



Buying Support and Buying Time: The Effect of Regime Consolidation on Public Goods Provision¹

CURTIS BELL

University of Colorado

History provides many examples of benevolent dictators who become increasingly repressive and new democracies that take years to improve public welfare. I account for this temporal variation in public goods provision by considering how regime consolidation changes leaders' incentives to provide public goods. To stay in office, all leaders must maintain a sufficient level of support from those possessing the power to replace the leader via institutional processes. Leaders of unconsolidated regimes face additional threats posed by viable extra-institutional challengers, such as coup plotters and revolutionaries. Tests on public goods spanning political freedoms, government expenditures, education, and health generally suggest leaders' incentives for public goods provision change as regime consolidation insulates leaders from these extra-institutional threats to power. Regimes with inclusive institutions spend more on public goods as they consolidate and become less vulnerable to elite demands. Exclusive regimes spend more on public goods when they are vulnerable to the excluded masses, but become increasingly repressive as they become insulated from popular uprisings. Consequently, consolidation magnifies the positive effect of democracy on public goods provision. These findings have important implications for the literatures on public goods provision and regime survival.

Upon taking office in Indonesia, Suharto told his inner circle that his first priority would be to enrich the lives of Indonesian citizens with an ambitious 5-year plan for economic development. In the early years of his rule, Suharto's "New Order" was quite successful. Indonesia committed 2.4% of GDP to education expenditures and the adult illiteracy rate quickly dropped from 44% in 1970 to 31% in 1980 (World Bank 2002). Suharto earned the moniker *Bapak Pemangunan*—"Father of Development"—and international observers praised Indonesia's success (Schwarz 1997; Vatikiotis 1998). Later in his regime, however, this nickname was not deserved. By the mid-1990s, education expenditures fell to only 0.6% of GDP—roughly 25% of what was allocated to education in Suharto's first years in power (World Bank 2002).

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Not long after Suharto's prolonged authoritarian rule began in Indonesia, another dictator fell in Spain. King Juan Carlos I pursued democratization following the death of Franco, but the transition was met with considerable resistance from Spanish military elites (Agüero 1995). Spanish education expenditures wavered around 2.3% of GDP well into the mid-1980s, more than a standard deviation below the global mean of 3.8% of GDP for this time period. Following this initial period of low spending, however, education expenditures reached 3.5% of GDP by the late 1980s and climbed to more than 4.5% of GDP by the beginning of the twenty-first century (World Bank 2002).

The public goods literature predicts the higher education expenditures in democratic post-Franco Spain relative to the low expenditures in nondemocratic Suharto-era Indonesia, but scholars have yet to address this substantial temporal variation in public goods provision. I argue that public goods provision varies over the tenure of a regime because regime consolidation changes leaders' incentives for government spending.

To stay in office, all leaders must maintain a sufficient level of support from those possessing the power to replace the leader via institutional processes. Leaders of unconsolidated regimes face additional threats posed by viable extra-institutional challengers, such as coup plotters and revolutionaries. Leaders presiding over weak institutions, therefore, must use government resources to address both institutional and extra-institutional actors. Through consolidation, threats from extra-institutional actors become less viable. This allows leaders to focus solely on institutional competition for office.

Tests on 15 public goods spanning political rights, government expenditures, education, and health generally support this argument. States with inclusive institutions spend more on public goods as they consolidate and become less vulnerable to elite demands. Exclusive regimes spend more on public goods when they are vulnerable to the excluded masses, but become increasingly repressive as they become insulated from popular uprisings. Consequently, the positive effect of democracy on public goods provision grows as regimes consolidate.

The Dynamic Logic of Political Survival

This argument is grounded upon the assumption that leaders act according to a logic of political survival. This assumption is most clearly described in the work of Bueno de Mesquita, Smith, Siverson, and Morrow (2003), although this basic logic underlies much of the extant research on public goods provision. The logic of political survival can be reduced to three basic propositions. First, leaders' actions reflect the desire to maintain power. Regardless of regime type, political ideology, or any individual or contextual trait, all leaders are expected to act in accordance with the preference to stay in power.

Second, leaders are selected by a group of enfranchised citizens, and leaders maintain power by attracting the support of a winning coalition of these citizens. In democracies, the winning coalition is very large because it includes all of the voters from whom the leader must maintain support to stay in power. Winning coalitions are generally smallest in nondemocratic regimes where the leader may need only the support of a few generals or cabinet-level officials to maintain power. All political competition that occurs within a regime can be characterized as competition over the winning coalition, whether this competition takes the form of democratic elections or less transparent methods of executive selection such as secret intra-junta negotiations.

Finally, the size of the winning coalition dictates how the leader best acts according to her preference to maintain power. Because political competition occurs over the winning coalition, the logic of political survival compels leaders to secure their leadership by placating their winning coalitions. Thus, variation

in state policy is not a function of variation in leaders' preferences or abilities. Rather, leaders of regimes with large winning coalitions aim to please large portions of the population while leaders of regimes with small winning coalitions focus their efforts on a much smaller subset of constituents. These incentives cause leaders of regimes with large winning coalitions to allocate more resources toward public goods, while leaders of regimes with small winning coalitions gain less utility from the dispersion of resources via public goods spending and instead target regime insiders with concentrated private goods.

In the last decade, public goods scholars have used this logic to explain regimes' provision of public education (Brown 1999; Brown and Hunter 2004; Avelino, Brown, and Hunter 2005; Stasavage 2005), public health (Filmer and Prichett 1999; Zweifel and Navia 2000; Navia and Zweifel 2003; Ghobarah, Huth, and Russett 2004), welfare spending (Niskanen 1997; Brown and Hunter 1999; Boix 2001, 2003; Kaufman and Segura-Ubiergo 2001), and public goods more generally (Przeworski, Alvarez, Cheibub, and Limongi 2000; Lake and Baum 2001; Baum and Lake 2003; Bueno de Mesquita et al. 2003; Mulligan, Gil, and Sala-i Martin 2004; Ross 2006; Morrow, Bueno de Mesquita, Siverson, and Smith 2008; Deacon 2009). Generally, the larger the number of constituents a leader must satisfy to maintain power, the greater that leader's commitment to public goods provision.

By emphasizing the political competition for a winning coalition, the literature overlooks the fact that leaders are often replaced via processes that are exogenous to the domestic institutions upheld by the regime. Processes that result in executive replacement, regardless of support from a winning coalition, include coups d'état, revolutions, and other forced regime changes. Elites within a winning coalition can overturn governing institutions in pursuit of more exclusive political power, and the excluded can revolt against a regime that denies them sufficient access to state resources. Furthermore, these threats to power are not rare. Fearon and Laitin (2003) find a third of the states in the international system have suffered a civil war since 1945. Hundreds of coups were attempted in the same time period (Londregan and Poole 1990; Jenkins and Kposowa 1992). Given that these threats exist, we should expect leaders to consider these threats and react accordingly.

To remain in power, leaders must thwart *institutional threats* to leadership that occur when the winning coalition is tempted to support a political rival, but leaders are also challenged by *extra-institutional threats* to leadership presented by those with the power and motivation to topple political institutions. Consequently, patterns of government spending should reflect leaders' efforts to address both institutional threats to the leader as well as extra-institutional threats to the institutions that place the leader in power.

To determine how extra-institutional challenges to executive leadership might affect the provision of public goods over time, three questions must be addressed. First, who are these extra-institutional challengers, and what are their motivations? Second, how can leaders best mitigate the challenges these extra-institutional actors present? Finally, when are leaders likely to be more or less responsive to these extra-institutional challengers?

