

Institutional Determinants of  
Neoliberal Policies:  
A Cross-national Analysis of the  
Effects of Political Institutions  
on Stock Exchange Adoption<sup>(\*)</sup>

Neoliberal Politikaların  
Kurumsal Belirleyicileri:  
Politik Kurumların Borsaların  
Kurulması Üzerindeki  
Etkilerinin Uluslararası Bir  
Analizi

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**Abstract**

Diffusion research has clearly demonstrated that international processes are responsible for widespread adoption of neoliberal policies but retained a limited grasp of internal factors that enhance or undermine the ability of countries to adopt diffusing models. This shortcoming gave us an opportunity to examine the effects of political institutions on policy adoption to expand the range of potentially important domestic factors for policy differences. In this regard, we emphasized the roles that the states could play in providing policy directions for countries depending on their ability or willingness to ensure *judicial independence*, demonstrate *capacity*, and promote *democracy*. Specifically, stock markets provided an appropriate setting for this study as the spread of this model in the past several decades has been rapid but not as ubiquitous. Accordingly, we advanced a number of hypotheses concerning the impacts of judicial independence, state capacity, and democracy on stock exchange adoption. The results from survival models using data for as many as 92 countries between 1980 and 2017 generally supported our hypotheses. The study found that not only do independent effects

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of all three political institutions help explain the establishment of a country's first stock exchange but also the interrelationship between judicial independence and state capacity through a mediational process. Our main contribution is to establish that judicial independence, state capacity, and democracy are central to better understanding the roles that the states play in determining whether the reforms advocated by the international community are introduced at the national level.

**Keywords:** Policy diffusion, stock exchanges, judicial independence, state capacity, democracy

## Özet

Yayılm arařtırmaları, neoliberal politikaların yaygın bir řekilde benimsenmesinde uluslararası süreçlerin sorumlu olduđunu açıkça göstermiş fakat ülkelerin yayılan modelleri benimseme yeteneklerini geliřtiren veya zayıflatan içsel faktörlere dair sınırlı bir anlayış sürdürmüřtür. Bu eksiklik bize politika farklılıklarını açıklamada potansiyel olarak önemli olabilecek yerel faktörlerin çeřitliliđini artırmak amacıyla politik kurumların politikaların benimsenmesi üzerindeki etkilerini inceleme fırsatı vermiştir. Bu bağlamda, devletlerin yargı bađımsızlıđını temin etmek, kapasitelerini ortaya koymak ve demokrasinin geliřmesine destek vermek üzere gösterdikleri yetenek veya istekliliklerine bađlı olarak ülke politikalarına yön vermede oynayabilecekleri rolleri vurguladık. Özellikle de son birkaç on yılda çok çabuk yayılmış olmalarına karřın her ülkede görülmeyen borsalar bu çalıřma için uygun bir arařtırma ortamı sađlamıştır. Bu nedenle, yargı bađımsızlıđı, devlet kapasitesi ve demokrasinin borsaların kurulması üzerindeki etkileri ile ilgili bir dizi hipotez ileri sürdük. 92 kadar ülke için 1980-2017 yılları arasındaki veriye dayalı sađkalım modellerinin sonuçları hipotezlerimizi genellikle desteklemiřtir. Çalıřma, politik kurumların her birinin yalnızca bađımsız etkilerinin deđil, ayrıca yargı bađımsızlıđının devlet kapasitesi ve borsa kurulması arasındaki aracılık etkisinin, bir ülkenin ilk borsasının kuruluşunu açıklayabildiđini bulmuřtur. Bařlıca katkımız yargı bađımsızlıđı, devlet kapasitesi ve demokrasinin devletlerin uluslararası toplum tarafından desteklenen politikaların ulusal düzeyde benimsenip benimsenmemesinde oynadıđı belirleyici rolleri daha iyi anlamak için gerekliliklerini tespit etmiş olmasıdır.

**Anahtar kelimeler:** Politika yayılımı, borsalar, yargı bađımsızlıđı, devlet kapasitesi, demokrasi

## Introduction

Theories of diffusion have certainly succeeded in advancing our understanding of the key roles that the international community plays in national policy making (Dobbin, Simmons, & Garrett, 2007). Empirically, global pressures from the dominant powers and peer countries have been shown to foster the rapid spread of policies in a wide range of issue areas such as economic liberalization (Sim-

mons & Elkins, 2004), central bank independence (Polillo & Guillén, 2005), corporate and capital taxation (Swank, 2006), and bilateral investment treaties (Elkins, Guzman, & Simmons, 2006). The main focus of such work has been on mechanisms of interdependent policy making, including modern ideology (Meyer, Boli, Thomas, & Ramirez, 1997), coercion, common norms, and symbolic imitation (Braun & Gilardi, 2006). Given that the proposed diffusion mechanisms have roots in institutional theory (DiMaggio & Powell, 1983; Meyer & Rowan, 1977), this line of research has implicitly reinforced the view that nation-states are willing to act in conformity with international standards to gain legitimacy.

However, in keeping with the patterns observed in diffusion studies, scholars have acknowledged the importance of incorporating internal influences, along with international factors, in accounting for policy differences between countries. A weakness of this approach has been that the explorations of the contingent nature of policy diffusion have rarely extended beyond studying a limited set of standard variables such as ruling party orientation and economic performance. Thus, even though the diffusion literature has gained an appreciation of sources of variation in policy choices across countries in the face of global trends, it remains to be seen whether we can cover a much wider range of domestic factors that enhance or undermine the ability of countries to adopt externally legitimated models.

In what follows we propose that we consider political institutions as potentially important factors for policy differences. Specifically, the present research addresses the question of the applicability of judicial independence, state capacity, and democracy to the study of internal influences on the policies adopted by countries. We therefore try to draw attention to a constellation of institutions linked by the critical role of the state in developing and shaping them to pursue alternative policy courses. While evidence has recently come to light that indicates that state capacity plays a key part in the diffusion of minority shareholder protections (Guillén & Capron, 2016), there is a dearth of efforts to accommodate multiple institutional dimensions within research models.

We suggest that the case of stock exchanges provides an opportunity to identify the relative importance of political institutions against international actors in national policy making. Therefore, this work most closely relates to that of Weber, Davis, & Lounsbury (2009) in the world society literature in sociological

