

DEMOCRATIC WAVES?
GLOBAL PATTERNS OF DEMOCRATIZATION, 1800–2000

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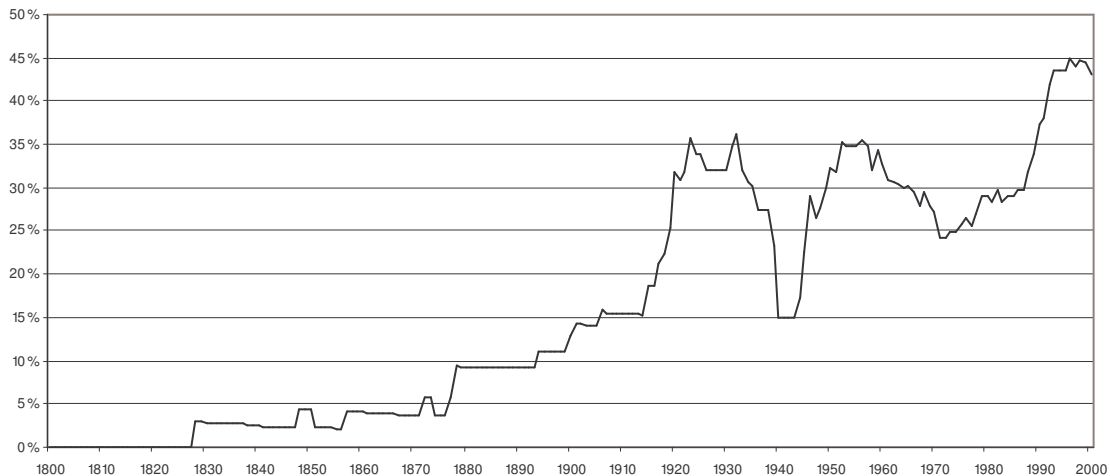
Abstract: Samuel Huntington's (1991) thesis of democratic waves has come under strong criticism from scholars such as Renske Doorenspleet (2000) and Adam Przeworski and his colleagues (2000). We take issue with all of these authors' (including Huntington's) use of a blunt dichotomous measure of democracy, which we believe creates the potential for inaccurate analysis of democracy and democratic/autocratic transitions. Using a set of more refined measures of democracy we find substantial support for Huntington's wave thesis, and little support for the position of his critics who argue that there are no democratic waves. We find clear identifiable trends in the evolution of democratic governance throughout the world during the past century that correspond roughly to the waves and reverse-waves identified by Huntington, but we do not find any support for the explanation hypothesized by Huntington. Using multinomial logit analyses of political transitions, we find this wave-like pattern of global democratization is associated with shocks to the international system (such as world wars), domestic economic growth rates, political neighborhood effects, and the global proportion of democracies. Democratic waves are not due to the inherent aspects of democratization as theorized by Huntington.

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Are There Democratic Waves?

Samuel Huntington (1991) describes the pattern of global democratization as a series of three waves and reverse waves. The first wave of democratization started in the early 19th century and persisted until the 1920s, with many democracies backsliding at that time to autocracy (i.e., the first reverse wave). With the end of World War Two came a second wave of democratization. This wave was however relatively brief, with a large proportion of countries succumbing to autocracy in the 1950s and the remainder of the second reverse-wave of democratization. In the mid-1970s the third wave of democratization began, continuing in force through the 1990s with the end of the Cold War. Huntington's analysis of these waves of democratization is based on the proportion of democratic regimes over time, very much like Figure 1 below.

Figure 1. Percentage of Democratic Countries, 1800 - 2000



Despite widespread acceptance of the wave analogy,¹ several authors have questioned Huntington's conclusion that there have been three waves of democratization. The first body of critiques is conceptual, focusing on the definition of democracy Huntington employed. The second is empirical, focusing on Huntington's (1991) estimation of the incidence of transitions to democracy in terms of the percentages of world states. In this

¹ See for example Jaggers & Gurr (1995), Diamond (2001).

paper we address these two criticisms by showing how previous analyses (by both Huntington and his critics) are methodologically problematic, and by demonstrating that distinct waves of democratization are evident across a variety of empirical assessments of democratic transitions. Indeed, we conclude that there is strong evidence supporting the notion of democratic waves.

The first criticism of Huntington (1991) regards his definition of democracy. The foundation for Huntington's definition is derived from Dahl's (1971) classic definition of democracy contained in *Polyarchy*, which focused on the concepts of contestation and participation. Huntington's coding of democracy is based on the level or extent of: open, free and fair elections; limitations on political power; institutionalization and stability; and electoral competition and widespread voting participation (Huntington 1991, 7–13). Moreover, regarding 'the issue of whether to treat democracy and nondemocracy as a dichotomous or continuous variable' (Huntington 1991, 11), Huntington employs a dichotomous classification.

Doorenspleet (2000, 384–406) criticizes Huntington's operationalization of democracy. She argues that Huntington fails to incorporate a dimension of inclusiveness in his measure, and proposes a remedy partially based on participation figures. This measure, called 'minimal democracy', is a dichotomous measure, based on two concepts, participation and competition. In order to qualify for the democracy label, a country must grant participatory rights to at least 80% of the total population and meet a series of institutional criteria more or less related to political competition. This measure is stricter than Huntington's original measure, and its use results in fewer countries being coded as democracies in the early periods.

Przeworski et al. (2000: 36–50) employ a dichotomous definition of democracy based on a coding of whether or not the executive and members of the legislature obtained office via at least semi-competitive multi-party elections.² While also dichotomous

² A caveat to the Przeworski et al. (2000: 29) definition is that a country can satisfy the conditions of at least semi-competitive multi-party elections and still not be coded as democratic if there has been no alternation in power during the period analyzed. For a critique of this questionable coding rule see Gleditsch (2000).

this definition is substantially more “minimalist” than that used by Huntington. As a consequence of these differences, the bar for “obtaining” democratic status under Przeworski et al.’s definition of democracy is substantially lower than that under Huntington’s. Thus Przeworski et al. are likely to code more countries as being democracies than is Huntington. By the same token, the bar for maintaining democratic status is much lower under the Przeworski et al. definition than under Huntington. Thus Przeworski et al. are less likely to code a country as switching from democracy to autocracy than is Huntington. The combination of this latter point along with the fact that Przeworski et al. began their analysis in 1950, a year that was firmly located in the first five years of the second wave of democracy (see below), indicates that it is quite possible that the different conclusions these authors reach regarding waves may be due to the different definitions employed and the different time periods examined (in the latter case with the choice of 1950 perhaps significantly influencing the conclusions made).

Both Doorenspleet (2000) and Przeworski et al. (2000: 36–50) argue against the notion of waves. Both criticize Huntington for classifying waves using a measure based on the percentage of states that were democratic over time. The problem with using this measure is that the number of states in the global system increased dramatically during Huntington’s analysis period. Przeworski et al. find that transitions between democracies and autocracies in the 1950–1990 period occur mostly in Latin America, and that the rest of the world was basically politically stable during this period. Focusing on transitions rather than fractions of democracies, the authors find no clear wave structure, and conclude that transitions occurred both to and from democracies between 1950 and 1990, with a monotonic increase in favor of democracies during the period. However, it should be remembered that these authors use a very narrow definition of democracy, with a similarly strong threshold for a regime change.