If citizens' preferences over regime are determined by economic interests, the most likely challengers to a regime are those who face the greatest prospects for economic loss should the regime persist. Regimes with large winning coalitions offer leaders an incentive to placate the masses with widespread provisions of public goods. Because these leaders redistribute state resources via public goods provision, wealthy elites stand to lose the most from the persistence of regimes with large winning coalitions. Any leader in this political system survives by pleasing a large winning coalition, so the threat of redistributive policies remains regardless of who leads these regimes. For this reason, wealthy elites tend to

prefer regimes with small winning coalitions because the leaders of these regimes will have a lesser incentive to redistribute wealth via public goods spending (Acemoglu and Robinson 2006).

Conversely, the most likely challengers to regimes with small winning coalitions are the excluded masses because the leaders of these regimes have no incentive to provide public goods to those outside their small ruling cadre. The state extracts wealth from the entire population, but then distributes these resources to the small group of regime insiders. Again, this will be true regardless of whom regime insiders select to rule the state. The excluded masses do not benefit from these regimes and prefer more inclusive regimes because a leader's utility for public goods spending increases with the size of the winning coalition.

What strategies might leaders use to mitigate the threats presented by these extra-institutional challengers? On the one hand, leaders might use coercive policies that seek to reduce the viability of these threats. Inclusive regimes may seize and redistribute wealth and property to quickly marginalize those who oppose the regime. Masses may be coerced into accepting the regime by repressive policies that greatly increase the cost of rebellion, including purges of suspected challengers to the regime, increased investment in military and police bureaucracies, and the elimination of citizens' rights to assemble or speak freely. On the other hand, leaders might forego strategies of coercion in favor of appeasement. Special favors and access can be used to reassure elites who fear redistribution, just as public works projects may placate the masses living under governments that do not offer them institutional checks on executive power.² Coercion and appeasement strategies have been juxtaposed since Machiavelli first weighed the relative merits of cruelty and clemency in *The Prince*.

Coercion is an attractive policy where it is likely to be successful. After all, Machiavelli famously concludes that it is safer to be feared than loved. But where the state is too weak to effectively coerce extra-institutional actors, policies aimed at reducing their power can invoke a backlash that is dangerous to the regime. Consider the aforementioned case of post-Franco Spain or the more contemporary case of Karzai-led Afghanistan. Weak democracies may be far too weak to absolve all military or tribal elites of all of their power. If regimes lack the strength to forcibly coerce their challengers into submission, then coercive policies are futile. These regimes are more likely to attempt to buy the support of extra-institutional challengers via strategies of appeasement.

Temporal variation in public goods provision can be accounted for by considering when leaders are more or less likely to use government resources to react to these extra-institutional threats. Before regimes consolidate, there is a considerable cleavage between the distribution of *de facto* power possessed by constituents and the *de jure* political power granted by the state. This cleavage threatens the regime because those who possess *de facto* power but lack durable *de jure* power guaranteed by the regime have a strong incentive to challenge the regime before their power wanes. Because *de jure* power is reinforced by political institutions, differences in *de facto* and *de jure* power become more favorable to the state over time. Once state institutions redistribute power to the extent that those without *de jure* political power cannot pose viable challenges to the state, an institution is said to be consolidated (Linz and Stepan 1996; O'Donnell 1996; Acemoglu and Robinson 2006).

² The literature provides abundant evidence of strategies of appeasement. With regard to inclusive regimes buying the support of elites, see the literature on "pacted democracy" (Hagopian 1990; Écarnacion 2001). For arguments linking appeasement to a reduced likelihood of mass movements such as civil war, see work on the opportunity costs of rebellion (Olson 1965; Grossman 1991; Collier and Hoeffler 2004).

In regimes with large winning coalitions, elites pose the greatest threat to the regime before their *de facto* power is eroded via redistributive policies that favor the masses and the strengthening of democratic institutions (Rose and Shin 2001). Once this occurs, elites lack the power to challenge the state and democracy effectively becomes what Linz and Stepan (1996) call “the only game in town.” Similarly, the masses are most threatening to small winning coalitions before these coalitions successfully concentrate wealth in the hands of the few and develop strong institutions to police the masses for signs of revolution (Way 2005). Once regime consolidation occurs, it becomes increasingly difficult, if not impossible, to dislodge a small-coalition regime from power. As noted by Barbara Geddes (1999), authoritarian breakdown often requires the death of the leader, fractures within the winning coalition, or severe economic shocks.

While regime consolidation can be rapidly undermined by these kinds of shocks, regime consolidation is generally a function of time. The redistributive effects of taxation, the strengthening of the state apparatus, and the regime’s ability to monitor and deter extra-institutional threats increase with regime longevity. On average, the longer institutions endure, the more negligible the difference between the distribution of *de facto* and *de jure* power within the state. Surely, regime consolidation and regime durability are not perfect correlates, but extra-institutional threats generally become less viable as regimes persist.

The strong relationship between a regime’s level of consolidation and its tenure is widely noted in the regime transition literature. Huntington claims competing interests are more likely to meet within institutions once predicted patterns of behavior are established (Huntington 1968). Time is also critical to the development of the political cultures needed for regime stability in cultural theories (Almond and Verba [1963] 1989; Putnam 1993). Lack of consolidation is directly linked to the short duration of new institutions in the large body of work on consolidation that followed the “third wave” of democratization (Huntington 1991; Diamond 1994; Herbst 2001; van de Walle 2003; Way 2005). Bienen and van de Walle (1991) conclude that the length of time a leader has been in power is the single best predictor of how long the leader will remain in power.

Regime tenure is also linked to regime consolidation by a number of empirical patterns. Extra-institutional threats to regimes do not occur erratically over the tenure of a regime. Rather, history suggests regimes are most likely to face extra-institutional challenges during the first years in power. As regimes persist, they are less likely to see major political crises, revolutions, civil wars, and coups d’état. Major events like civil wars and revolutions occur in more than 20% of regimes that have been in power <5 years, but occur in just over 5% of regimes that endure for 30 years.³ Coup d’état occurs in roughly 2% of regimes in their first 5 years. By a regime’s thirtieth year in power, this probability drops to less than 0.5%.⁴ The risk of major political crisis declines by more than 50% over the first 30 years of regime tenure.⁵

Given the nature and timing of extra-institutional threats to regimes, how do these threats affect the logic of political survival, and subsequently, the

³ Fearon and Laitin (2003) find regimes in their first 2 years of power to be more than five times more vulnerable to civil war than longer-lasting regimes. They find this distinction between new and longer-lasting regimes to be one of the most important predictors of civil war. Theda Skocpol (1979) also finds state weakness to be a strong predictor of revolution.

⁴ Jenkins and Kposowa (1992) find the age of a regime to be an especially accurate predictor of coup.

⁵ The source of the indicator of civil war is the Armed Conflict Dataset hosted by the Uppsala Conflict Data Program (UCDP) and the International Peace Research Institute (PRIO). For coding details, see Gleditsch, Wallenstein, Eriksson, Sollenberg, and Strand (2002). The measures of political crises, coups, and revolutions are drawn from the Arthur Banks’ Cross-National Time-Series Dataset (Banks 2007). Regime durability is measured with the *Polity IV* data. This measure is discussed further in the research design section of this paper.

provision of public goods? The argument presented above suggests three testable hypotheses:

Hypothesis 1: *Inclusive regimes become better providers of public goods as they consolidate.*

Early in the tenure of these regimes, the incentive for leaders to spend on public goods for their large winning coalitions is curbed by the need to appease elites with private goods. Once regimes are insulated from the interests of the dissatisfied elites, leaders best maintain power by providing public goods to their large winning coalitions. Therefore, as consolidation allows leaders to focus exclusively on institutional competition for power, we should see a gradual increase in public goods spending.

