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Political systems, regime memory, and economic freedom

Peter Calcagno[1] | **Beatriz Maldonado**[2] | **Todd Nesbit**[3] | **Mary Frances Zeager**[4]

[1]Department of Economics, College of Charleston, Charleston, South Carolina, USA

[2]Department of Economics and International Studies Program, College of Charleston, Charleston, South Carolina, USA

[3]Department of Economics, Ball State University, Muncie, Indiana, USA

[4]Jane Technologies, Santa Cruz, California, USA

Correspondence
Beatriz Maldonado, Department of Economics and International Studies Program, College of Charleston, Program, 66 George Street, Charleston, SC 29403, USA.
Email: maldonadobirdba@cofc.edu

Abstract

We expand on the economic research about regime types, culture, institutions, and economic freedom, with the development of a unique measure of regime memory and examine the generational effect of past regimes on a country's level of economic freedom. Using a panel of 144 countries between 1970 and 2015 we follow the literature and argue that institutions can be fast and slow-moving. We find evidence that regime memory promotes improvements in (discourages) economic freedom for countries that are historically democratic (autocratic).

KEYWORDS
culture, economic freedom, institutions, memory, regime

JEL CLASSIFICATION
B15, O17, O43, P1, P16

1 | INTRODUCTION

After the fall of the Berlin Wall and the collapse of the Soviet Union, many hoped that the Eastern Bloc countries and the newly independent former Soviet Republics would have the opportunity to pursue economic and political institutions that would favor economic freedom and prosperity. However, what role did the decades of Soviet-style planning have in deterring this change due to the traditions, culture, and customs reflected in the Soviet system versus economic and politically free institutions being attempted? Russia was part of the Soviet Union since 1917 and by 1991 its citizens had lived under the Soviet system for 74 years, approximately two and a half generations.[1] Eastern European countries became Soviet satellite states between 1944 and 1949, which means citizens lived for more than 40 years or approximately one and a half generations under this system.

For institutions, culture, and traditions to persist within a society, there must be some societal memory of those institutions, passed down through the generations.[2] The role of institutions and regimes on the memory of its citizens, until recently, has been studied largely by sociologists Mannheim (1996) and Shils (1958, 1981, 1984), who claim that

Abbreviations: EFW, Economic Freedom of the World; GDP, Gross Domestic Product; OLS, Ordinary Least Squares; USA, United States of America; USSR, Union of Soviet Socialist Republics.

almost all cultural institutions, from political affiliation to ideas about the individual in society, have, at least in some sense, been passed down from generation to generation. More recently, Bisin and Verdier (2001, 2011) suggest a theoretical model of cultural transmission arguing that heterogeneity or homogeneity of a society affects how culture is transmitted from generation to generation. Therefore, attitudes, beliefs, norms, and perceptions that serve as the backbone of voluntary cooperation and support of economically free systems are also passed down from generation to generation. Although legislation is most often thought of as promoting and enforcing a general level of economic freedom in a society, culture, and institutions, both informal and formal institutions play significant roles in the persistence of economic freedom through time.

According to Hayek (1973), institutions determine the incentive structure in a society, which then determines if an action will be socially advantageous or harmful. Individuals then make decisions in a society based on the institutionalized incentive structure (Horwitz, 2013). North (1990) argues that it is the institutions that will determine a country's long-term economic performance. While formal institutions like legislation can change institutions rapidly, it is not until after a long period of time that these institutions become adopted or rejected as tradition, and are enforced or not. Guiso et al. (2006), similar to North (1991), defines the literature on culture and institutions, what Roland (2004) refers to as fast and slow moving institutions. The actions and attitudes that are socially advantageous in society are largely determined by the institutional structure within the country (Baumol, 1996; McCloskey, 2010; Roland, 2004). With fewer free economic institutions, people will choose actions that will be less socially advantageous (e.g., rent-seeking). Williamson (2000) and Alesina and Giuliano (2015) argue that formal and informal institutions matter in evaluating economic growth.

Our idea is that a country's regime memory changes from generation to generation affecting the economic and political institutions. Based on the type of regime in place, regime memory can either promote improvements in economic freedom, if the country is historically democratic, or discourage economic freedom if the regime is more historically autocratic (Shils, 1958, 1981). For instance, after 74 years of life under a Soviet regime that lacked private property, rewarded political connections, and eroded trust, one might expect that Russian citizens would be slow to embrace policies supportive of economic freedom. If the duration of these regimes matters to the passing along of institutions, traditions, and customs, then the likelihood that they would understand or remember economic institutions such as private property rights would be more difficult the longer they remained under an autocratic/socialist regime.[3] Russia might take longer to develop formal and informal institutions that promote economic freedom and prosperity because citizens fail to remember what life under any other system was like. Anecdotal evidence demonstrates this idea. In 1991 Russia's real GDP per capita was $7432 and in 2015 it was $9313, an increase of approximately 25.3% over 25 years. Hungary went from being part of the Austro-Hungarian Empire to an independent country to a Soviet Satellite state; this history might make the transition to economically free institutions easier as they are looking back less than two generations to experience different economic and political institutions. In those same 25 years, Hungary experienced a 67.6% increase in GDP from $7592 to $12,720.[4] Thus, the memory of economically and politically free institutions that promote long term growth and prosperity was more likely to be lost in Russia than Hungary, which means the longer the duration of these autocratic regimes, the more difficult it is to transition to economic freedom. Ariely et al. (2015) find evidence of the former Soviet system persisting in the behavior of individuals.

This paper attempts to create a measure of regime memory and empirically examine its relationship to a country's economic freedom. Using a pooled OLS model for 144 countries for the years 1970–2015, we examine how a country's regime memory affects its economic freedom of the world (EFW) score.[5] While other measures attempt to examine democracy or regimes, we are the first to create an index of regime memory that accounts for both autocratic and democratic regime memory.[6] We argue that since our regime memory reflects both democratic and autocratic regimes it is better at capturing the intergenerational transfers of formal and informal institutions. We hypothesize that a regime memory of stronger and more stable democratic systems is associated with improvements in current economic freedom. Our results indicate that countries with a movement towards a democratic (autocratic) regime memory, also experience an increase (decrease) in economic freedom. This is particularly the case when past regimes were in place for extended periods such that their institutions and norms become established in the regime memories of both constituents and politicians.

We start by presenting a background of the literature. In Section 3 we describe the data and the methodology. Section 4 presents the results. Robustness checks are presented in Section 5 and the last section offers concluding remarks.

2 | LITERATURE REVIEW

Our paper attempts to bring together three different areas of literature to examine our idea of regime memory and economic freedom. Economic freedom and its determinants, which is a new and relatively small literature, an

examination of culture and its determination of economic and political institutions, and the role of democracy and regimes on institutional quality.

2.1 | Economic freedom

Over 400 studies have used the economic freedom of the world index (i.e., the Fraser Institute's Economic Freedom of the World Index) to attempt to explain economic conditions across countries (Hall & Lawson, 2014). Hall and Lawson (2014) note that many of these studies use economic freedom as an independent variable, but what determines economic freedom? Lawson et al. (2020) survey the literature attempting to explain the determinants of economic freedom. They identify ten unique areas that have been used to explain either the levels or changes in economic freedom at the country level. The ten broad areas include (1) foreign aid and intergovernmental membership, (2) crises, (3) democracy, (4) civil rights, (5) deep roots, (6) inequality, (7) ideology, (8) migration, (9) natural resources and geography, and (10) output, income, and growth.[7] We examine panel data to estimate how well variation in our measure of regime memory explains variation in economic freedom in a country. We include in the analysis controls that allow us to use the full sample of the EFW starting in 1970 while also allowing for longer periods of regime memory.

