Democracy's dichotomous role in economic policy changes and investment outcomes

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- This research paper, picking up on the empirically documented relationship between economic policy and asset prices, seeks to identify key determinants of economic policy change.

- We find that the role of democracy (political rights; majority rule) in improving economic policy and, in turn, facilitating investment gains (all else equal) has changed over time.

- Prior to the turn of the 21st century, high levels of democracy correlated to increases in economic freedom across all countries.

- Since then (2000–2017), democracy's role has become dichotomous. In low economic freedom countries, it still plays a positive role. However, in countries with high levels of economic freedom, its role is either indifferent or antagonistic (e.g., democracy facilitating illiberal economic policy).

- Investors may, in view of these findings, want to discard *a priori* assumptions about a straight-forward relationship between democracy and economic freedom.

- Eaton Vance undertakes political institution research across approximately 130 countries. This research contributes to creating an extensive mosaic of investment insights that, in turn, inform specific investment decisions.

The role of political institutions in economic policy changes and investment outcomes

In our previous white paper, "Emerging markets debt: Determinants of sovereign bond quality and returns," we observed that a country's sovereign bond credit spread and credit rating are explained by the quality of the country's economic policies.[1] Specifically, countries with a higher level of economic freedom enjoy lower borrowing costs and higher credit ratings.[2] For investors, the implication is clear: Countries that increase their economic freedom during the investment horizon can deliver excess returns from the resultant narrowing of the credit spread.

This empirically documented relationship between economic policy and asset prices invites an important question for investors: What conditions facilitate changes in economic policy? In this white paper, we find that a country's political institutions explain how likely the country is to increase its level of economic freedom or to reverse an already high level of economic freedom.

We find that democracy helps countries improve economic freedom from a low level. Conversely, high economic freedom countries with democracies are more likely to experience declines in economic freedom. In sum, investors who can identify the prerequisites to policy change and in which direction they influence policy change will be able to more accurately identify investments that can deliver excess returns.

The scope of the research undertaken in this white paper is broad. We look at the role of democracy in high economic freedom countries as well as low economic freedom countries, and whether democracy's role has changed over time. To help readers, an explanation of the terminology and data sets used in this paper is contained in the Appendix section.

Initial observations about levels of economic freedom

The question – What drives changes in economic freedom? – is an intriguing one. Exhibits A, B and C show levels of economic freedom for different countries based on the Fraser Institute's Economic Freedom of the World (EFW) Index dataset. The EFW Index rankings range from 1 to 10, with 10 being the highest score for economic freedom.

Exhibit A indicates that gains in economic freedom stall at a threshold well short of a perfect score. For example, during the last decade, Hong Kong and Singapore, the two most economically free countries in the world, have had annual economic freedom scores ranging from 8.5 to 9.1, virtually unchanged over 10 years. A perfect score of 10 (i.e., ideal economic policy) appears out of reach, but why?

Exhibit B highlights that some countries have managed to achieve gains in economic freedom in a relatively short time frame.

Conversely, Exhibit C highlights that economic freedom gains can be lost. Several high economic freedom countries have seen their scores fall, sometimes dramatically. Argentina Egypt, and Venezuela are key examples.

Countries can thus achieve gains in economic freedom as well as losses, and never seem to be able to reach a perfect score. But why?

Exhibit A
Top 10 economically free countries have yet to reach ideal economic policy
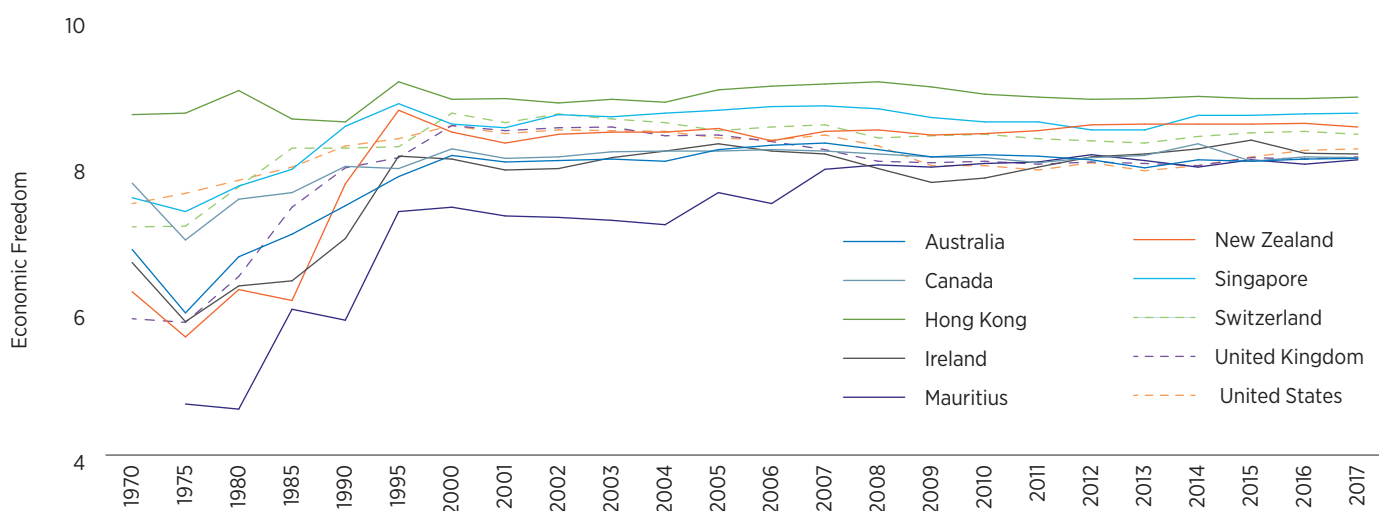
Source: Fraser Institute's Economic Freedom of the World (EFW) Index dataset, 1970-2017.

[1]"Emerging markets debt: Determinants of sovereign bond quality and returns", Stocker. M, September 2019. This paper published findings of a regression model showing a strong correlation between the orientation of economic policy, as measured by the Fraser Institute's Economic Freedom of the World Index dataset, and Moody's ratings. It found economic freedom to be the most important determinant of sovereign bond quality and yield spreads.

[2]Economic freedom is the ability to produce, trade and consume any goods and services acquired without the use of force, fraud or theft. Such liberty is embodied in the rule of law, property rights and freedom of contract.