Doorenspleet argues along the lines of Przeworski et al. (2000) and focuses on transitions in order to remedy the effect of the different number of observations over time. Weighting transitions by the size of the international system, she finds three periods of growth, but no reverse trends. She concludes that further research ‘should be careful in comparing and explaining different waves of democratization. ... [F]uture studies in

which reverse waves are compared will be useless, because there are *no* reverse waves' (Doorenspleet 2000, 400).

In sum, the case made by Doorenspleet and Przeworski et al. is that there are no waves, only Huntington's misconception of democracy and flawed methodology. However, both Doorenspleet and Przeworski et al. base their analysis on a dichotomous definition of democracy that is simply too blunt to be able to adequately assess transitions from one type of regime to another, and hence to be of much use for understanding the refined concept of democratic and autocratic transitions.

Crude binary distinctions between democracy and non-democracy are sensitive to where one makes the cut. This is particularly problematic when evaluating regime transitions. With a dichotomous measure of democracy, only one kind of political transition can be evaluated – the shift from non-democracy to democracy or vice-versa. An index of democracy is better suited for evaluating political transitions. All types of political transitions can be evaluated and the magnitude of a transition can be assessed. Such a methodology allows us to better understand the nature of political transitions and how they relate to the patterns of global democratization.

Elsewhere (Gates et al. 2006) we present a multidimensional institutional representation of political systems where we demonstrate that polities with consistent institutional structures are more stable than those with inconsistent arrangements.³ We find that autocracies and democracies exhibit consistent patterns of authority, whereby authority is concentrated in autocracies and dispersed in democracies. Polities with aspects of both concentrated and dispersed authority patterns provide institutional opportunities for political entrepreneurs to attempt to further concentrate or distribute power. In the language of evolutionary game theory, autocracy and democracy are evolutionary stable strategies (ESS), while institutionally inconsistent polities are not ESS.

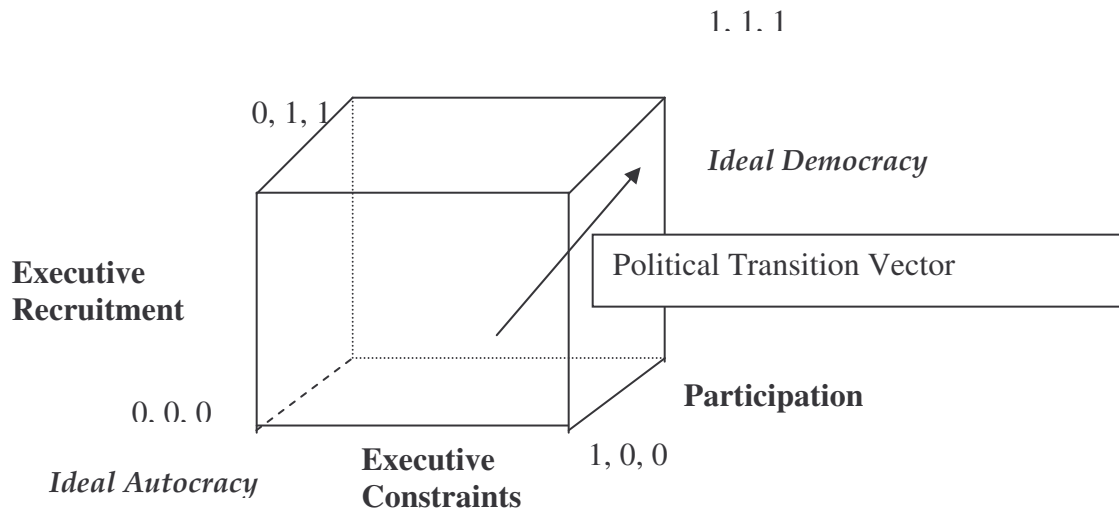
We focus on three authority dimensions, executive recruitment, executive constraints, and participation. This constellation of authority patterns is represented in Figure 2. Ideal democracies exhibit completely open executive recruitment patterns (associated with

³ See Eckstein (1969; 1973). These works serve as the basis for our conceptualization of authority patterns.

open free elections), constrained executives, and high levels of political participation. Ideal autocracies exhibit closed and limited (yet institutionalized) executive recruitment, no constraints on executive power, and no public political participation. Institutionally inconsistent regimes exhibit a mix of these authority patterns. We refer the reader to our companion article (Gates, et al. 2006), where our theory of institutional consistency and inconsistency is presented in significant detail. For convenience our operationalization procedures are summarized in Appendix I.

To model what determines the direction of change, it is convenient to condense democracy to one dimension. In one dimension, three possible transitions are possible: A transition toward democracy, a transition toward autocracy, or no change. Modeling the 27 possible transitions in three dimensions would be hard to interpret and run into problems with sparse data. Political transitions are operationalized in the context of the cube portrayed in Figure 2. Each transition can be represented as a vector connecting the points within the cube comprising the authority dimensions of the pre and post transition polity. The length of the vector thus constitutes the magnitude of the transition. The political transition vector represented in Figure 2 indicates a shift from an institutionally inconsistent regime (in the middle of the cube) to a consistent democracy (towards the upper rear corner of the cube). We call the measurement of this vector, a SIP. It stands for Scalar Index of Politics. The SIP allows us to evaluate a political system with regard to institutional deviation from an ideal democracy and autocracy. Our index combines aspects of the Polity (Gurr) and Polyarchy (Vanhanen) by integrating a weighted measurement of political participation from Polyarchy with the Polity measures of executive constraints and executive recruitment. The SIP is the average of the three (normalized) components of the three-dimensional indicator. The entire scale of the index ranges from 0 (a perfect autocracy) to 1 (a perfect democracy).

Figure 2. Authority Dimensions and Ideal Polity types



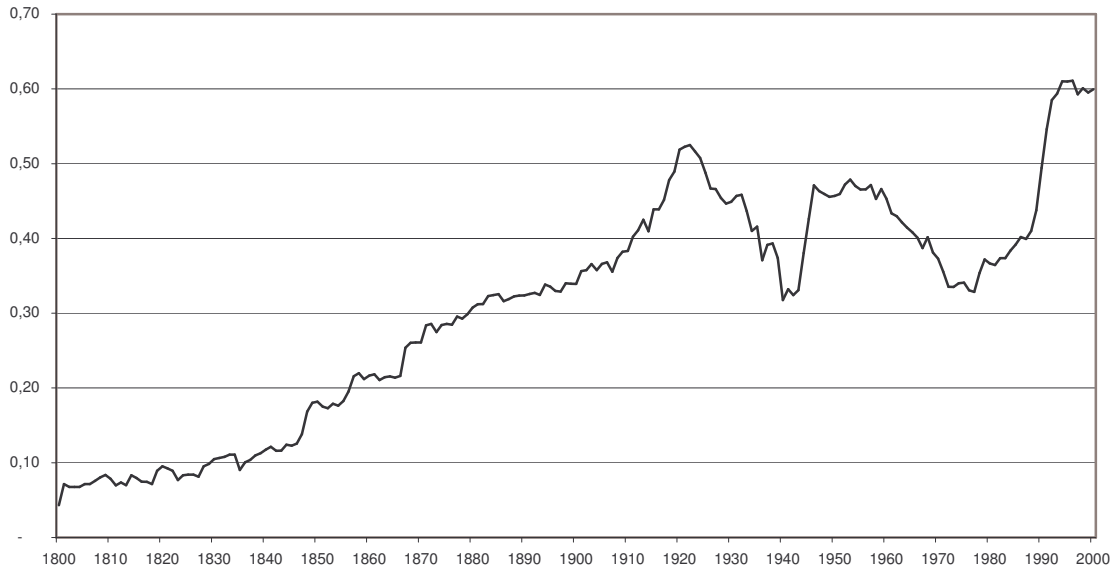
(Derived from Gates, et al., 2006).

