

EQUITY RETURNS AND ECONOMIC FREEDOM

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We often hear disparaging references to “paper entrepreneurs,” with a sort of macho disdain for people who don’t “make things” like steel and automobiles. But in an increasingly complex economy, no task is more important than allocating capital to the right projects, and it is entirely appropriate that the market rewards people handsomely for making the right investment decisions.

—David Boaz (1997: 163)

In an environment in which economic freedom varies widely from country to country, investors in global equity markets labor to identify attractive investment opportunities. To better understand the characteristics of such investments, this article first reviews previous research on the relationship between economic freedom and equity markets. Second, a construct is posited relating economic freedom to equity investment returns. Correlation analyses are presented that describe the relationship between observed equity market returns and economic freedom. Results show that the rate of increase in economic freedom is directly related to equity returns and that an investment strategy based on economic freedom earned attractive investment returns. Finally, an investment strategy is proposed for constructing a global investment portfolio based on economic freedom.

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Previous Research

Previous research has focused on the relationship between economic freedom and the size of a country's equity market, as measured by total market capitalization as a percentage of gross domestic product. Li (2002) shows that developed countries with greater economic freedom and stronger shareholder protections have larger total equity market capitalizations as a percentage of GDP. In particular, the size of their equity markets is negatively correlated to the size of government, as measured by government consumption as a percentage of GDP. For developing countries, Li finds that openness to trade is conducive to the growth of the equity market.

Other research has shown that the observed size of a country's equity market is associated with institutions similar to those measured by the Fraser Institute's economic freedom of the world (EFW) index. La Porta et. al. (1997) show that the legal environment affects the size and extent of a country's capital markets (size is measured by total market capitalization as a percentage of gross national product, and extent is measured by the number of listed companies and initial public offerings per capita). The reason is simple: Countries with strong legal protections for investors have larger and broader capital markets.

Levine and Zervos (1998) conclude that total stock market capitalization becomes a larger percentage of GDP following capital control liberalization. Perotti and van Oijen (2001) achieve similar findings for privatization in emerging economies by demonstrating that the privatization process reduces political risk, which effects excess stock market returns in emerging economies.

In another study, which is narrowly focused on idiosyncratic events of equity market liberalization, Henry (2000: 553) relies on the international asset pricing model and concludes, "The standard IAPM makes a salient predication about an emerging country that does not allow foreigners to purchase shares in its stock market: The country's aggregate cost of equity capital [i.e., the discount rate] will fall when it opens its stock market to foreign investors . . . and we should see an increase in an emerging country's equity price index when the market learns of an impending future stock market liberalization."

Unlike prior research, which examines relative equity market size and investment returns associated with idiosyncratic events, this article examines how broad measures of economic freedom are correlated to cross-country equity market rates of return. The analysis presented establishes a significant direct correlation between the rate

of increase in economic freedoms and the rate of contemporaneous equity price index increases.

Effect of Economic Freedom on Equity Valuation

According to the discounted cash flow equity-pricing model, the value of each equity unit to investors is the present value of expected future cash flows:

$$PV^F = \sum_{t=1}^{\infty} \frac{E(FCF_t)}{(1 + Er_t)^t}$$

where,

PV^F is the estimated present value of the equity unit,

$E(FCF_t)$ is the expected nominal free cash flow from the firm's operations for period t , and

Er_t is the expected average cost of capital in period t , that is, the discount rate equal to the market cost of financing the capital that generates the free cash flow.

By definition, an increase (decrease) in expected cash flows, *ceteris paribus*, necessitates an increase (decrease) in the equity's present value. An increase (decrease) in the discount rate, which represents the financing cost of equity, *ceteris paribus*, necessitates a decrease (increase) in the equity's present value. It is important to note that *changes* in cash-flow expectations and in the discount rate will alter equity values.

The components of economic freedom will affect equity prices through their impact on future cash flows and the discount rate. Thus, it is proposed that *changes* in economic freedom will affect equity returns while the absolute level of economic freedom will not.

We can list the mechanisms by which changes in economic freedom may affect equity prices:

- *Size of Government*—As the government becomes smaller, in terms of its share of total consumption and investment, companies will face decreasing competition from the government for investment capital and market share. Decreased government competition will reduce financing and operating expenses and increase revenues that will increase expected cash flows. Both will effect increased equity values. Similarly, decreased competition from government for investors' assets means investors require a lower discount rate of prospective investments, thus increasing equity prices.