Exhibit B
Transformational increases in economic freedom: Idiosyncratic and post-Soviet reformers
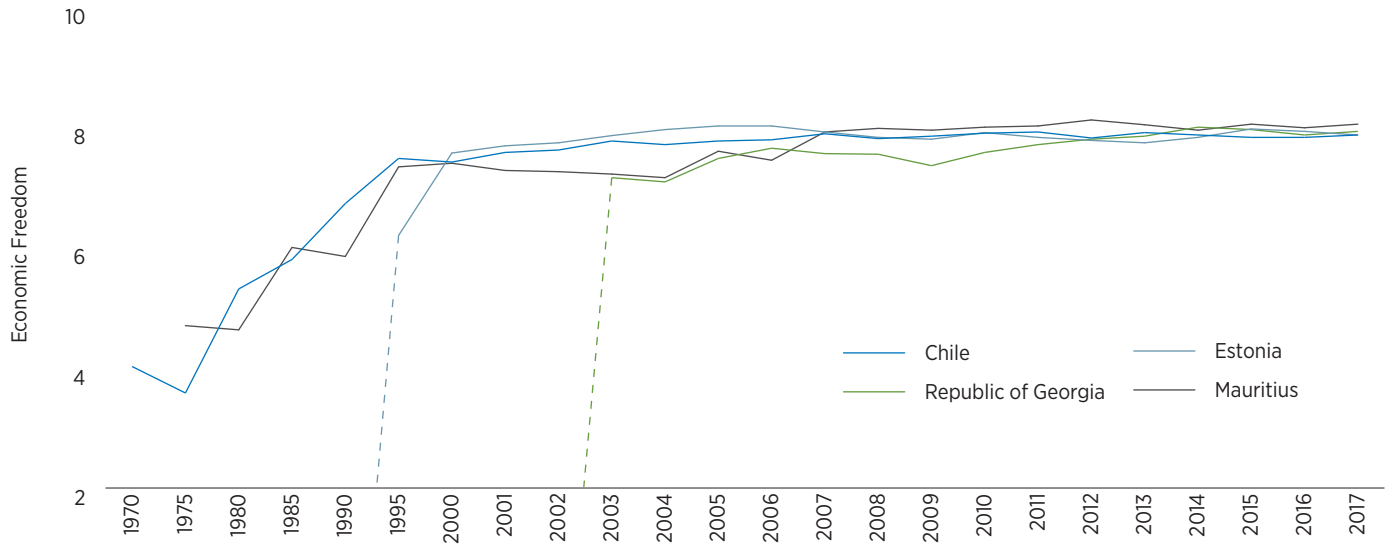
Source: Fraser Institute's Economic Freedom of the World (EFW) Index dataset. 1970-2017. Note: The dotted lines for Estonia and Georgia represent inferred changes – the dotted lines start at the points in time when market reforms were introduced and end at points in time when economic freedom data points for these countries first became available (6.2 for Estonia and 7.1 for Republic of Georgia). Estonia, which gained independence in the early 1990s during the breakup of the Soviet Union, went straight to market liberalism; a major positive change. In the Republic of Georgia, the Rose Revolution of late 2003 ushered in a liberal government; again, a major positive shift. We believe economic freedom was low in both countries prior to the introduction of market reforms, so have indicative starting points at zero for each. If one assumes higher starting levels of economic freedom – say two or three – for both countries, the overall message of Exhibit B would remain unchanged (i.e., some countries have seen transformation increases in economic freedom).

Exhibit C
Economic freedom gains can be lost
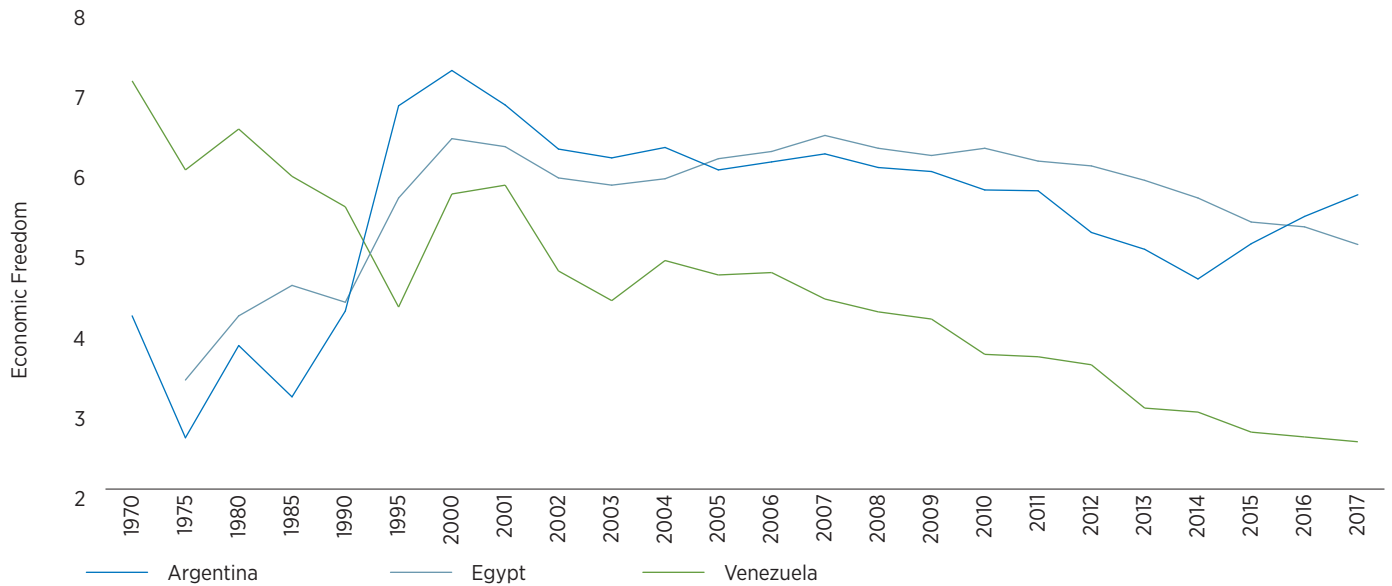
Source: Fraser Institute's Economic Freedom of the World (EFW) Index dataset, 1970-2017.

What accounts for changes in economic freedom?

Investors who have grasped the significance of economic freedom and economic policy to investment outcomes are likely to value an understanding of what drives changes in economic freedom. This, then, is the objective of our study. As per the Exhibit D schematic, we assess the relationship of political institutions and freedoms (in particular, democracy) to economic freedom.

Exhibit D
What role does democracy play in relation to economic freedom?

Political Institutions		**Economic Freedom**		**Investment Outcomes**
Democracy – Autocracy	--?--	Economic Policy Change	→	
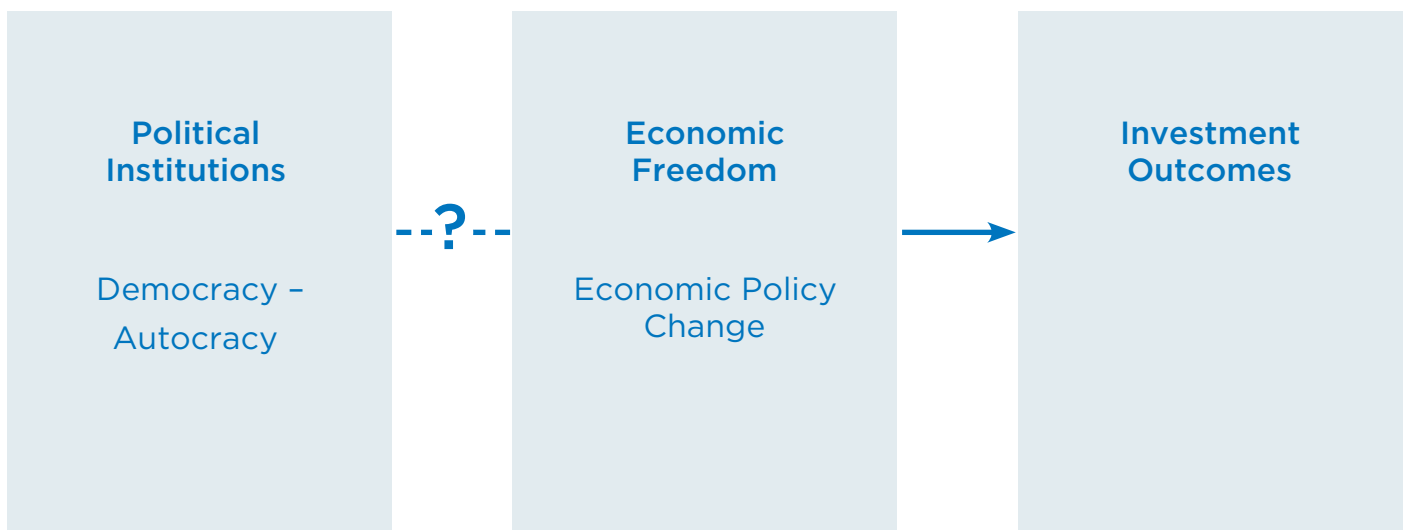
Before diving into our research, it is worth noting that there have been a number of academic studies to date seeking to understand precedent conditions relating to changes in economic freedom or to changes in economic growth. Looking across the findings of these studies, it is apparent that the role of political institutions is complex, as the examples below show:

- De Haan and Siermann (1996) suggest the relationship between democracy and economic growth is complicated or irrelevant.