As for evaluating the presence of absence of waves, using a measure based on the percentages of the world's countries that are democracies, we acknowledge that this is a less than perfect indicator. In this paper, we remedy this problem, while providing support for Huntington's claim that there have been three waves of democratization, including periods of decline (reverse waves) between them. Figure 3 describes the *average* democracy value in the system at any given time. This is comparable to the fraction of democracies used by others, but it allows for more variation. Indeed, we contend that using a scale of democracy is superior to a dichotomous measure.⁴ Using this measure, the three waves and the two reverse waves are clearly visible. The first wave grew gradually in size during the 1800s, reaching a peak following the end of World War One. With the initiation of the Great Depression in 1929, and the rise of Fascism and Communism in Europe, a reverse wave began that only would be reversed with the end of World War Two. This second wave of democracy was relatively brief, and by the late 1950s a second reverse wave began. The third wave of democracy began in the late 1970s and experienced a sharp rise with the end of the Cold War. Although it is still very early to reach

⁴ Jagers & Gurr's (1995) assessment of the third wave of democracy relies on the Polity III indices of democracy and autocracy. Their analysis reflects our assessment of the average level of democracy for all countries in the international system at a particular time.

any definitive conclusions, the data also highlight the beginning of a reverse third wave in the late 1990s, primarily the product of backsliding into autocracy by new democracies located principally in Africa and the Former Soviet Union.

Figure 3. Average Level of Democracy in the World, 1800 - 2000

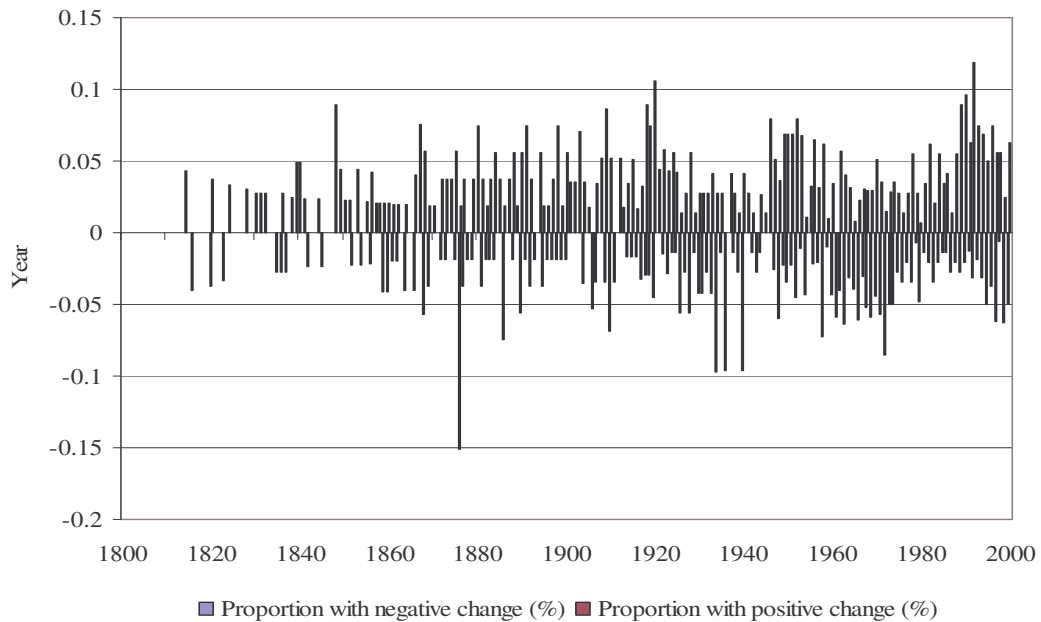


Both Doorenspleet and Przeworski et al. posit that the “transitions between regimes” method allows the analyst to avoid potential problems resulting from the progressive, though uneven, increase in the number of new states over time. Their blunt dichotomous measure, however, causes them to overlook many regime transitions that occurred during the periods they analyzed, and in all likelihood leads them to incorrectly reject the hypothesis that waves occurred. At least for Przeworski et al. the time period (1950–1990) they chose to analyze may also explain their null finding: as our data show, by 1950 the second wave of democracy was in full swing while in 1990 the full extent of the third wave was not yet visible as many countries in Africa, Asia, Eastern Europe, and the Former Soviet Union, that would shortly be considered democracies, were still autocracies.

With our more finely-tuned measure (as well as extended period of analysis) we can trace these changes that escaped the detection of Doorenspleet and Przeworski et al. Figure 4 portrays all political changes along our SIP scale. We sum the number of political transitions, both democratic and autocratic, for each year, 1800–2000. We then divide the two sums by the number of countries in the world. This figure shows how the number of

transitions in both directions follows a pattern of parallel waves. The wave pattern is even clearer in Figure 5. The three lines in this Figure are the moving average of the proportion of countries changing toward autocracy (negative change), the moving average of the proportion of countries changing toward democracy, and the average of the two moving averages. These parallel waves constitute the cresting of democratic waves (seen in periods where the average change is larger than zero) and the subsequent reverse waves (periods where the average change is negative).

Figure 4. Proportion of countries with change in change toward democracy or toward autocracy, 1800–2000



There *are* waves, but the reverse waves are more clearly evident than the waves themselves. One can trace the first wave, beginning in the early 19th Century (1814) and cresting in the early 1920s. The 1930s show a large number of autocratic transitions. The second wave begins in the late 1940s and crests in the early 1950s. While a number of democratic transitions occur throughout the 1960s and 70s, they are outweighed by the number of autocratic transitions in this period. 1972 constitutes the peak number of autocratic transitions. The third wave's peak occurs in 1991, where a positive spike is clearly

evident. The late 1990s show evidence of a reverse wave with the large number of autocratizations.

Figure 5. Five-year moving averages: Proportion of countries with change in change toward democracy or toward autocracy and average change, 1800–2000

