Why Waves? Global Patterns of Democratization, 1816–2008 [*]

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February 3, 2012

Summary

Samuel Huntington's (1991) thesis of democratic waves has come under strong criticism from scholars such as Renske Doorenspleet and Adam Przeworski and colleagues. We take issue with all of these authors' (including Huntington's) use of a dichotomous measure of democracy, which we believe creates the potential for inaccurate analysis of democracy and democratic/autocratic transitions. Using a more refined measure of democracy and of political system change 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 proceed to locate the sources of the democratic waves. Reformulating and expanding on Huntington, we hypothesize that a combination of the 'stickiness' of certain institutional configurations, the influence of neighboring countries, and shocks to the interstate system such as the world wars are the main explanation of waves, in combination with the slow but certain impact of economic development. Using multinomial logit analyses of political transitions, we find considerable support for these hypotheses.

1 Introduction

The recent demise of Zine El Abidine Ben Ali, Hosni Mubarak, and Muammar al-Gaddafi, and the subsequent intense pressure on other authoritarian leaders in the Middle East/North Africa region, indicate that democratic change tend to occur in conjunction. Huntington (Samuel 1991), observing similar clustering of events, described the pattern of global democratization as a series of three waves and reverse waves. Although the notion of waves is widely accepted, their existence is contested by scholars such as Przeworski et al. (2000) and Doorenspleet (2000b).

In this article, we show that democratization indeed occurs in waves. We argue that transitions are best analyzed in small steps, and define change to political systems accordingly. Our 'small steps' measure precisely reflect the waves identified by Huntington. We use this precise measure to show that the wave structure can be traced back to a set of general patterns: (1) Economic development functions as a slowly changing backdrop to democratization; (2) the internal consistency of institutions initially prevents change, but opens up for series of changes as soon as this consistency is broken; (3) the neighborhood of a country exerts a forcefull pull on the setup of its political system, resulting in a clustering of changes in similar directions; (4) newly formed states tend to be more democratic than otherwise similar states, so that clustered formation of states gives rise to clustered changes to global democracy; (5) new democracies are frequently nonsustainable, so that clustered state formation creates subsequent reverse waves.

Section 2 shows that Huntington's waves are adequate descriptions of the historical patterns of democratization. In section 3, we sketch a set of explanations of these waves. In Section 4 we take a closer look at the importance of systemic shocks. In Section 5, we summarize our research design, and we present our results in Section 6.

2 Are there democratic waves?

Huntington (1991)'s analysis of the waves of democratization is based on measuring the proportion of democratic regimes over time, as represented in the solid line in Figure 1. The first wave of democratization started in the early 19th century and persisted until the 1920s, after which many democracies backslided to autocracy (i.e., the first reverse wave). With the end of World War Two came a second wave of democratization. This wave was relatively brief, with a large proportion

Figure 1: The evolving democraticness of the world, 1810–2008
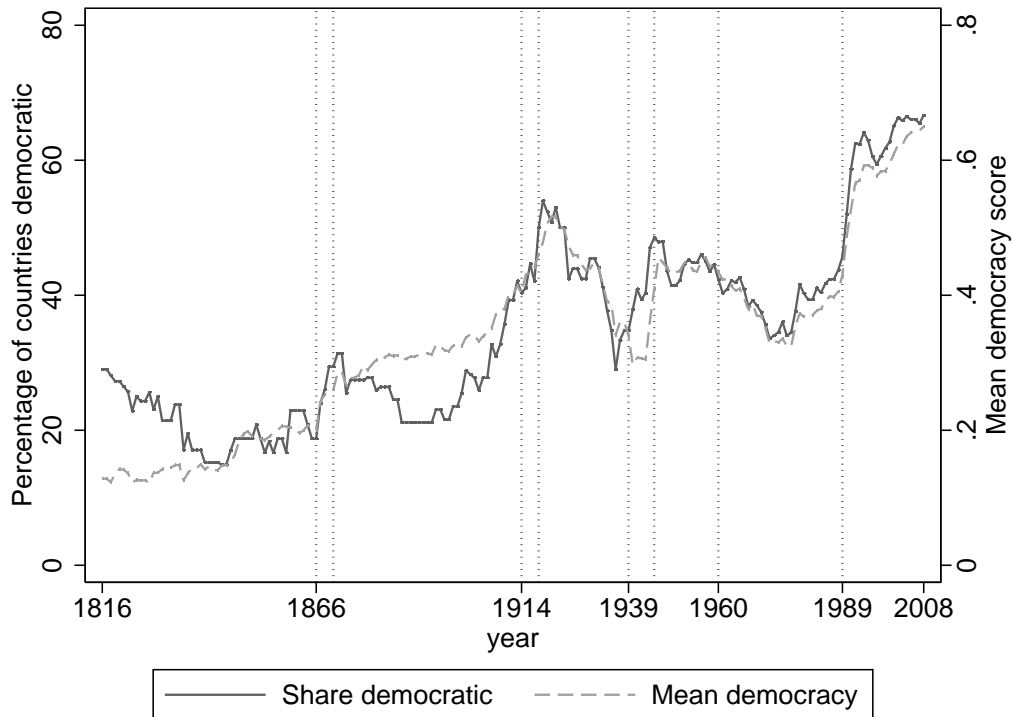
Democratic share: Countries are defined as democratic if they score 0.6 or higher at the SIP democracy index (Gates et al., 2006). Mean democracy: Global mean for the SIP index.