2.2 | Institutions and culture

Mannheim (1996), Shils (1958, 1981, 1984), Cavalli-Sforza and Feldman (1981) Inglehart and Baker (2000), and Bisin and Verdier (2001, 2011) investigate how societies transmit and sustain culture and institutions. Mannheim (1996) hypothesized that during the first 30 years of life, people are generally still learning both the traditions and cultural values of a society and pursuing formal education.[8] Thus, memories of earlier regimes persist through the interaction of different generational cohorts, but also through institutional or historical inertia, and possibly even continued consumption of cultural products from earlier regimes. Cavalli-Sforza and Feldman (1981) and Bisin and Verdier (2001, 2011) develop a theoretical model of cultural transmission arguing that the transmission is either vertical (familial) or horizontal (societal).[9] These two types of transmissions are substitutes for one another and depend upon the heterogeneity of society. The more homogenous a society the more horizontal transmission as families and society share similar values. The more heterogenous society the more vertical transmission as families share their minority view.

We argue that regime memory works through generations constantly interacting with one another. Whether vertical or horizontal transmission, the older generations during these "creative years" of their life are interacting at the same time with younger generations in the "learning years" of their lives, transferring ideas, culture, and older generations' attitudes toward existing institutions to their younger counterparts (Mannheim, 1928). The difference in transmission is whether the older generation's influence is from family or broader society. Older generations tend to desire an orderly world, and social institutions, such as the Church and political or economic institutions can help maintain such order (Bisin & Verdier, 2001, 2011; Shils, 1958, 1984).

Several studies on culture, norms, institutions, and good governance use the survey data from Hofstede (1980, 2001), Schwartz (1994), and Ross et al. (1999).[10] Licht et al. (2007), Gorodnichenko and Roland (2021) and Klasing (2013) argue that a culture of individualism is more likely to lead to democracy and a more equal distribution of power among citizens leading to institutions that generate economic growth. Tarabar (2017) finds that more individualistic transitioning countries interacted with democracy increases the likelihood of liberalizing market reforms. Similarly, Pejovich (2003) argues for transitioning countries to have successful market reforms they must have a culture sympathetic to self-interest and responsibility. Davis and Williamson (2019) find that countries that exhibit greater individualism promote gender equality. All these studies suggest that individualism is a consistent factor of culture that affects economic development.

The speed of change in norms and traditions is also dependent upon the kinds of institutions created by the change. Sobel (2017) finds that positive institutional reform, such as the creation of more economically free institutions, takes on average 25 years, but institutional decline and negative institutional reform take on average only 10 years. That is, it takes more time to improve a country's economic freedom than it does for a country to decline in economic freedom. These results seem consistent with Roland (2004) that norms and culture are slow-moving institutions while political and legal systems are fast-moving institutions. Inglehart and Baker (2000) using World Values Survey data find that even after significant political and economic changes, such as in post-Soviet States, countries maintained their cultural differences, such as trust and tolerance of others, and post-materialist values, attesting to the difficulty of changing

traditions and norms in a society. Ariely et al. (2015) and Tarabar (2017) find similar evidence. This is especially true for hierarchical countries and autocratic states, where the state's role is seen as forcing the citizens into compliance since the individual cannot be trusted (Tabellini, 2010).

Storr (2013) argues that culture is the lens that gives rise to the different economic choices and outcomes for a shared group of people. Thus, culture is a channel through which economic and political institutions are shaped. As such, one can argue that the economic and political institutions are a reflection of the culture. In addition, they examine culture's effects on trust, families, and individualism. Tabellini (2010) using the World Values Survey Data across regions in Europe, finds social capital, illustrated by trust and respect and confidence in the individual is the largest determinant of economic development. Tabellini's (2010) claims that culture is a determinant of economic outcomes. Muller and Seligson (1994) find that cultural values are not a determinant of political outcomes, but rather are an effect of democratic regimes. Vachris and Isaacs (2017) also find evidence that cultural values are important to forming and securing pro-growth institutions, similar to the views of both Hayek (1944) and Friedman (2009). Boettke et al. (2008), Williamson (2000), and Bolen and Williamson (2019) claim that if formal institutions are going to survive, then informal institutions must underlie the formal institutions, and that and that slow and credible liberalization will increase economic growth.[11]

2.3 | Democracy and regimes

Gerring et al. (2005), Persson and Tabellini (2009), and Grier and Munger (2006) present literature on the impact of regimes on democracy. Gerring et al. (2005) studied the accumulation of political capital, in the form of democracy's effect on economic growth, and found that a country's historical experience with democracy mediates the regime's effect on economic growth.

Persson and Tabellini (2009) also examine regime duration in terms of both economic growth and regime change to create democratic capital. They find that a country's long-lasting democratic history or a neighboring country's political history creates a consequent build-up of democratic institutions making it more difficult to overthrow a long-lasting democratic regime indicating that a "virtuous cycle" exists with democratic regimes and economic growth.

Grier and Munger (2006) add to the regime duration, democracy, and economic growth literature using a parsimonious model to examine a large dataset. They employ a binary variable to account for dictatorship, rather than a scaled index and then create an interaction term between regime type and regime durability. They find that democracies have a substantial economic growth premium.

Our contribution is to bring together the existing literature on economic freedom, culture and institutions, and the duration of regimes and democracy. We argue that our construction of a country's regime memory will reflect culture and institutions and therefore the current economic freedom. Rather than using Polity2 and Durable as proxies for regime memory, we create a direct measure for regime memory and then determine how it correlates with economic freedom. We argue that our unique construction of regime memory allows us to better examine the relationship between economic freedom and citizens' memory of regimes.

3 | DATA AND METHODOLOGY

The primary contributions of this analysis to the existing literature on the determinants of economic freedom include a) the estimation of a panel model whereas the vast majority of the econometric modeling in the related literature employ cross-sectional analysis; b) the creation and use of a new measure of regime memory. While the estimation of a panel model offers the benefit of explaining longitudinal variation in addition to the cross-sectional variation, it does greatly restrict the availability of control variables commonplace in cross-sectional studies. Before expanding on the econometric model, we first further motivate the use and then discuss the construction of the regime memory variable.

Formal and informal norms take time to establish under new regimes and become more commonplace the longer the regime is in power. Likewise, the memory of those norms will take time to dissipate if the given regime is replaced and new norms are established under the new regime. That is, the regime change, itself, is a quick change in political institutions (i.e., Roland's (2004) "fast-moving" institutional changes) while the resulting behavioral and cultural changes stemming from the regime change are slower to adjust (i.e., Roland's (2004) "slow-moving" institutional changes).

Changes in the fast-moving institutions—in this case, the current regime as measured by Polity2—can directly influence economic freedom; however, the ability of those in political power to invoke dramatic changes may be limited

by the will of the populace, which is a slow-moving institution. For instance, Meng Xue (2020) finds that increased autocracy in Imperial China led to reduced social capital. Social capital refers to the attitudes, beliefs, norms, and perceptions that serve as the backbone of voluntary cooperation—all slow-moving institutional changes. As social capital deteriorates, sentiment can shift in favor of a more expansive and invasive role for government. In other words, a more autocratic regime memory is expected to be associated with reduced economic freedom, which we measure via the Economic Freedom of the World measure. Testing such a hypothesis requires that a reasonable measure of regime memory be created; we now turn to the discussion of the calculation of such a measure.