- Barro (1996) observes that democracy has a nonlinear effect on growth: An increase in political rights initially aids economic growth but further increases hinder growth.

- Chauffour (2001) concludes that when the state limits itself to core functions of government responsibility, including protecting freedoms and providing key public goods, there is likely to be a positive influence on growth, but when the state grows beyond rendering these core functions, economic growth is dampened.

- Lundström (2005) looks at the relationship between democracy and economic freedom in developing countries and finds certain economic freedoms are greater in democratic countries.

- Stocker (2016) indicates that democracy may have a dichotomous effect when differentiated by a country's starting level of economic freedom.

- Murphy (2018) finds no clear evidence that a full democracy or imperfect democracy is superior for achieving economic freedom.

Our paper picks up on the idea that the relationship between democracy and economic freedom may not be straightforward, but complex and nuanced (nonlinear). To test the hypothesis of a nonlinear relationship (i.e., democracy's relationship to economic freedom can be both positive and negative), we developed a research model that can:

- Accommodate nonlinear complexities.

- Compare different periods to see whether relationships have changed over time.

- Compare subsets of countries having different starting levels of economic freedom.[3]

- Compare subsets differentiated by large percentage gains/losses in economic freedom.

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[3] We recognize that much of the academic research to date has focused on the conditions precedent to increases in economic freedom in the least developed countries, and that there has been a dearth of literature looking at high economic freedom countries where economic freedom has stagnated or regressed during this century. We particularly wanted to see what variables related to declines in economic freedom among already economically free countries.

A robust regression model

The regressions we performed used the model described in the equation below. Hausman tests indicated a fixed-effects regression is appropriate.

Δ *Economic Freedom (%)$_{i,t}$ = α + β$_1$ Political Institution$_{i,t}$ + β$_2$ EF$_{i,t-1}$ + β$_3$ Log [GNI/Capita]$_{i,t-1}$ + β$_4$Crisis$_{i,t}$ + β$_5$EthnoFraction$_{i,t}$ + β$_6$GINI$_{i,t}$ + β$_7$Energy Exporter$_{i,t}$ + ε*

Where:

i = a specific country

t = a specific time period

Political Institution = one of three measures of political freedom and civil liberty: Polity2 from Polity IV; Freedom House Political Rights; or Freedom House Civil Liberty

EF$_{t-1}$ = economic freedom summary score lagged

GNI per capita = gross national income per capita

Crisis = dummy variable equal to "1" if banking crisis is occurring

EthnoFraction = the probability that two randomly drawn individuals within a country are not from the same ethnic group

GINI = income inequality coefficient based on disposable income; a higher value equates to greater inequality

Energy Exporter = dummy variable equal to "1" if the country was a net energy exporter

As shown, the model takes into account a number of variables. Our key focus in this paper is the significance of political institutions – as described by three variables: *Polity IV*: Polity2; *Freedom House* Political Rights; and *Freedom House* Civil Liberties – to changes in economic freedom.[4]

Regression results: 1970-2000

In a regression across all countries using five-year incremental data for the period 1970 to 2000 (Exhibit E), three independent variables are consistently determinant of changes in economic freedom: starting level of economic freedom (-0.129, -0.119, -0.117), log of per capita gross national income (0.113, 0.124, 0.123) and ethnolinguistic fractionalization (1.35, 1.24, 1.23). In this period dominated by the Cold War, countries with a low starting level of economic freedom or high per capita gross national income were most likely to experience increases in economic freedom. This result is consistent with previous research. That a more ethnically diverse populace was more likely to experience increases in economic freedom during the 1970-2000 period is an interesting finding, not least because it conflicts directly with the conclusion of an earlier academic study.[5]

Across all countries 1970-2000, only *Polity IV*: Polity2 (9.38e-3) is a significant measure for political institutions. Countries with more democracy were more likely to have increases in economic freedom. *Freedom House's* measures of political rights and civil liberty were not a significant determinant of changes in economic freedom.

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[4]See Appendix for more information on these political institution variables.
[5]March, Lyford and Powell (2017) found the opposite when examining the 1990-2010 period.

Exhibit E
Regression (1970-2000) across all countries; all economic freedom levels

Δ Economic Freedom (%)$_{i,t}$=
$\alpha+\beta_1$ Political Institution$_{i,t}$+ β_2 EF$_{i,t-1}$+ β_3 Log [GNI/Capita]$_{i,t-1}$+ β_4Crisis$_{i,t}$+ β_5EthnoFraction$_{i,t}$ + β_6GINI$_{i,t}$+ β_7Energy Exporter$_{i,t}$+ ε

	All EF Levels	All EF Levels	All EF Levels
Polity IV: Polity2	9.38e-3*** (3.85)		
Freedom House Political Rights		7.48e-3 (-0.81)	
Freedom House Civil Liberties			-2.17e-3 (-0.19)
Economic Freedom$_{t-1}$	-0.129*** (−8.86)	−0.119*** (−8.02)	-0.117*** (−7.93)
Log GNI per Capita$_{t-1}$	0.113** (2.01)	0.124** (2.16)	0.123** (2.14)
Crisis	-0.0136 (-0.50)	-0.0206 (-0.74)	-0.0208 (-0.74)
Ethnolinguistic Fractionalization	1.35** (2.39)	1.24** (2.12)	1.23** (2.10)
GINI Coefficient	8.75e-3 (1.25)	6.70e-3 (0.93)	6.88e-3 (0.95)
Energy Exports	-0.107** (-2.13)	-0.0918* (-1.77)	-0.0853 (-1.66)
Constant	-0.480 (-1.65)	-0.383 (-1.27)	−0.410 (−1.37)
N	346	346	346
F-statistic	13.2	10.6	10.4
Hausman Test p value	0.000	0.000	0.000
Within R2	0.27	0.23	0.23
Overall R2	0.02	0.02	0.02

t-statistics in parentheses; *** significant at 99% level; ** significant at 95% level; * significant at 90% level.

Next, the lowest third and highest third of economic freedom countries were filtered into two distinct subdatasets by ranking countries in each year by their beginning level of economic freedom (Exhibit F). Regressions yield remarkable observations. First, nothing is determinant of increases in economic freedom for those countries with a low starting level of economic freedom save for a single instance where being an energy exporter indicated a lower likelihood of gains in economic freedom.