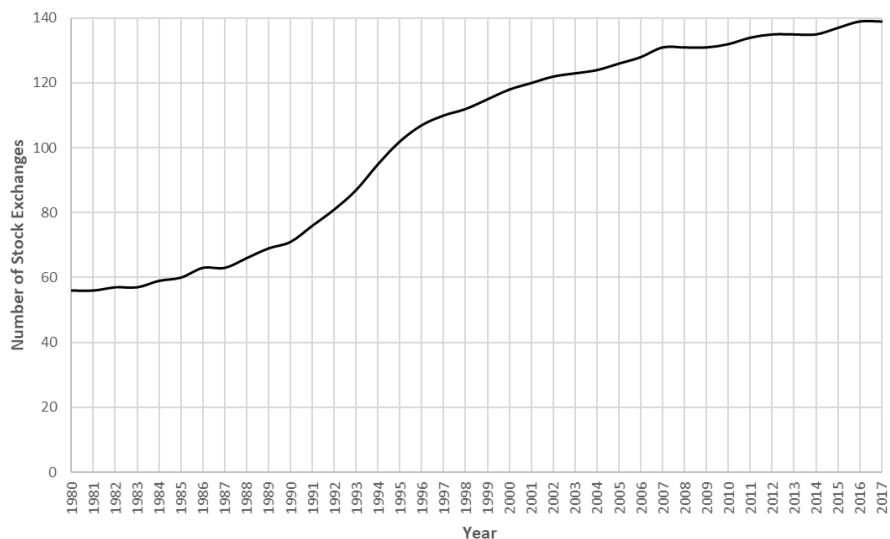
institutionalism in identifying the determinants of the creation of stock exchanges, but we move beyond historical domestic institutions and economic indicators to consider political institutions as likely contributory factors to national policy making. It also relates to many more studies in various other literatures (e.g., Deeg & Perez, 2000; Fourcade-Gourinchas & Babb, 2002; Hallerberg & Basinger, 1998) in that we take institutional constraints on neoliberal policies into account. So, by integrating insights from various disciplines, the primary aim of this study is to contribute to our understanding of diffusion processes in the political institutions-finance nexus.

In a nutshell, our findings point to the conclusion that, even after taking account of a collection of domestic and international factors commonly associated with neoliberal policies, political institutions have a significant effect on the formation of stock markets. Further, present findings are demonstrative of the need to jointly consider political institutions in addition to assessing their independent effects so as to show the variety and complexity of patterns of relationships between political institutions and the diffusion of policy models.

The remainder of this article is organized as follows. The next section develops theoretical arguments and formulates hypotheses about the direct and indirect effects of political institutions on stock exchange adoption. The following section details sampling and data collection processes, specifies variables to be involved, and describes the statistical approach to be used. Next, we report the results of empirical analyses. In the last section, we summarize the main findings from this study and discuss the implications and suggestions for future research.

## Theory and Hypotheses

Although the modern form of the stock market emerged with the establishment of the Amsterdam Stock Exchange in the early seventeenth century (Wojcik, 2013), the worldwide spread of this model has occurred during the past several decades. Generally, the rise of the neoliberal policy paradigm in the post-1980 period is assumed to be influential in driving the diffusion of stock exchanges across countries. In other words, (re)creating the marketplace where participants can make securities transactions has become popular with policymakers seeking alternatives to economic interventionism. As a result, the years 1980 to 2017 have witnessed a substantial increase in the number of countries with stock exchanges, from 56 to 139 (see Figure 1).



**Figure 1.** Number of Stock Exchanges from 1980 to 2017

*Source: The data collected by authors. Details are available in the methodology section.*

While diffusion research is mainly concerned with international factors responsible for such isomorphic change, externally imposed demands are not considered to be the sole determinants of the policies adopted by countries. In fact, empirical evidence indicates that there is substantial heterogeneity in the national incorporation of a range of programs espoused by the neoliberal order (Lee & Strang, 2006; Swank, 2006; True & Mintrom, 2001). Similarly, the spread of stock markets in the past several decades has been rapid but not as ubiquitous (Clayton, Jorgensen, & Kavajecz, 2006). Thus, a common thread that seems to run through the literature is that nation-states are more likely to respond to global pressures if country-specific conditions make adherence to required standards easier.

So far, however, studies taking into consideration internal influences on policy choices have focused predominantly on governmental and economic factors. More precisely, diffusion research looking at national characteristics shaping policy adoption determines whether leftist ideology of the government reduces, or strong economic performance increases the likelihood of countries' following global trends (e.g., Brooks, 2005; Henisz, Zelner, & Guillén, 2005; Lee &

Strang, 2006; Polillo & Guillén; 2005; Simmons & Elkins, 2004; Weber et al., 2009). Accordingly, it remains to be seen whether we can gain a broader understanding of conditions under which the reforms instituted by a global network of actors are pursued at the national level.

To this end, we suggest that previous work can be usefully extended by attending to the role of political institutions in alternative policy courses. Our main assumption is that the nation-state can interfere with the global diffusion processes by shaping domestic institutional environments (Fourcade-Gourinchas & Babb, 2002; Lütz, 2004). Specifically, it is expected that differences between countries in stock exchange adoption are accounted for by differences in the ability or willingness of states to ensure judicial independence, demonstrate state capacity, and promote democracy.

### ***Judicial Independence and Stock Exchange Adoption***

The existence of institutions that limit the arbitrary powers of officials has been seen as vital to capital market development by reducing uncertainties caused by the state (North, 1990, p. 129-130). Judicial independence is one such institution that lends credibility to government promises to protect property rights and thus creates the conditions conducive to investment and economic growth (Feld & Voigt, 2002; Voigt, Gutmann, & Feld, 2015). What matters, though, for such positive outcomes, is *de facto*, not *de jure* judicial independence. This distinction is important because the ever-increasing constitutional guarantee of *de jure* judicial independence in response to international pressures does not automatically translate into an independent judiciary carrying out in practice what the government has agreed in principle without suffering any negative consequences that follow from their decisions (Melton & Ginsburg, 2014).

A large body of work indicates that financial systems affect the economy in many ways (see Levine, 1997, for a review of this line of research). More specifically, evidence that the emergence of stock markets stimulates long-run growth supports the assumption that the former provides a channel through which *de facto* judicial independence promotes the latter. An independent judiciary strengthens trust in market transactions conducted at arm's length by resolving conflicts not only between private actors but also between private and public actors in an impartial way (Frye, 2004). Moreover, recognized as being characteristic of competitive electoral systems (Ramseyer, 1994), judicial independence

obviates the need to build long-term relationships with officeholders to get preferential treatment. By contrast, governmental interference in the judiciary would provide incentives for incumbent actors to forge close working relationships with the decision-makers in order to navigate the judicial process for their own interests and ensure continuity of special advantages. According to this reasoning, judicial independence creates a level playing field for all of those who demand external funds and provides space for pro-investor policies:

*H1: A higher degree of judicial independence increases the likelihood of stock exchange adoption by a given country.*

### **State Capacity and Stock Exchange Adoption**

In Evans, Rueschemeyer, & Skocpol's (1985) definitive volume, "Bringing the state back in", Skocpol (1985) defines state capacity as the state's overall ability to pursue policy goals through the use of important resources like tax revenues, domestic order, and a professionalized bureaucracy. In the light of this early influential work, there has been widespread research interest in extractive, coercive, and administrative dimensions of state capacity over the years (Cingolani, Thomsson, & de Crombrughe, 2015). Thus, while the literature seems, in general, to support the existence of multiple dimensions of state capacity, some studies show that analytically distinct aspects of the underlying concept are highly correlated (Hanson & Sigman, 2013; Hendrix, 2010). From this perspective, different state functions are mutually reinforcing as, for instance, the administrative and coercive dimensions of state capacity help collect taxes, and financial extraction, in turn, facilitates the development of the bureaucratic and coercive apparatuses (Hanson, 2018; Wang & Xu, 2018).