Hypothesis 2: *Exclusive regimes become worse providers of public goods as they consolidate.*

Before these regimes are consolidated, they are not sufficiently insulated to isolate regime outsiders from state resources. As leaders consolidate power around their exclusive ruling regimes, they must deter popular uprisings with some public goods spending. This suggests regimes with small winning coalitions will provide lower levels of public goods as they persist.

Hypothesis 3: *The positive effect of the size of the winning coalition on the provision of public goods is magnified by regime consolidation.*

Because both inclusive and exclusive regimes are driven toward intermediate levels of public goods spending by extra-institutional threats, the predicted positive effect of winning coalition size on public goods provision should be most substantively significant among consolidated regimes and suppressed among unconsolidated regimes.

The aforementioned cases of Suharto-era Indonesia and post-Franco Spain provide some *prima facie* evidence of these effects. Historians record Suharto's desire to placate the masses early in his administration and note that the most severe repression by his regime occurred only after his rule was secured by consolidated institutions (Elson 2001). His initial commitment to those beyond his small winning coalition is evident in early observations of Suharto's rule:

“...the army under his leadership has created, not a military régime but rather a government outside itself, maintained by it, but drawing on civilian leadership also and commanding the general support of the population... it reflects some sort of national will. It is maintaining a presumed consensus in the country at large.” (Legge 1968)

In retrospect, historians claim Suharto's early attention to the masses generated a popular acceptance of his regime. This allowed him to buy time while he consolidated power around his small winning coalition (Liddle 1992; Elson 2001). Throughout the 1970s, the new leaders of the Indonesian military were showered with private goods in the form of direct allocations from the state budget or through the siphoning of surplus military expenditures (Crouch 1979). Civilian protests against the regime increased during this period, but a strengthened army allowed Suharto to respond with repression and declining allocations toward public goods. Public goods continued to decline and the regime only collapsed after the exogenous shock of the Asian financial crisis.

When Spain transitioned to democracy following the death of Franco, King Juan Carlos I, the primary instigator of Spanish democratization, relied upon his

relationships with military elites to keep the military from overthrowing the state's new political institutions. Spanish historians note that he went to great lengths to maintain amicable relationships with the generals (Roskin 1978–1979). Most notably, he used his personal connections with the military to facilitate economic pacts between Spain's new democratic leaders and military elites (O'Donnell and Schmitter 1986; Encarnacion 2001). Elites hoped these pacts would slow the redistribution of wealth and political power to the masses, and while these pacts did not accomplish this goal as effectively as did similar pacts in Brazil and Venezuela, they appeased Spanish military elites for the first few years of democratic rule. Military elites were marginalized from Spanish politics very gradually, and public goods provision increased sharply after this transition was completed.

Research Design

The hypotheses presented above are tested with a pooled time-series cross-sectional analysis of 15 public goods, which are divided into political freedoms, government expenditures, education, and health. Following Morrow et al. (2008), each of these dependent variables is assessed using ordinary least squares regression with region-year fixed effects, and each estimation includes controls for logged population, logged per capita gross domestic product, and constraints on executive power.⁶

The size of the winning coalition, W , is measured as described in *The Logic of Political Survival* (Buono de Mesquita et al. 2003). W ranges from 0 (smallest winning coalition) to 1 (largest winning coalition), and it consists of four components, each being worth 0.25 of the aggregate score. 0.25 is added to W for each of the following conditions: (i) the regime is neither a "military" nor a "civilian-military" regime as coded by Banks (2007); (ii) candidates for executive office are chosen via dual executive election or open election (*Polity IV* "xropen" > 2); (iii) executives are chosen via competitive elections (*Polity IV* "xrcomp" ≥ 2); and (iv) elections are typified by free and noncoerced competition of regularly active political groups (*Polity IV* "parcomp" = 5). More information about these components is available from Banks (2007) and Marshall and Jaggers (2002).

Consolidation is the years of rule since a major institutional transition as indicated by the "durable" variable in the *Polity IV* data. Major institutional changes include any reform that results in a change of at least three points on the 21-value *Polity IV* index or the establishment of a new stable regime following a period of transition. Note that these transitions do not include the inauguration of a new leader unless the leader replaces existing institutions. This measure is logged so that increased time at the beginning of a regime has a greater effect on the dependent variable than an equal change in time later in the regime's tenure.⁷ This variable ranges from 0 to 198 years with a mean value of approximately 22 years (Marshall and Jaggers 2002).

Dependent Variables

Core political freedoms qualify as basic public goods because they protect citizens from oppression (see Table 1). Citizens with guarantees of political rights and civil liberties are free to speak, worship, and congregate as they choose.

⁶ The source of the measures for logged population and logged per capita gross domestic product is the World Development Indicators data, which is available from the World Bank (2007). Following previous research on the effects of coalition size (Clarke and Stone 2008; Morrow et al. 2008), I control for executive constraints to separate the effect of the winning coalition size from other aspects of democracy. The source of these data is the "exconst" variable from *Polity IV*. For coding procedures, please refer to Marshall and Jaggers (2002).

⁷ More precisely, this variable is equal to $\ln(\text{"durable"} + 1)$.

TABLE 1. Summary of Dependent Variables

Variable	Source	Years	N
Political rights	Freedom House (2009)	1972–2005	3,282
Civil liberties	Freedom House (2009)	1972–2005	3,282
Health expenditure	World Bank (2007)	1990–2004	1,042
Education expenditure	World Bank (2002)	1970–1999	3,120
Welfare expenditure	Przeworski et al. (2000)	1970–1990	1,058
Educational attainment	Przeworski et al. (2000)	1960–1987	2,410
Human capital stock	Barro and Lee (2001)	1960–1999	753
Adult illiteracy	World Bank (2002)	1970–1999	2,777
Hospital beds	World Bank (2007)	1960–2004	1,252
Life expectancy	World Bank (2007)	1960–2004	2,135
Physicians	World Bank (2007)	1960–2004	1,829
Death Rate	World Bank (2007)	1960–2004	2,354
Measles immunizations	World Bank (2007)	1980–2004	2,260
Diphtheria pertussis tetanus immunizations	World Bank (2007)	1980–2004	2,324
Infant mortality	Abouharb and Kimball (2007)	1960–2006	4,243

(Notes. N is the number of observations for which data are complete for all variables in the model.)

Political Rights and *Civil Liberties* are measured using *Freedom in the World Historical Ratings*, published by Freedom House. These data include scores for political rights and civil liberties for the years 1972–2005. These variables are 7-point indices with a score of 1 marking the most free and a score of 7 marking the least free states.⁸

Government expenditures directly measure a regime’s commitment to the provision of public goods. Unlike social welfare indicators that may take years to change, government expenditures toward public goods can change dramatically with each annual budget. Furthermore, because expenditures are measured as percentages of gross domestic product, these measures directly capture a government’s choice to fund public goods over private rents or kleptocracy.