3.1 | Regime memory

To capture the effects of slow-moving institutional changes associated with regime change (i.e., changes in social capital as detailed by Meng Xue (2020), including the attitudes, beliefs, norms, and perceptions regarding social trust and voluntary cooperation), we utilize two variables—durable and polity2—from the Polity IV dataset to construct our measure of regime memory. Durable is a count variable that registers the length of time since the most recent regime change. During the first year of a regime, durable takes on a value of zero. To register an effect on regime memory, we assume a regime must be established for at least a second year; in other words, to enter into the calculation of regime memory the maximum durable score for a given regime must be greater than zero. Polity2 controls for regime type and ranges from −10 to 10, with a lower score indicating a more autocratic regime and a greater score indicating a more democratic regime (Marshall & Jaggers, 2013).

Our measure of a county's regime memory is best described as a weighted average of polity2 scores by the regime in which the weights are determined by each regime's durable score. The broad construction is described as follows:

$$\text{RegimeMemory}_{it} = \frac{\sum_{r=0}^{R}\left(w_{i(t-1)r} * \text{Polity2}_{i(t-1-k)r}\right)}{\sum_{r=0}^{R} w_{i(t-1)r}}$$

where i and t index for country and year, respectively, and r indexes for the regime. We lag all time references on the right-hand side such that regime memory is not influenced directly by the contemporaneous polity and durable scores—it is intended to purely represent the memory of past regimes. Subscript k indexes for the number of years since the previous regime ended (further explanation below). Regime weights are assigned an initial value of one in the regime's first year of existence. The influence of that regime, and hence its weight, is assumed to build at a constant discount rate (2.5% and 12.5% for the primary results presented here) with each additional year the regime is in place. Once a regime ends, the weight assigned to that regime's contribution to regime memory begins to fade at the same discount rate. Our sample period for our regression analysis begins in 1970; however, the measure of regime memory for a given country includes the discounted influence of all past regimes included in the Polity IV dataset.

It is worthwhile to discuss how our measure of regime memory is distinct from Persson and Tabellini's (2009) measure of democratic capital. They, too, use a constant discount rate. However, they only allow their measure of democratic capital to accumulate for a given country during periods of democracy (polity2 > 0) and depreciate toward zero during non-democratic periods (polity2 ≤ 0). Their measure of democratic capital is similar to our regime weights, which accumulate toward a steady-state value (dependent on the discount rate used) while the regime is in place and depreciates toward zero after the regime has ended. However, we permit the memory (or capital) of democracy to build; as well as permit the memory of autocratic regimes to build. Further, we also multiply the individual regime weights by the appropriate polity2 values to compute a weighted average of the polity2 scores, such that our measure is bounded between −10 and 10 rather than between 0 and some positive steady state maximum like the Persson and Tabellini (2009) measure. The intent of the two measures is different: ours is intended to incorporate the collective impact of all regimes, which includes both the duration and the degree to which those regimes are democratic or autocratic, on social norms whereas the Persson and Tabellini (2009) measure is intended to capture the accumulated influence of democratic systems generally.

The results associated with our measure of regime memory are robust to its recalculation using alternative discount rates and to an altogether different methodology of calculation that does not use discount rates at all (this measure is discussed below). Specifically, we also estimate the influence of regime memory on economic freedom (EFW) based on 5%, 7.5%, 10%, and 15% discount rates. We emphasize the 2.5% discount rate as it leads to a slower-moving memory

variable. That is, the impact of a prior regime fades more slowly and the impact of the current regime builds more slowly than under the larger discount rates. However, we also emphasize the results using the 12.5% discount rate. The 12.5% discount rate causes the measured influence of the typical regime on the regime memory variable to be effectively dissipated around 60 years, which is consistent with Mannheim's (1996) two generations argument.[12] With the median regime in 2015, the last year of our sample, having a durable score of 22 and a mean polity2 score of 4.21, the influence of the typical regime in the regime memory calculation, regardless of the discount rate chosen, peaks 1 year after the regime's last year in power. Using the 2.5% discount rate, it then takes 379 years for the influence of that regime to fade to zero to two decimal places; at the 12.5% discount rate, it takes 66 years for the influence of that regime to fade to zero to two decimal places.[13]

While the 2.5% (12.5%) discount rate results in the influence of the typical regime dissipating after 379 (66) years, what about the influence from some longer lasting regimes? Consider first the USSR, which ended in PolityIV in 1987 with a durable score of 65 and a polity2 score of −7.[14] The influence of the USSR on regime memory will not dissipate to zero to two decimals until 424 years after its final year in power using the 2.5% discount rate (70 years after if using the 12.5% discount rate). Consider instead the USA (durable score of 206 and polity2 of 10 as of 2015); if the USA were to have experienced a regime change in 2016 it would take 446 years under the 2.5% discount rate (73 years under a 12.5% discount rate) before the influence of the 2015 regime to effectively exert no further influence on social capital as measured by regime memory.

Only six countries experienced only one regime during the sample period available in the Polity IV dataset.[15] Therefore, a large majority of the countries for which regime memory is calculated experienced two or more regimes, and, thus, observe the weight for at least one regime's influence fade while a newer regime's influence on regime memory grows. The country with the greatest number of regimes observed in the available data is Guatemala with sixteen.

To better understand the construction of our regime memory variable, consider the example of the calculation of regime memory for Chile as depicted in Table 1: Regime-0 was established in 1818 and ended in 1850; Regime-1 was established in 1851 and ended in 1873; Regime-2 was established in 1874 and ended in 1923; Regime-3 was established in 1925 and ended in 1934; Regime-4 was established in 1935 and ended in 1954; Regime-5 was established in 1955 and ended in 1972; Regime-6 was established in 1973 and ended in 1987; and Regime-7 was established in 1989 and remained in place through the end of our sample period. A 25-year excerpt of the Polity2, Durable, and regime memory calculation covering the years 1970–1994 for Chile is included in Table 1. Each of the first five regimes (Regime-0 through Regime-4) had already ended before the start of our sample period; however, the memory of each regime arguably still influences institutional choices in 1970 and, although more modestly, through 2015. The weight for Regime-5 peaks in 1973 and Regime-6 peaks in 1988 (the year after each regime's final year in power) and begins to fade thereafter. However, given the number of years, Regime-6 was in place (15), it exerts a sizable influence throughout the remaining years displayed in Table 1; indeed, it is not until 1993 that the influence of Regime-3 exceeds that of Regime-2 (influence on memory is measured as: $w_{i(t-1)r}$ * $\text{Polity2}_{i(t-1-k)r}$ but omitted from the table for brevity). Note that there was no established regime in 1988; no new influence on regime memory occurs in the following year, though past regime influence continues to depreciate.