- *Legal Structure and Security of Property Rights*—Changes that make property rights more secure and give equity holders better protection against fraud and nationalization will reduce uncertainty and decrease the discount rate, thereby increasing equity valuations.
- *Access to Sound Money*—Investments that create cash flows in a currency that experiences a decreasing volatility in the rate of inflation will lower uncertainty risk to investors, thus decreasing the discount rate, and increasing equity valuations.
- *Freedom to Trade Internationally*—Trade liberalization, which increases a company's ability to pursue international markets, will increase expected cash flow and equity values.
- *Regulation of Credit, Labor, and Business*—Changes that reduce government mandates and regulations will lower transaction costs, increase cash flows, and rise equity values.

In sum, I propose that countries that experience an increase (decrease) in economic freedom—as measured by the Fraser Institute's five EFW categories—will contemporaneously realize high (low) equity market returns. Meanwhile, the absolute level of economic freedom will have no effect on equity returns.

The Data and Statistical Results

Total market equity returns are calculated using Morgan Stanley Capital International (MSCI) equity index price data obtained from Thomson Financial's DataStream. Equity returns are calculated in U.S. dollars. Equity returns used are available annually for the period 1970 to 2002 (Appendix A).

Data on economic freedom is from Gwartney and Lawson (2004) and is available every five years from 1970 through 2000, as well as annually from 2000 through 2002. An EFW summary score is derived from 45 discrete measures of economic freedom (see Appendix B). Each measure is associated with one of five areas of economic freedom. The EFW scores are normalized and range from 0 (no freedom) to 10 (freest) for each measure. The chain link index of EFW summary scores is utilized for calculations of beginning, ending, and percentage change in overall economic freedom.

For the period 1970 to 2000, each five-year subperiod is adjusted to provide an annualized five-year equity market return and annualized percentage change in economic freedom. After annualizing, the 1970 to 2000 subperiods yield six cross-country data sets. Those sets are combined with the two recorded annual data sets for the periods

2000–01 and 2001–02 to create eight data sets that provide 253 distinct annualized equity returns and economic freedom changes.

In examining the 32-year period, I found several interesting relationships (Table 1). First, and most important, is that a significant direct relationship (correlation coefficient = 0.394) exists between the percentage increase in economic freedom and observed equity rates of return. Second, is that an inverse relationship exists between the beginning level of economic freedom and observed equity returns (correlation coefficient = -0.163). Less free countries have higher equity market returns. This correlation may be explained by the third observed relationship, which is an inverse relationship between the level of beginning freedom and the percentage increase in freedom (correlation coefficient = - 0.2770). Simply, less economically free countries are more likely to experience a *greater increase* in economic freedom than countries that already experience higher levels of economic freedom.

TABLE 1
CORRELATION COEFFICIENTS
ECONOMIC FREEDOM AND RETURNS ON EQUITY, 1970–2002

	Annualized Equity Return	Beginning Freedom	Ending Freedom
Beginning Economic Freedom	-0.163*		
Ending Economic Freedom	0.003	0.886**	
% Increase in Economic Freedom	0.394**	-0.277**	0.100

*Indicates significant at 95 percent level; **significant at 99 percent level.

Finally, the absolute level of beginning freedom is directly related to the level of ending freedom (correlation coefficient = 0.886), suggesting that freedom scores do not change much on an annualized basis.

Given that the percentage increase in economic freedom appears to have the greatest influence on equity returns, that relationship deserves closer scrutiny. To do so, I examined the correlation between the rate of increase in the *components* of economic freedom for each of the 45 discrete normalized measures (Appendix B). The significant correlation coefficients are listed in Table 2.

TABLE 2
CORRELATION COEFFICIENTS
INCREASE IN ECONOMIC FREEDOM COMPONENTS AND
ANNUALIZED EQUITY RETURNS, 1970–2002

Subcategory of Economic Freedom	Correlation Coefficient
1. Size of Government	
1A General government consumption as share of total consumption	0.168**
1A General government consumption as share of total consumption ^a	-0.166**
1C Government enterprises and investment as share of gross investment ^a	-0.172**
1Dii Top marginal income and payroll tax rate	-0.153*
2. Legal System and Property Rights	
2B Impartial courts	0.185**
2D Military in politics	0.136**
2E Law and order	0.127**
3. Sound Money	
3B Standard deviation of annual inflation (last 5 years) ^a	-0.170**
3C Annual inflation (most recent year)	0.191**
4. Freedom to Trade Internationally	
4Ai International trade tax revenues (% of trade sector)	-0.122*
4Aii Mean tariff rate ^a	-0.171**
4Bii Costs of importing	0.171**
4D Difference between official and black market exchange rates	0.187**
5. Regulation	
5A Credit market regulation	0.438**
5Ai Ownership of banks	0.219**
5Aiii Extension of credit	0.149**
5C Business regulations	0.143**
5Ci Price controls	0.316**
5Cii Administrative conditions/entry of new business	0.142**
5Ciii Time with government bureaucracy	0.276**
Cardinal Rank	0.165*
	-0.290**

^aSeparate raw data points; *significant at 95 percent level; **significant at 99 percent level.