This study uses three measures of government expenditures: *Education Expenditure*, *Health Expenditure*, and *Welfare Expenditure*—all measured as a percentage of gross domestic product. Health and education expenditure data are collected by the World Bank. The World Bank amended its measurement of education expenditures following the 2002 edition of the *World Development Indicators*, so the temporal scope of this variable is 1970–1999 (World Bank 2002). Health expenditure data span the years 1990–2005 (World Bank 2007). The source of the welfare expenditure data is the Przeworski et al. (2000) measure for central government expenditure on social security and welfare. This variable is available for the years 1970–1990.

While expenditures measure the government’s attention to public goods, one might argue constituents are more likely to respond to changing conditions rather than budget reports from the central government. For this reason, I include three measures of education. The first variable is the *Adult Illiteracy Rate* (+15 years of age), collected by the World Bank for the years 1970–1999 (World Bank 2002). The second variable, *Educational Attainment*, is the Przeworski et al. (2000) measure of the cumulative years of education for the average member of the workforce (1960–1987). The third variable, *Human Capital Stock*, is a similar measure based on the average number of years of education. This measure,

⁸ A complete list of components for each index is available online at <http://www.freedomhouse.org> (Freedom House 2009).

collected by Robert Barro and Jong-Wha Lee, covers the years 1960–1999 at 5-year intervals (Barro and Lee 2001).

Finally, the hypotheses are tested with seven measures of public health. Six of these measures are collected by the World Bank: *Hospital Beds* (per 1,000), *Physicians* (per 1,000), *Death Rate* (per 1,000), *Life Expectancy at Birth*, *Measles Immunizations* (% children 12–23 months), and *Diphtheria Pertussis Tetanus (DPT) Immunizations* (% children 12–23 months). The temporal scope for each variable is 1960–2005 with the exception of the immunization data, which are available for 1980–2005 (World Bank 2007).

The seventh measure of health is *Infant Mortality Rate* as reported by Abouharb and Kimball (2007). Infant mortality rate is the number of deaths before the second birthday per 1,000 children born.

Results

Testing the effect of regime consolidation on the relationship between winning coalition size and public goods provision necessitates the addition of two parameters (*Consolidation* and the interaction of *W* and *Consolidation*) to the base model used by Morrow et al. (2008). To determine whether this additional complexity is statistically justified by a significant improvement in the variance explained, each of the models is tested using Akaike's information criterion (AIC). For 14 of the 15 dependent variables, the additional variance explained by the large model justifies this additional complexity. The only dependent variable that is not better explained by the full model is physicians per 1,000.⁹ Variation on each of the other public goods indicators is better explained by a model that considers the interactive effect of coalition size and regime consolidation.

Table 2 provides the results of the main analysis of the 15 measures of public goods provision. A first glance at the results is promising, but one cannot draw conclusions regarding the statistical significance of these results without further testing of the interaction effect. While the coefficients presented above can be used to estimate public goods provision given values of the independent variables, point estimation and first difference testing are needed to determine the uncertainty surrounding these estimates (Brambor, Clark, and Golder 2006).

To test the first hypothesis, which predicts inclusive regimes to improve public goods provision as they consolidate, controls are held at their means, and coalition size is held at its maximum value of 1. Then, the point estimate for each public good is calculated with confidence intervals over the entire range of regime consolidation. The hypothesis is evaluated by using first difference testing on the point estimates at the minimum (0 years) and mean (22 years) values of regime consolidation.¹⁰ Comparing the change in public goods provision after 22 years is substantively relevant because this is the average tenure of a regime and most consolidation occurs during a regime's first years in power. The second hypothesis, which predicts exclusive regimes to provide lower levels of public goods as they consolidate, is evaluated using this method when *W* is held at its minimum value of 0.¹¹

⁹ The full model is considered justified if the AIC of the full model is less than the AIC of the base model.

¹⁰ As the consolidation measure is logged, the values compared are $\ln(0 + 1) = 0$ and $\ln(22 + 1) = 3.1355$.

¹¹ Of course, first differences and point estimations can be generated for regimes of intermediate inclusiveness as well. As one should expect, these tests result in similar results of a lesser magnitude and significance. Moderately inclusive regimes ($W = 0.75$) increase their provision of public goods as they consolidate, although this effect is not so dramatic relative to inclusive regimes ($W = 1$). Similarly, regime consolidation has a weak negative effect on public goods provision in moderately exclusive regimes ($W = 0.25$) relative to the strong negative effect it has on the most exclusive regimes ($W = 0$). Space constraints preclude me from including these tests in the body of this article, but results for regimes with intermediate-sized winning coalitions are available in a comprehensive online data appendix (available at <http://www.sobek.colorado.edu/~bellcm>).

TABLE 2. Results of the OLS Regressions with Fixed Effects for Region and Year

	<i>Coefficients for 15 models of public goods provision</i>				
	<i>Political rights</i>	<i>Civil liberties</i>	<i>Education expenditure</i>	<i>Health expenditure</i>	<i>Welfare expenditure</i>
<i>W</i>	-1.37***	0.65***	-0.82***	-1.14**	-3.94***
Consolidation	0.19***	0.34***	-0.15***	-0.29**	-0.49**
<i>W</i> *consolidation	-0.24***	-0.53***	0.50***	0.65***	1.27***
Population (log)	0.01	0.07***	-0.14***	0.05	0.09
Income (log)	-0.21***	-0.29***	0.25***	0.50***	1.09***
Executive constraints	-0.49***	-0.42***	0.13***	0.08	0.13
Constant	7.98***	6.29***	3.62***	0.83	-3.34*
	<i>Educational attainment</i>	<i>Human capital</i>	<i>Illiteracy</i>	<i>Hospital beds</i>	<i>Life expectancy</i>
<i>W</i>	-2.40***	-1.76***	-0.47	-0.45	1.70**
Consolidation	-0.52***	-0.41***	3.18***	-0.99***	-0.59***
<i>W</i> *consolidation	1.25***	0.83***	-3.23***	0.83***	0.68***
Population (log)	-0.13***	0.01	0.34*	-0.24***	-0.02
Income (log)	1.06***	1.27***	-10.41***	0.60***	3.56***
Executive constraints	0.12***	0.06	-0.00	-0.05	-0.07
Constant	-0.58	-4.28***	100.62***	5.95***	36.41***
	<i>Physicians</i>	<i>Death rate</i>	<i>Measles immunizations</i>	<i>Diphtheria pertussis tetanus immunizations</i>	<i>Infant mortality</i>
<i>W</i>	0.17	-3.09***	20.05***	24.99***	5.11
Consolidation	-0.04	-0.11	3.17***	2.37***	2.38***
<i>W</i> *consolidation	0.02	0.60***	-4.92***	-3.6***	-1.60
Population (log)	-0.02	0.06	-1.13***	-1.68***	0.64**
Income (log)	0.11***	-1.23***	5.58***	6.24***	-17.27***
Executive constraints	-0.02	0.12**	-1.19***	-1.60***	-2.74***
Constant	0.93***	20.3***	38.09***	41.91***	187.97***

(Notes. * $p < .10$; ** $p < .05$; *** $p < .01$.)