As noted above, the numerator of our regime memory variable is the sum of the product of weights, which are based on the chosen discount rate, and $\text{Polity2}_{i(t-1-k)r}$. The subscript k indexes for the number of years since the previous regime(s) ended. In cases where the regime is still in place, $k = 0$. However, once a regime ends, the assigned value for Polity2 associated with that regime's influence on regime memory is the value of Polity2 during the regime's final year. Returning to Chile as our example, given that Polity2 was 2 during the final year of Regime-4 in 1954, $\text{Polity2}_{(t-1-k)0}$ is equal to 2 for the remainder of its influence on the index. While some variability is observed in the Polity2 score for many regimes' periods of existence—Chile's Regime-6 included—the variability is generally minor and we still assign it to $\text{Polity2}_{i(t-1-k)r}$ the last observed Polity2 score for the respective regime during the years following its fall from power. Figure 1 graphs the regime memory variable for Chile between 1970 and 2015. For comparison, we also include in the graph Chile's regime memory calculation under a 2.5% and 12.5% discount rate as well as using the alternative methodology which is briefly discussed below and detailed further in the Appendix.

Like polity2, regime memory is bounded between −10 and 10. As regime memory increases in value, as Chile does starting in 1990, the country observes a more democratic (less autocratic) regime memory. As regime memory decreases in value, as it did for Chile from 1974 through 1989, the country observes a more autocratic (less democratic) regime memory. The effect of experiencing life, either directly or through the teachings of older generations, under these systems is expected to alter the aforementioned social capital (i.e., the behavioral norms, social trust, beliefs, and perceptions that drive the attitudes regarding voluntary trade and centralized government) which we hypothesize will predictably influence the economic freedom of the country.

TABLE 1 Regime memory calculation example Chile: 1970–1994, 2.5% discount rate.

Year	$Polity2_{t-1}$	$Durable_{t-1}$	$w_{0,\ t-1}$	$w_{1,\ t-1}$	$w_{2,\ t-1}$	$w_{3,\ t-1}$	$w_{4,\ t-1}$	$w_{5,\ t-1}$	$w_{6,\ t-1}$	$w_{7,\ t-1}$	$Polity_{t\ -1-k,\ 0}$	$Polity_{t\ -1-k,\ 1}$	$Polity_{t\ -1-k,\ 2}$	$Polity_{t\ -1-k,\ 3}$	$Polity_{t\ -1-k,\ 4}$	$Polity_{t\ -1-k,\ 5}$	$Polity_{t\ -1-k,\ 6}$	$Polity_{t\ -1-k,\ 7}$	Regime $memory_t$
1970	6	14	1.11	1.55	8.96	3.69	10.87	12.64			−5	0	3	−2	2	6			2.87
1971	6	15	1.09	1.51	8.74	3.60	10.60	13.32			−5	0	3	−2	2	6			2.95
1972	6	16	1.06	1.48	8.52	3.51	10.33	13.99			−5	0	3	−2	2	6			3.03
1973	6	17	1.03	1.44	8.31	3.42	10.08	14.64			−5	0	3	−2	2	6			3.11
1974	−7	0	1.01	1.40	8.10	3.33	9.82	14.27	1.00		−5	0	3	−2	2	6	−7		2.85
1975	−7	1	0.98	1.37	7.90	3.25	9.58	13.92	1.98		−5	0	3	−2	2	6	−7		2.60
1976	−7	2	0.96	1.33	7.70	3.17	9.34	13.57	2.93		−5	0	3	−2	2	6	−7		2.35
1977	−7	3	0.93	1.30	7.51	3.09	9.11	13.23	3.85		−5	0	3	−2	2	6	−7		2.11
1978	−7	4	0.91	1.27	7.32	3.01	8.88	12.90	4.76		−5	0	3	−2	2	6	−7		1.88
1979	−7	5	0.89	1.24	7.14	2.94	8.66	12.58	5.64		−5	0	3	−2	2	6	−7		1.65
1980	−7	6	0.86	1.21	6.96	2.86	8.44	12.26	6.50		−5	0	3	−2	2	6	−7		1.43
1981	−7	7	0.84	1.18	6.78	2.79	8.23	11.96	7.33		−5	0	3	−2	2	6	−7		1.21
1982	−7	8	0.82	1.15	6.61	2.72	8.02	11.66	8.15		−5	0	3	−2	2	6	−7		1.00
1983	−7	9	0.80	1.12	6.45	2.65	7.82	11.37	8.95		−5	0	3	−2	2	6	−7		0.80
1984	−6	10	0.78	1.09	6.29	2.59	7.63	11.08	9.72		−5	0	3	−2	2	6	−6		0.85
1985	−6	11	0.76	1.06	6.13	2.52	7.44	10.80	10.48		−5	0	3	−2	2	6	−6		0.67
1986	−6	12	0.74	1.04	5.98	2.46	7.25	10.53	11.22		−5	0	3	−2	2	6	−6		0.50
1987	−6	13	0.72	1.01	5.83	2.40	7.07	10.27	11.94		−5	0	3	−2	2	6	−6		0.34
1988	−6	14	0.71	0.98	5.68	2.34	6.89	10.01	12.64		−5	0	3	−2	2	6	−6		0.18
1989	−1	0	0.69	0.96	5.54	2.28	6.72	9.76	12.32		−5	0	3	−2	2	6	−6		0.18
1990	8	0	0.67	0.94	5.40	2.22	6.55	9.52	12.02	1.00	−5	0	3	−2	2	6	−6	8	0.38
1991	8	1	0.65	0.91	5.27	2.17	6.39	9.28	11.71	1.98	−5	0	3	−2	2	6	−6	8	0.58
1992	8	2	0.64	0.89	5.13	2.11	6.23	9.05	11.42	2.93	−5	0	3	−2	2	6	−6	8	0.77
1993	8	3	0.62	0.87	5.01	2.06	6.07	8.82	11.14	3.85	−5	0	3	−2	2	6	−6	8	0.96
1994	8	4	0.61	0.85	4.88	2.01	5.92	8.60	10.86	4.76	−5	0	3	−2	2	6	−6	8	1.14

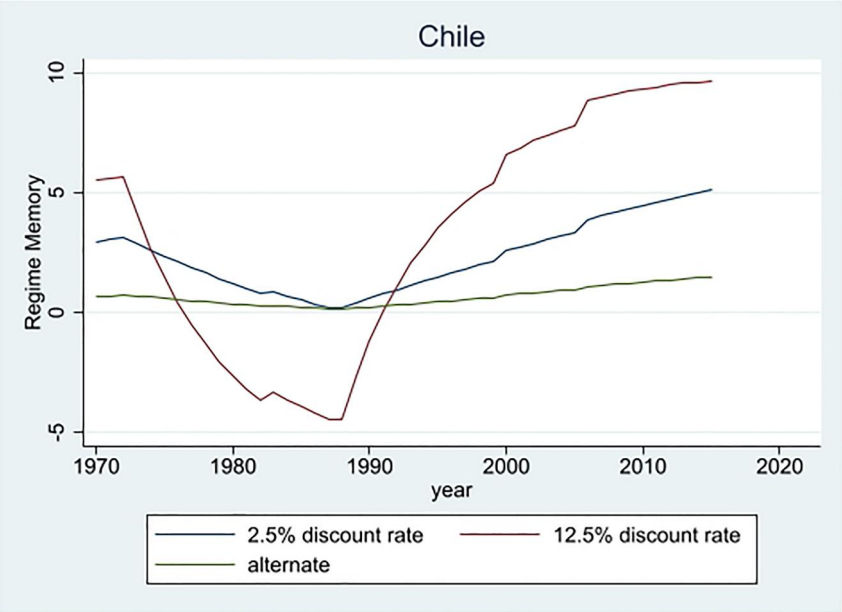

FIGURE 1 Regime memory variable for Chile between 1970 and 2015 using 2.5% and 12.5% discount rate as well as the alternative calculation measure.