EQUITY RETURNS AND ECONOMIC FREEDOM

In 22 of the 24 economic freedom measures in Table 2, the sign of the coefficient (+/-) confirms the earlier result that *larger increases* in economic freedom are associated with *higher* equity returns. (Cardinal rank and four of the 22 confirming measures use raw data whose sign convention is opposite that of the normalized scores.) Only two measures—“international trade tax revenues” and “top marginal income and payroll tax rate”—exhibit a contrarian relationship with equity returns, such that as international trade taxes and income and payroll taxes *increase* so, too, do equity returns. Also note that the increase in economic freedom associated with regulation (Appendix B – Area 5) has a stronger relationship with equity returns (correlation coefficient = 0.438) than does an increase in the economic freedom summary score (correlation coefficient = 0.394), which represents all five areas of freedom.

Regression results are reported in Table 3, with the annualized equity market return as the dependent variable. My results confirm the hypothesis that increases in economic freedom (% FREE) are associated with higher equity returns while the absolute level of beginning (BEGF) and ending economic freedom (ENDF) do not affect equity returns.

TABLE 3
REGRESSION RESULTS
INCREASE IN ECONOMIC FREEDOM AND STOCK MARKET RETURNS

Independent Variables	Dependent Variable: Annualized Equity Market Return		
	(1)	(2)	(3)
Constant	0.0128 (1.23)	0.0869 (1.135)	0.0640 (0.800)
% FREE	2.6556** (6.793)	2.5457** (6.257)	2.0554** (3.204)
BEGF		-0.0109 (-0.977)	-0.0463 (-1.234)
ENDF			0.0382 (0.989)
R ²	0.1552	0.1584	0.1617
F-Statistic	46.14 (1, 252 d.f.)	23.54 (2, 251 d.f.)	16.02 (3, 250 d.f.)

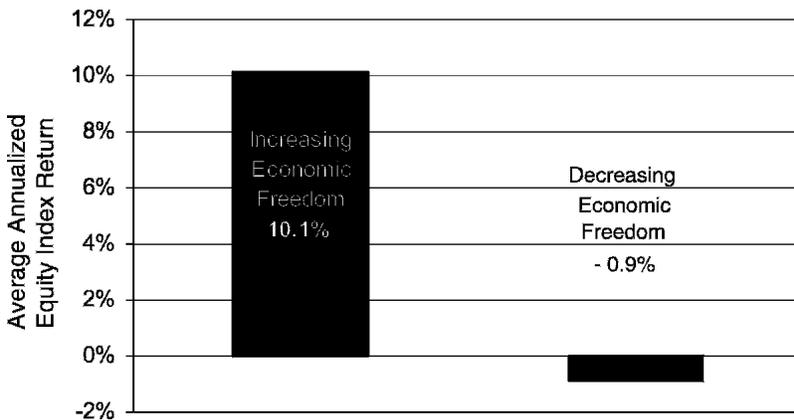
**Indicates coefficient is statistically significant at the 99 percent confidence level; t-statistics in parentheses.

In examining the regression coefficient for the first regression, using percentage increase in economic freedom (% FREE) as the only independent variable, we find that a 1 percent increase in a country's normalized EFW summary score results in a 2.66 percent increase in the country's equity index.

Investment Strategies

The direct relationship between equity returns and increases in economic freedom can serve as an evaluation tool for cross-country investment selection. Investors who are able to predict increases in economic freedom levels can expect above-average returns. During a 30-year period, equities in countries with *increasing* economic freedom earned an average annual return of 10.1 percent compared with a return of - 0.9 percent in countries with *decreasing* economic freedom (Figure 1) . Annual data returns for the two-year period 2000–02 yielded similar results, even in a declining (bear) market (Figure 2).

FIGURE 1
EQUAL WEIGHTED ANNUALIZED RETURNS FOR COUNTRIES
WITH INCREASING OR DECREASING ECONOMIC FREEDOM,
1970–2000



Portfolio Construction

Construction of a global investment portfolio relies on successfully identifying countries likely to experience an increase in economic freedom. The proposed construction process uses both quantitative

FIGURE 2
DECLINING (BEAR) MARKET EQUAL WEIGHTED ANNUALIZED
RETURNS FOR COUNTRIES WITH INCREASING OR DECREASING
ECONOMIC FREEDOM, 2000–02



and qualitative analyses to identify these countries. Further research is warranted to determine how best to forecast future increases in economic freedom.