The third hypothesis states that the positive effect of coalition size on public goods provision increases as regimes consolidate. This is examined by taking the difference in the predicted level of public goods provision by inclusive ($W = 1$) and exclusive ($W = 0$) regimes across all stages of regime consolidation. At stages of consolidation in which inclusive and exclusive regimes provide similar levels of public goods, this difference is close to zero. This difference increases as the predicted level of public goods provided by inclusive regimes becomes greater relative to the predicted level of public goods provided by exclusive regimes, *ceteris paribus*. Again, these differences are compared at the minimum and mean values of consolidation. This comparison provides the change in the effect of W on public goods provision over the first 22 years of regime consolidation.¹²

Public Goods Provision in Inclusive Regimes (Hypothesis 1)

The first difference tests reported in Table 3 suggest that regimes with large winning coalitions generally increase public goods provision as they consolidate.

¹² Note that this difference is essentially the marginal effect of coalition size on public goods provision (Brambor et al. 2006). One of these marginal effects is illustrated in Figure 3 below, but marginal effect plots of all public goods indicators are available in the online data appendix.

TABLE 3. First Difference Tests for Main Results

	H_1	H_2	H_3
	$W = 1$	$W = 0$	$W = 1 - W = 0$
Political rights	-0.15	0.61***	-0.75***
Civil liberties	-0.62***	1.06***	-1.68***
Education expenditures	1.09***	-0.48*	1.57***
Health expenditures	1.13**	-0.91	2.04*
Welfare expenditures	2.44***	-1.55	3.99**
Human capital	1.30***	-1.30**	2.59***
Educational attainment	2.29***	-1.62***	3.91***
Adult illiteracy rate	-0.15	9.97***	-10.12**
Hospital beds	-0.50	-3.11***	2.61
Life expectancy	0.27	-1.86***	2.13
Physicians	-0.05	-0.13	0.07
Death rate	1.54***	-0.35	1.88
Measles immunizations	-5.52*	9.92**	-15.44**
Diphtheria pertussis tetanus immunizations	-3.85	7.43*	-11.28
Infant mortality	2.47	7.47*	-5.01

(Notes. * $p < .10$; ** $p < .05$; *** $p < .01$.)

This hypothesis receives strong support from the tests on political freedoms, government expenditures, and education, but it is not supported by the seven tests on health indicators.

Recalling that the civil liberties and political rights indices are coded so that low values mark freer states, one finds that consolidation results in increased civil liberties in inclusive states. All else being equal, regimes with large winning coalitions improve civil liberties by 0.62 points on the seven-value scale over the first 22 years in power. However, political rights are not as dynamic as civil liberties over the tenure of a regime.¹³ Consequently, 22 years of regime consolidation produces no significant change in political rights among inclusive regimes. Substantively, this suggests that political rights such as participation do not change much as these regimes age, but these regimes do become better guarantors of fundamental civil liberties including freedoms of speech, assembly, and expression as they consolidate.

The tests on government expenditures reveal an important relationship between regime consolidation and public goods provision in inclusive regimes. As predicted, leaders who must satisfy large winning coalitions increase their allocation of government resources toward education, health, and welfare as their regimes consolidate. When all controls are held constant, these regimes increase education expenditures by more than 1% of GDP over the first 22 years in power. This equates to a change of nearly one standard deviation. Similarly, health expenditures improve by 1.3% of GDP and welfare expenditures grow by nearly 2.5% of GDP. Each of these tests suggests regime consolidation allows leaders to allocate more resources toward pleasing their large winning coalitions (see Figure 1).

Inclusive regimes also improve education as they consolidate. All else being equal, large-coalition regimes increase the average level of educational attainment by 2.3 years during the first 22 years in power. Human capital stock

¹³ Whereas the Freedom House Political Rights Index measures the openness and transparency of institutions for leadership selection, the Freedom House Civil Liberties Index gauges a government's respect for free speech, free press, etc. Thus, it is not surprising that each of the first difference tests on these indices finds political rights scores to be less dynamic than civil liberties scores.

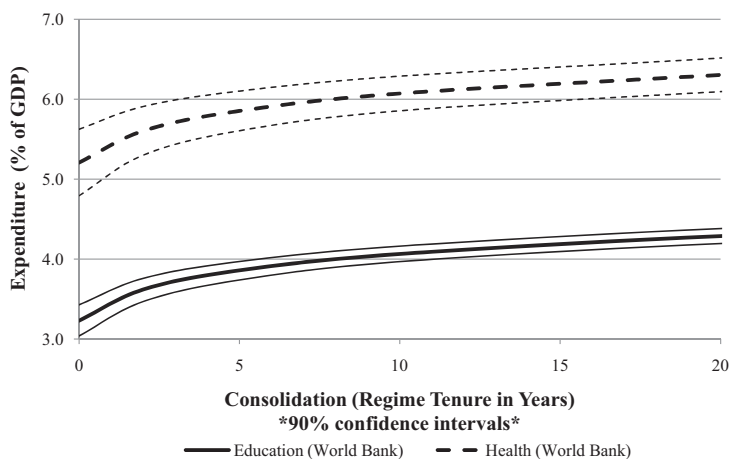


FIG 1. Public Goods Expenditures Point Estimates

improves by 1.3 years. The only measure of education that does not show significant improvement over the first 22 years of large-coalition rule is the adult illiteracy rate. The insignificant first difference test for this model suggests illiteracy rates remain stable as inclusive regimes consolidate.

While inclusive regimes generally improve political freedoms, expenditures toward public goods, and education as they consolidate, these regimes do not improve public health. In fact, these regimes fail to improve any of the seven health indicators examined in this analysis. Regime consolidation results in no significant change in the number of beds or doctors provided, nor does it result in higher life expectancy or lower infant mortality. Surprisingly, the only significant changes in health in these regimes occur in the unpredicted direction. Longer-lasting inclusive regimes have lower rates of measles immunizations and higher death rates.

Public Goods Provision in Exclusive Regimes (Hypothesis 2)

Contrary to the positive effect of consolidation on public goods provision in inclusive regimes, these tests show that consolidation results in decreased public goods provision where winning coalitions are small. As predicted, exclusive regimes generally decrease public goods provision as they consolidate.

Regime consolidation allows leaders of exclusive regimes to become increasingly repressive. Over the first 22 years of small-coalition rule, civil liberties are diminished by 1.06 points on the seven-value index, while political rights fall by 0.61 points. Political freedoms deteriorate as leaders of small-coalition regimes consolidate their hold on power.

Tests on government expenditures also provide evidence of a diminishing commitment to public goods provision, although these changes take longer to become statistically significant. Education expenditures experience a significant decline over the first 22 years of small-coalition rule, but the same cannot be said of health and welfare expenditures. Education expenditures fall by about 0.5% of GDP after two decades of rule, but the negative effect of consolidation on health expenditure in small-coalition regimes becomes significant at the $p < .10$ level only after regimes have persisted for 65 years. Welfare expenditures are also estimated to fall as exclusive regimes consolidate, although there is some uncertainty around this conclusion. Despite the high magnitude of the fall, this

decline does not meet the conventional threshold for statistical significance until approximately 40 years of consolidation occurs. Exclusive regimes certainly divert government resources away from public goods provision as they consolidate, although they reduce education expenditures much more quickly relative to health and general welfare expenditures.

As education expenditures rapidly decline as exclusive regimes consolidate, these regimes score progressively lower on education indicators. Educational attainment and human capital stock fall by 1.6 and 1.3 years, respectively. After 22 years, adult illiteracy soars by an astounding 10% of the population. Each of the education models suggests that two decades of regime consolidation have disastrous consequences for public education in exclusive regimes.