As depicted for Chile in Figure 1, the various calculations of the index, including the three presented in the figure, are highly correlated and capture the same qualitative trends. The larger the discount rate, the more influence recent regimes will have on measured regime memory, and the larger the swings in the measure. The smaller the discount rate, the smoother the adjustment to regime changes and the smaller the relative impact of recent regimes will be on the regime memory measure. The alternative method of computing regime memory smooths these changes the most of all the presented calculation measures. The 2.5% discount measure and the alternative measure are highly similar with a correlation coefficient of 0.929.

While it is not our preferred method for computing the weights for our measure or regime memory, a discussion of its calculation is necessary. This alternative calculation of regime memory employs a more linear approach by using the number of years a regime has existed as the weights.[16] The larger the share of overall years spent under a given regime, the larger the weight that is assigned to the respective Polity2 score in the calculation of regime memory. Further, as additional years under the current regime are accumulated, the smaller the share of overall years spent under past regimes and the smaller the weight for those past regimes will be.

While the alternative measure of regime memory is similar to the 2.5% discount rate measure and produces similar point estimates in the regression analysis, it is not our preferred measure. This is primarily because the alternative measure gives the same weight to a 15-year regime circa 1850 as it does to a 15-year regime circa 2000. However, it is unlikely that regimes in 1850 will exert the same influence on current memory as more contemporary regimes. Our preferred discount rate method does reduce the influence of more historic regimes in the calculation of regime memory and is, thus, preferred to the alternative method. With that said, the alternative measure ultimately performs similarly to the preferred 2.5% discount rate measure and serves as a good robustness check of the results.

3.2 | Empirical methodology

We create an unbalanced panel that includes 144 countries between 1970 and 2015[17] and estimate the following pooled OLS model:

$$\mathrm{EFW}_{\mathrm{it}} = \beta_1 \mathrm{RegimeMemory}_{\mathrm{it}} + \boldsymbol{X}_{\mathbf{it-1}}\boldsymbol{\delta} + \boldsymbol{\Phi}_t + \varepsilon_{\mathrm{it}} \quad (1)$$

where i indexes country and t indexes year. To explain how regime memory affects a country's economic freedom, we use the Economic Freedom of the World (EFW) composite index from the Economic Freedom of the World Project as our measure of economic freedom (Gwartney et al., 2022). The index ranges from 0 to 10 with lower scores denoting less

economic freedom and higher scores denoting more. Before the year 2000, the EFW data is only available in 5-year intervals. We use a series that linearly interpolates the data to fill in the missing years before 2000. As shown in Table 2, the average economic freedom score for the sample is 6.14 with a standard deviation of 1.30.

$\boldsymbol{X}$ is a vector of economic and political controls that have been shown to affect economic freedom (Aixalá & Fabro, 2009; Carden & Lawson, 2010; Heckelman & Knack, 2008; Lawson et al., 2020; Young & Sheehan, 2014). These economic controls include a measure of foreign aid (Official Development Assistance – ODA) received as a percentage of GDP, resource rents as a percentage of GDP, natural log of GDP per capita, and GDP growth. The political and cultural controls include a dummy denoting whether the country was engaged in a conflict (either internal or external), a dummy equal to one if 50% or more of the population identified as Christian, and two dummies denoting legal origins (British and French). All time-varying measures are lagged 1 year to capture the effect that the economic and political situations last year had on the economic freedom this year. Φ_t is a vector year fixed effects. We assume the residuals, ε_{it}, are clustered by country. Summary statistics can be found in Table 2. Our regime memory variable maintains the −10 to 10 range of the Polity2 score; however, the mean and standard deviation of regime memory, regardless of the chosen depreciation rate, is smaller than that of Polity2. At a 12.5% depreciation rate, regime memory has a mean value of 1.95 and a standard deviation of 6.73 whereas for the same sample, Polity2 has a mean of 2.87 and a standard deviation of 7.03.

4 | RESULTS

The results when estimating Equation (1) are presented in Table 3. The results using a depreciation rate of 2.5% and 12.5% are presented in column 1 and 2 when the dependent variable is the linearly interpolated EFW index. Regardless of the specification, the coefficient on regime memory is positive and significant and the controls, take on the expected

TABLE 2 Summary statistics.

Economic freedom	*N*	Mean	Std. dev.	Min	Max	Source
EFW index interpolated	4697	6.14	1.30	2.37	8.85	Gwartney et al. (2022)
EFW index not interpolated	2534	6.53	1.16	2.37	8.85	Gwartney et al. (2022)
Regime memory						
2.5% discount	4697	0.38	6.05	−10	10	Authors' Calculation
5% discount	4697	1.01	6.34	−10	10	Authors' Calculation
7.5% discount	4697	1.43	6.51	−10	10	Authors' Calculation
10% discount	4697	1.73	6.64	−10	10	Authors' Calculation
12.5% discount	4697	1.95	6.73	−10	10	Authors' Calculation
15% discount	4697	2.10	6.79	−10	10	Authors' Calculation
Alternative	4697	0.27	6.20	−10	10	Authors' Calculation
Economic, Political, and Cultural Controls						
Net ODA as % of GDP	4697	3.28	5.59	−0.40	81.43	World Bank (2023)
Resource rent as % of GDP	4697	7.05	9.75	0.00	79.74	World Bank (2023)
Real GDP per capita	4697	11224.56	16503.12	157.10	114047.90	World Bank (2023)
GDP growth	4697	3.67	4.94	−50.25	39.49	World Bank (2023)
War Dummy	4697	0.09	0.28	0	1	Webster et al. (2019)
Christian Dummy	4697	0.63	0.48	0	1	Maoz and Henderson (2013)
UK legal origin	4697	0.30	0.46	0	1	La Porta et al. (2008)
French legal origin	4697	0.56	0.50	0	1	La Porta et al. (2008)
Coup d'etats	4477	0.04	0.21	0	1	Bjørnskov and Rode (2020)
Gini	3530	39.07	8.84	20.30	65.40	Solt (2019)

TABLE 3 Main results.

	EFW index-interpolate		EFW index	
Dependent variable	**2.50%** **(1)**	**12.50%** **(2)**	**2.50%** **(3)**	**12.50%** **(4)**
Regime memory	0.043***	0.045***	0.024***	0.037***
	(0.002)	(0.002)	(0.003)	(0.003)
Net ODA as % of GDP_{t-1}	0.020***	0.020***	0.021***	0.021***
	(0.003)	(0.003)	(0.004)	(0.004)
Resource rent as % of GDP_{t-1}	−0.023***	−0.021***	−0.028***	−0.024***
	(0.001)	(0.001)	(0.002)	(0.002)
$\ln(\text{GDP per capita})_{t-1}$	0.492***	0.499***	0.476***	0.468***
	(0.011)	(0.010)	(0.014)	(0.013)
GDP Growth_{t-1}	0.019***	0.019***	0.021***	0.020***
	(0.003)	(0.003)	(0.005)	(0.004)
War Dummy_{t-1}	−0.234***	−0.209***	−0.195***	−0.200***
	(0.040)	(0.040)	(0.048)	(0.048)
$\text{Christian Dummy}_{t-1}$	−0.143***	−0.185***	0.029	−0.051
	(0.024)	(0.025)	(0.030)	(0.032)
British legal origin	0.089***	0.162***	0.125***	0.177***
	(0.032)	(0.030)	(0.042)	(0.037)
French legal origin	−0.065**	−0.047*	−0.040	−0.019
	(0.029)	(0.028)	(0.040)	(0.037)
Mean of dependent variable	6.14	6.14	6.53	6.53
Number of observations	4697	4697	2534	2534
R^2	0.732	0.738	0.730	0.742