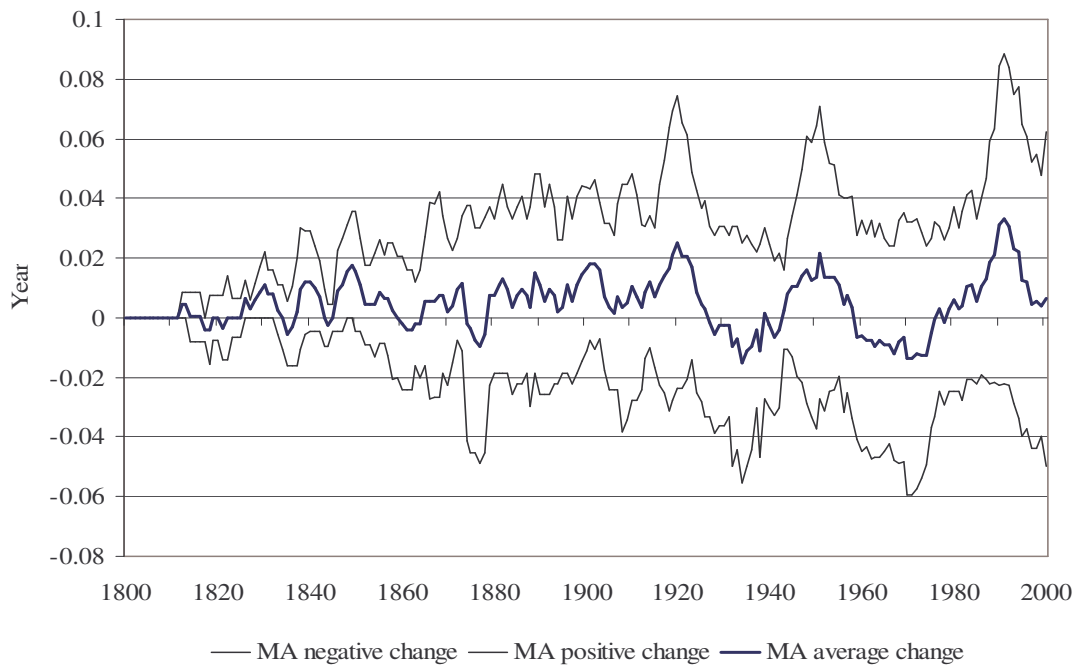


Table 1 summarizes these transitions. From 1800 to 2000 there were 535 incidents of democratization. This constitutes about 4% of all polity-years in the system. Fewer cases of autocratization occurred, 398. Most polities did not change; nearly 93% of a polity-years involve no political transition. In total there were 13,109 polity years in the international system over these two centuries.

Table 1. Democratization vs. Autocratization, 1800–2000

Polity Change	frequency	percent
Autocratization	398	3.04
No change	12176	92.88
Democratization	535	4.08
TOTAL	13109	100

Why Waves?

There are clearly periods of growth and decline in democratization throughout the world between 1800 and 1998. Explaining these waves is the task to which we now turn. We identify three reasons for the wave structure observed in the figures above: shocks to the international system (such as global war), the birth of new states with weak institutions (often born out of such systemic shocks), and political neighborhood effects.

We posit that war and system shock explain why waves crest when they do. As demonstrated by Mitchell, et al. (1999), the dominant systemic effect of war is to *increase* democratization. From their analysis of the international system 1816–1992, they conclude “an increase in the proportion of nations fighting war in the international system will increase the proportion of democracies due in large part to the finding that non-democracies are more likely to experience regime change than democracies as a result of war” (789).⁵

Kadera, Crescenzi, and Shannon (2003) further link the relationship between war and democracy.⁶ Their article concludes that the survival of democracies by the capabilities

⁵ Mitchell, et al. (1999) find that the dynamic whereby non-democratic regimes tend not to survive wars does not hold with lower-level military conflict (e.g., MIDs). Non-democracies tend to persist despite losing such conflicts.

⁶ Also see Gleditsch & Hegre (1997), Crescenzi & Enterline (1999), and Cedarman (2001), which also examine the systemic links between democracy and war.

of the democratic community relative to other political systems in the international community. Bueno de Mesquita, et al (1992) show that regime changes occur almost twice as often during and immediately after wars than in peacetime and most of these regime changes affect autocracies. Given democracies' greater propensity to win wars and autocracies' greater propensity to expire in defeat, war is associated with greater democratization (Lake, 1992; Stam, 1996; Reiter and Stam, 1998).⁷ This pattern is evident in the three systemic shocks associated with the genesis of new states. World War One was clearly won by the democratic alliance. World War Two was a shared victory by the Western democracies and the Communist states. The Cold War was won by the Western democracies. As was evident after both World Wars, democracies promoted and even imposed their form of government on the vanquished in the war's aftermath.⁸ In this way systemic shocks result in the creation of a number of new democracies, which in turn, account for the crests of the waves characterizing the pattern of global democratization.

More formally we present the following propositions:

Proposition 1: Shocks to the international system (systemic wars) will result in significant increases in the likelihood of democratization.

Proposition 2: The greater the level of democracy in the international system, the greater the likelihood of democratization.

In the aftermath of systemic shocks, a number of new states have emerged. World War One saw the break-up of the Austro-Hungarian and Ottoman Empires. World War Two brought about de-colonialization. The end of the Cold War resulted in the break-up of the Soviet Union. Each of these systemic shocks produced a number of new states. The emergence of new states with relatively higher levels of democracy explains the upper

⁷ See Stam (1996), Reiter and Stam (1998), and Bueno de Mesquita, et al. (1998) for explanations as to why democracies are more likely to win wars than non-democracies.

⁸ It should be noted, however, that Werner's (1996) analysis of foreign imposed regime changes suggests that there is little empirical support that fighting against a democratic opponent in war increases the chances for an imposed regime change.

motion (or cresting) of the wave-like pattern of global democratization. Reverse waves are also linked to these new states. In particular, reverse waves are caused by the fragile nature of the political institutions created in the wake of international systemic shocks. New states eventually encounter economic or security problems and soon backslide towards autocracy. Indeed the pattern amongst newly independent states is one of instability. The consolidation of political institutions is critical to their duration. Given the dispersal of power inherent in democracies, consolidation of democratic institutions is critical to their survival. This is not to say that unconsolidated democracies cannot survive. A number of illiberal democracies have survived with relative stability for considerable periods. The point is that all other things being equal, unconsolidated regimes are more vulnerable than consolidated regimes. Moreover, it takes time for new institutions to take hold. This is particularly the case in new states. We thus posit the following proposition:

Proposition 3: New states are more likely it is to experience political changes in either direction.

Proposition 4: New states are more likely it is to experience political changes towards autocracy.

Political neighborhoods are also important. “The regional context in which countries are located and their prior history provide important elements for explaining transitions and changes in the distribution of authority structures over time” (Gleditsch, 2000: 1).⁹ Indeed, democracies (especially new democracies) are most likely to collapse when surrounded by autocracies. The biggest problem is that such autocracies may serve as a security threat. If a country is located in a region of warfare or a security threat, democratic institutions are compromised (Gates, et al., 1996; Thompson, 1996). Examples of restricted freedom during wartime, e.g. martial law, demonstrate how democratization can be hindered by a security threat.

One should keep in mind that the experience of warfare and outcomes of warfare are distinct. It is the aftermath of war, especially world war, which leads to long-term in-

⁹ Also see Gleditsch (2002); Gleditsch & Ward, 2001; 2004.

creases in the proportion of democracies in the system, while war itself is likely to result in autocratization. The autocratic effect of war is evident in the downturns in average levels of democracy evident in the global system during periods of extensive global warfare. This pattern is most clearly evident in Figure 5. Negative transitions (autocratic spikes) are most evident during WWII (1940–44) and the Cold War (1961–75). This observation helps explain why waves reverse.

Proposition 5: The more a country differs from its political neighborhood, the more likely it is to experience a political transition.

Proposition 6: States are more likely to have polity changes towards the average democracy value (SIP value) in its neighborhood.

The effect of systemic change in the global level of democracy of course does not occur uniformly around the world. Indeed political transitions cluster regionally (Gleditsch, 2002; Gleditsch & Ward, 2001; 2004). In this way, the effects of a country's neighborhood, expressed as propositions 5 and 6 are associated with the systemic factors expressed in propositions 1 and 2.

Proposition 7: Polity changes are likely to cascade: a regime change in one country is likely to be followed by a regime change in the same direction in a neighboring country.