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.

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 (1991)'s measure of the incidence of transitions to democracy in terms of the percentage of states globally. In this 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.

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[1]See for example Jaggers and Gurr (1995), Diamond (2001).

2.1 Definition of democracy

The first criticism of Huntington (1991) regards his definition of democracy. The foundation for Huntington's definition is derived from Dahl (1971)'s 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) employs a dichotomous classification.

Doorenspleet (2000b, 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. Her 'minimal democracy' measure, is dichotomous and based on the concepts of 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 related to political competition. This measure is stricter than Huntington's original measure, and its use results in fewer countries being coded as democracy in the early periods.

Przeworski et al. (2000, 36–50) employ a dichotomous definition of democracy based on whether or not the executive and members of the legislature obtained office via at least semi-competitive multi-party elections.[2] This definition is substantially more less strict than that used by Huntington, and Przeworski et al. code more countries as democratic than does Huntington. By the same token, the bar for *maintaining* democratic status is much lower according to the Przeworski et al. definition than to Huntington's. Consequently, Przeworski et al. are less likely to code a country as switching from democracy to autocracy than is Huntington. It is possible that the different conclusions these authors reach regarding waves is due to the different definitions employed.

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[2]A caveat to the Przeworski et al. (2000, 29) definition is that a country can satisfy the conditions of at least semicompetitive 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 (2002).

2.2 Empirical issues

Both Doorenspleet (2000*b*) 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 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 relatively stable during this period. Focusing on transitions rather than fractions of democracies, the authors find no clear wave structure. They 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*b*, 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 problems with his 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.

2.3 Waves assessed in small steps

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. A continuous index of democracy is better suited, since 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.

The SIP index (Gates et al., 2006) condenses a three-dimensional conceptualization of democracy to one dimension.[3] 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). The dotted line in Figure 1 shows the average democracy value in the system for the 1810–2008 period.

In one dimension, three possible transitions are possible: A transition toward democracy, a transition toward autocracy, or no change.[4] 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). The SIP allows us to evaluate a political system with regard to institutional deviation from an ideal democracy and autocracy.

We want to model changes as small as 0.03 on our unit-scale democracy index. 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 $SIP_t < SIP_{t-1} - 0.03$. In any other case, we code the observation as no change. In supplementary analyses, we look at changes of at least 0.10 and 0.20 along the SIP scale.

Table 1 summarizes the number of transitions given the three change thresholds we use.

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[3]The index combines aspects of the Polity (Jaggers and Gurr, 1995) and Polyarchy (Vanhanen, 2000) by integrating a weighted measurement of political participation from Polyarchy with the Polity measures of executive constraints and executive recruitment.

[4]Modeling the 27 possible transitions in three dimensions would be interesting, but hard to interpret and would run into problems with sparse data.