Note: All specifications include year fixed effects. Huber-White heteroskedastic robust standard errors reported in parenthesis.
***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

sign. Interpreting the regime memory coefficient in column (2), a one-standard deviation increase in regime memory (i.e., a regime memory i.e., becoming more "democratic") is associated with an increase in economic freedom of 0.30 points. This is a 4.89% increase from the average value of EFW in the sample. Columns 3 and 4 show results using the EFW index without interpolating. The magnitude of the regime memory coefficient decreases but stays significant. Interpreting the regime memory coefficient in column 4, a one standard deviation increase in regime memory is associated with an increase in economic freedom of 0.25 points. That is an increase of 3.86% increase from the average value of EFW in the sample. For the remainder of the analysis, we will show the results for the linearly interpolated EFW index as the sample is bigger. Results for the non-linearly interpolated EFW are similar.[18]

In Table 4 we add two additional controls to specifications, coup d'état and Gini coefficient. The data availability for these two variables is more limited than our original sample. Columns 1 and 2 show the results when adding just coup d'états to the models using the 2.5% and 12.5% depreciation rates for regime memory, respectively. While columns 3 and 4 also add the Gini coefficient to the model. The addition of these variables doesn't significantly change the results in any of the specifications.

The results so far indicate that countries with an intensifying democratic history tend to observe increases in economic freedom. Thus, historically democratic countries with more autocratic systems currently will experience a decay in economic freedom slower than the current regime would suggest due to the dampening effect of the democratic regime memory. Likewise, historically autocratic countries with more democratic systems currently are likely to face opposition to policies that would otherwise improve economic freedom.

TABLE 4 Additional controls.

	EFW index-interpolate			
Dependent variable	**2.50% (1)**	**12.50% (2)**	**2.50% (3)**	**12.50% (4)**
Regime memory	0.045***	0.046***	0.045***	0.050***
	(0.003)	(0.002)	(0.003)	(0.003)
Net ODA as % of GDP_{t-1}	0.021***	0.021***	0.021***	0.022***
	(0.003)	(0.003)	(0.004)	(0.004)
Resource rent as % of GDP_{t-1}	−0.023***	−0.021***	−0.026***	−0.023***
	(0.001)	(0.001)	(0.002)	(0.002)
$\ln(\text{GDP per capita})_{t-1}$	0.485***	0.493***	0.464***	0.481***
	(0.012)	(0.011)	(0.015)	(0.014)
GDP Growth_{t-1}	0.020***	0.019***	0.032***	0.032***
	(0.003)	(0.003)	(0.004)	(0.003)
War Dummy_{t-1}	−0.244***	−0.222***	−0.193***	−0.167***
	(0.041)	(0.041)	(0.043)	(0.044)
$\text{Christian Dummy}_{t-1}$	−0.132***	−0.178***	−0.049*	−0.113***
	(0.025)	(0.026)	(0.030)	(0.030)
British legal origin	0.077**	0.156***	0.061	0.148***
	(0.034)	(0.032)	(0.039)	(0.035)
French legal origin	−0.072**	−0.050*	−0.143***	−0.120***
	(0.030)	(0.029)	(0.032)	(0.030)
Coup d'etat_{t-1}	−0.039	−0.021	−0.131*	−0.102
	(0.058)	(0.059)	(0.070)	(0.070)
$\text{Gini coefficient}_{t-1}$			0.002	0.004**
			(0.002)	(0.002)
Mean of dependent variable	6.135	6.135	6.423	6.423
Number of observations	4477	4477	3462	3462
R^2	0.727	0.733	0.714	0.724

Note: All specifications include year fixed effects. Huber-White heteroskedastic robust standard errors reported in parenthesis.
***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

Overcoming the historic institutional status quo ingrained in the memory of both constituents and politicians is a substantial obstacle. For those expecting a rapid transition toward economic freedom as the result of liberalization efforts, these results may be sobering. Improving institutions and economic freedom after long periods of autocratic rule is expected to be a slow process. With that said brief stints of less democratic rule are not expected to derail higher levels of economic freedom so long as the prior democratic rule is long enough to have built adequate regime memory. These findings seem consistent with Bolen and Williamson (2019), Sobel (2017), and Roland (2004).

5 | ROBUSTNESS CHECKS

So far in the analysis, we have been using a 1-year lag in our independent variables to capture how the respective variables last year affect economic freedom this year. A concern is that a 1 year lag is not a sufficient amount of time for many of these variables to affect economic freedom. To address this concern, we estimate Equation (1) using 5-year lags.

Table 5 reports the results. Column 1 shows the results when using 5-year lags and a regime memory constructed using 2.5% depreciation rate while column 2 uses the 12.5% depreciation rate. Once again, we do not see substantial differences in the results for regime memory. Interpreting the regime memory coefficient in column 2, a one standard deviation increase leads to a 0.325 point increase in EFW which represents a 4.984% increase from the average EFW value. Columns 3 and 4 show the results using 5 year lags and restricting the sample to 5 year intervals (as opposed to the continuous sample in columns 1 and 2). While this shrinks the sample substantially, we still have strong results for the regime memory variables which are consistent with the rest of the result so far. It is important to note that the results when restricting the sample to 5 year intervals are similar to using the non-interpolated version of the EFW index.

Table 6 shows the results for different subsamples of our data. The full sample comparisons would be columns 3 and 4 in Table 4. Columns 1 and 2 restrict the sample to countries that have data in our sample for more than 10 years. This drops countries that enter the data for only a few years. Columns 3 and 4 show the results when restricting the sample to countries that appear in the data for more than 20 years. The maximum number of years any country enters the data

TABLE 5 Five year lag results.

	EFW index-interpolate			
Dependent variable	**2.50% (1)**	**12.50% (2)**	**2.50% (3)**	**12.50% (4)**
Regime memory	0.040***	0.048***	0.041***	0.047***
	(0.003)	(0.003)	(0.007)	(0.007)
Net ODA as % of GDP_{t-5}	0.020***	0.021***	0.024***	0.025***
	(0.003)	(0.003)	(0.007)	(0.007)
Resource rent as % of GDP_{t-5}	−0.025***	−0.021***	−0.029***	−0.026***
	(0.002)	(0.002)	(0.005)	(0.004)
$\ln(\text{GDP per capita})_{t-5}$	0.433***	0.437***	0.471***	0.488***
	(0.015)	(0.014)	(0.033)	(0.030)
GDP Growth_{t-5}	0.028***	0.028***	0.029***	0.030***
	(0.003)	(0.003)	(0.007)	(0.006)
War Dummy_{t-5}	−0.090**	−0.077*	−0.257***	−0.222**
	(0.045)	(0.045)	(0.086)	(0.087)
$\text{Christian Dummy}_{t-5}$	0.021	−0.048	−0.069	−0.131*
	(0.031)	(0.032)	(0.066)	(0.067)
British legal origin	0.062	0.128***	0.068	0.144*
	(0.042)	(0.038)	(0.087)	(0.079)
French legal origin	−0.175***	−0.151***	−0.138*	−0.121*
	(0.034)	(0.031)	(0.073)	(0.067)
Coup d'etat_{t-5}	−0.097	−0.062	−0.212	−0.145
	(0.073)	(0.073)	(0.143)	(0.151)
$\text{Gini coefficient}_{t-5}$	−0.002	−0.000	0.002	0.003
	(0.002)	(0.002)	(0.004)	(0.004)
Mean of dependent variable	6.522	6.522	6.480	6.480
Number of observations	3097	3097	727	727
R^2	0.689	0.703	0.714	0.724

Note: All specifications include year fixed effects. Huber-White heteroskedastic robust standard errors reported in parenthesis.