Various studies indicate that high-capacity states are more likely to achieve long-term development goals (see Cingolani, 2013, for a review of this line of research). A central line of inquiry is concerned especially with the effects of state capacity on economic outcomes. Starting with Evans & Rauch's (1999) seminal article identifying a strong connection between bureaucratic structures and economic growth, this research recognizes the importance of different types of state capacity for economic development (e.g., Dincecco & Prado, 2012; Hanson, 2014). As discussed earlier, the formation of stock markets offers a path toward economic development. Thus, there is strong reason to believe that exchanges would provide one of the means by which state capacity fosters economic growth

over time. This is because territorial control, along with stable revenues and bureaucratic quality, lead to the required infrastructural improvements (i.e., domestic security, finances, and an effective system of regulation) needed for the creation of stock exchanges and future macroeconomic outcomes. To the extent that the institutional conditions are conducive to the opening of stock exchanges, the decision-makers can be expected to formulate a policy response accordingly:

*H2: A higher degree of state capacity increases the likelihood of stock exchange adoption by a given country.*

### **Democracy and Stock Exchange Adoption**

As a system of political organization, “a regime determines who has access to political power, and how those who are in power deal with those who are not” (Fishman, 1990, p. 428). While political regimes are distinguished using a variety of classification schemes (for a review of regime typologies, see Sirowy & Inkeles, 1990), we draw a distinction between democratic and nondemocratic regimes here. For many observers, what sets apart the former from the latter is essentially the maintenance of periodic and competitive elections for the chief executive and legislative offices (Alvarez, Cheibub, Limongi, & Przeworski, 1996). By their very nature, then, democracies generally pursue pro-majority policies which could be seen as a reflection of voters’ preferences, whereas nondemocracies are more beneficial to privileged subgroups of the population (Acemoglu & Robinson, 2006, p. 16-22).

Inasmuch as democratic regimes act in the common good, unlike judicial independence and state capacity, democracy has been shown to have a zero direct effect on economic growth, whereas it has significant indirect effects through multiple channels (Doucouliagos & Ulubaşoğlu, 2008). In institutionalist explanations, there has been great emphasis on broader social conditions that produce the long-term effects of democratic characteristics on the economy. As such, the same set of institutions that sustain the democratic regime are also required for the protection of individual rights conducive to economic development (Clague, Keefer, Knack, & Olson, 1996; Olson, 1993). In a sense, then, democracy can be thought of as a “meta-institution” for building market-supporting institutions that underpin prosperous economies (Rodrik, 2000).

While empirical analyses have contributed to our understanding of what acts as a catalyst for economic progress in democracies (e.g., Baum & Lake, 2003;



Fidrmuc, 2003), some analysts propose alternative means of illustrating the positive effects of democratic characteristics on the economy. For instance, Girma & Shortland (2008, p. 574) suggest that financial sector policies can constitute “another such ‘channel variable’ through which democracy raises economic performance”. This prediction is consistent with the findings of the literature on finance and growth discussed above. So, for democracies (especially newly emerging ones), the formation of stock markets seems a good starting point for developing economically in the future. These regimes are more likely to favor the pursuit of this goal on the basis of their institutional environments and incentive structures which would have been already aligned to protecting the interests of the majority or, in this case, providing more equal access to funds:

*H3: A higher degree of democracy increases the likelihood of stock exchange adoption by a given country.*

### ***Moderating Effect of Democracy on the Relationship between State Capacity and Stock Exchange Adoption***

While state capacity provides the means to pursue policy goals, a regime shapes the contours of the mobilization of such resources. Therefore, state capacity may result in positive outcomes only insofar as a country’s political regime gives governmental actors motivation for the fulfilment of public demands. Most states, the argument goes, consolidate power; in fact, state capacity has been found to be higher in nondemocratic regimes than in partial democracies (Bäck & Hadenius, 2008; Carbone & Memoli, 2015). Yet, nondemocracies need not share a common agenda with fully democratic countries in utilizing important sources of strength in the interests of the general polity. On the contrary, these regimes require state capacities for different purposes. For instance, effective reach of the state apparatus across the country, which is a central dimension of coercive capacity, has the potential to turn into an instrument of repression in the hands of autocratic rulers (Way & Levitsky, 2006). In other words, the same mechanism that incentivizes democratic leaders to deliver public goods to a substantial proportion of the population furnishes nondemocratic governments with what ensures their stability. Following from this, stock exchanges are most likely to emerge when state capacity is accompanied by democratic institutions, particularly those that promote openness and transparency. For instance, it is thanks to freedom of the press that significant focus would be directed towards preferential treatment of

elites or financial problems. Freedom of association would similarly facilitate the transfer of information by means of campaigns against unequal distribution of resources, reports on the impact of stock exchanges on future economic prosperity, and the like. For all these reasons, the interaction between state capacity and democracy predicts the opening of stock exchanges:

*H4: The effect of state capacity on the likelihood of stock exchange adoption by a given country increases with a higher degree of democracy.*

### ***Mediational Effect of Judicial Independence on the Relationship between State Capacity and Stock Exchange Adoption***

While judicial independence ensures that courts function independently of political agendas, state capacity refers to the ability to attain intended goals. For the reasons set out above, state capacity in itself can be directly linked to stock exchange adoption. An alternative view, however, exists suggesting judicial independence is a mechanism through which state capacity contributes to policy formation. Specifically, research into the effects of governments on managerial actions provides important insights into the nature of this relationship. The premise on which the theorists from this tradition work is that the incapability of governments to create an infrastructure for conducting impersonal transactions gives rise to the dependence of organizations on personal relationships with the powerful, thus allowing more scope for those who forge political connections to influence government policy (Pearce, 2001; Pearce, Xin, Xu, & Rao, 2011). Such a position is backed up, for the most part, with empirical evidence that those with good *guanxi* with governmental authorities are those who take advantage of the instability and weakness of the legal system in China (Huang, Geng, & Wang, 2017; Park & Luo, 2001; Xin & Pearce, 1996). If impaired functioning of the state apparatus increases the judiciary's vulnerability to outside influence, the argument goes, dominant groups will behave opportunistically and disapprove of the use of policy instruments for promoting overall economic welfare, through the opening of stock exchanges and the like, in order to ensure they retain certain privileges. It follows:

*H5: A higher degree of state capacity increases judicial independence and, hence, the likelihood of stock exchange adoption by a given country.*

The theorized relationships are illustrated in Figure 2.

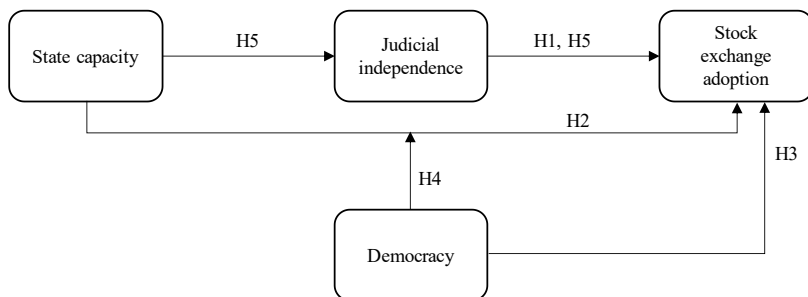


Figure 2. Conceptual Model

## Methodology

### Sample

We build a sampling frame consisting of all 193 member states of the United Nations. The observation period begins in 1980, or when a country becomes independent, if this is achieved after 1980, and ends in 2017. The year 1980 serves as a good starting point for our study given that neoliberal economic policies proliferated rapidly in subsequent years. In view of theoretical concerns, we regard special circumstances prevailing in colonies and dependencies as well as the process of regional integration of national exchanges as falling outside the scope of our inquiry. So, we, like Weber et al. (2009), eliminate countries with stock exchanges prior to 1980, countries where stock exchanges precede independence, and countries that merge their markets to consolidate trading activity in regions. Additionally, only those countries that exceed the population threshold of 250,000 in 1980 are retained. Microstates are omitted not just for data limitations but also for the relative unimportance attached to them in comparative analyses (Gleditsch & Ward, 1999). Overall, this study is based on total samples of 82 to 92 countries. The sample sizes are not static as some countries become independent and meet the criteria for inclusion in the analysis within the timescale specified. This is accompanied by variations in the availability of data from year to year. Nonetheless, the samples under study have a noticeable advantage over previous research in that they represent a wide cross-section of national settings over a period spanning nearly four decades.