Figure 2: Three dimensions of authority structures
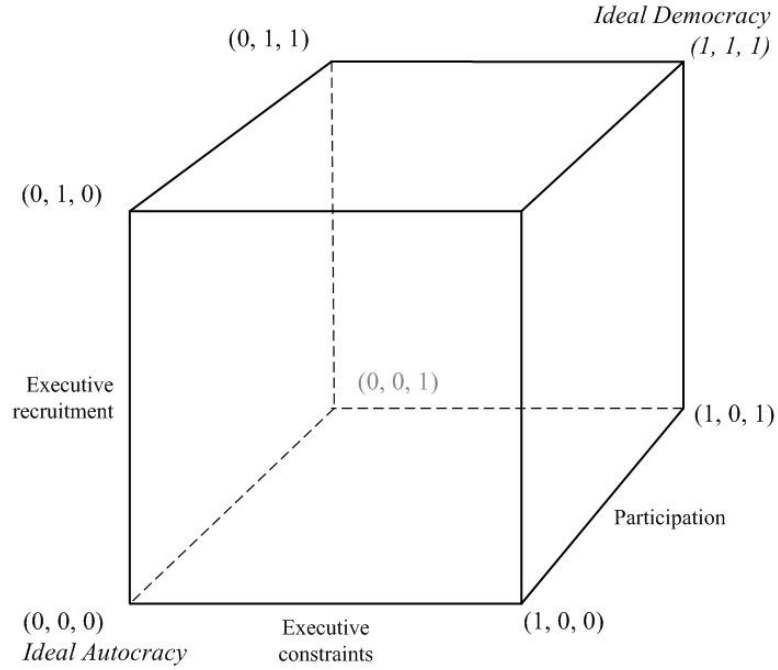
Table 1: Democratization vs. Autocratization, 1800-2008

Definition	0.03		0.10		0.20	
Polity Change	frequency	percent				
Autocratization	254	2.52	207	2.05	127	1.26
No change	9430	93.58	9574	95.01	9796	97.21
Democratization	393	3.90	296	2.94	154	1.53
Total	10077	100.00	10077	100.00	10077	100.00

A change of 0.03 is small, but not inconsequential. The

Using a continuous measure of democracy and capturing moderate changes in level of democracy, the dotted line in Figure 1 provides clear support for Huntington's claim that there have been three waves of democratization, including periods of decline (reverse waves) between them.[5] 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 would only retreat with the end of World War Two. Thw 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.

Both Doorenspleet (2000b) and Przeworski et al. (2000) 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. 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 and the extended period of analysis, we can trace these changes that escaped the detection of Doorenspleet and Przeworski et al. Figure 3 portrays all political changes along our SIP scale.[6] We count the number of political transitions toward democracy and the number of changes toward autocracy for each year. We then divide the two counts by the number of countries in the world. The proportion of the countries in the world with changes toward democracy are shown above the 0 line at the y axis. Those toward autocracy are shown below 0. This figure shows how the number of transitions in both directions follows a pattern of parallel

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[5] Jaggers and Gurr (1995)'s 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.

[6] 'Change' is defined precisely in Section 5.1.