International Shocks, New States, and Political Neighborhoods

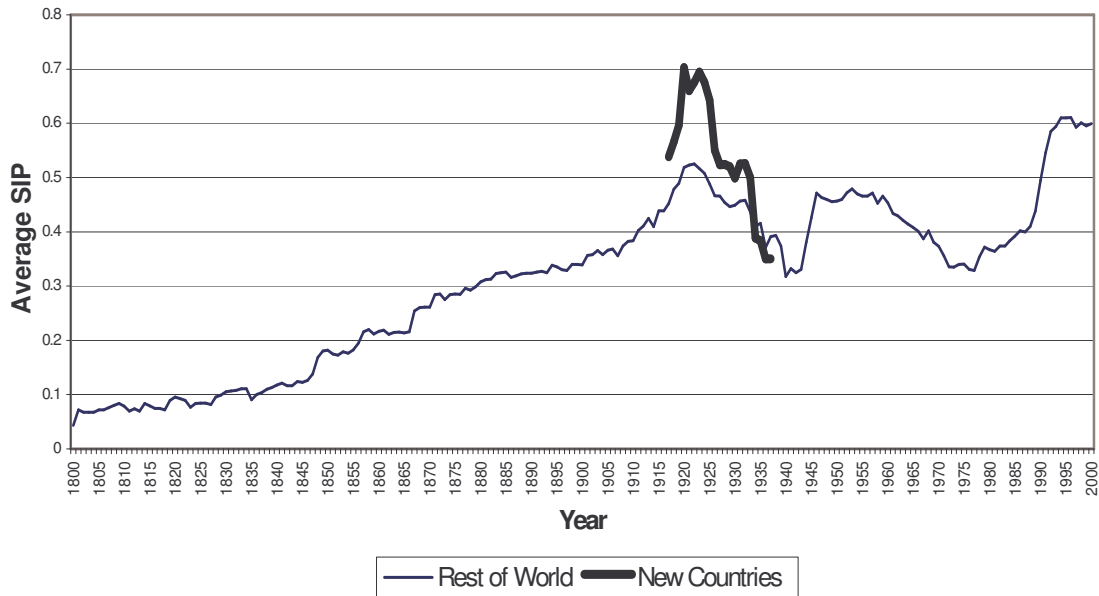
International shocks, newly independent states, and political neighborhoods play a big role in explaining the wave-like structure of global democratization. A review of Figure 4 is illustrative in this respect, with the pattern of spikes observable during the 20th Century. The first spike occurs in the aftermath of World War One. The Treaty of Versailles created a number of new states in Central and Eastern Europe. Most of them were born as fledgling democracies and are reflected in this positive spike as well as the clear positive wave. By the 1930s, in the face of the Great Depression and the rise of fascism

and communism in Europe, most of these countries lapsed into autocracy. These transitions to autocracy are evident in the large negative spikes in the 1930s.

Figure 6 parallels Figure 3, but in addition to the average level of democracy for all countries, it also shows, on a separate trend line, the average level of democracy among countries originating during or immediately after World War One (1914–1922). Notice how the average value peaks with the creation of these states and subsequently falls reaching a trough with the start of World War Two. These new countries alone play a significant role in defining the wave and subsequent backsliding associated with the global pattern of democratization. Huntington (1991) features the long growth of democracy in the 19th Century as a long gradual first wave of democratization. Our analysis provides some support for this description, but it is easier to see the first wave as a result of the shock of systemic war than of other factors.

Figure 6 provides strong support for Proposition 1. World War One, an international systemic shock, caused a number of states to undergo political transformation. It also resulted in the creation of many new states, which generally adopted democratic forms of governance. Indeed, these new states were on average much more democratic than the states pre-dating 1914. All types of countries experienced the general backsliding characterizing the reverse wave of the 1930s, but the newly created states experienced a more precipitous fall from democracy than the older states. This pattern provides some but not overwhelming support for Proposition 4, but it does support proposition 2.

Figure 6. The Peak of the First Wave

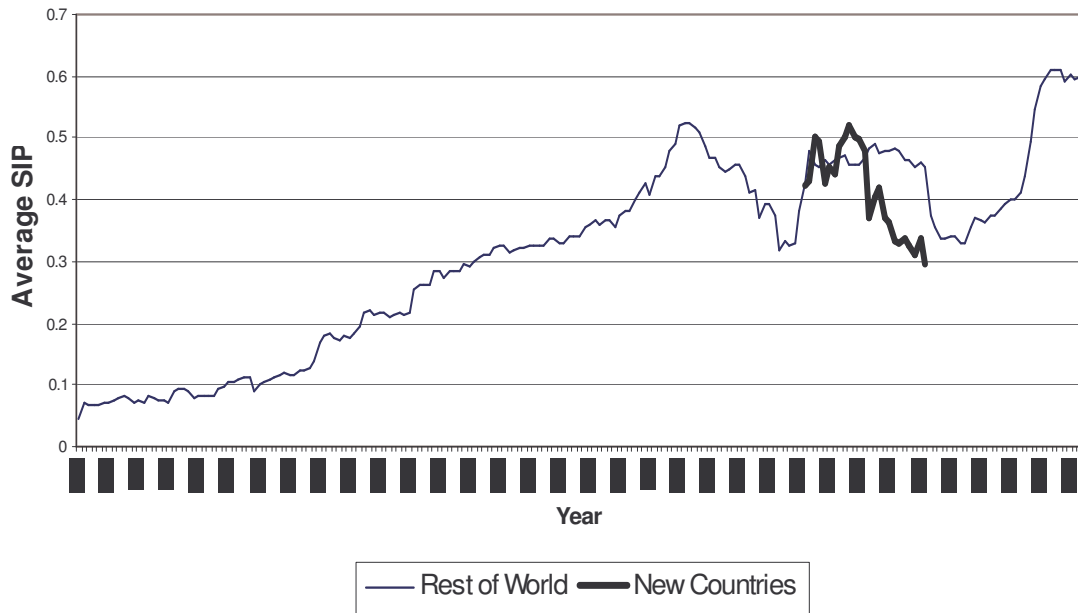


The second period of democratization evident in Figures 4 and 5 occurs right after World War Two. Once again, a number of new states emerged in the aftermath of the war, and also again, democracies were on the winning side and imposed democratic systems upon the vanquished, while among the new independent states (mainly former colonies) there was a tendency to emulate the victors. The first spike in this series occurs in 1948.¹⁰ A series of democratizations follow shortly thereafter, with a negative wave emerging in the 1960s. Here the picture is bit less clear as we see positive and negative spikes contemporaneously. This reflects the backsliding of the newly independent states born out of the ashes of World War Two and the birth of a large number of new fledging democracies (primarily in Africa, but also in Asia) as a result of de-colonization. Figure 6 shows the relative levels of democracy comparing all countries in the system and those formed between 1940 and 1966. The new countries formed in the wake of World War Two show a high level of democracy, but backsliding among these countries occurs throughout the 1950s and 1960s. This reverse wave is almost completely caused by the

¹⁰ This is two years prior to the year (1950) in which Przeworski et al. begin their analysis.

new states. States pre-dating 1948, on average, tend to hold steady levels of democracy over this period, only the new states backslide.