Exhibit F
Regression (1970-2000) of distinct subdatasets by starting level of economic freedom

Δ Economic Freedom (%)$_{i,t}=$
$\alpha+\beta_1$ Political Institution$_{i,t}+\beta_2$ EF$_{i,t-1}+\beta_3$ Log [GNI/Capita]$_{i,t-1}+\beta_4$Crisis$_{i,t}+\beta_5$EthnoFraction$_{i,t}+\beta_6$GINI$_{i,t}+\beta_7$Energy Exporter$_{i,t}+\varepsilon$

	Low EF	Low EF	Low EF	High EF	High EF	High EF
Polity IV: Polity2	0.0150* (1.95)			0.0143*** (4.88)		
Freedom House Political Rights		-0.0243			-0.0341*** (-3.25)	
Freedom House Civil Liberties			6.42e-3 (0.15)			-0.0347** (-2.33)
Economic Freedom$_{t-1}$	-0.0849 (−1.27)	−0.0359 (−0.57)	-0.0272 (-0.43)	-0.0705*** (−4.15)	-0.0760*** (−4.17)	-0.0711*** (-3.75)
Log GNI per Capita$_{t-1}$	-0.157 (-0.63)	-0.263 (-1.04)	-0.260 (-1.01)	-0.0155 (-0.37)	0.0393 (0.90)	0.0299 (0.66)
Crisis	0.0735 (0.92)	0.0597 (0.70)	0.0727 (0.87)	-0.0250 (-1.01)	-0.0337 (-1.27)	-0.0289 (-1.06)
Ethnolinguistic Fractionalization	1.31 (0.45)	1.27 (0.40)	1.94 (0.64)	0.799** (2.54)	0.717** (2.11)	0.647* (1.83)
GINI Coefficient	-9.66e-4 (-0.04)	1.49e-3 (0.06)	1.33e-3 (0.05)	7.72e-3* (1.75)	4.13e-3 (0.87)	7.20e-3 (1.47)
Energy Exports	-0.350** (-2.12)	-0.292 (-1.60)	-0.221 (-1.36)	0.0268 (0.69)	0.0143 (0.34)	0.0114 (0.27)
Constant	0.492 (0.33)	0.618 (0.37)	0.115 (0.08)	-0.379 (-0.30)	0.112 (0.79)	0.0430 (0.30)
N	105	105	105	119	119	119
F-statistic	1.27	0.76	0.68	8.15	5.63	4.64
Hausman Test *p* value	0.000	0.000	0.000	0.000	0.000	0.000
Within R^2	0.17	0.11	0.10	0.44	0.35	0.31
Overall R^2	0.00	0.00	0.00	0.01	0.00	0.00

t-statistics in parentheses; *** significant at 99% level; ** significant at 95% level; * significant at 90% level.

An explanation could be that changes in economic freedom in this earlier period happened not as a linear function of the starting level of economic freedom, but rather increases in economic freedom happened only if a country had a sufficiently high level of initial economic freedom. Simply, die-hard low economic freedom countries, ostensibly communist countries, held to their ideology before the millennium and the dissolution of the Soviet Union. Only the mixed-economy countries made progress in increasing economic freedom.

During the 1970-2000 period, countries in the lower third of economic freedom had an average economic freedom summary score of 4.68 as compared to an average summary score of 5.73 for the least economically free countries in the later period, 2000 to 2017 (Appendix 2). This suggests the earlier period had disproportionally more communist countries. The inability to explain why the lowest economic freedom countries during the years 1970-2000 do not have significant determinants for change in economic freedom warrants further study.

For high-level economic freedom countries in the prior century, the starting level of economic freedom and political institutions were universally significant (Exhibit F). Among this subset of already-economically free countries, the least free were most likely to experience increases in economic freedom. Likewise, in this subset, countries with a high level of all three political institution variables (Polity2, Political Rights and Civil Liberties) were more likely to have increases in economic freedom when accounting for the sign convention of the underlying index data for these variables. This evinces a democracy and civil liberty dividend for economic freedom. Similar to the full dataset, ethnically diverse countries were also more likely to increase economic freedom in this subset of high economic freedom countries.

Regression results: 2000-2017

Turning to the available annual data, regressing the complete cross-country dataset for the period 2000 through 2017 yields more contemporary results (Exhibit G); results that are consistent with the earlier period but with a larger number of significant variables. Countries with a low level of starting economic freedom and higher per capita national income continued to be more likely to experience an increase in economic freedom.

Results also confirm Stocker (2016), which finds that the existence of a banking crisis is likely to correlate with a decrease in economic freedom. In certain regressions, greater ethnic fractionalization and greater income inequality also correlate to increases in economic freedom. Both results likely conflict with popular *a priori* theories.

Exhibit G
Regression (2000-2017) across complete cross-country dataset

Δ Economic Freedom (%)$_{i,t}$=
$\alpha + \beta_1$ Political Institution$_{i,t} + \beta_2$ EF$_{i,t-1} + \beta_3$ Log [GNI/Capita]$_{i,t-1} + \beta_4$Crisis$_{i,t} + \beta_5$EthnoFraction$_{i,t} + \beta_6$GINI$_{i,t} + \beta_7$Energy Exporter$_{i,t} + \varepsilon$

	All EF Levels	All EF Levels	All EF Levels
Polity IV: Polity2	7.86e-4* (1.89)		
Freedom House Political Rights		-3.16e-3** (-2.51)	
Freedom House Civil Liberties			-7.22e-3*** (-4.00)
Economic Freedom$_{t-1}$	-0.0460*** (−15.4)	−0.0467*** (−15.7)	-0.0468*** (-15.9)
Log GNI per Capita$_{t-1}$	0.0133*** (2.77)	0.0144*** (2.99)	0.0117** (2.42)
Crisis	-0.0164*** (-5.83)	-0.0164*** (-5.86)	-0.0162*** (-5.79)
Ethnolinguistic Fractionalization	0.0135 (0.28)	0.0215 (0.45)	0.0165** (0.34)
GINI Coefficient	1.68e-3** (2.44)	1.70e-3 (2.48)	1.65e-3** (2.40)
Energy Exports	9.32e-3* (1.65)	9.43e-3* (1.67)	0.0104* (1.86)
Constant	0.191*** (5.00)	0.201*** (5.22)	0.228*** (5.79)
N	1,416	1,428	1,428
F-statistic	42.5	44.2	45.9
Hausman Test p value	0.000	0.000	0.000
Within R^2	0.19	0.19	0.20
Overall R^2	0.02	0.02	0.02

t-statistics in parentheses; *** significant at 99% level; ** significant at 95% level; * significant at 90% level.

All three political institution variables (the focus of this paper) have significance in the 2000-2107 period. Greater political freedom or civil rights correlate to increases in economic freedom, broadly across all countries.

However, subsets of high and low economic freedom countries suggest that democracy is not uniformly good (Exhibit H). A high level of civil liberty correlates to increases in economic freedom for both high and low

economic freedom countries (-9.71e-3 and -6.91e-3, respectively, and Exhibit J quadrants I and II). Democracy (Freedom House Political Rights) helps low economic freedom countries increase economic freedom (-5.47e-3 and Exhibit J quadrant III).

However, democracy (Polity2) appears to have a deleterious effect on economic freedom for countries that already have a high level of economic freedom

(-5.39e-3, Exhibit H, see also Exhibit J quadrant IV). Also, the Polity2 coefficient (β1) is an order of magnitude larger in high economic freedom countries (-5.39e-3, Exhibit H) compared to the full dataset of countries (7.86e-4, Exhibit G). Thus, democracy's impact magnifies in high economic freedom countries; the impact being a correlation to declines in economic freedom!