Figure 3: Proportion of countries with change toward democracy (positive; ΔD) or toward autocracy (negative; ΔA), 1800–2008
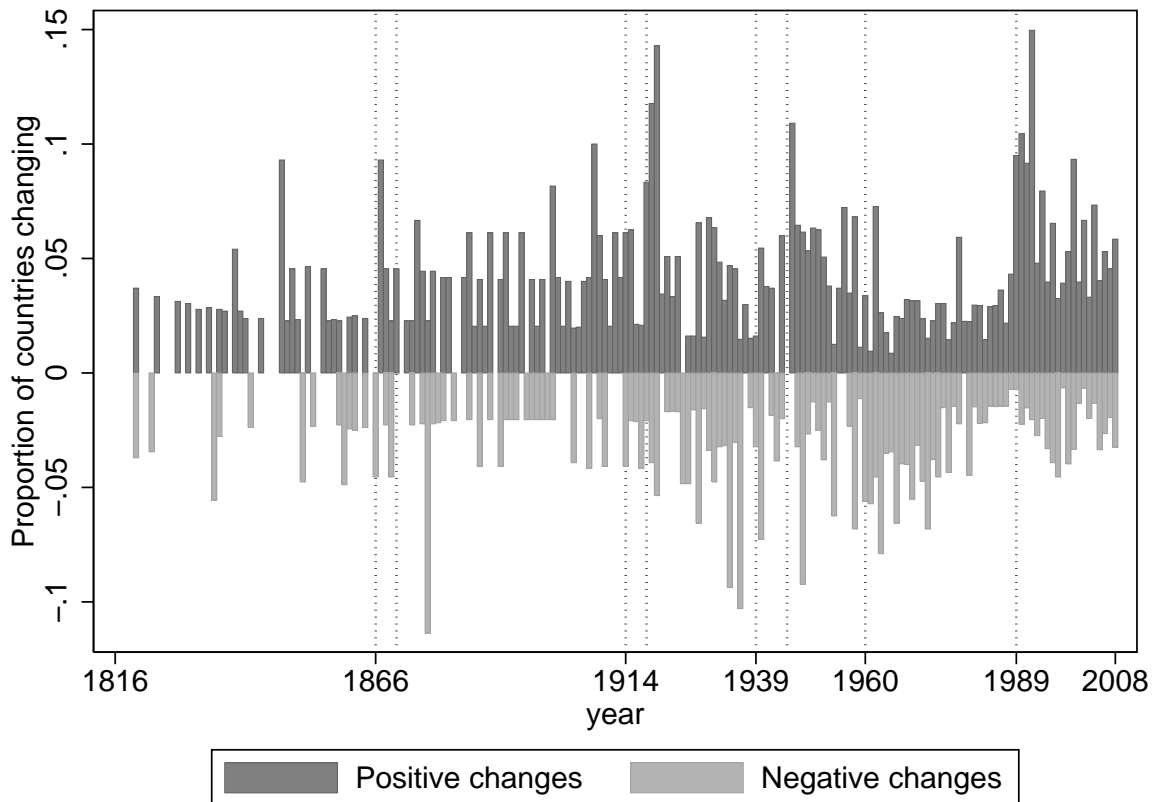


waves. In the years immediately after 1918, 1945, and 1989 (all marked with vertical lines in the figure), a large number of countries changed toward democracy. Reverse waves occured before 1939, in the 1960s, and in the 1990s.

The wave pattern is even clearer in Figure 4. In the upper panel, we subtract the number of transitions toward autocracy from the number of transitions toward democracy to obtain a measure of net change.[7] Democratic waves are seen in periods where the average net change is larger than zero, and reverse waves in periods where the average net change is negative. Just as argued by Huntington (1991), the 19th century was a long democratic wave with net change toward democracy, ending about 1920. The 1940–1955 period as well as the post-1975 period were also democratic waves. The third wave is still going strong in 2008.

The reverse waves are as evident as the democratic ones. The 1920s and 1930s show a large

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[7]We have calculated the five-year moving average of the net change series to maximize readability.