### Dependent Variable

The dependent variable is *the hazard of stock exchange adoption* which is estimated as a country's instantaneous probability of experiencing the event of interest at

time  $t$ , given that it has not occurred up to that time. For this, we obtain time-to-founding by tracking the number of years until the establishment of a country's first stock exchange. It is calculated for each country at risk of experiencing the event of interest in a given year. For instance, as the period of observation begins in 1980 and the establishment of İstanbul Stock Exchange is in 1985, the time to event for Turkey is six years. To take a different example, as Bosnia and Herzegovina gains its independence in 1992 and Sarajevo Stock Exchange is founded in 2001, the time to event for this country is ten years.

Using time-to-founding rather than a binary variable for adoption allows us to incorporate time dependence. Time dependence concerns changes in the likelihood of stock exchange adoption as waiting time changes. As such, time-to-founding captures unobserved influences that cannot be explicitly accounted for in empirical models. Note that late adopters in our sample are those countries whose waiting time are longer and therefore late adoption has a different connotation than the one in the diffusion literature (by whose standards all adopters in our sample are late adopters).

In order to specify the dates of establishment, we use Handbook of World Stock, Derivative and Commodity Exchanges (1998) as our primary source, but check official websites of stock markets in the presence of insufficient information. We choose the dates of inauguration instead of the launch of actual trading as an indicator of policy adoption. In cases where stock exchanges had been established before independence, but were temporarily closed and reestablished in the wake of independence, we code the first reactivation dates.

### ***Independent Variables***

We use Staton, Linzer, Reenock, & Holsinger's (2019) measure of *judicial independence*. This data set improves upon an eight-indicator index of judicial independence created by Linzer & Staton (2015) and provides estimates for 200 countries from 1948 to 2015. The original model formulation is based on the power concept of de facto judicial independence whereby judges not only reach decisions independently but also exert influence over political actors to ensure compliance with those decisions. The updated version attends to the pressing agenda of how to confront common problems experienced by judicial scholars and deals with, among other things, related patterns of measurement error and missing data observed in extant indicators. This new scale thus purports to present a more accurate portrayal of judicial independence than alternatives.

We use Hanson & Sigman's (2020) measure to assess *state capacity*. This measure provides data for up to 163 countries and spans the years 1960 to 2015. A salient feature that has emerged from this project is that the interrelationships between analytically distinct aspects of state capacity complicate disaggregation in empirical analysis. Therefore, a compilation of 21 selected indicators related to extractive, coercive, and administrative dimensions of state capacity produces a general-purpose measure. In the context of the present study, a composite measure like this would be preferable because the three dimensions may be jointly responsible for the formation of stock markets. Such a multidimensional approach also coheres with the literature which suggests that state capacity cannot be adequately represented with a single indicator (Carbone & Memoli, 2015; Hendrix, 2010).

Lastly, we use the Polity IV data set (Marshall, Gurr, & Jaggers, 2017) to assess political regime characteristics. The version used in this study encompasses 162 countries with a population of 500,000 or more as of 2006 and covers the period between 1968 and 2017. The fundamental premise of the Polity project is that many polities reflect the authority traits of both autocracy and democracy. Thus, while Polity analysts deal with autocratic and democratic regimes separately by detecting the presence of their respective components in each country, the continuum of modes of governance actually runs between coherent autocracies, incoherent polities, and coherent democracies. For this reason, composite Polity scores capture the extent of *democracy*, ranging from -10 (strongly autocratic) to +10 (strongly democratic).

### **Control Variables**

We control for two main categories of variables that frequently turn up in studies of policy diffusion and can facilitate or delay the process of stock exchange adoption.

#### Domestic Factors

The findings of previous studies point to the potential impact of *religion* in the promotion of market exchanges. Along this line, Catholic and Muslim religions can be expected to have adverse effects on stock exchange adoption, whereas Protestantism should be conducive to market-oriented reforms. A country's *colonial history* can have an impact on financial outcomes because of policies

inherited from the colonizers. For the most part, empirical evidence reveals that the British created conditions more favorable to the development of their former colonies than the French, which, in turn, could be seen as laying the basis for stock exchange adoption. It is also relevant to examine what effect the *legal system* would have on the opening of stock exchanges. It follows from La Porta, Lopez-de-Silanes, Shleifer, & Vishny's (1997, 1998) findings that compared to civil law countries, common law countries provide strong legal protections for investors and thus have highly developed financial markets.

To control for *the length of independent statehood*, we subtract the year of independence (either the foundation of a new state or the formal declaration of independence) from the year of observation. To account for demographic differences between states, we include *total population*. We also control for *the political ideology of the government* in view of the compelling evidence that the parties of the Left have are less likely to adopt neoliberal policies. Lastly, we use a set of standard indicators as proxies for economic performance. These include gross domestic product (GDP) (to measure the size of national economy), GDP per capita (to measure national wealth), GDP growth (to control for the business cycle), and trade openness (to measure the share of trade in GDP).

### International Factors

We control for coercive, normative, and mimetic processes of institutional isomorphism. First, it is widely accepted that conditionality is a form of coercion which requires that countries sign an agreement with an aid agency to commit to pursuing specific policies in exchange for financial assistance. Specifically, *the use of International Monetary Fund (IMF) credit* could have a bearing on the formation of stock markets because the Fund wants the recipient countries to introduce market-supporting reforms.

Second, the actions of acknowledged pioneers provide a model that other countries follow. To control for *world system position*, we turn to network studies of the world system that stratify nations into categories based on their positions in a hierarchical structure. Specifically, we can expect the core to take the lead in the opening of stock exchanges and show the semiperiphery, the periphery, and the group of countries that remain unclassified a path toward normative emulation.

Lastly, the actions of neighboring countries spark off imitators whose understanding of the issues at stake are unclear and process of policy making occurs through close observation of others. To control for such mimicry, we determine *regional adoptions* by counting the number of countries that have adopted stock

exchanges in a given region in a given year. Appendix summarizes the descriptions and data sources of the variables being investigated.

### *Analysis*

Survival analysis, which can be carried out using either parametric or semi-parametric models, is appropriate for predicting the hazard of stock exchange adoption. We use the Cox proportional hazards model, a commonly used survival model by virtue of being semi-parametric (that is, the baseline hazard function is not specified), demonstrating a certain robustness (that is, the results from using the Cox model will closely approximate the results from using the correct parametric model), and reinforcing the proportional hazards assumption (that is, the hazard ratio comparing any two groups is constant over time) (Kleinbaum & Klein, 2012, p. 110-112, 123-127). All analyses are performed using Stata 16.0 software package. Note that the effects of independent and control variables are assessed with a time lag of one year (that is, they are observed at time  $t - 1$ ).