The seven tests on health indicators produce contradictory results. Small-coalition regimes provide fewer hospital beds as they consolidate. Likewise, life expectancy falls by 1.86 years, and infant mortality rises by 7.47 deaths per 1,000 after 22 years of regime consolidation. However, after 22 years of rule, exclusive regimes have higher rates of measles and DPT immunizations, *ceteris paribus*. Despite the declining number of hospital beds and the falling life expectancy, the number of physicians and death rate do not change as these regimes consolidate.

Interaction Effect: Consolidation and Coalition Size (Hypothesis 3)

How does regime consolidation change the relationship between coalition size and public goods provision? For most public goods, the positive effect of coalition size on public goods provision increases as regimes consolidate. Without exception, consolidation improves public goods provision in inclusive regimes relative to exclusive regimes for all measures of political freedom, government expenditure, and education. The longer regimes have been in power, the greater the public goods provision in inclusive regimes relative to exclusive regimes.

For most measures of public goods provision, citizens of inclusive regimes do not receive more public goods than those living in exclusive regimes across all stages of regime consolidation. In fact, the least consolidated exclusive regimes actually provide more public goods than the least consolidated inclusive regimes. This surprising finding is robust across all measures of political freedom, government expenditure, and education with the lone exception of political rights. Seven of these eight models find coalition size to have a *negative* effect on public goods provision when regimes are least consolidated.

The dynamic effect of coalition size on public goods provision is illustrated in Figure 2. One can see that through the first year in power, regimes with large winning coalitions actually receive a significantly higher civil liberties score (indicating more repression) than regimes with small winning coalitions. This difference is short-lived. By the second year in power, these institutions have no significant effect on the provision of civil liberties. By the fifth year, large-coalition regimes have significantly better civil liberties scores, and this advantage grows to more than one point on the 7-value scale after regimes have consolidated for 20 years.

This counter-intuitive finding emerges in every model of government expenditure. All three models predict the least consolidated exclusive regimes to spend significantly more on public goods than the least consolidated inclusive regimes. Contrary to the findings of an expansive literature on public goods provision, inclusive government does not always result in higher levels of public goods provision. This conventional wisdom about inclusive rule and public goods provision rings true for consolidated governments, but these results find it to be false when applied to young, unconsolidated regimes.

Figure 3 depicts the marginal effect of coalition size on education expenditure across the first 30 years of regime consolidation. Where this marginal effect is negative, inclusive regimes are outperformed by exclusive regimes. This figure

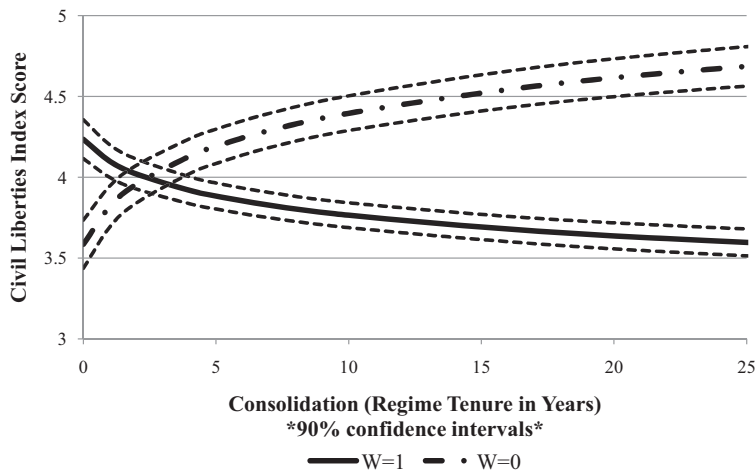


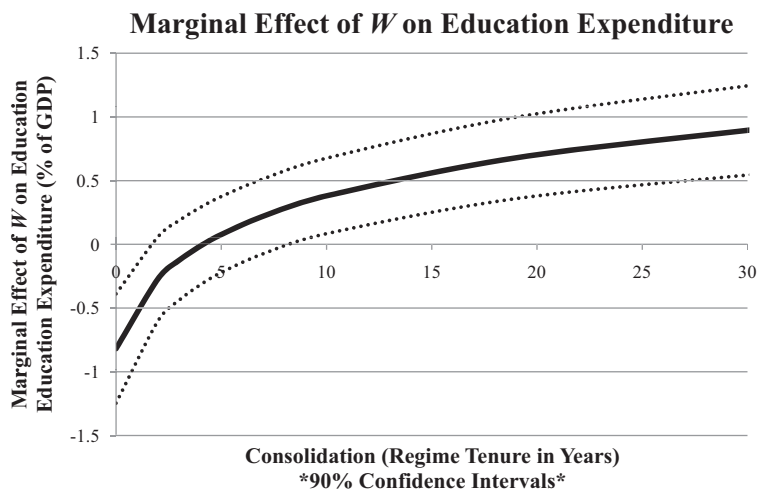
FIG 2. Civil Liberties Point Estimates

shows that among the least consolidated regimes, inclusive governments are outspent by approximately 0.75% of GDP. For most of the initial decade of rule, this marginal effect straddles 0, indicating coalition size has no effect on education expenditure. It is only after around 9 years of consolidation that inclusive regimes begin to commit more resources to education relative to exclusive regimes.¹⁴

Cumulatively, these tests suggest that consolidation has the predicted effect on most measures of public goods provision. For measures of political freedom, government expenditure, and education, consolidation increases public goods provision in inclusive regimes while decreasing public goods provision in exclusive regimes. As predicted, this results in important changes in the relationship between coalition size and public goods provision as regimes consolidate. The least consolidated regimes have intermediate levels of public goods spending. For most of the initial decade of rule, there is no statistically significant relationship between coalition size and public goods provision. However, consolidation increases the positive effect of coalition size on public goods provision. Each of the eight tests on political freedoms, government expenditures, and education shows that the performance gap between large-coalition and small-coalition states increases with consolidation.

The tests on health indicators do not generally support the hypotheses tested in this paper. The government's ability to rapidly influence health conditions is questioned by those who claim that improvements to public health require substantial long-term investments in not only medicine, but also in adequate and sanitary shelter, female education, nutrition, and infrastructure (Filmer and Pritchett 1999). This is one of many recent studies to find that health indicators do not support theories of public goods provision as well as other public goods indicators (Avelino et al. 2005; Ross 2006; Morrow et al. 2008). The stark contrast between the results for the health models and those of the other public goods models suggests public health provision may follow unique patterns that warrant more specific study.

¹⁴ Space constraints allow for only one of these effects to be illustrated in the paper, but similar figures for the other variables appear in the online appendix.

FIG 3. Marginal Effect of W on Education Expenditure

Missing Data

Public goods data are notoriously sparse, and this problem poses important problems for research designs of this scope. The data demanded by this project have not been collected uniformly over time and space, and even the best measures have serious shortcomings. This study makes use of some of the most complete public goods data sets available (Abouharb and Kimball 2007; Freedom House 2009; etc.), but many of the measures used above are systematically incomplete. Prior research in this area concludes that the nonrandom exclusion of observations may bias results (Ross 2006). Below, bias caused by missing data is tested for using multiple imputation and subsample analysis.

Multiple imputation allows researchers to use the information provided by extant data to predict missing values. Missing values are predicted multiple times, and confidence in these predictions is ascertained by evaluating the variation around the multiple predictions for each missing value. The uncertainty around these predictions is then incorporated into estimation results.