Figure 4: Upper panel: Net proportion of countries with change toward democracy or autocracy ($\Delta D - \Delta A$). Lower panel: Proportion of countries with change in either direction ($\Delta D + \Delta A$). Five-year moving averages, 1810–2008
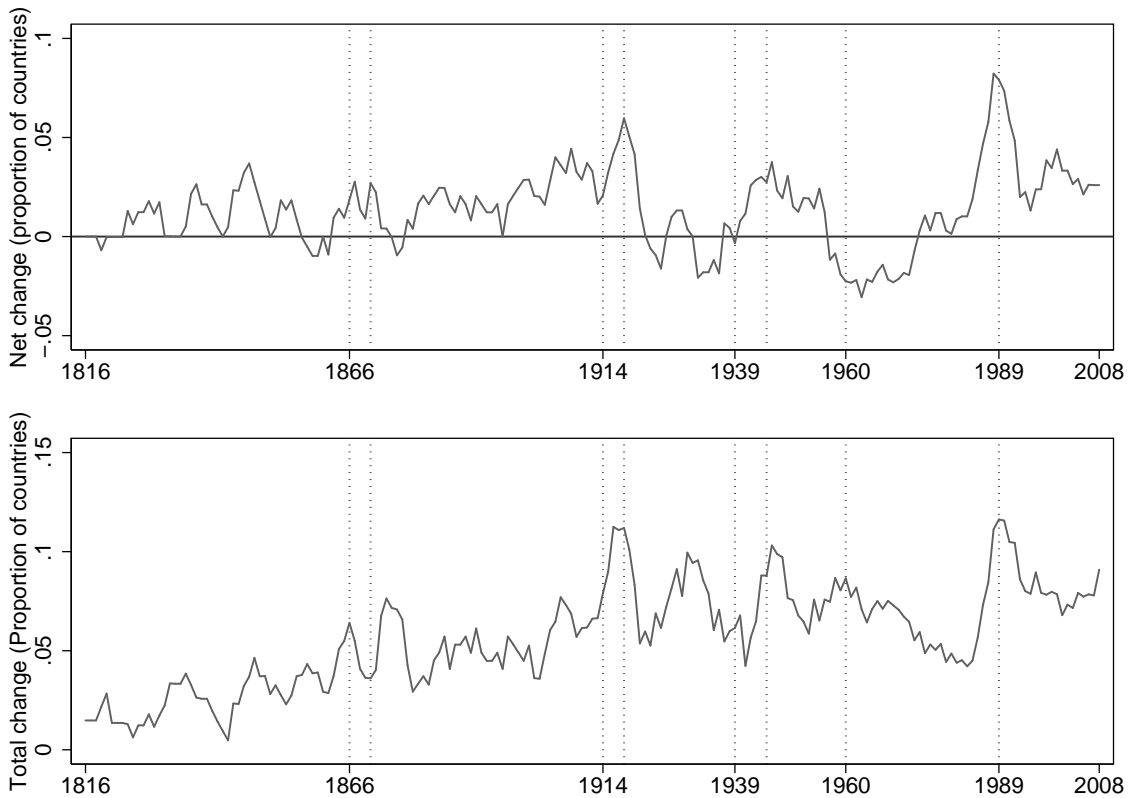
number of autocratic transitions. While a number of democratic transitions occur throughout the 1955–1975 period (Figure 3), they are outweighed by the number of autocratic transitions in this period.

The lower panel shows the proportion of countries with change in either direction. A striking trend is a steady increase in the annual proportion of countries with changes. The peaks of the democratic waves happened in conjunction with periods of great volatility associated with the great wars (the German unification wars, the World Wars, and the end of the Cold War). The reverse wave in the 1930s was also a period with a large amount of changes. The last decade in our dataset has also seen a large relative number of changes. Although the third wave currently is weaker than in the years following the fall of the Soviet Union, Figure 4 shows that it is stronger than in the 1975–1986 period.

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Table 1 summarizes these transitions. From 1816 to 2008 there were 393 incidents of democratization (for which we have data for all explanatory variables). This constitutes about 4% of all country years in the system. Fewer cases of autocratization occurred, 254. 93.6% of the country years involve no political transition. In total there were 10,077 country years in the international system over these two centuries.

3 Why waves? An equilibrium model of institutional stability

Figure 1 shows that there are distinct periods of growth and decline in global levels of democratization throughout the world between 1800[1816] and 2008. In Section 2, we reviewed the debate on the existence of waves of democratization, showed data to support Huntington in that a wave structure indeed exists. But why do democratic waves occur?

Huntington (1991, 15) defines a wave of democratization as

> a group of transitions from nondemocratic to democratic regimes that occur within a
> specified period of time and that significantly outnumber transitions in the opposite
> direction during that period of time. A wave also usually involves liberalization or
> partial democratization in political systems that do not become fully democratic.

Huntington (1991, 31–34) identify four classes of explanations for waves of democratization. The perhaps most obvious source of clustered changes is covered by Huntington's 'parallel development' explanation (p. 32) – clustered changes in factors that 'cause' democracy. In Section , we look at internal factors for democratization.

Most of the internal factors we can observe cross-nationally, however, rarely change sufficiently rapidly to give rise to waves. External factors that fall in under the 'single-cause' heading (Huntington, 1991, 31–32), on the other hand, such as swift changes in global norms toward democracy or a change in the attitudes or global influence of a superpower, can change quickly. In Section we look into the importance of systemic shocks and the creation of new states for the three waves of democratization over the last 200 years.