### **Results**

Table 1 shows descriptive statistics and correlations for the sample of countries in the initial risk set. Table 2 presents the results of survival analyses. Model 1 provides a baseline that only includes control variables. The effects of religion dummies Catholic, other, and mixed, GDP, and regional adoptions are significantly positive, whereas the effects of French colonial legacy, population, and not fit to fall under three main categories of political ideology are significantly negative. Other control variables fail to reach statistical significance. Model 2 assesses the impact of judicial independence on stock exchange adoption. The result of this analysis reveals that the coefficient on judicial independence is positive and significant ( $\beta = 3.827$ ,  $p < .01$ ), lending support to hypothesis 1. Accordingly, increase of one point in judicial independence – roughly equal to the difference between the highest and the lowest scores – increases the hazard of stock exchange adoption by a multiplier of 45.92 ( $e^{3.827}$ ). Model 3 assesses the impact of state capacity on stock exchange adoption and presents evidence that supports hypothesis 2. The coefficient on state capacity is positive and significant ( $\beta = 0.920$ ,  $p < .05$ ), and hence increase of one point in state capacity increases the hazard of stock exchange adoption by about 151% ( $e^{0.920} - 1 = 1.51$ ). Model 4 assesses the impact of democracy on stock exchange adoption. The positive and significant coefficient for democracy ( $\beta = 0.074$ ,  $p < .05$ ) indicates that

Table 1. Descriptive Statistics and Correlations

Variable	Min.	Max.	Mean	Sd	N	1	2	3	4	5	6	7	8
1. Judicial independence	0.002	0.975	0.275	0.199	1998								
2. State capacity	-2.310	2.136	-0.360	0.613	2052	0.381	1.000						
3. Democracy	-10	10	-2.859	5.906	1893	0.553	0.021	1.000					
4. Religion: Protestant	0	1	0.058	0.233	2145	0.043	0.093	0.005	1.000				
5. Religion: Catholic	0	1	0.146	0.353	2145	0.128	-0.008	0.038	-0.102	1.000			
6. Religion: Muslim	0	1	0.405	0.491	2145	-0.174	0.150	-0.054	-0.204	-0.341	1.000		
7. Religion: Other	0	1	0.215	0.411	2145	0.022	0.136	0.007	-0.130	-0.217	-0.381	1.000	
8. Religion: Mixed	0	1	0.176	0.381	2145	0.060	-0.002	0.025	-0.115	-0.191	-0.321	-0.242	1.000
9. British colonial legacy	0	1	0.298	0.458	2145	0.144	-0.049	-0.023	0.022	-0.174	0.091	-0.094	0.132
10. French colonial legacy	0	1	0.386	0.487	2145	-0.070	-0.098	0.109	-0.041	-0.067	0.183	-0.026	-0.120
11. Legal system: English	0	1	0.211	0.408	2145	0.379	0.127	0.058	0.092	-0.191	-0.154	0.171	0.135
12. Legal system: French	0	1	0.711	0.453	2145	-0.284	-0.260	0.032	-0.054	0.173	0.260	-0.389	-0.043
13. Legal system: German	0	1	0.044	0.205	2145	0.100	0.318	-0.015	-0.024	0.066	-0.130	0.204	-0.099
14. Legal system: Socialist	0	1	0.034	0.181	2145	-0.248	0.000	-0.184	-0.047	-0.078	-0.155	0.358	-0.087
15. State age	0	5.308	3.576	0.902	2145	-0.150	-0.028	0.045	-0.016	0.086	-0.112	0.068	0.001
16. Population	-1.398	7.020	1.723	1.347	2145	-0.384	-0.086	-0.097	-0.041	-0.217	-0.021	0.142	0.100
17. Ideology: Right	0	1	0.067	0.250	2131	0.204	0.110	0.308	0.103	-0.016	-0.024	-0.015	-0.002
18. Ideology: Center	0	1	0.032	0.177	2131	0.167	0.011	0.302	0.046	0.044	-0.006	0.022	-0.085
19. Ideology: Left	0	1	0.341	0.474	2131	0.031	0.189	-0.156	0.083	-0.066	-0.161	0.128	0.081
20. Ideology: Not fit	0	1	0.517	0.500	2131	-0.161	-0.151	-0.120	-0.178	0.072	0.131	-0.100	-0.020
21. Ideology: Not applicable	0	1	0.043	0.203	2131	-0.060	-0.221	0.053	0.077	-0.043	0.087	-0.053	-0.062
22. GDP	17.419	26.973	21.990	1.490	1856	-0.291	0.284	-0.122	0.044	-0.127	0.031	0.053	-0.008
23. GDP per capita	4.175	10.692	6.543	1.149	1856	0.062	0.469	-0.107	0.086	0.127	0.015	-0.021	-0.161
24. GDP growth	-64.996	140.501	9.973	9.472	1800	-0.010	0.076	0.019	-0.025	0.042	-0.029	0.036	-0.022
25. Trade openness	0.021	531.737	74.417	49.000	1709	0.029	0.051	0.004	-0.082	0.136	-0.124	0.075	0.001
26. The use of IMF credit	0	7.617	2.865	2.220	2105	0.059	-0.169	0.249	-0.021	-0.076	-0.098	0.032	0.176
27. World system position: Core	0	1	0.042	0.202	2145	0.099	0.408	-0.064	-0.052	0.064	-0.075	0.132	-0.073
28. World system position: Semiperiphery	0	1	0.097	0.295	2145	-0.019	0.255	-0.141	0.122	-0.073	0.033	0.071	-0.126
29. World system position: Periphery	0	1	0.793	0.405	2145	-0.155	-0.457	0.152	-0.036	0.016	0.093	-0.197	0.100
30. World system position: Unclassified	0	1	0.068	14.048	2145	0.199	0.104	-0.025	-0.043	0.009	-0.129	0.129	0.045
31. Regional adoptions	3	47	14.048	8.587	2145	-0.036	0.105	0.301	0.011	0.020	0.092	-0.022	-0.121



Table 1. (Continued)