Multiple imputation is most effective in time-series cross-sectional data where data are partially complete for most panels. This allows the imputation algorithm to fill in missing values using complete information within the panel. For example, the measure of human capital is measured for each panel in 5-year intervals. Multiple imputation is reasonably effective for this measure because the algorithm can impute values using complete data before and after most missing values. Multiple imputation is somewhat less effective when entire panels of data are missing. Unfortunately, many of the measures used here are systematically missing for communist states and OECD members. Here, multiple imputation will be less effective because it must impute entire panels of information without any complete values for these panels (Honaker and King 2010).

The *Amelia II* program, developed by James Honaker and Gary King, was created to better address the challenges presented by time-series cross-sectional data (Honaker and King 2010). This program is used here to create five imputed data sets. The analysis is run again on these data using the “miset” STATA package developed by Carlin, Li, Greenwood, and Coffey (2003).

For a second test for bias caused by missing data, I re-run the analysis using a subsample of the cases for which data are more complete than the entire sample. Data for most regions are reasonably complete, but the World Bank data

for communist states and OECD members are incredibly sparse. When the scope of the analysis is limited to all non-European states, the percentage of panels for which data are incomplete drops dramatically.¹⁵ The results of the multiple imputation and subsample analyses are presented in Table 4.

The hypotheses maintain strong support in both analyses. The results for the political rights and civil liberties models look very similar to those generated by the main analysis, although data imputation greatly increased the magnitude of the effects predicted above. The only notable difference in results for these tests is the statistically significant first difference for political rights in large-coalition states. Whereas the main analysis found no significant correlation between political rights and the amount of time an inclusive regime has been in power, the same test on imputed data found that political rights improve with consolidation in these states.

The multiple imputation and subsample analyses also offer robust support for the hypotheses as they pertain to government expenditures and education. Both multiple imputation and subsample analysis generally find that consolidation causes expenditures to rise in large-coalition states and fall in small-coalition states. The magnitude of these effects is comparable to the results reported in Table 3. Tests on the education indicators are equally supportive, although the results for the adult illiteracy model are somewhat puzzling. The main analysis found that illiteracy increases in small-coalition regimes while experiencing no significant change in large-coalition regimes. Subsample analysis reports that illiteracy does fall as large-coalition regimes consolidate. Multiple imputation analysis predicts illiteracy to actually increase in large-coalition regimes while failing to change in small-coalition states. These counter-intuitive findings might be best explained by considering the nature of the illiteracy data. The World Bank does not report illiteracy rates for most European states, so most of the European panels were not included in the main analysis. As discussed above, multiple imputation must predict more data with less information when data are missing for entire panels, greatly decreasing the accuracy of these predictions. This accounts for the disagreement between the results of the imputed model and those reported by the main analysis and subsample test.

Data are less complete for most of the health-care indicators. Unsurprisingly, the lack of complete data for these variables results in many inconsistencies in the findings produced by the multiple imputation and subsample analyses. For hospital beds per 1,000, none of the hypotheses are supported by significant first difference tests when data are imputed, but each hypothesis is supported with greater than 99% confidence when Europe is excluded in the subsample analysis. As in the main analysis, the models for death rate, measles immunizations, and DPT immunizations produce a few significant first differences in the unpredicted direction. Death rates increase as large-coalition regimes consolidate but decrease as small-coalition regimes consolidate. This finding constitutes perhaps the most counterintuitive result of this analysis. However, one should note that none of these counter-intuitive results hold across all three estimation techniques.

In summary, two tests for bias caused by missing data generally support the results reported in the main analysis. Data imputation and subsample analysis do not produce significantly different results when compared to the main analysis for measures of political rights, government expenditures, and education.

¹⁵ Alternatively, one might address the problem of missing communist and OECD data by imputing values using similar data sets that are specific to these countries. I do not do this here because many of these public goods (health and education expenditures, for example) are not measured uniformly across states and merging values that were not collected according to the same procedures undermines the construct validity of the variable (King, Keohane, and Verba 1994).

TABLE 4. First Differences for Missing Data Tests

	<i>Multiple imputation</i>			<i>Europe excluded</i>		
	H_1	H_2	H_3	H_1	H_2	H_3
	$W = 1$	$W = 0$	$W = 1 - W = 0$	$W = 1$	$W = 0$	$W = 1 - W = 0$
Political rights	-0.74*	1.21*	-1.95*	-0.13	0.53***	-0.65***
Civil liberties	-1.09*	1.80**	-2.89**	-0.54***	0.88***	-1.42***
Educational expenditure	1.04***	0.23	0.81*	1.21***	-0.59**	1.80***
Health expenditure	1.03**	-0.97	2.00*	1.59***	-1.18	2.76**
Welfare expenditure	2.56***	-1.55*	4.12**	4.94***	-2.28***	7.23***
Human capital	1.21***	-0.22	1.43**	1.73***	-1.44***	3.17***
Education attainment	2.05***	-0.64*	2.68***	2.48***	-1.85***	4.33***
Adult illiteracy	4.26	-1.35	5.62	-3.40*	12.98***	-16.39***
Hospital beds	-1.37	1.33	-2.70	1.16***	-4.07***	5.23***
Life expectancy	1.63*	0.78	0.85	2.67***	-3.77***	6.44***
Physicians	-0.42	0.46	-0.88	0.43**	-0.28	0.71*
Death rate	0.72	-1.50*	2.23	1.75***	-0.44	2.19
Measles immunizations	-2.55	12.06*	-14.61	-1.20	3.85	-2.65
Diphtheria pertussis tetanus immunizations	0.82	10.86*	-10.04	3.67	2.26	1.41
Infant mortality	-1.33	-7.28	5.96	-8.48**	14.64***	23.13***

(Notes. * $p < .10$; ** $p < .05$; *** $p < .01$.)

Multiple imputation and subsample analysis result in relatively inconsistent results for the health indicators, but many of the health indicators do not support the hypotheses in the main analysis. As one might expect, these tests for bias produce more consistent findings where data are more complete. With few exceptions, the hypotheses are also better supported by measures with fewer missing observations.

Robustness of Results

These results are robust across various model specifications and estimators. The generalized estimating equation model (GEE) is an increasingly popular alternative to fixed effects models in cross-sectional time-series studies, especially when explanatory variables of interest (W , for example) vary infrequently within panels (Liang and Zeger 1986; Maddala 1998; Zorn 2001). The political rights, government expenditures, and education models are retested using a general estimating equation, and results for all eight models are unchanged with no exceptions.¹⁶

In previous tests of the relationship between winning coalition size and public goods provision, scholars show that the effect of W is suppressed by collinearity with per capita GDP. Because W also increases per capita GDP (Bueno de Mesquita et al. 2003), the inclusion of per capita GDP as a control variable may distort the relationship between W and public goods provisions (Clarke and Stone 2008; Morrow et al. 2008). Indeed, per capita GDP suppresses many of the relationships found in this study. When the eight models for political rights, government expenditure, and education are run without a control for logged per capita GDP, most of the models predict effects of greater magnitude than those reported above.

The temporal variation in public goods provision explored in this paper might be explained by a lag between policy adjustment and outcome. Many social

¹⁶ Following Zorn (2001), each GEE model was estimated with Huber-White robust standard errors. Results are available in the online data appendix.

welfare indicators do not change much from year to year, so it may be that large-coalition and small-coalition regimes take time to exhibit their expected patterns of public goods provision because their divergent policies take years to produce noticeable effects. Life expectancy, for example, is unlikely to plummet rapidly should a small-coalition regime succeed a large-coalition system. Rather, we should expect the kind of gradual depreciation in life expectancy that is predicted above.