Figure 7. The Post-WWII Peak

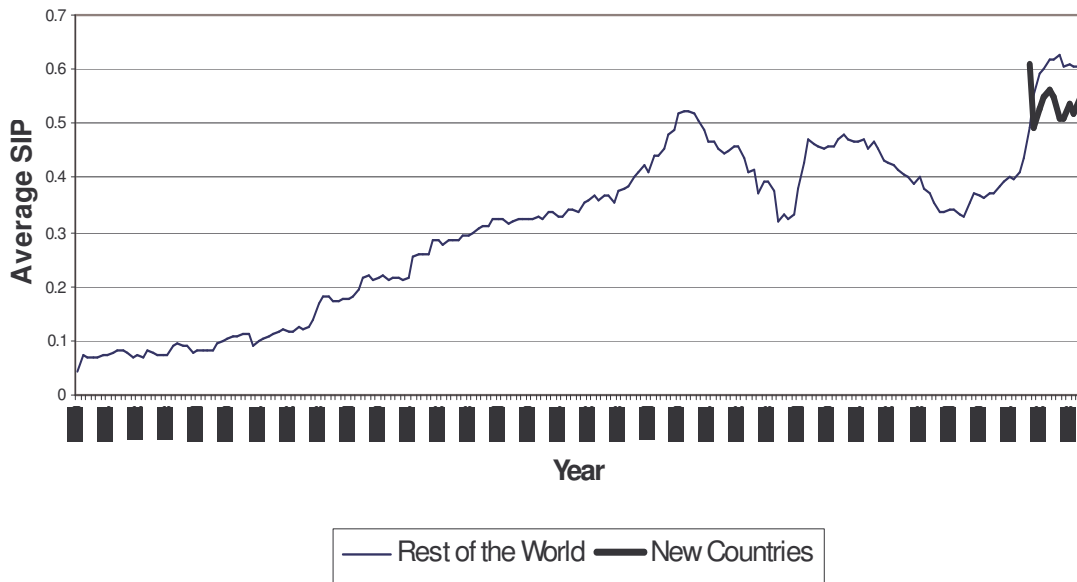


The third positive spike in Figure 4 occurs in 1992.¹¹ It reflects the end of the Cold War and the subsequent disintegration of the Soviet Union. The Cold War's aftermath produced an effect similar to that seen following the end of both World War One and World War Two; the birth of fledgling democracies. Figure 8 shows a different pattern for the countries born out of the collapse of the Union of Soviet Socialist Republics and its Warsaw Pact allies. Here again we see the initial high levels of democracy associated with the origins of newly independent states, followed as in previous with a precipitous drop in average value of democracy. What is different from the previous waves is that the sharp backslide begins immediately, these newly independent states are relatively more democratic than other states only in 1989. Nonetheless, it should be noted that these states did not autocratize too seriously and the relative level of democracy was much higher in the 1990s than it had been in previous periods.

¹¹ This is two years after the year (1990) in which Przeworski et al. ended their analysis.

Figures 6–8 provide strong support for Proposition 1 and general support for proposition 2. Systemic shocks are clearly associated with global bursts of political transformation. This pattern is most evident in Figures 4 and 5. Democratizing spikes are associated with the end of World War One, World War Two, and the Cold War. By disaggregating the newly created states associated with each international systemic shock, evident in Figures 6–8, we clearly see why democratic waves crest. This disaggregation also allows us to track the reverse waves, which tend to be disproportionately associated with the backsliding of these newly created states. In this manner we find support for propositions 3 and 4. These figures provide no evidence by which to evaluate the other propositions. We now turn to a multivariate analysis, which will allow us to better evaluate our propositions.

Figure 8. The Post-Cold War Peak



An Empirical Model of Political Transitions

The figures presented so far in this paper provide strong visual evidence to support our proposition that there are waves of democratization and that these waves are caused

by international shocks and the creation of newly independent states. We now turn to a multivariate statistical analysis of political instability to rigorously test these propositions and allow us to control for the effect of other variables as well.

To test these propositions, we need an empirical model that satisfies the following criteria: It relates the probabilities of change toward democracy, change toward autocracy, and no change to each other, specifies these probabilities as functions of the explanatory variables of interest, captures sufficiently fine-grained changes to the SIP index, and allows the transition probabilities to be dependent on the initial type of institution.

We want to model the probability of changes as small as changes of 0.03 on our democracy scale which ranges from 0 to 1. Modeling the entire transition matrix between the 33 intervals formed by subdividing the index into similar-size segments would be infeasible. Nor is it necessary. Our interest lies mainly in whether there was democratization, autocratization, or no change. We model this as two types of transitions: we code an observation as a democratization, if the SIP score at time t is at least 0.03 higher than the SIP score at $t-1$. Likewise, we code an autocratization if $SIP(t) \leq SIP(t-1) - 0.03$. In any other case, we code the observation as no change. To compensate for the lack of flexibility in this model relative to the full Markov Chain model, we code a set of covariate modeling the status at $t-1$ that reflects our *a priori* knowledge about these transitions.

From Gates et al. (2006), we know that polity changes are far more common in inconsistent polities; the mid-range of the SIP index. We enter the SIP value at $t-1$ and its square term to model this. We also know that further democratization is impossible when the country has reached the upper end of the scale and autocratization is impossible at the lower end. We model this by coding indicator variables for whether $SIP(t-1) < 0.06$ (lower end) and $SIP(t-1) > 0.91$ (upper end). With these adjustments, we can employ a multivariate logit model to evaluate our propositions regarding the factors underlying the wave-like pattern of global democratization.

Dependent variable: Whether the present value of the SIP index has changed by a value of more than 0.03 from the previous year, either upwards (democratization) or downwards (autocratization).

Independent variables:

Shock: The shock variable is coded as 1 for all countries for the years 1914–23, 1939–49, and 1989–96.

Global SIP: The difference between average democracy in the world and the democracy level of the country under observation. The variable is lagged by one year. It is used as an indicator of the pull effect of the global level of democratization.

Neighborhood: The difference between the country's SIP value and the average SIP in the country's immediate neighbors. The variable is lagged by one year. It accounts for the pull from one's contiguous neighbors.

SIP: The unidimensional index of democracy, lagged to model the relationship between the level of democracy and the probability of democratizations or autocratizations. It is constructed as the mean of the three dimensions of the MIRPS model, which are Decision constraints on the executive, Regulation of executive recruitment, and Participation in competitive elections (cf. Gates et al, 2006; Appendix I).

SIP squared: The variable is squared to model the higher instability of regimes in the intermediate range of the democracy index (cf. Gates et al., 2006).

Polity Duration: The probability of a regime change is likely to be dependent on whether there has recently been a change in the country. The variable is a decaying function of the time since the last change in either direction, with a half-life of 16 years.

Proximity of Independence: The variable is a decaying function of the time since the country gained independence, with a half-life of 8 years.

GDP per capita: The natural logarithm of constant-dollar GDP per capita. The variable is lagged by one year. These data are only available from 1900 to 2000. While not a primary proposition, we hypothesize: Democratization is more likely the higher is average income and Autocratization is more likely the lower is average income.

GDP growth: Growth in constant-dollar GDP per capita. The variable is lagged by one year. These data are only available from 1900 to 2000. This also is not a primary proposition.

Upper end: A dummy variable that denotes whether the SIP index last year was higher than .91. The variable accounts for the fact that changes toward democracy are virtually impossible over this level.

Lower end: A dummy variable that denotes whether the SIP index last year was lower than .06. The variable accounts for the fact that changes toward autocracy are virtually impossible under this level.

Results and Discussion

Our results are presented in two sets of two tables. The first set regards multinomial logit estimations of autocratization and democratization from 1800 to 2000. The second set regards estimations of autocratic and democratic transitions controlling for economic variables, 1900–2000.