***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

TABLE 6 Sub-sample robustness check.

	Dependent variable: EFW index					
	11 or more years		21 or more years		2000–2015	
	2.50% (1)	12.50% (2)	2.50% (3)	12.50% (4)	2.50% (5)	12.50% (6)
Regime memory	0.047***	0.051***	0.050***	0.051***	0.013***	0.031***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)	(0.004)
Net ODA as % of GDP_{t-1}	0.020***	0.021***	0.028***	0.030***	0.028***	0.025***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Resource rent as % of GDP_{t-1}	−0.026***	−0.023***	−0.025***	−0.023***	−0.033***	−0.029***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
$\ln(\text{GDP per capita})_{t-1}$	0.459***	0.479***	0.483***	0.508***	0.460***	0.443***
	(0.017)	(0.016)	(0.017)	(0.016)	(0.017)	(0.016)
GDP Growth_{t-1}	0.034***	0.033***	0.035***	0.034***	0.025***	0.025***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)
War Dummy_{t-1}	−0.192***	−0.165***	−0.165***	−0.135***	−0.144***	−0.168***
	(0.044)	(0.044)	(0.045)	(0.046)	(0.043)	(0.042)
$\text{Christian Dummy}_{t-1}$	−0.043	−0.105***	−0.063*	−0.137***	0.127***	0.044
	(0.030)	(0.031)	(0.033)	(0.035)	(0.033)	(0.035)
British legal origin	0.032	0.125***	0.141***	0.211***	0.023	0.049
	(0.040)	(0.035)	(0.040)	(0.037)	(0.046)	(0.040)
French legal origin	−0.154***	−0.129***	−0.085**	−0.091***	−0.129***	−0.121***
	(0.033)	(0.030)	(0.033)	(0.031)	(0.040)	(0.036)
Coup d'etat_{t-1}	−0.126*	−0.100	−0.124	−0.095	−0.108	−0.095
	(0.071)	(0.071)	(0.076)	(0.077)	(0.082)	(0.085)
$\text{Gini coefficient}_{t-1}$	0.003	0.004**	0.003	0.005***	0.007***	0.007***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Mean of dependent variable	6.433	6.433	6.407	6.407	6.822	6.822
Number of observations	3368	3368	3026	3026	1920	1920
R^2	0.715	0.726	0.722	0.729	0.694	0.706

Note: All specifications include year fixed effects. Huber-White heteroskedastic robust standard errors reported in parenthesis.
***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

is 45 years. Looking at the results for these smaller samples, we can see that the estimated coefficients for regime memory remain consistent. That is, our results are robust to changes in the sample of countries included. Lastly, columns 5 and 6 restrict the period of analysis from 2000 to 2015. Prior to the year 2000, the Economic Freedom of the World Index was published every 5 years. From 2000 on, it was published every year. Thus, we restrict the sample to this period as our final robustness check. The coefficients are slightly smaller and not statistically significant at the 2.5% depreciation rate.

So far in the analysis, we have been using the regime memory variable with a 2.5% and 12.5% depreciation rates per year. We now test the robustness of these results by assuming different memory depreciation rates. Table 7 lists the results for Equation (1) with each column using a regime memory variable calculated with a different depreciation rate –2.5% (used throughout the paper), 5%, 7.5% 10%, 12.5% (also used throughout the paper), 15%, and the alternative construction explained in the Appendix. As previously discussed, we chose 2.5% depreciation so that new regimes more slowly accumulate influence on memory and the influence of past regimes more slowly fades. Lower (higher) rates

TABLE 7 Results with different levels of depreciation and alternative construction.

	Dependent variable: EFW index_interpolated						
	2.50% (1)	**5%** (2)	**7.50%** (3)	**10%** (4)	**12.50%** (5)	**15%** (6)	**Alternate** (7)
Regime memory	0.045***	0.049***	0.051***	0.051***	0.050***	0.048***	0.038***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Net ODA as % of GDP_{t-1}	0.021***	0.021***	0.022***	0.022***	0.022***	0.022***	0.023***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Resource rent as % of GDP_{t-1}	−0.026***	−0.025***	−0.024***	−0.023***	−0.023***	−0.023***	−0.027***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
$\ln(\text{GDP per capita})_{t-1}$	0.464***	0.461***	0.467***	0.474***	0.481***	0.487***	0.493***
	(0.015)	(0.015)	(0.015)	(0.015)	(0.014)	(0.014)	(0.015)
GDP Growth_{t-1}	0.032***	0.032***	0.032***	0.032***	0.032***	0.032***	0.031***
	(0.004)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
War Dummy_{t-1}	−0.193***	−0.194***	−0.186***	−0.176***	−0.167***	−0.161***	−0.159***
	(0.043)	(0.043)	(0.043)	(0.043)	(0.044)	(0.044)	(0.044)
Christian Dummy_{t-1}	−0.049*	−0.081***	−0.101***	−0.110***	−0.113***	−0.113***	−0.050*
	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)
British legal origin	0.061	0.092**	0.115***	0.134***	0.148***	0.158***	0.047
	(0.039)	(0.037)	(0.036)	(0.035)	(0.035)	(0.035)	(0.041)
French legal origin	−0.143***	−0.129***	−0.124***	−0.121***	−0.120***	−0.120***	−0.180***
	(0.032)	(0.031)	(0.030)	(0.030)	(0.030)	(0.030)	(0.035)
Coup d'etat_{t-1}	−0.131*	−0.113	−0.104	−0.101	−0.102	−0.103	−0.138**
	(0.070)	(0.070)	(0.070)	(0.070)	(0.070)	(0.069)	(0.069)
Gini coefficient_{t-1}	0.002	0.003	0.004*	0.004**	0.004**	0.004**	0.003*
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Mean of dependent variable	6.423	6.423	6.423	6.423	6.423	6.423	6.423
Number of observations	3462	3462	3462	3462	3462	3462	3462
R^2	0.714	0.720	0.723	0.724	0.724	0.724	0.713

Note: All specifications include year fixed effects. Huber-White heteroskedastic robust standard errors reported in parenthesis.
***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

result in slower (faster) depreciation of previous regimes. From the table, it is clear that the results for regime memory are robust to changes in the depreciation rate and the alternate calculation of regime memory. The coefficients are all positive and significant and change only slightly as the deprecation rate increases.

6 | CONCLUSION AND FURTHER RESEARCH

The role of culture and institutions has become an important topic in the understanding of different economic systems. Culture and institutions have been evaluated in the economics literature whether through attempts to better define these elements (Alesina & Giuliano, 2015; Guiso et al., 2006; Roland, 2004; North, 1990, 1991) or through measurement of political or democratic capital (Gerring et al., 2005; Persson & Tabellini, 2009). However, we build on this literature and connect it to a new but widening literature that examines the determinants of economic freedom. We create a first-of-its-kind index of regime memory of political systems. This measure of regime memory is created as a weighted

average of a country's past Polity2 scores. The weights in this calculation rely on depreciation rates to capture the ability of experiences under political systems to build and fade from generation to generation of a society's collective memory.