Exhibit H

Regression (2000-2017) of data subsets: High and low economic freedom countries

Δ Economic Freedom (%)$_{i,t}$ =
$\alpha + \beta_1$ Political Institution$_{i,t}$ + β_2 EF$_{i,t-1}$ + β_3 Log [GNI/Capita]$_{i,t-1}$ + β_4 Crisis$_{i,t}$ + β_5 EthnoFraction$_{i,t}$ + β_6 GINI$_{i,t}$ + β_7 Energy Exporter$_{i,t}$ + ε

	Low EF	Low EF	Low EF	High EF	High EF	High EF
Polity IV: Polity2	6.45e-3 (0.85)			-5.39e-3** (-2.22)		
Freedom House Political Rights		-5.47e-3* (-1.82)			8.05e-4 (0.31)	
Freedom House Civil Liberties			-9.71e-3** (-2.35)			-6.91e-3*** (-2.94)
Economic Freedom$_{t-1}$	-0.0458*** (-6.84)	-0.0485*** (-7.28)	-0.0488*** (-7.39)	-0.0350*** (-7.11)	-0.0351*** (-7.10)	-0.0357*** (-7.29)
Log GNP per Capita$_{t-1}$	4.41e-3 (0.34)	7.00e-3 (0.54)	4.80e-3 (0.37)	3.18e-3 (0.65)	3.92e-3 (0.79)	-8.18e-4 (-0.16)
Crisis	-0.0154 (-1.38)	-0.0150 (-1.35)	-0.0160 (-1.45)	-0.0108*** (-5.09)	-0.0102*** (-4.84)	-9.80e-3*** (-4.64)
Ethnolinguistic Fractionalization	0.279 (1.34)	0.363* (1.71)	0.299 (1.44)	-0.0235 (-0.66)	-0.0296 (-0.83)	-0.0140 (-0.39)
GINI Coefficient	3.23e-3 (1.64)	3.35e-3* (1.72)	3.56e-3* (1.84)	-1.55e-4 (-0.21)	4.07e-5 (0.06)	-3.11e-5 (-0.04)
Energy Exports	0.0213* (1.81)	0.0212* (1.81)	0.0222* (1.90)	6.23e-6 (0.00)	3.99e-4 (0.07)	1.86e-3 (0.35)
Constant	-0.0355 (-0.26)	-0.0529 (-0.38)	-2.65e-3 (-0.02)	0.319*** (5.72)	0.262*** (5.22)	0.296*** (5.83)
N	454	459	459	497	497	497
F-statistic	9.31	10.3	10.7	10.5	9.65	11.1
Hausman Test *p* value	0.000	0.000	0.000	0.000	0.000	0.000
Within R^2	0.14	0.16	0.16	0.14	0.13	0.15
Overall R^2	0.00	0.00	0.00	0.02	0.02	0.02

t-statistics in parentheses; *** significant at 99% level; ** significant at 95% level; * significant at 90% level.

Altogether, results suggest that the role of democracy has changed over time. Prior to the year 2000, democracy was an accelerant for gains in economic freedom for countries of all political systems. Conversely, over the nearly last two decades, democracy has had the opposite impact in high economic freedom countries; democracy has facilitated illiberal economic policy.

As a final test covering the 2000-2017 period, countries were ranked by their percentage change in economic freedom, regardless of the year or starting level of economic freedom. Separated into thirds, the most dramatic economic policy changes were regressed on potential determinants (Exhibit I). While political freedom and civil liberties appear to play no role, positively or negatively, in the largest declines in economic freedom, the existence of political liberty and civil rights correlates with the largest increases in economic freedom. The largest gains in economic freedom also correlate with a lower initial level of economic freedom and higher per capita gross national income.

Exhibit I

Regression (2000-2017) of subsets: Biggest economic freedom losses and gains

$$\Delta \text{ Economic Freedom } (\%)_{i,t} =$$
$$\alpha + \beta_1 \text{ Political Institution}_{i,t} + \beta_2 \text{ EF}_{i,t-1} + \beta_3 \text{ Log [GNI/Capita]}_{i,t-1} + \beta_4 \text{Crisis}_{i,t} + \beta_5 \text{EthnoFraction}_{i,t} + \beta_6 \text{GINI}_{i,t} + \beta_7 \text{Energy Exporter}_{i,t} + \varepsilon$$

	Largest declines in EF (%)			Largest gains in EF (%)		
Polity IV: Polity2	7.09e-4 (-1.50)			1.25e-3** (2.30)		
Freedom House Political Rights		9.81e-4 (0.64)			-3.70e-3** (-2.34)	
Freedom House Civil Liberties			-2.89e-3 (-1.36)			-4.81e-3** (-1.98)
Economic Freedom$_{t-1}$	-8.34e-3** (-2.48)	-9.06e-3*** (-2.70)	-0.0104*** (-3.11)	-0.0423*** (-9.38)	-0.043*** (-9.88)	-0.0445*** (-9.85)
Log GNP per Capita$_{t-1}$	7.58e-3 (1.43)	7.58e-3 (1.43)	6.88e-3 (1.29)	0.0245*** (3.30)	0.0273*** (3.68)	0.0258*** (3.46)
Crisis	-8.29e-3*** (3.23)	-8.26e-3*** (-3.21)	-8.10e-3*** (-3.16)	-8.62e-9 (-1.57)	-9.25e-3* (-1.68)	-9.01 (-1.63)
Ethnolinguistic Fractionalization	0.0647 (1.17)	0.0605 (1.09)	0.0552 (1.00)	0.0546 (0.72)	0.0790 (1.03)	0.0555 (0.73)
GINI Coefficient	-4.58e-5 (-0.06)	-1.26e-4 (-0.16)	-1.32e-4 (-0.17)	1.70e-3 (1.57)	1.81e-3* (1.67)	1.88e-3* (1.73)
Energy Exports	0.0160*** (2.92)	0.0162*** (2.93)	0.0165*** (2.99)	0.0110 (0.73)	0.0118 (0.78)	0.0118 (0.74)
Constant	-0.0163 (-0.37)	-0.0134 (-0.30)	0.0120 (0.26)	0.120** (1.99)	0.126** (2.06)	0.143** (2.28)
N	482	484	484	495	503	503
F-statistic	3.98	3.72	3.94	15.8	17.1	16.8
Hausman Test p value	0.00	0.00	0.00	0.000	0.000	0.000
Within R2	0.07	0.07	0.07	0.23	0.24	0.24
Overall R2	0.04	0.04	0.03	0.12	0.12	0.13