These tests produce a number of statistically significant results. Table 2a indicates that the institutional composition of a polity will very much affect its propensity for transition to autocracy. Moreover, the effect is non-linear. Both the SIP value and its square term exhibit strong levels of statistical significance. Any first difference of the parabolic relationship would be meaningless. We instead provide additional analysis which will be presented graphically below. In addition, the average level of democracy in the international system (global SIP) is statistically significant with a very low p-value. This parameter exhibits the strongest substantive effect such that the first difference between the minimum and maximum value is 0.053. The duration of the polity is also statistically significant and substantively significant. The substantive effect is 0.026. Neighborhood effects are also statistically and substantively significant. The first difference is -0.026. This means that autocracies are unlikely to survive in more democratic neighborhoods. The lower end control, as would be expected, is also statistically significant. The other variables were not statistically significant at the conventional 0.05 level. System shock is not statistically significant. Most of our propositions regard democratization, but there are a few that are relevant. Both propositions 3 and 4 are relevant, but neither is strongly supported. Polity duration is important, but new states do not have a statistically significant effect. Propositions 5, 6, and 7 receive support from these results. Neighborhood effects and global effects are strong and significant.

Table 2a. Multinomial logit of Political Change – Autocratization, 1800–2000

Polity Change	Coefficient	Robust S.E.	p-value	1 st Diff. min-max
<i>1. Autocratization</i>				
SIP	2.811	0.4984	0.000	
SIP-squared	-5.412	1.0000	0.000	
Global SIP	2.312	0.4716	0.000	.053
Neighborhood	-0.806	0.277	0.004	-.026
Shock	-0.101	0.195	0.604	-.001
Polity Duration	1.966	0.2599	0.000	.026
Time Since Independence	0.271	0.2263	0.231	.005
Upper end	-0.369	0.2974	0.215	-.004
Lower end	-1.431	0.3146	0.000	-.018
Constant	-4.177	0.2218	0.000	

Table 2b. Multinomial logit of Political Change – Democratization, 1800–2000

<i>Polity Change</i>	Coefficient	Robust S.E.	p-value	1 st Diff. min-max
<i>2. Democratization</i>				
SIP	3.823	0.496	0.000	
SIP-squared	-3.797	0.9036	0.000	
Global SIP	2.610	0.4306	0.000	.104
Neighborhood	1.314	0.2057	0.000	.073
Shock	0.448	0.1385	0.001	.013
Polity Duration	1.020	0.2027	0.000	.021
Time Since Independence	-0.097	0.2272	0.670	-.002
Upper end	-2.690	0.5309	0.000	-.034
Lower end	0.104	0.2002	0.603	.003
Constant	-3.413	0.1920	0.000	

The results of the test on democratization produced even more statistically significant results. Here again, the effect of a country's political system has a significant effect on the propensity for democratic transition. Like autocratization, the global SIP level is strongly significant and the substantive effect is nearly twice as strong. The pull of the global system is 0.104. This means that as one moves from the lowest level of global democratization to the highest, the chances of democratization are about 10% *ceteris paribus*. Neighborhood effects are also strong and statistically significant. The substantive effect is 0.073. System shocks are statistically significant for democratic transitions, but the substantive effect is not very strong, 0.013. The effect of polity duration is statistically significant with a substantive effect of 0.021, which is reasonably strong, but much weaker than some of the other variables. The proximity of independence is not statistically significant at all. The control for the upper end of the scale is significant. These results provide strong support for most of the hypotheses. Propositions 1 is supported, though the substantive effect is not very high. Proposition 2 is strongly supported. Proposition 3 and 4 are not supported. Polity duration again is important, but new states as measured by the proximity of independence, are not. Propositions 5, 6, and 7 are also supported by these results.

The second set of results, regard multinomial logits of political change for all political systems from 1900 to 2000. Besides the shorter temporal domain of the analysis, these tests include controls for economic factors. We obtain some substantially different results with this test with our analysis of autocratic transitions. Our results for democratic transitions are robust across the two estimations.

Table 3a indicates that the SIP value of a country has no bearing on its propensity for autocratization. This is most likely due to the inclusion of economic variables. GDP, indeed, is statistically significant and substantively strongly negative. The effect of the level of democracy in the world is strongly negative, but borderline insignificance ($p = 0.100$). Neighborhood SIP values also are strongly negative and statistically significant. Polity duration is again statistically significant. The control for the lower end of the SIP scale is also statistically significant. Shock, growth, and proximity of independence are not statistically significant. Again we see little support for the propositions relating to new states.

Table 3a. Multinomial logit of Political Change – Autocratization, 1900–2000

Polity Change	Coefficient	Robust S.E.	p-value	1 st Diff. min-max
<i>1. Autocratization</i>				
SIP	0.360	0.8500	0.672	
SIP-squared	-7.970	1.6839	0.000	
Global SIP	-1.478	0.8997	0.100	-.045
Neighborhood SIP	-0.897	0.3293	0.006	-.039
GDP	-0.298	0.0746	0.000	-.044
Growth	-1.758	1.4880	0.237	-.023
Shock	-0.290	0.2619	0.268	-.005
Polity Duration	1.048	0.3587	0.003	.019
Time Since Independence	1.048	0.4413	0.736	.003
Upper end	-0.195	0.3214	0.543	-.003
Lower end	-0.843	0.4783	0.078	-.013
Constant	-0.737	0.7011	0.293	

Table 3b. Multinomial logit of Political Change – Democratization, 1900–2000

<i>Polity Change</i>	Coefficient	Robust S.E.	p-value	1 st Diff. min-max
<i>2. Democratization</i>				
SIP	3.737	0.7483	0.000	
SIP-squared	-5.073	1.2873	0.000	
Global SIP	2.645	0.7337	0.000	.108
Neighborhood	1.663	0.2657	0.000	.084
GDP	0.076	0.0551	0.165	.01
Growth	-1.930	0.9706	0.047	-.023
Shock	0.673	0.1782	0.000	.016
Polity Duration	0.779	0.2817	0.006	.012
Time Since Independence	-0.453	0.5017	0.366	-.004
Upper end	-2.881	0.7102	0.000	-.037
Lower end	0.404	0.2481	0.103	.009
Constant	-3.614	0.5257	0.000	

Table 3b exhibit few differences from Table 2b. The effects of democratization are robust to temporal domain and the inclusion of economic factors. The effect of the Global SIP is nearly identical. Neighborhood effects are even stronger. Shocks and political duration remain statistically significant, but not strong substantively. GDP, unlike for autocratization, is not statistically significant. GDP growth rates, however, are statistically significant and negative. This means that high growth rates mitigate democratization. In other words, autocracies and semi-democracies to some extent can buy off their publics, exchanging material rewards (at least the promise of greater material reward) in exchange for political freedom (or expanding political freedom through democratization). Newly independent states are not statistically significant in their effect on democratization. The control for the upper end of the scale is statistically significant. Interestingly, the lower end control is borderline statistically significant ($p = 0.103$). These results provide support for proposition 1; systemic shocks are indeed associated with democratization. But this is by no means the complete story. Global and neighborhood pull effects are strong. Propositions 2, 5, 6, and 7 are supported strongly. Our propositions regarding new states (3 & 4) do not receive much support.