Variable	9	10	11	12	13	14	15	16	17	18	19	20	21
9. British colonial legacy	1.000												
10. French colonial legacy	-0.375	1.000											
11. Legal system: English	0.514	-0.321	1.000										
12. Legal system: French	-0.429	0.425	-0.812	1.000									
13. Legal system: German	-0.140	-0.170	-0.111	-0.336	1.000								
14. Legal system: Socialist	0.074	-0.149	-0.097	-0.294	-0.040	1.000							
15. State age	-0.090	0.069	-0.067	0.087	-0.121	0.069	1.000						
16. Population	-0.105	-0.061	-0.254	0.081	0.119	0.235	0.323	1.000					
17. Ideology: Right	0.045	0.013	0.094	-0.056	-0.020	-0.051	0.009	-0.089	1.000				
18. Ideology: Center	-0.039	0.001	-0.004	-0.006	0.053	-0.035	-0.054	-0.060	-0.049	1.000			
19. Ideology: Left	-0.052	-0.069	-0.081	-0.036	0.135	0.121	-0.055	0.104	-0.193	-0.132	1.000		
20. Ideology: Not fit	0.017	0.101	0.069	0.034	-0.160	-0.061	0.121	-0.062	-0.277	-0.189	-0.743	1.000	
21. Ideology: Not applicable	0.057	-0.103	-0.093	0.075	0.057	-0.040	-0.134	0.070	-0.057	-0.039	-0.153	-0.220	1.000
22. GDP	-0.071	-0.052	-0.252	0.083	0.162	0.282	0.259	0.692	-0.016	-0.062	0.121	-0.101	0.053
23. GDP per capita	0.110	-0.068	-0.034	-0.053	0.048	0.204	-0.012	-0.272	0.060	-0.020	0.084	-0.089	-0.034
24. GDP growth	-0.016	-0.014	-0.032	-0.011	0.055	0.067	0.062	-0.026	0.035	0.000	0.011	-0.012	-0.046
25. Trade openness	0.067	-0.113	0.162	-0.131	0.014	-0.129	-0.143	-0.481	0.002	-0.024	0.053	-0.025	-0.039
26. The use of IMF credit	-0.049	0.153	0.150	-0.082	-0.065	-0.091	0.252	0.298	-0.015	0.027	-0.079	0.070	0.005
27. World system position: Core	-0.067	-0.167	-0.001	-0.197	0.475	-0.040	0.138	0.225	0.000	0.001	0.120	-0.100	-0.033
28. World system position: Semiperiphery	0.053	-0.022	-0.026	-0.056	0.023	0.174	0.002	0.094	0.027	-0.006	0.132	-0.121	-0.038
29. World system position: Periphery	-0.152	0.233	-0.159	0.271	-0.217	-0.076	0.043	-0.066	-0.080	0.033	-0.095	0.106	0.032
30. World system position: Unclassified	0.236	-0.214	0.287	-0.212	-0.058	-0.051	-0.182	-0.184	0.100	-0.048	-0.102	0.055	0.021
31. Regional adoptions	-0.236	-0.106	-0.210	0.106	0.213	-0.033	-0.041	0.085	0.012	0.070	0.011	-0.067	0.065
<b>Variable</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>	<b>31</b>			
22. GDP	1.000												
23. GDP per capita	0.504	1.000											
24. GDP growth	-0.001	0.037	1.000										
25. Trade openness	-0.300	0.214	0.181	1.000									
26. The use of IMF Credit	-0.012	-0.452	-0.019	-0.123	1.000								
27. World system position: Core	0.359	0.208	-0.004	-0.083	0.006	1.000							
28. World system position: Semiperiphery	0.427	0.431	0.007	-0.020	-0.190	-0.069	1.000						
29. World system position: Periphery	-0.344	-0.422	-0.049	-0.019	0.287	-0.412	-0.640	1.000					
30. World system position: Unclassified	-0.212	0.011	0.069	0.110	-0.247	-0.057	-0.088	-0.529	1.000				
31. Regional adoptions	0.210	0.159	0.049	0.119	-0.005	0.069	0.020	-0.015	-0.054	1.000			

Note: The legal system category *Scandinavian* is not observed in the data.

increase of one point in overall polity score increases the hazard of stock exchange adoption by about 8% ( $e^{0.074} - 1 = 0.08$ ), providing support for hypothesis 3.

Model 5 assesses the impact of the interaction between state capacity and democracy on stock exchange adoption. This analysis shows that the coefficient on the interaction term is negative but not significant and thus there is no evidence to lend support to hypothesis 4. What follows is an examination of whether judicial independence mediates the relationship between state capacity and stock exchange adoption. We adopt a series of procedures for tracking mediation (see Baron & Kenny, 1986). The first step seeks to establish the link between the independent variable and the dependent variable. In this regard, model 3 has already demonstrated that state capacity has a direct effect on stock exchange adoption. The second step seeks to detect the presence of association between the independent variable and the mediator. To this end, Table 3 shows the estimates of random-effects linear regression models with judicial independence as the dependent variable. Model 7 includes all variables, except for state capacity, as independent variables. Then, model 8 proceeds to examine the effects of the same independent variables with the addition of state capacity on judicial independence. Evidence suggests that state capacity has a significant positive impact on judicial independence ( $\beta = 0.029$ ,  $p < .001$ ). The preliminary results therefore point to positive indirect effects of state capacity on stock exchange adoption. The next step assesses the presence of association between the mediator and the dependent variable. In this regard, model 2 has already demonstrated that judicial independence has a direct effect on stock exchange adoption. The fourth step aims at determining whether the effect of the independent variable on the dependent variable remains significant, even after controlling for the mediator. In this regard, model 6 demonstrates that state capacity is no longer statistically significant predictor of stock exchange adoption when judicial independence is included in analysis. On the whole, hypothesis 5 is supported by the finding that the relationship between state capacity and stock exchange adoption is fully mediated by judicial independence.

**Table 2.** Survival Analyses of Stock Exchange Adoption

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Religion						
Protestant	Baseline	baseline	baseline	baseline	baseline	baseline
Catholic	1.841* (0.906)	1.553 (1.249)	2.382* (0.955)	1.773 (0.924)	2.600** (0.972)	2.022 (1.317)
Muslim	1.088 (0.824)	0.556 (1.211)	1.558 (0.855)	1.060 (0.846)	1.524 (0.852)	1.132 (1.255)
Other	2.316** (0.888)	0.697 (1.323)	2.588** (0.911)	1.992* (0.939)	2.405* (0.946)	1.245 (1.365)
Mixed	1.889* (0.875)	1.338 (1.289)	2.112* (0.902)	1.860* (0.899)	2.300* (0.912)	1.872 (1.336)
British colonial legacy	0.479 (0.481)	0.432 (0.548)	0.218 (0.526)	0.102 (0.521)	0.130 (0.530)	0.163 (0.589)
French colonial legacy	-0.930* (0.441)	-0.818 (0.509)	-1.197* (0.481)	-1.196* (0.486)	-1.291** (0.495)	-1.065 (0.552)
Legal system						
English	baseline	baseline	baseline	baseline	baseline	baseline
French	-0.300 (0.501)	-0.542 (0.549)	-0.533 (0.534)	-0.464 (0.520)	-0.634 (0.537)	-0.700 (0.570)
German	-0.823 (0.747)	-0.742 (0.796)	-1.590 (0.821)	-1.218 (0.790)	-2.226* (0.896)	-1.205 (0.865)
Socialist	-0.687 (1.320)	0.502 (1.383)	-1.024 (1.341)	-0.470 (1.359)	-0.630 (1.401)	0.258 (1.400)
State age	-0.268 (0.247)	-0.360 (0.253)	-0.268 (0.248)	-0.204 (0.245)	-0.345 (0.251)	-0.317 (0.254)
Population	-4.938* (2.417)	-5.223* (2.589)	-3.461 (2.625)	-4.765 (2.474)	-3.541 (2.626)	-4.374 (2.726)
Ideology						
Right	baseline	baseline	baseline	baseline	baseline	baseline
Center	-0.726 (0.859)	-0.528 (0.880)	-0.122 (0.888)	-0.266 (0.882)	-0.001 (0.900)	-0.168 (0.909)
Left	-0.877 (0.483)	-0.804 (0.558)	-0.663 (0.517)	0.076 (0.621)	-0.033 (0.635)	-0.649 (0.586)
Not fit	-1.023* (0.409)	-0.474 (0.485)	-0.661 (0.454)	-0.052 (0.594)	0.012 (0.611)	-0.319 (0.518)
Not applicable	-45.328	-44.371	-44.580	-43.768	-42.139	-44.028
GDP	5.250* (2.376)	5.961* (2.566)	4.003 (2.570)	5.240* (2.434)	4.237 (2.576)	5.125 (2.697)
GDP per capita	-4.632 (2.422)	-5.165* (2.606)	-3.381 (2.611)	-4.587 (2.483)	-3.530 (2.615)	-4.355 (2.730)
GDP growth	-0.021 (0.017)	-0.023 (0.019)	-0.031 (0.019)	-0.019 (0.019)	-0.025 (0.020)	-0.029 (0.020)