t-statistics in parentheses; *** significant at 99% level; ** significant at 95% level; * significant at 90% level.
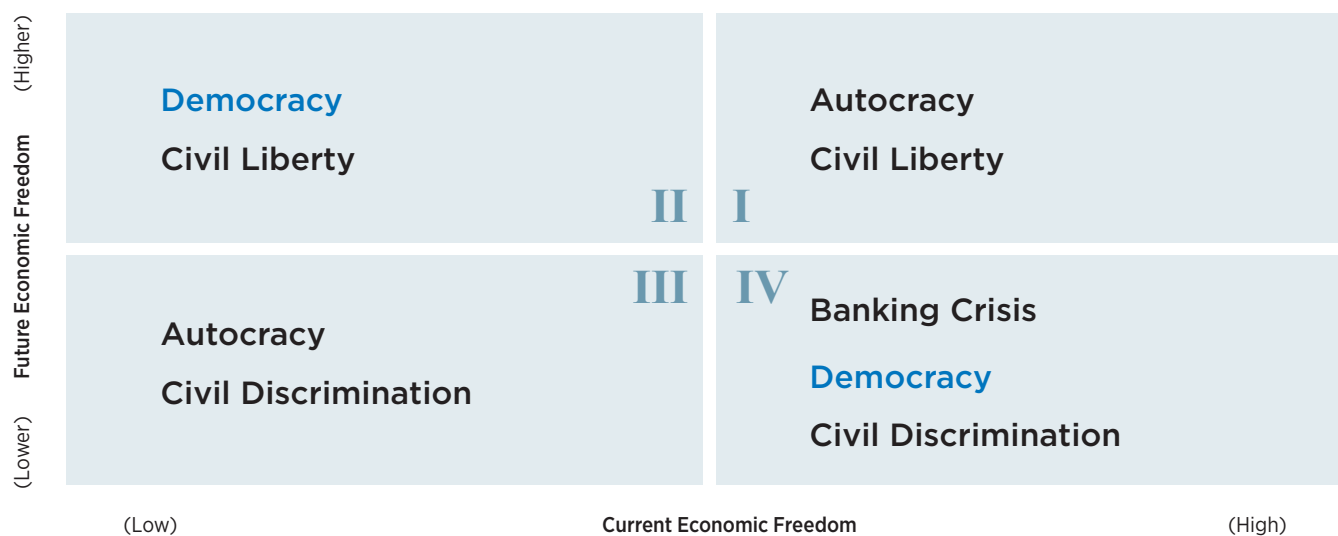
Exhibit I shows that in nearly two decades of recent history (2000-2017), the largest increases in economic freedom correlate to (a) low economic freedom countries that are also (b) societies of participatory governance, meaning countries with high political freedom and civil liberties. Conversely, in countries that experience the largest losses in economic freedom, high levels of democracy and civil liberty have no role, good or bad. (In instances where large declines in economic freedom do occur, the dominant factor is an economic crisis of some sort).

Exhibit J
Summary: Determinants of changes in economic freedom (2000–2017)

	(Low) Current Economic Freedom (High)
(Higher) Future Economic Freedom (Lower)	

Democracy
Civil Liberty
II   **I**
Autocracy
Civil Liberty

III   **IV**

Autocracy
Civil Discrimination

Banking Crisis
Democracy
Civil Discrimination

(Low)   Current Economic Freedom   (High)

Note: Quadrant I represents the "unicorn" scenario in terms of economic freedom; a benign autocracy characterized by respect for the rule of law and civil rights is most likely to facilitate future gains in economic freedom. Quadrant III represents the least attractive scenario in terms of both current and future economic freedom: a "toxic autocracy." Quadrant II shows the bright future prospects (in economic freedom terms) for currently low economic freedom countries that embrace democracy and civil liberty. Quadrant IV shows the diminished prospects (in economic freedom terms) of countries that currently have a high level of economic freedom, and which are characterized by democracy and civil discrimination, and/or impacted by an economic crisis.

Summary of findings

In this paper, we set out to determine what, if any, role political rights and civil liberties play in high economic freedom countries. The results are significant and disconcerting:

- Over the period 1970-2000, a broad-ranging salutary effect from the existence of political rights is found.

- Over the period 2000-2017, political freedom (still) contributes to gains in economic freedom among low economic freedom countries but does nothing to protect (or, worse, reverses) economic freedom for high economic freedom countries.

- The results suggest a regime shift: Democracy now plays an indifferent or antagonistic role in high economic freedom countries.

- Civil liberties (personal freedom) appear to be consistently related to improvements in economic freedom among both higher and lower economic freedom countries (i.e., civil liberties appear to be beneficial across all levels of economic freedom). Literature that describes democracy as distinct from individual liberty may provide insights. It may be the case that economic freedom, a liberty for the individual, eventually conflicts with democracy, the rule of the simple majority.

Altogether, this paper provides an out-of-sample validation of Barro's statement (1996) that democracy intensifies the redistribution of resources and demonstrates this eventuality is conditional on a country having already achieved a high level of economic freedom.

Political institution research and investment outcomes (Eaton Vance)

Political institution research forms an important part of the extensive mosaic of analytical effort at Eaton Vance. We recognize that a country's political institutions and the direction of economic policy change have a proven, material significance to investment outcomes and that a robust investment process should, therefore, include a detailed understanding of the precedent conditions for likely future policy changes in any given country.

Recognition of the importance of political institution analysis is evident in the breadth and depth of research undertaken at Eaton Vance. For example, our Global Income team – which manages a range of long-only emerging-market debt portfolios and long-short global macro portfolios – researches the political institutions of approximately 130 countries on an ongoing basis. Led by a country research director, analysts and research associates monitor and evaluate political developments with the goal of identifying the likely direction of policy change. The team relies on a mosaic theory approach, collecting quantitative and qualitative insight from a large number of sources. A strong emphasis is placed on the collection of primary-source information.

Efforts by the Global Income team to characterise a country's political outlook are extensive. They range from understanding the governance construct described in the country's principle governance document, such as a constitution, to evaluating polling results, and all the way to appreciating the policy preferences of a country's leadership by reaching decades back to a government minister's college thesis to identify his or her ideology.

All inputs to the mosaic that represents our political analysis are evaluated in the context of the relationships we have empirically observed between policy and investment outcomes. One such relationship is that which is described in this white paper: The amount of democracy in a country is determinant of a country's policy changes, but the relationship is complicated and nuanced (i.e., it helps poor economies improve their economic institutions but, conversely, facilitates the loss of economic liberalism among countries with relatively sound economic institutions; extracting economic rents from various groups).

Appendix 1

Terminology guide

Economic freedom. Economic freedom is the ability to produce, trade and consume any goods and services acquired without the use of force, fraud or theft. Such liberty is embodied in the rule of law, property rights and freedom of contract.

Economic Freedom of the World Index. Our research analysis in this paper makes use of the Fraser Institute's Economic Freedom of the World (EFW) Index dataset, which offers the most comprehensive assessment of political-economic policies. The EFW Index ratings scale ranges from 1 to 10, with 10 being the highest score for economic freedom. The rating for each country is based on nearly 50 measures relating to the country's political and economic policies, and risk environment. Each metric relates to one of the following five areas:

- Size of government. The extent to which a country relies on the political process rather than the free market to allocate capital, labour, goods and services.

- Legal system and property rights. The scope of the rule of law, security of property rights, and the existence of an independent, unbiased judiciary.

- Sound money. The existence of policies and institutions that lead to low and stable rates of inflation and the allowable use of alternative currencies.

- Freedom to trade internationally: The extent of tariffs, efficiencies of customs, a convertible currency and controls on the movement of physical and human capital.

- Regulation. Markets, not governments, determine prices and whether regulatory activities hinder entry into business and increase the cost of producing products.

Democracy. The definition of democracy used in this paper is an abridged version of a definition set out by the authors of the *Polity IV* dataset of democracy scores (i.e., it is not an encyclopedia definition). By "democracy," we mean the presence of institutions and procedures through which citizens can express effective preferences about alternative policies and leaders. A democracy has institutionalized constraints on the exercise of power by the executive and there is the guarantee of civil liberties to all citizens in their daily lives and in acts of political participation.

Civil liberty. Civil liberty is the guarantee that a government will not abridge an individual's freedom, either by legislation or judicial interpretation, without due process.