We now turn to interpreting the effects of a country's political system on its propensity to democratize or autocratize. Figure 9 shows the probabilities of change toward democratization and toward autocratization as a function of initial democracy level for a representative polity. As indicated by the increase in average democracy shown in Figure 2, the average probability of democratization is higher than that of autocratization. Note, however, that the probability of democratization is higher the more democratic a country is, as long as it has not reached the end-point of 1. The Figure indicates that polities tend to change toward the closest consistent endpoint. This result indicates that strong democracies and strong autocracies are equilibria.

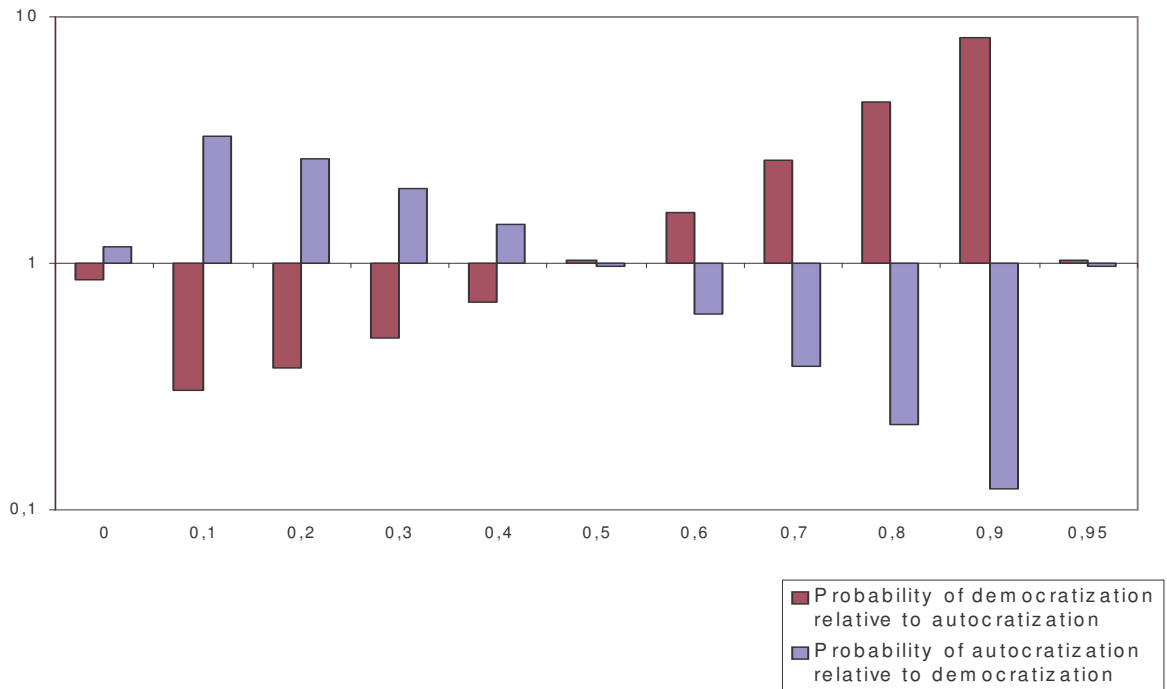
This tendency to change towards the closest extreme form of political system is shown more clearly in Figure 10, which plots the relative probabilities on a log scale. Given that a polity can change in either direction, the probability of democratization relative to the probability of autocratization and vice versa is a function of initial democracy score. The tendency to revert to the ideal point is reflected by the observation that for initial democracy scores lower than 0.5, a change toward autocracy is more likely than a

change toward democracy. For democracy scores above 0.5, changes toward democracy are more likely. The trend toward democracy is reflected in the fact that the spikes representing average relative probability of democratization is higher than that of autocratization.

Figure 9. Propensity for Polity Change Across SIP Levels, 1800–2000



Figure 10. Relative Risk of Autocratization and Democratization Given a Polity Change, 1800–2000



Conclusion

While taking issue with the methodology employed by Samuel Huntington in his seminal work, *The Third Wave*, our analysis strongly supports his thesis of the existence of waves and counter waves in democratization during the past two centuries. In providing this support for Huntington, we simultaneously raise some important reservations regarding both the methodology used and conclusions drawn by two of the most prominent critics of Huntington’s wave thesis (Doorenspleet 2000; Przeworski et al. 2000).

We are also able to answer the question, why waves? Waves crest as a result of international systemic shocks. The systemic effect of war is democratization. These shocks include World War One, World War Two, and the end of the Cold War. Political transitions in the wake of war tend to be more democratic than the system on average and thereby compose the crest of each wave of democratization. The subsequent reverse waves are caused by the collapse of these newly founded democracies. Newly independent states neither more nor less vulnerable to regime collapse. Contrary to the initial re-

sults presented in Figures 6–8, new countries are not statistically more likely to autocratize. Global and neighborhood effects are very strong, especially with regard to democratization. The crests and troughs of the wave pattern are exaggerated by neighborhood effects. Regional factors ensure that political transitions tend to come in bunches. War, the nature of the global system, and political neighborhoods account for the three waves of global democratization.

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Appendix I. Operationalization of the Dimensions of Political Authority

(from Gates, et al., 2006).

Our operationalization is based partially on Gurr's Polity dataset (Jagers and Gurr, 1995). In particular we use Polity IVd. (A version of Polity available from Kristian S. Gleditsch: <http://weber.ucsd.edu/~kgledits/Polity.html>). We also draw on the Polyarchy dataset (Vanhanen, 2000) for information regarding political participation. This dataset can be retrieved from <http://www.svt.ntnu.no/iss/data/vanhanen>.

Operationalization of Ideal Polity Types

Democratic ideal type: Executive recruitment through regulated, open, elections; executive parity with accountability groups/parliament; and regulated and competitive participation. In terms of the authority dimensions described in the Appendix: "Executive Recruitment" = 5 (election), "Executive Constraints" = 5–7 (substantial limitations to parity), and "Participation" > 2.5 (pluralistic participation, corresponding to more than 12.2% of the population).

Autocratic ideal type: Executive recruitment through a regulated, but closed, process; unconstrained executive authority; and restricted or suppressed participation. In terms of the authority dimensions in the Appendix: "Executive Recruitment" = 3 or 4 (ascription, designation, or ascription + designation), "Executive Constraints" = 1–4 (unlimited to moderate limitations), and "Participation" < 0.5 (restricted participation, corresponding to less than 1.6% of the population).

Inconsistent systems are defined as those systems in which executive recruitment, executive constraints, and/or participation are not all consistent. For example, a polity with an elected executive and high levels of political participation, but with an unconstrained executive is defined as institutionally inconsistent. Similarly, a polity with a designated executive and unconstrained executive power, but with middle (between 0.5 and 2.5 in our scale) or higher levels of participation, is also defined as institutionally inconsistent.

Caesaristic systems are defined only in terms of the recruitment of executives, such that "Executive Recruitment" = 1, thereby indicating a caesaristic polity: "changes in chief executive occur through forceful seizures of power" (Gurr, Jagers and Moore, 1989: 9).

Definition of polity change

We define a *polity change* as any change in indicators that results in a movement from one category to another in the Executive dimension, a change of at least two units in the Constraints dimension, or a 100% increase or 50% decrease in the Participation dimension (in the log-transformed variable, this is a change of 0.0693 in either direction from the original level). If a political system experiences two consecutive one-unit changes in Constraints, we define the second of these as a polity change. The creation or dissolution of states is also defined as a polity change. Finally, we define a *polity* as a political system between two polity changes.

Appendix II.

Figure A2. Political Transitions – An Alternative Operationalization, 1800–2000 (Compare to Figure 4)