We examine the effects of regime memory on economic freedom using a panel fixed effects model that consists of 144 countries for the years 1970–2015. Ultimately, we find evidence that deepening democratic regime memory appears to allow for a country to improve its economic freedom. Conversely, deepening autocratic regime memory is shown to slow the effects of liberalization with respect to the establishment of institutions supportive of economic freedom. Our findings contribute to the ongoing exploration of how a country's historical experiences, specifically how culture and traditions transfer from generation to generation through regime memory impact current economic institutions. These results are consistent for controlling other determinants of economic freedom (Lawson et al., 2020).

Furthermore, our results are robust to the choice of the discount rate (2.5%, 5%, 7.5%, 10%, 12.5%, or 15%) and to an alternative calculation of regime memory using as weights the shares of overall years spent under each respective regime. The regime memory is also robust to using different sample sizes of countries based on the frequency with which they appear in the data set and the number of years. In all specifications of the model, a deepening democratic regime memory is found to be directly correlated with greater current economic freedom.

These results seem consistent with Roland (2004) that while fast-moving institutions can occur, they may be inconsistent or create conflicts with slow-moving institutions. Overall, our results provide strong evidence that current political systems and the regime memory of current and past political systems play a major role in determining current economic freedom across countries.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in openICPS at https://doi.org/10.3886/E195261V1.

ORCID

Peter Calcagno https://orcid.org/0000-0002-8440-0188
Beatriz Maldonado https://orcid.org/0000-0002-3567-4879

ENDNOTES

[1] Based on Mannheim (1996), a generation is about 30 years.

[2] Alesina and Giuliano (2015) offer an extensive literature review of culture and institutions examining the relationship between culture, formal, legal, and political institutions. They attempt to make a distinction between culture and institutions and their effects on each other. For our purposes we want to consider both culture and institutions and therefore do not attempt to make a distinction.

[3] While property rights are an economic institution, they are more common in more democratic regimes, and thus a channel that can reinforce politically free regimes (Alesina & Giuliano, 2015).

[4] Real GDP per capital in 2015 USD (World Bank, 2023).

[5] Table 1A in the Appendix provides a list of all the countries in our sample.

[6] The regime memory variable has similarities to Persson and Tabellini's (2009) democratic capital variable. However, their democratic capital variable has a lower bound of zero which means that autocratic regimes do not accumulate in the same way that democratic regimes do. In our variable construction, both democratic and autocratic regimes affect the regime memory variable.

[7] We broadly use these ten areas to inform the variables in our model specifications based on the work of Powell and Ryan (2006), Heckelman and Knack (2008), Young and Sheehan (2014), Burnside and Dollar (2000), Easterly et al. (2004), Djankov et al. (2008), Easterly (2013), Klein (2007), Carden and Lawson (2010), Coyne and Hall (2018), Spindler and De Vanssay (2002), deVanssay et al. (2005), Gohmann (2018), Pavlik and Young (2020, 2021) Krieger and Meierrieks (2016), Crampton, 2002; Powell and Ryan (2017). Powell et al. (2017), Campbell and Snyder (2012), March et al. (2017), Brown (2014), Hall (2016), Hall and Lawson (2014), Aixalá and Fabro (2009), and Sobel and Coyne (2011). For a detailed review of the all the papers reviewed in determining economic freedom see Lawson et al. (2020).

[8] The average life expectancy varies, which has overall lengthened since Mannheim's initial research, particularly in developed nations. Mannheim (1996) focuses much of his research on the Western world, and this 30-year estimate is based on the average lifespan of people in the West in the early 20th century. Specifically, he claims that it is not until around 30 years old that individual creativity begins. This period of life ends around age 60, meaning a generation's creative life span is only around 30 years.

[9] For a more quantitative and theoretical analysis of horizontal and vertical transmission of culture see Cavalli-Sforza and Feldman (1981) and Bisin and Verdier (2011).

[10] Licht et al. (2007), Klasing (2013), Gorodnichenko and Roland (20121), and Tarabar (2017) adapt the Hofstede or Schwartz data on cultural dimensions.

[11] A separate, but related strand of literature examine why some countries might be more accepting or averse to capitalism see Robinson (1998), Acemoglu (2003), Landier et al. (2008), and Acemoglu and Robinson (2013).

[12] That is, the regime's contribution to the numerator of the regime memory calculation (w_{itr} * Polity2$_{i(t-k)r}$) equals zero out to two decimal places.

[13] For other discount rates, the years to dissipate are as follows: 5%, 183 years; 7.5%, 118 years; 10%, 85 years; and 15%, 53 years.

[14] As is generally the case, the USSR's Polity2 score of −7 is typical of the regime and not just representative of the final year. Indeed, the USSR has a Polity2 of −7 in each of the final 35 years of its existence.

[15] This list, from longest duration to shortest, includes: United States, Switzerland, New Zealand, Australia, Ireland, and Saudi Arabia.

[16] We thank an anonymous referee for the idea to use this methodology to compute our alternative measure of regime memory.

[17] The data to support the findings of this study are openly available in Western Economic Association International Data and Code Repository Project, at https://doi.org/10.3886/E195261V1 (Calcagno et al., 2023).

[18] These results are available upon request.

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APPENDIX

TABLE A1 Countries in the sample.

Albania	Dominican rep.	Lebanon	Romania
Algeria	Ecuador	Lesotho	Russia
Angola	Egypt	Liberia	Rwanda
Argentina	El Salvador	Libya	Saudi Arabia
Armenia	Estonia	Lithuania	Senegal
Australia	Ethiopia	Luxembourg	Sierra Leone
Austria	Fiji	Macedonia	Singapore
Azerbaijan	Finland	Madagascar	Slovak Rep.
Bahrain	France	Malawi	Slovenia
Bangladesh	Gabon	Malaysia	South Africa
Belgium	Gambia	Mali	Spain
Benin	Georgia	Mauritania	Sri Lanka
Bhutan	Germany	Mauritius	Suriname
Bolivia	Ghana	Mexico	Swaziland
Bosnia and Herzegovina	Greece	Moldova	Sweden
Botswana	Guatemala	Mongolia	Switzerland
Brazil	Guinea	Morocco	Syria
Bulgaria	Guinea-Bissau	Mozambique	Tajikistan
Burkina Faso	Guyana	Myanmar	Tanzania
Burundi	Haiti	Namibia	Thailand
Cambodia	Honduras	Nepal	Togo
Cameroon	Hungary	Netherlands	Trinidad and Tobago
Canada	India	New Zealand	Tunisia
Cape Verde	Indonesia	Nicaragua	UAE
Central Afr. Rep.	Iran	Niger	Uganda
Chad	Ireland	Nigeria	Ukraine
Chile	Israel	Norway	United Kingdom
China	Italy	Oman	United States
Colombia	Jamaica	Pakistan	Uruguay
Congo, Dem. Rep.	Japan	Panama	Vietnam
Congo, Rep.	Jordan	Papua New Guinea	Yemen, Rep.
Costa Rica	Kazakhstan	Paraguay	Zambia
Cote d'Ivoire	Kenya	Peru	Zimbabwe
Croatia	Kuwait	Philippines	
Cyprus	Kyrgyz Republic	Poland	
Czech Rep.	Laos	Portugal	
Denmark	Latvia	Qatar	