Ethnolinguistic fractionalization. The ethnolinguistic fractionalization score is an attempt to quantify the relative heterogeneity of a country. Specifically, the variable represents the probability that two randomly drawn individuals within a country are not from the same ethnic group. The index ranges from 0, when there is no ethnic fractionalization and all individuals are members of the same ethnic group, to 1, where each individual belongs to his or her own ethnic group.

Political freedom. In this research paper, the political freedom dataset used defines political freedom as "perfect democracy" – democracy being a form of government in which the supreme power is vested in the people and exercised directly by them under an electoral system. Note that definitions of political freedom will differ according to different ideological standpoints.

Polity IV. The *Polity IV* data series used in our regression analysis is a widely used data series in political science research that contains annual information on the level of democracy for most independent states with a total population greater than 500,000 and covers the years 1800–2018. For each year and country, a "Polity Score" is determined. Scores range from -10 to +10. Scores of -10 to -6 correspond to autocracies, scores of -5 to 5 correspond to anocracies (loosely defined as part democracy and part autocracy), and scores of 6 to 10 to democracies.

Polity IV Polity2. Polity 2 is a specific data item in the *Polity IV* dataset (Marshall, Gurr and Jaggers' 2018 Polity IV project), which represents a country's polity score. The Polity2 scores range from +10 (strongly democratic) to -10 (strongly autocratic). The Polity2 scores specifically address situations in countries where there might be a revolution or other transition during the measurement year that pollutes the data.

Appendix 2

Notes on datasets used in our research and summary statistics

1. The Economic Freedom of the World Index by Gwartney et al. (2019) provides the levels of economic freedom for up to 162 countries covering the period 1970 through 2017. The index is structured as two distinct periods: 1970-2000, when economic freedom is measured every five years, and 2000-2017, when economic freedom is measured annually. For the purposes of identifying determinants of changes in economic freedom, the percentage change in economic freedom is calculated from the figure's prior-period value.

2. A country's political system or civil liberty, collectively "political institutions," is measured by three separate indexes. Marshall, Gurr and Jaggers' (2018) Polity IV project provides a "Polity2" score, which ranges from +10 (strongly democratic) to -10 (strongly autocratic). The Freedom House report "Freedom in the world" (2019) provides political rights and civil liberty scores, which range from 1 to 7, with 1 representing the most free and 7 the least free.

   A preliminary ordinary least squares regression including all three political institution variables (results not reported here) indicate a multicollinearity. A variance inflation factor (VIF) test across the full time period (1970-2017) indicates that the Polity IV's Polity2 and Freedom House's Political Rights and Civil Liberties indexes exhibit colinearity. VIF scores for the three variables are all above 4.0. This observation is consistent with Högström (2013) who shows that different democracy measures are highly correlated with each other.

   We judged the difference in democracy indexes unlikely to be impactful on the regressions conducted here. Nonetheless, each of these three measures of governance was separately regressed in the absence of the other two due to the multicollinearity.

3. Additional independent variables are selected from those identified by March, Lyford and Powell (2017) as being correlated to changes in economic freedom. These include gross national income per capita and the presence of a banking crisis. Both datasets were obtained from the World Bank's Data Bank of indicators (World Bank, 2019) covering the period 1970 through 2017.

4. We also incorporated ethnolinguistic fractionalization data into the regressions. Drazanova (2019) provides an ethnolinguistic fractionalization index, which specifies the probability that two randomly drawn individuals within a country are not from the same ethnic group. The index ranges from 0 (i.e., no ethnic fractionalization and all individuals are members of the same ethnic group) to 1, where each individual belongs to his or her own ethnic group. The index covers the period 1945-2013.

5. Our regression model presented here considers any country that is a net energy exporter as an energy exporter using a dummy variable, where "0" equals net energy importer and "1" equals net energy exporter. [This is different than March, Lyford and Powell (2017), who identify only outlying energy exporters]. Energy export and import data is obtained from the U.S. Energy Information Administration (2019) for the period 1980-2016.

6. Also different in the model presented here is the addition of a measure of income inequality. Solt's income inequality coefficient (GINI) (2016) is examined to determine if policy changes are correlated to the dispersion of income across a country's populace. The coefficient is built based on the distribution of disposable income such that a higher index number represents higher inequality.

7. Percentage change in economic freedom variables were winsorized at 1% and 99% to address outliers. All summary statistics and regression results reflect the winsorization of percentage change in economic freedom.

8. Summaries of the entire data panels are provided in Tables 1 and 2, representing each of the distinct periods tested: 1970-2000 (five-year increments) and 2000-2017 (annual increments). Subdatasets of the panel data, representing the highest economic freedom countries in each time, are summarized in Tables 3 and 4. Subdatasets are formed by ranking countries in each year by their beginning level of economic freedom.

Table 1 Summary Statistics – All Countries (1970-2000)

Variable	Observations	Mean	Std. Dev	Min	Max
EF% – Percentage change in Economic Freedom[†]	570	0.0625	0.149	-0.295	0.583
Economic Freedom$_{t-1}$	570	5.55	1.32	1.84	9.12
Polity IV: Polity2	945	0.402	7.52	-10	10
Freedom House Political Rights	859	3.97	2.23	1	7
Freedom House Civil Liberties	859	3.98	1.89	1	7
Log GNI per Capita$_{t-1}$	689	3.12	0.656	1.78	4.67
Crisis	1,131	0.061	0.239	0	1
Ethnolinguistic Fractionalization	905	0.442	0.271	0	0.89
GINI Coefficient	589	37.8	9.28	18.1	63.0
Energy Exports	728	0.271	0.445	0	1

[†]Values are post-winsorization treatment.

Table 2 Summary Statistics – All Countries (2000-2017)

Variable	Observations	Mean	Std. Dev	Min	Max
EF% – Percentage change in Economic Freedom[†]	2,427	3.17e-3	0.0253	-0.0797	0.0941
Economic Freedom$_{t-1}$	2,427	6.75	0.948	2.65	9.12
Polity IV: Polity2	2,550	4.25	6.08	-10	10
Freedom House Political Rights	2,727	3.40	2.09	1	7
Freedom House Civil Liberties	2,727	3.31	1.74	1	7
Log GNI per Capita$_{t-1}$	2,708	3.58	0.698	2.04	5.02
Crisis	2,754	0.0458	0.209	0	1
Ethnolinguistic Fractionalization	1,888	0.456	0.251	0.0150	0.889
GINI Coefficient	2,086	38.3	8.15	22.6	62.4
Energy Exports	2,564	0.293	0.455	0	1

[†]Values are post-winsorization treatment.

Table 3 Summary Statistics – High Economic Freedom Countries (1970-2000)

Variable	Observations	Mean	Std. Dev	Min	Max
EF% – Percentage change in Economic Freedom[†]	186	.0198	.0668	-0.185	0.162
Economic Freedom$_{t-1}$	186	7.00	0.725	5.70	9.12
Polity IV: Polity2	168	7.18	5.41	-10	10
Freedom House Political Rights	177	1.96	1.63	1	7
Freedom House Civil Liberties	177	2.15	1.50	1	7
Log GNI per Capita$_{t-1}$	168	3.84	0.484	2.40	4.66
Crisis	186	.0376	0.191	0	1
Ethnolinguistic Fractionalization	157	0.315	0.219	4.00e-3	0.431
GINI Coefficient	159	32.8	8.20	20	50.1
Energy Exports	160	0.244	0.431	0	1

[†]Values are post-winsorization treatment.