The quantitative analysis identifies countries with low levels of economic freedom and their recent direction and rate of economic freedom change. The timeliest data on recent cross-country economic freedom changes are then used to establish the most recent level of economic freedom. Based on the empirical evidence presented herein, countries most likely to experience a dramatic increase in economic freedom are those beginning with a relatively lower level of economic freedom.

The qualitative analysis focuses on identifying countries likely to experience an increase in economic freedom. By closely monitoring those countries identified from the quantitative analysis, investors can evaluate policy developments affecting economic freedom within each country in order to pinpoint countries in the early stages of a secular increase in economic freedom.

Investment Selection

Countries selected for inclusion in a global investment portfolio should be those deemed likely to experience an increase in economic freedom and preferably those with a low beginning level of economic freedom.

Working from a buy list of countries with projected increases in economic freedom, investors can then weight each country. The process of allocating funds to countries should emphasize those countries with the greatest projected increase in economic freedom, while discounting for the likelihood of events such as a coup, nationalization, or currency devaluation—all risks to equity valuations.

Conclusion

This article reviews existing research on economic freedom and investigates the relationship between equity returns and economic freedom. Results show that cross-country equity returns are directly related to increases in economic freedom. For investors seeking superior investment returns, countries likely to experience an increase in economic freedom should be selected for investment.

APPENDIX A
COUNTRIES AND DATA SET PERIODS

1970–2002	1985–2002	1990–2002	1995–2002
Australia	Finland	Argentina	China
Austria	New Zealand	Brazil	Columbia
Belgium		Chile	Czech Rep.
Canada		Indonesia	Egypt
Denmark		Ireland	Hungary
France		Jordan	Israel
Germany		Korea	Morocco
Hong Kong		Luxembourg	Pakistan
Italy		Malaysia	Peru
Japan		Mexico	Poland
Netherlands		Phillipines	Russia
Norway		Portugal	Sri Lanka
Singapore		Taiwan	Venezuela
Spain		Thailand	
Sweden		Turkey	
Switzerland			
England			
United States			

APPENDIX B

ECONOMIC FREEDOM OF THE WORLD DATA AREAS
AND COMPONENTS¹**1. Size of Government**

- 1A. General government consumption as share of total consumption
- 1B. Transfers and subsidies as a share of GDP
- 1C. Government enterprises and investment as a share of gross investment
- 1Di. Top marginal income tax rate
- 1Dii. Top marginal income and payroll tax rate
- 1D. Top marginal tax rate

2. Legal System and Property Rights

- 2A. Judiciary independence
- 2B. Impartial courts
- 2C. Protection of intellectual property
- 2D. Military in politics
- 2E. Law and order

3. Sound Money

- 3A. Average growth of money (last 5 years) minus growth of real GDP (last 10 years)
- 3B. Standard deviation of annual inflation (last 5 years)
- 3C. Annual inflation (most recent year)
- 3D. Freedom of citizens to own foreign currency bank accounts (domestically and abroad)

4. Freedom to Trade Internationally

- 4Ai. International trade tax revenues (% of trade sector)
- 4Aii. Mean tariff rate
- 4Aiii. Standard deviation of tariff rates
- 4A. Tariffs
- 4Bi. Hidden import barriers
- 4Bii. Costs of importing
- 4B. Regulatory trade barriers
- 4C. Actual vs. expected size of trade sector
- 4D. Difference between official and black market exchange rates
- 4Ei. Access of citizens to foreign capital markets/foreign access to domestic capital markets/foreign ownership restrictions (GCR)
- 4Eii. Restrictions in foreign capital market exchange/index of capital controls among 13 IMF categories
- 4E. International capital market controls

continued

APPENDIX B (*continued*)ECONOMIC FREEDOM OF THE WORLD DATA AREAS
AND COMPONENTS¹**5. Regulation**

- 5Ai. Ownership of banks
- 5Aii. Competition in domestic banking
- 5Aiii. Extension of credit
- 5Aiv. Interest rate regulations (leading to negative rates)
- 5Av. Interest rate controls
- 5A. Credit market regulation
- 5Bi. Impact of minimum wage
- 5Bii. Hiring and firing practices
- 5Biii. Labor force share with wages set by centralized collective bargaining
- 5Biv. Unemployment insurance
- 5Bv. Use of conscripts
- 5B. Labor market regulations
- 5Ci. Price controls
- 5Cii. Administrative conditions/entry of new business
- 5Ciii. Time with government bureaucracy
- 5Civ. Starting a new business
- 5Cv. Irregular payments
- 5C. Business regulations

¹The data set is available at www.freetheworld.com/2004/2004dataset.xls.

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