion hypothesis or significantly positive as suggested by the penalty hypothesis. The expected sign for economic development (GDP index or log GNP) and for technological achievement is negative while the expected sign for political risk is positive

In the base model, model 1, we regress the earnings management measure against the economic freedom and life expectancy index. The results indicate a significant negative coefficient for economic freedom in support of the diversion hypothesis and a significant positive coefficient for life expectancy index in support for the penalty hypothesis. It appears that a) low economic freedom predisposes to more earnings management, and b) higher human development and its associated higher penalties predispose to less earnings management. Model 2 introduces technological development as measured by the technological achievement index. The results are as expected. The higher is the level of technological development, the lower are the earnings management practices. Model 3 adds the impact of economic development as measured by the GDP index. The results again are as expected. The higher is the level of economic growth the lower are the earnings management practices. Model 4 adds the impact of political risk. As expected, the level of political risk is positively associated with more earnings management. To test the robustness of the results, model 5 substitutes new measures for economic development, namely the log of GNP, and for human development, namely the human development index. The results are similar to those from model 4. In summary, earnings management is decreasing in economic freedom as suggested by the diversion hypothesis and increasing in human development as suggested by the penalty hypothesis, after controlling for economic development, technological development, and political risk.

## 7. Conclusions

This paper examines the relationship between human development, economic freedom and earnings management across 31 countries. Based on the premise that insiders (i.e., managers and controlling shareholders) engage in earnings management to mask their diversion and rent seeking activities from outsiders, the paper presents international evidence supporting both a diversion hypothesis where earnings management is decreasing in economic freedom, and a penalty hypothesis where earnings management is increasing in human development. Basically, strong economic freedom leads to less diversion and reduces insiders' hiding incentives, while strong human development and the resulting higher penalty system leads to more diversions as insiders' incentives to hide their rent seeking activities are stronger when outsiders can effectively penalize them. The results persisted after controlling for economic development, technological achievement, and political risk.

The results are subject to the following caveats.

1st: Proxies for earnings management computed by Leuz et. al (2001) are used. Research based on different proxies are needed to confirm the results of this study.

2nd: Changes in economic freedom, human development, economic development, technological achievement and political risk may provide different results in a world in constant change.

| Table 1: Aggregate Earnings Management | | |
|---|---|---|
| **No.** | **Country** | **AEM** |
| 1 | Australia | 4.8 |
| 2 | Austria | 28.3 |
| 3 | Belgium | 19.5 |
| 4 | Canada | 5.3 |
| 5 | Denmark | 16.0 |
| 6 | Finland | 12.0 |
| 7 | France | 13.5 |
| 8 | Germany | 21.5 |
| 9 | Greece | 28.3 |
| 10 | Hong Kong | 19.5 |
| 11 | India | 19.1 |
| 12 | Indonesia | 18.3 |
| 13 | Ireland | 5.1 |
| 14 | Italy | 24.8 |
| 15 | Japan | 20.5 |
| 16 | Korea | 26.8 |
| 17 | Malaysia | 14.8 |
| 18 | Netherlands | 16.5 |
| 19 | Norway | 5.8 |
| 20 | Pakistan | 17.8 |
| 21 | Philippines | 8.8 |
| 22 | Portugal | 25.1 |
| 23 | Singapore | 21.6 |
| 24 | South Africa | 5.6 |
| 25 | Spain | 18.6 |
| 26 | Sweden | 6.8 |
| 27 | Switzerland | 22.0 |
| 28 | Taiwan | 22.5 |
| 29 | Thailand | 18.3 |
| 30 | U.K. | 7.0 |
| 31 | U.S.A. | 2.0 |

AEM = Aggregate Earnings Measure (Leuz et al. 2001)

**Table 2:**
**Effect of Economic Freedom and Human Development on Earnings Management**

Model: Earnings Management = $\beta_0 + \beta_1$ + Economic Freedom + $\beta_2$ Human Development + $\beta_3$ Control Variables +E

| Dependant Variable | | Earnings Management Measure | | | | |
|---|---|---|---|---|---|---|
| **Independent Variable** | **Expected Sign** | 1 | 2 | 3 | 4 | 5 |
| Intercept | ? | 11.682 (1.08) | 7.525 (0.41) | -2.323 (-0.11) | -25.929 (-0.98) | 5.357 (0.24) |
| Economic Freedom | -/+ | -0.887 (-2.53)* | -2.411 (-2.42)* | -2.037 (-2.18)* | -1.522 (-2.84)* | -1.499 (-2.78)* |
| Life Expectancy Index | -/+ | 18.430 (2.51)* | 48.546 (2.69)* | 101.695 (2.70)* | 111.530 (2.68)* | |
| Technological Achievement Index | - | | -31.079 (-2.95)* | -19.833 (-2.82)* | -59.911 (-2.56)* | -57.909 (-2.71)* |
| GDP Index | - | | | -51.190 (-2.95)* | -51.327 (-2.78)* | |
| Political Risk | + | | | | 0.407 (2.92)* | 0.238 (2.51)* |
| Human Development Index | -/+ | | | | | 33.475 (2.55)* |
| Log GNP | - | | | | | -0.437 (2.53)* |
| Adjusted R2 | | 10.40% | 15.36% | 15.43% | 22.69% | 22.36% |
| F | | 3.63* | 3.54* | 3.14* | 3.17* | 3.29* |

* Significant at a 0.01 level

## Endnotes

1. Conflicts of interest between firms' insiders and outsiders lead insiders to use diversion activities in a way that benefits them, but not outsiders (Schleifer and Vishny, 1997; Jensen and Meckling, 1976; Laporta et al. 2000).

2. Leuz et al., 2001.

3. The effects of institutional factors are also explained in the works of Bushman and Smith (2001), Ball et al. (1999 and 2000), Fan and Wong (1999), Ali and Hwang (2000) and Bass et al. (1998).

4. The study in particular finds that developing countries that score better in protecting economic rights also tend to grow faster and to score higher in human development. In addition, it finds that economic rights are associated with democratic government and with higher levels of average national income (Goldsmith, 1997).

5. The measure is based on an examination of the properties of reported earnings for 70,000 firm years between 1990 and 1999.

6. This summary index is based on 23 components designed to identify the consistency of institutional arrangements and policies with economic freedom in seven major areas. The seven areas covered by the index are: (a) size of government, (b) economic stridence and use of markets, (c) monetary policy and price stability, (d) freedom to use alternative currencies, (e) legal structure and security of private ownership, (f) freedom to trade with foreigners, and (g) freedom of exchange in capital markets.

7. The TAI focuses on four dimensions of technological capacity that are important for reaping the benefits of the network age, namely a) creation of technology, b) diffusion of recent innovations, c) diffusion of old innovations, and d) human skills.

8. Regressions with continental and legal systems dimensions are not displayed in the paper. Results are available from the author.

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