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Democracy and market crashes: Evidence from a worldwide panel of countries

Nicholas Apergis

University of Piraeus, Greece

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ABSTRACT

This paper investigates the role of democracy for predicting market crashes. A panel regression specification attempts to unravel the impact of democracy on the skewness of the American Depositary Receipts (ADRs). The analysis uses an approach that accounts for the effect of democracy on the manner financial market crashes are endogenously determined by market structures. The results provide strong supportive evidence that countries with stronger democratic regimes experience higher positive skewness in asset returns, indicating less likelihood of market crashes.

1. Introduction

Several studies explore causes of market crashes. French and Roll (1986) and Cutler et al., (1989) find that market crashes are not determined by new and relevant public information, while Hong and Stein (2003) illustrate that when markets decline, constrained information flows into prices and contributes to potential market crashes. Hutton et al. (2009) find that opacity in firm financial reporting can also contribute to market crashes.

This paper looks across countries to identify another potential determinant of crashes in financial markets. Specifically, it tests, for the first time, whether the extent of democracy in a country could affect the possibility of market crashes. Eleswarapu and Venkataraman (2006) argue that political institutions may affect liquidity conditions in capital markets via the mechanism of information risks, i.e. laws and regulations, that curbs insider trading which affects adverse selection risks and the level of transparency required by the rules governing corporate disclosures, and investor's participation. The paper is relevant to the literature that explores the association between the political regime and growth. Papaioannou and Siourounis (2008) challenge findings that democracy has a negligible effect on growth. They explore the effect of democratisation in countries that abandoned autocracy and consolidated representative institutions. Their findings document that, on average, democratisation is associated with a 1% increase in 'per capita' growth. Acemoglu et al. (2015) provide evidence that democracy has a robust positive effect on growth. Democratizations increase GDP per capita by about 20% in the long run, mostly by encouraging investment, schooling, reforms, public good provisions, and reducing social unrest.

The paper accounts for the possibility that the market structure, which affects the likelihood of crashes, is endogenously determined by the presence of democratic regimes. It examines market crash risk using American Depositary Receipts

E-mail address: napergis@unipi.gr

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Table 1
Panel estimates: democracy measured by the Freedom House index.

Variables	Skewness	Idiosyncratic skewness
Intercept	1.672*	1.429*
	[0.07]	[0.08]
DEM	0.184***	0.166***
	[0.00]	[0.00]
lnGDP	0.154***	0.138***
	[0.00]	[0.00]
lnUN	−0.085***	−0.063***
	[0.01]	[0.00]
lnCAP	0.078***	0.059***
	[0.01]	[0.00]
lnPR	−0.056**	−0.042*
	[0.04]	[0.09]
TURN	−0.008	−0.005
	[0.18]	[0.16]
VOL	−0.106***	−0.095***
	[0.00]	[0.00]
SPR	−0.061**	−0.035*
	[0.04]	[0.08]
NASD	0.048	0.026
	[0.19]	[0.18]
Skewness(−1)	0.516***	
	[0.00]	
Idiosyncratic skewness(−1)		0.491***
		[0.00]
INTIST	0.076***	0.071***
	[0.00]	[0.00]
No. of observations	329,280	329,280
R^2-Adj.	0.26	0.23
Hausman	[0.03]	[0.04]

Note: DEM is the democracy index, lnGDP is the log of GDP per capita, UN is the unemployment rate, lnCAP is the log of market capitalization for each ADR, lnPR is the log of the closing price for each stock price index, TURN is the ratio of total trading volume scaled by the shares outstanding, lnVL is the log of volatility for each ADR, SPR is the relative bid-ask spread in percentages for each ADR, and NASD is a dummy capturing whether ADR i is listed on NASDAQ. The Hausman test finds observed differences across years. Figures in brackets denote p-values. *: $p \leq 0.10$; **: $p \leq 0.05$; ***"$p \leq 0.01$.

(ADRs), i.e. certificates that trade on U.S. stock exchanges, but represent shares of foreign firms. Blau et al. (2012) document that ADRs are a way for investors to bypass constraints.

2. Data

This study uses annual data on democracy, spanning the period 2001–2014 from 56 countries (the list is reported in the Appendix). It starts the analysis in 2001 because U.S. exchanges, on which ADRs trade, experienced a structural change in 2001 when major exchanges reduced the minimum tick sizes that securities trade and when all U.S. exchanges began trading securities at $0.01. This had an effect on liquidity, which could affect the likelihood of market crashes. The sample contains 420 ADRs.

Democracy is measured by the Freedom House index that includes both the Political Rights dimension and the Civil Liberties dimension, with data being obtained from the Freedom House site (www.freedomhouse.org). The index ranges from 0 to 10, with higher values representing more democracy. Data on stock prices, trading volumes, market capitalizations, and closing bid and ask prices (as bid-ask spreads proxy liquidity that is important to control for) are obtained from the Center for Research on Security Prices (CRSP), while those on GDP, population, and unemployment rates are obtained from Datastream.

The analysis makes use of two proxies for crash risk: first, by examining the skewness of daily returns for each ADR in each year (SKEW). Negative skewness in returns potentially indicates the presence of tail risk on the negative side of the distribution. If democracy contributes to crash risk, then an inverse relationship between them is expected; second, through idiosyncratic skewness (IDIOSKEW), which is estimated by the third scaled moment of returns using residual returns obtained from regressions based on the Capital Asset Pricing Model (CAPM). Finally, to measure internal stability, we employ as a proxy the percentage change of tourist arrivals.