Table 4 Summary Statistics – High Economic Freedom Countries (2000-2017)

Variable	Observations	Mean	Std. Dev	Min	Max
EF% – Percentage change in Economic Freedom[†]	808	-4.94e-4	0.0125	-0.0330	0.0351
Economic Freedom$_{t-1}$	808	7.73	0.389	7.05	9.12
Polity IV: Polity2	750	8.27	3.86	-10	10
Freedom House Political Rights	791	1.67	1.36	1	7
Freedom House Civil Liberties	791	1.77	1.21	1	6
Log GNI per Capita$_{t-1}$	791	4.24	0.478	2.71	5.02
Crisis	808	.0804	0.272	0	1
Ethnolinguistic Fractionalization	528	0.328	0.194	0.0150	0.883
GINI Coefficient	688	33.7	7.27	23.0	59.9
Energy Exports	738	0.119	0.325	0	1

[†]Values are post-winsorization treatment.

Appendix 3

Commentary on various academic studies to date (September 2020) that look at the interplay between political freedom, economic freedom and economic growth

The empirical examination into the role that democracy plays in economic development began by examining the relationship between democracy and economic growth, omitting economic freedom as a variable. Przeworski and Limongi (1993) and De Haan and Siermann (1996) compiled literature surveys on the democracy-facilitated thesis of economic outcomes. Suggesting the relationship between democracy and economic growth is complicated or irrelevant, De Haan and Siermann conclude there is no robust relationship between democracy and economic growth. The Przeworski and Limongi (1993) survey was similarly disappointing. They curtly conclude that "we do not know whether democracy fosters or hinders economic growth" (pg. 64).

Barro (1996) helps with a more nuanced view. He observes that democracy has a nonlinear effect on growth. He suggests an increase in political rights beginning from the basis of an autocratic state initially increases economic growth, but the effect stops once a certain level of democracy is reached. Worse, Barro suggests that after achieving some degree of political freedom, further increases in democracy hinder economic growth by intensifying the redistribution of resources. After Barro (1996) introduced the concept of a nonlinear relationship between political and economic freedom, research largely went silent, instead treating a political institution variable in a linear fashion, unconditional to the country's level of economic freedom.

Moving beyond democracy's role as a determinant of economic growth, De Haan and Sturm (2003) study political freedom as a determinant of increases in economic freedom. They find in a sample of developing countries that increases in economic freedom were correlated to the presence of political freedom during the period 1975 to 1990.

Berggren (2003) highlights the interplay of political freedom and economic freedom. He finds the literature indicates that high levels of economic freedom coexist with political freedoms.

Unsatisfied with the theoretical description of how various freedoms relate, Dawson's causality study (2003) declared "no theory currently exists to provide sufficient explanations of the possible connections, if any, between political, civil and economic institutions" (pg. 491). To this, Dawson presents results of a Granger causality test and concludes from a cross-country dataset that economic freedom is Granger-caused by political freedom and individual liberties. This confirmed De Haan and Sturm's (2003) narrower examination of 26 transition economies.

Lundström (2005) examines the relationship between democracy and economic freedom in developing countries and finds certain economic freedoms are greater in democratic countries.

Chauffour (2011) describes a trade-off between [economic] freedom and entitlements, which may be the mechanism by which majority rule leads to suboptimal [economic] outcomes. He provides the example of confiscatory taxation to fund entitlements as an example of a democratic majority decreasing economic freedom. Holcombe (2019) lays the idea bare: Anything except unanimous consent in governance decisions results in some group having its liberty violated; a simple majority violates the freedoms of the minority. Chauffour (2011) also cites other scholars who have highlighted that democracy may have economic growth-hindering aspects. Chauffour concludes from his econometric tests that the role of the state on economic growth is ambiguous. Should the state limit itself to the core functions of government responsibility, to include protecting freedoms and providing key public goods, there is likely to be a positive influence on growth. Yet, when the state grows beyond rendering these core functions, economic growth is dampened.

Stocker's (2016) empirical result indicates that democracy may have a dichotomous effect when differentiated by a country's starting level of economic freedom. He found that "Autocrats hurt economic freedom in poor countries and increase economic freedom in rich countries, suggesting that [democratic] legislatures of rich countries prefer policies which reduce economic freedom" (pg. 259).

March, Lyford and Powell (2017) followed by examining whether determinants of the level of economic freedom may have an inverse sign for high economic freedom countries as compared to low economic freedom countries. However, finding that an executive constraint variable was not a significant determinant across the full dataset of countries, they did not test the dichotomy of a political institution variable in two separate country groups segmented by high and low initial economic freedom and their subsequent change in economic freedom. Thus March, Lyford and Powell conclude that "for countries with high initial levels of freedom we know little about what causes them to, or prevents them from, increasing their economic freedom" (pg. 94).

Murphy (2018) allows for the nonlinear effects of democracy on economic freedom by transforming a political institution variable in a vector of dummy variables. Exploring the hypothesis that a level of democracy modestly less than a perfect democracy results in the highest level of economic freedom for a country, he finds no clear evidence that full democracy or imperfect democracy is superior for economic freedom. Murphy (2018) does not, however, examine a subset of high-economic freedom countries.

Murphy (2019) introduces the complexity that democracies can be right-wing or left-wing, potentially complicating the effect democracy has on changes in economic freedom. He found that right-wing governments have modest, positive effects on economic freedom, but the effects are not particularly robust. His conclusion suggests incorporating ideology is not necessary in analyses such as those presented here.

To date, the academic literature points toward the conclusion that countries with a high level of economic freedom are more likely to have political freedom, meaning democracy. Likewise, economic freedom appears more likely to increase in countries with political freedom, but as Barro (1996) cautions, democracy may also intensify redistribution, a tautological decrease in economic freedom.

However, with much of the literature focused on developing countries, a key question has remained largely unaddressed by researchers, namely: What role does democracy play in sustaining or changing the level of economic freedom in those countries that already have a high level of economic freedom?

Our 2020 Stocker-authored Eaton Vance white paper, "Democracy's dichotomous role in economic policy changes and investment outcomes", seeks to address this dearth of research into high economic freedom countries, allowing for democracy to play a different role in high- or low-economic freedom countries when the political institution is determinant of economic freedom changes. It examines, *inter alia*, the potentially deleterious role that democracy plays in high economic freedom countries (i.e., majority rule tends to redistribute income and, therefore, reduce economic freedom).

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Important Additional Information and Disclosures

Sources of data: Eaton Vance, Fraser Institute's Economic Freedom of the World (EFW) Index dataset, Marshall, Gurr and Jaggers' (2018) Polity IV project, World Bank's Data Bank of indicators (World Bank, 2019), Historical Index of Ethnic Fractionalization (HIEF) Dataset, Freedom House "Freedom in the world" (2019) report and the Standardized World Income Inequality Database. Data is at 31 December 2017, unless otherwise specified.

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Eaton Vance provides advanced investment strategies and wealth management solutions to forward-thinking investors around the world. Through principal investment affiliates Eaton Vance Management, Parametric, Atlanta Capital, Calvert and Hexavest, the Company offers a diversity of investment approaches, encompassing bottom-up and top-down fundamental active management, responsible investing, systematic investing and customized implementation of client-specified portfolio exposures. Exemplary service, timely innovation and attractive returns across market cycles have been hallmarks of Eaton Vance since 1924.

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