This alternate explanation would be more persuasive if the social indicators that require the most time to change (infant mortality, life expectancy, etc.) offered the strongest support for the hypotheses tested here. However, the opposite is true. Of the 15 public goods examined in this paper, the predicted patterns of public goods provision are most robust for models of public goods that are most easily changed over a short period, including political rights, civil liberties, and government expenditures. These public goods are the least likely of the 15 examined to exhibit temporal dependence, yet they offer the strongest evidence of a relationship between regime consolidation and incentives for public goods provision. This suggests public goods provision changes with regime consolidation not because regimes *cannot* shift government expenditures and political rights abruptly, but because leaders decide against abrupt changes in public goods provision. Here, this choice is attributed to the incentives created by a new regime's heightened vulnerability to extra-institutional challengers.

If public goods provisions are truly provided to citizens at the expense of private goods provisions, then leaders of inclusive regimes should gain less utility from private goods as they become increasingly insulated from elite demands. Alternatively, exclusive regimes should provide more private goods to regime insiders once the state is sufficiently consolidated against the masses who prefer public goods. The nature of private goods makes them difficult, if not impossible, to observe directly. However, conditions that favor elite favoritism and cronyism create opportunities for more efficient private goods provision. Following Bueno de Mesquita et al. (2003), I test my hypotheses on three measures of private goods provision: *Transparency*, *Construction Expenditures per Worker*, and *Black Market Exchange-Rate Premiums*.¹⁷

As predicted, inclusive regimes become more transparent as they consolidate (see Table 5). All else being equal, transparency improves by approximately 1.5 points on the 10-point scale by a regime's twentieth year in power and improves an additional 1.8 points for inclusive regimes persisting more than a century. Exclusive regimes, however, are predicted to become more corrupt as they consolidate, although the effect of consolidation on transparency in these states does not meet the conventional threshold for statistical significance after only 22 years. This model also suggests the marginal effect of *W* on transparency increases as regimes persist. When all controls are held constant, inclusive regimes do not become significantly less corrupt than exclusive regimes until institutions have been in place for approximately 25 years.

The model for construction expenditures also supports the hypotheses. As one might expect, wealthy states with large populations spend more on construction projects. Interestingly, regime consolidation changes the relationship between coalition size and construction. Unconsolidated inclusive regimes spend more on construction than unconsolidated exclusive regimes. However, this difference erodes with consolidation. As inclusive regimes consolidate, the government allocates fewer resources toward construction projects. Conversely, budgets for

¹⁷ Transparency is measured with the *Transparency International* Corruption Perceptions Index. The least corrupt states earn the highest scores on this index. Bueno de Mesquita et al. (2003) reason that inefficient construction projects and black markets allow leaders to hide transfers of government resources to private citizens. These measures are available from the online data appendix of *The Logic of Political Survival*.

TABLE 5. Results and First Difference Tests for Private Goods Provisions

<i>Coefficients: OLS with fixed effects for region and year</i>			
	<i>Transparency</i>	<i>Black market premiums</i>	<i>Construction</i>
<i>W</i>	-2.02*	0.33***	13.33**
Consolidation	-0.48*	-0.20***	10.46***
<i>W</i> *consolidation	1.10***	0.26***	-15.40***
Population (log)	-0.32***	0.01	6.02***
Income (log)	1.05***	-0.13***	3.97***
Executive constraints	-0.01	-0.02**	-0.30
Constant	1.99	1.50***	-14.62
<i>First difference tests (22 years)</i>			
	<i>Transparency</i>	<i>Black market premiums</i>	<i>Construction</i>
H_1 ($W = 1$)	1.95***	0.20**	-15.50***
H_2 ($W = 0$)	-1.50	-0.63***	32.80***
H_3 ($W = 1 - W = 0$)	3.46*	0.83***	-48.30***

(Notes. * $p < .10$; ** $p < .05$; *** $p < .01$.)

construction projections increase sharply as exclusive regimes consolidate. Because private rents are so often cloaked in bloated construction expenditures, these findings provide strong support for the predicted relationship between consolidation and private goods provision.

Regime consolidation does not have the predicted relationship with black market exchange-rate premiums. As reported by Bueno de Mesquita et al. (2003), black markets are generally more profitable in states with small winning coalitions. These tests show that this result is driven by unconsolidated regimes. Among unconsolidated regimes, inclusive regimes have much lower black market premiums relative to exclusive regimes. This difference reverses as regimes consolidate. Premiums experience a sharp decline in exclusive regimes while rising in inclusive regimes so that longer-enduring exclusive regimes actually have *lower* black market exchange-rate premiums than inclusive regimes at the same stage of consolidation.

Discussion

This study has important implications for public goods and global development research. First, it finds evidence to support the oft-reported relationship between inclusive government and increased public goods provision. However, it qualifies this well-known relationship by showing that the magnitude of the effect is dependent upon the stage of regime consolidation. Consolidation allows leaders to focus resource allocation on incentives created by institutions for executive selection. Leaders presiding over unconsolidated regimes cannot act according to these incentives because they must also address extra-institutional threats. As a result, previous public goods research overstates the effect of regime type on public goods provision for new regimes while understating this effect for longer-lasting regimes. In sum, inclusive government has a greater effect on public goods provision than previously thought, but the full magnitude of this effect is not seen until regimes consolidate. When regimes are least consolidated, inclusive government has a negative effect on public goods provision.

Second, this study uses rigorous quantitative testing to assess temporal variation that has been discussed but not tested in extant research. Bueno de Mesquita et al. (2003) posit that nondemocratic governments may spend less on public goods as the loyalty of their winning coalition increases over time, but this

implication of selectorate theory has not been tested with a time-series analysis of public goods provision in these regimes. This study finds evidence of this trend, although it attributes this change to a much different cause. Prior work by Olson (1993) and McGuire and Olson (1996) claims nondemocratic leaders with short time horizons may be more kleptocratic, attempting to reward their insiders as quickly as possible before the inevitable end of their regime arrives. This study finds evidence to contradict that claim. Furthermore, it suggests that leaders who attempt to “beat the clock” will only encourage the excluded to rise up and oust the leader more quickly.

Third, the argument presented here addresses a major theoretical shortcoming in the public goods literature. The logic of political survival, as it is discussed in previous work, is conceived too narrowly to completely and accurately capture a leader’s perception of threat to her leadership tenure. Scores of leaders would surely agree that viable extra-institutional threats create incentives for the allocation of government resources. This argument broadens the logic of political survival to account for these demands. By doing so, it explains more variation in public goods provision.

Finally, these findings have important foreign policy implications. Policymakers often struggle to determine the long-term interests of new regimes. Should the world be concerned by Harmid Karzai’s continued reliance upon local leaders and suspected warlords? When might cronyism in the Afghan regime give way to the public goods provision expected from democratic regimes? For how long will populist autocrats like Venezuela’s Hugo Chavez maintain favor with the masses? Will he become more repressive as his regime consolidates? This research suggests observers should not have too much hope in dictators who provide for the people in their first years in power, nor should they express too much concern over democracies that do not immediately provide for their citizens. The leaders of these regimes, like any leaders, should be expected to act in accordance with the logic of their political survival. Benevolence in new autocracies and corruption in new democracies may not be indicative of long-term behavior. These behaviors are survival mechanisms that are likely to wane as regimes consolidate and become increasingly immune to extra-institutional threats to regime survival.

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