**Table 2.** (Continued)

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Trade openness	-0.001 (0.004)	-0.001 (0.005)	-0.001 (0.004)	-0.001 (0.004)	-0.001 (0.004)	-0.002 (0.005)
The use of IMF credit	0.024 (0.080)	-0.033 (0.087)	0.027 (0.082)	-0.016 (0.087)	0.001 (0.088)	-0.014 (0.089)
World system position						
Core	baseline	baseline	baseline	baseline	baseline	baseline
Semiperiphery	-0.048 (0.648)	-0.137 (0.731)	0.893 (0.731)	0.289 (0.663)	0.903 (0.740)	0.439 (0.799)
Periphery	-0.738 (0.781)	-0.251 (0.901)	0.707 (0.945)	-0.305 (0.790)	0.873 (0.942)	0.426 (1.000)
Unclassified	-1.117 (0.988)	-0.331 (1.081)	0.113 (1.081)	-0.150 (1.031)	0.626 (1.097)	0.360 (1.157)
Regional adoptions	0.042* (0.019)	0.069** (0.021)	0.038 (0.020)	0.031 (0.020)	0.034 (0.021)	0.065** (0.022)
Judicial independence		3.827** (1.271)				3.107* (1.379)
State capacity			0.920* (0.355)		1.016** (0.386)	0.527 (0.415)
Democracy				0.074* (0.032)	0.062 (0.033)	
State capacity x democracy					-0.064 (0.038)	
No. of subjects	92	85	91	89	88	84
Number of observations	1613	1489	1547	1473	1426	1455
LR chi2	83.83***	93.26***	90.17***	84.39***	92.71***	93.86***
df	23	24	24	24	26	25

\* p&lt; .05; \*\*p &lt; .01; \*\*\*p&lt;.001.

Standard errors are in parentheses.

**Table 3.** Linear Regression Analysis of Judicial Independence

Judicial independence	Model 7	Model 8
Religion		
Protestant	baseline	baseline
Catholic	0.116 (0.080)	0.125 (0.077)
Muslim	0.011 (0.074)	0.014 (0.071)
Other	0.072 (0.076)	0.069 (0.073)
Mixed	0.050 (0.078)	0.050 (0.075)
British colonial legacy	0.026 (0.036)	0.030 (0.035)
French colonial legacy	-0.006 (0.033)	0.000 (0.032)
Legal system		
English	baseline	baseline
French	-0.067 (0.041)	-0.071 (0.039)
German	-0.122 (0.068)	-0.136* (0.065)
Socialist	-0.207 (0.126)	-0.199 (0.120)
State age	-0.007 (0.007)	-0.009 (0.007)
Population	-0.233 (0.168)	-0.074 (0.168)
Ideology		
Right	baseline	baseline
Center	-0.012 (0.012)	-0.008 (0.012)
Left	0.058*** (0.008)	0.059*** (0.008)
Not fit	0.028** (0.008)	0.025** (0.008)
Not applicable	0.038** (0.014)	0.040** (0.014)
GDP	0.211 (0.167)	0.050 (0.167)
GDP per capita	-0.197 (0.167)	-0.040 (0.167)

**Table 3. (Continued)**

<b>Judicial independence</b>	<b>Model 7</b>	<b>Model 8</b>
GDP growth	0.000 (0.000)	0.000 (0.000)
Trade openness	0.000 (0.000)	0.000 (0.000)
The use of IMF credit	0.002 (0.001)	0.002 (0.001)
World system position		
Core	baseline	baseline
Semiperiphery	-0.021 (0.057)	-0.019 (0.055)
Periphery	-0.080 (0.056)	-0.069 (0.054)
Unclassified	0.027 (0.079)	0.018 (0.075)
Regional adoptions	-0.003*** (0.001)	-0.003*** (0.001)
Democracy	0.012*** (0.000)	0.012*** (0.000)
State capacity		0.029*** (0.006)
No. of subjects	82	82
Number of observations	1373	1352
LR chi2	800.46***	803.48***
df	25	26

\* p < .05; \*\* p < .01; \*\*\* p < .001.  
Standard errors are in parentheses.

Nearly all of the control variables are found to be poor predictors of stock exchange adoption. Yet, relatively speaking, the coefficients on French colonial legacy are consistently negative and significant, suggesting former French colonies adopt stock exchanges much more slowly than countries that have never been colonized by the British or the French. The number of adoptions in the region comes next in importance. In most of the models, this factor contributes to the formation of stock markets. Additionally, all the majority religions except for Muslim have significant effects in a range of different models. Therefore, contrary to expectations, these countries have higher adoption rates than Protestant countries, presumably because this work focuses on the process of diffusion

among late adopters. The remaining factors, besides such variables that fail to reach statistical significance beyond the first few models (e.g., GDP) or until the inclusion of many other variables (e.g., German legal system), are rarely, if ever, linked to stock exchange adoption. In aggregate, four hypotheses out of five proposed are supported, underlining the importance of political institutions in accounting for policy differences between countries.

## Discussion and Conclusion

Diffusion research has contributed greatly to our understanding of institutional isomorphic processes whereby national policies become interdependent but paid scant attention to cross-country variation in openness and readiness to a change of policy. To achieve this, we performed cross-national and longitudinal analyses of the diffusion of stock exchanges. What the results showed is that policy adoption is not merely explainable by diffusion processes and political institutions are important determinants of policy directions. In particular, the study provided empirical evidence to support the view that, even after taking account of a collection of domestic and international factors commonly associated with neoliberal policies, judicial independence, state capacity, and democracy are linked to stock exchange adoption. Therefore, the study succeeded in achieving its objective of performing a more fine-grained analysis of domestic factors on which policy directions for countries depend and offered some fresh insights into the contingent nature of policy diffusion. Present findings also underlined the importance of jointly analyzing political institutions to gain a richer understanding of the adoption of policies. As we saw, judicial independence mediates state capacity's relationship with stock exchange adoption. Such recognition can be seen as a first step towards the identification of more complex relationships between political institutions and policy development.

We highlight two main points of concern that merit further consideration. The first relates to the measurement of political institutions. Of course, measures of judicial independence, state capacity, and democracy come from different sources and deploy analytically distinct constructs, but the fact remains that they overlap to some extent. To take an illustrative example, measures of judicial independence and democracy have a common component variable which captures constraints on the chief executive. While there are reasonable grounds for suggesting that checks and balances on the executive decision-making work to ensure the

independence of the judiciary as well as democracy, closely intertwined concepts as measured by multiple-indicator indexes make it difficult to interpret the results from integrative models. An alternative method involves using one or two particularly pertinent indicators making up the composite index. This approach allows researchers to separate the component elements of measures. In this vein, Bäck & Hadenius (2008) only include political rights when making use of a democracy index consisting of two parts, and the stated reason for leaving out the other component, civil liberties, is overlap with measure of administrative capacity. Yet, within the scope of this project, we decided not to exercise that option because all component parts of aggregate measures have been regarded as likely contributory factors to the formation of stock markets. In the end, it comes down to a trade-off between the advantages of multidimensionality and the disadvantages of precision (see, for example, Carbone & Memoli, 2015, for criticism directed at Bäck & Hadenius, 2008 for operationalizing state capacity in terms of administrative capacity and dropping the political order element of stateness). This implies that researchers could only consider the possibility of disentanglement if it flows from the theoretical underpinnings of the study.

This research not only showed that all three political institutions are important in determining financial policy but also assisted in evaluating the relative influence of each of these factors. As it turned out, democracy has relatively little effect on stock exchange adoption when compared with judicial independence and state capacity. Contrary to expectations, democracy also does not have a moderating effect on the relationship between state capacity and stock exchange development. Some might argue that the Polity data make it harder to explore the theorized relationships among these variables. The problem lies in the fact that there are multiple ways of obtaining an overall Polity score through different combinations of independent observations of component variables involved (Gleditsch & Ward, 1997). Because of variations within subgroups, it is possible that polities at both ends of the scale had mixed success in establishing stock exchanges. With the benefit of controlling for this heterogeneity, an alternative approach is to assess the effects of the most relevant aspects individually. This would entail exploring the differences in the main drivers of change between countries with identical total composite scores. There is, however, a need to revise some of the key assumptions that underlie work in this area to identify the characteristics which heavily influence policy choices. It may also be hard to see the effects of democracy if there are other factors such as regime transition and stability in



play. The prevailing view is that countries with developed and stable democracies instigate a program of reform more easily than other countries by means of the efficiency of the provision of public goods (see, for example, Clague et al., 1996, for a comparison of the security of property and contract rights under different regimes). So, perhaps it is not being less democratic per se that accounts for being a non-adopter, but the recency or frequency of regime change. This means not ruling out the possibility that this research downplays the effects of democracy without making an effort to control for other characteristics associated with regimes.

In conclusion, this study provided a window into how political institutions are responsible for policy differences between nation-states in the face of isomorphic pressures to follow an agenda of globalizing. These characteristics do probably influence most areas of national policy making rather than being associated with a specific policy issue, so it is vital that we take them into account in subsequent studies as well. When any of these dimensions are omitted from studies of policy diffusion, there is a real possibility that the importance of other contextual factors will be overestimated. As well as the necessity for assessing independent effects of political institutions, we also stress the need to examine the effects of their interrelationships so as to measure the likely outcomes with greater precision. The general observation is that this particular set of characteristics help explain stock exchange adoption. Suggestions for future research include being open to the establishing of the links between subcomponents of the focal independent variables and the likely outcomes and determining whether regime transition and stability influence the probability that stock markets are more likely to emerge in democracies.

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### Appendix. Description of the Variables and Data Sources

Variable	Description	Data source(s)
The hazard of stock exchange adoption	A country's instantaneous probability of experiencing the event of interest at time $t$ , given that it has not occurred up to that time.	<ul style="list-style-type: none"> <li>Handbook of World Stock, Derivative and Commodity Exchanges (1998)</li> <li>Official websites of stock exchanges</li> </ul>
Judicial independence	A composite value for de facto judicial independence.	<ul style="list-style-type: none"> <li>Staton et al. (2019)</li> </ul>
State capacity	An aggregate estimate of the core functions of contemporary states.	<ul style="list-style-type: none"> <li>Hanson &amp; Sigman (2020)</li> </ul>
The extent of democracy	An overall Polity score computed by subtracting the autocracy score from the democracy score.	<ul style="list-style-type: none"> <li>Marshall et al. (2017)</li> </ul>
Religion	The predominant religious grouping in a country. Five groups are identified: (1) Protestant, (2) Catholic, (3) Muslim, (4) Other, and (5) Mixed.	<ul style="list-style-type: none"> <li>The US Central Intelligence Agency (CIA) World Factbook</li> <li>La Porta, López-de-Silanes, &amp; Shleifer (1999)</li> </ul>
British colonial legacy	Dummy variable coded one for countries that came under the British rule as overseas colonies, protectorates, or mandate territories, and zero otherwise.	<ul style="list-style-type: none"> <li>The CIA World Factbook</li> </ul>
French colonial legacy	Dummy variable coded one for countries that came under the French rule as overseas colonies, protectorates, or mandate territories, and zero otherwise.	<ul style="list-style-type: none"> <li>The CIA World Factbook</li> </ul>
Legal system	The historical origin of a country's legal system. Five groups are identified: (1) English, (2) French, (3) German, (4) Scandinavian, and (5) Socialist.	<ul style="list-style-type: none"> <li>La Porta, Lopez-de-Silanes, &amp; Shleifer (2008)</li> <li>Guerrero (2016)</li> </ul>
The length of independent statehood	The natural logarithm of state age computed by subtracting the year of independence from the year of observation.	<ul style="list-style-type: none"> <li>Gleditsch &amp; Ward (1999)</li> <li>The CIA World Factbook</li> </ul>
Total population	The natural logarithm of the number of all residents regardless of legal status or citizenship.	<ul style="list-style-type: none"> <li>World Development Indicators (WDI) 2017</li> </ul>

The political ideology of the government	The orientation of the president's party with respect to economic policy. Five groups are identified: (1) Right, (2) Center, (3) Left, (4) Not fit to fall under the first three categories, and (5) Not applicable.	• Cruz, Keefer, & Scartascini (2021)
GDP	The natural logarithm of the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products.	• WDI (2017)
GDP per capita	The natural logarithm of gross domestic product divided by midyear population.	• WDI (2017)
GDP growth	Annual percentage growth rate of GDP per capita based on constant local currency.	• WDI (2017)
Trade openness	The sum of exports and imports of goods and services measured as a share of GDP.	• WDI (2017)
The use of IMF credit	The natural logarithm of purchases and drawings under Stand-By, Extended, Structural Adjustment, Enhanced Structural Adjustment, and Systemic Transformation Facility Arrangements as well as Trust Fund loans and SDR allocations.	• WDI (2017)
World system position	Assignment of countries to world system zones. Four groups are identified: (1) Core, (2) Semiperiphery, (3) Periphery, and (4) Unclassified.	• Clark & Beckfield (2009) • Clark (2012)
Regional adoptions	The number of countries that have adopted stock exchanges in a given region in a given year. Seven geographic regions are identified: (1) East Asia and Pacific, (2) Europe and Central Asia, (3) Latin America and the Caribbean, (4) Middle East and North Africa, (5) North America, (6) South Asia, and (7) Sub-Saharan Africa.	• WDI (2017)