Huntington builds his argument on a dichotomous conception of democracy, and his account of what stabilizes democracy only accounts for non-institutional factors such as the size of the middle class or influence by other powers (as do Przeworski et al., 2000). Studies following Gurr

(1974), however, indicate that gradual democratizations also introduce institutional tensions that we argue add to the propensity for wave-like behavior. In Section 3.1.2, we argue that these tensions supplement Huntington's explanation. They give rise to a reformulation of his notions of 'prevailing nostrum' and 'snowballing' (Huntington, 1991, 33–34). In addition, the 'stickiness' of self-reinforcing institutional configurations is a source of wave behavior not covered by Huntington.

Our explanation of waves, then, has three components: Aspects of each country's institutions, non-institutional factors internal to each country, and factors external to each country. We discuss these in turn and then derive a set of propositions that we test in Section 6.

3.1 Internal determinants of stability and change

An explanation of waves and reverse waves is incomplete without a model of how democratization and autocratization occurs. First, we discuss two non-institutional factors that are prominent in the literature.

3.1.1 Internal non-institutional factors: the 'economic' model

A huge literature demonstrates the strong relationship between socio-economic development and democratization (e.g. Lipset, 1959, Vanhanen, 1997, Przeworski et al., 2000). The relationship may be explained by a large number of mechanisms. Lipset (1959) argued that higher income and better education for 'the lower strata' would lead to more compromise-oriented view of politics, and to greater surpluses to distribute. Lipset (1959) and Dahl (1971) focus on the importance of a diversified economy with ample economic opportunities without direct access to political office. Boix (2003) and Acemoglu and Robinson (2000) highlight how economic development increases the relative share of assets that cannot be appropriated by means of force, making it less costly for elites to allow for redistribution. These mechanisms make autocratic institutions sustainable in low-income, natural resource dependent, illiterate societies, whereas democracy thrives in high-income countries dependent on skilled labor and financial capital.

These socio-economic factors have changed immensely in most parts of the world over the two centuries studied here. They all change gradually, however. Although development certainly is a major explanation of the long-term increase in democracy seen in Figure 1, it cannot in itself easily explain the tendency for democratization to cluster, except in the unlikely case that several

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countries simultaneously reaches a 'development threshold' over which democracy is sustainable.

Another regularity, however, points to how development can lead to wave patterns. All regimes, autocratic, democratic, and inconsistent ones, are considerably more stable when countries have solid economic growth (Gasiorowski, 1995, Przeworski et al., 2000, Gates et al., 2006). Economic growth, then, simultaneously supports non-democratic and inconsistent regimes in the short run while steadily undermining the conditions that sustain non-democratic regimes in the long run.[8] This adds a new aspect to our model of stable constellations of institutions. Economic diversification increases the amount of non-institutional sources of political leverage for the opposition. Strikes and demonstrations are much more costly in economies dependent on manufacturing or tourism than in those mainly based on agriculture or oil extraction.

Economic development, then, can gradually render non-democratic countries more and more 'ripe for revolution'. Since economic development often happens in parallel in neighboring countries, it is likely that regions become institutionally volatile in concert. We would argue that the Middle East (at least the non-oil producing parts) has reached such a state. Small sparks, then, have a potential to set a fire. Our two first propositions are:

Proposition 1 *Economic development increases the probability of transition toward democracy*

Proposition 2 *Economic growth decreases the the probability of political transition*

3.1.2 Internal institutional factors

There is a limit to how much wave behavior economic development can explain, however, since it changes only gradually. But slowly changing factors can give rise to waves if two other characteristics are present: (1) a 'stickiness' that prevents any change, and (2) dependence between events and situations in different entities (giving rise to 'snowballing').

There are at least three sources of stickiness in political institutions. The first relates to the inherent stability of certain institutions. Gurr (1974) and Gates et al. (2006) demonstrate that 'consistent' political institutions – institutions that are either autocratic or democratic in all their constituent components – are much more stable than inconsistent institutions.[9] Autocracies and

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[8]Olson (1993) points to related mechanisms with similar long-term consequences.

[9]See Eckstein (1969; 1973). We focus on three authority dimensions, executive recruitment, executive constraints, and participation. Consistent democracies exhibit completely open executive recruitment patterns (associated with

democracies exhibit consistent patterns of authority, where 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. If the opposition attempts to change one single aspect of an autocratic political system in a democratic direction, the elites controlling the other components will have strong incentives and ample opportunities to prevent the reform. If a partial reform succeeds, they are in a strong position to reverse the reform after some time. To be reasonably certain to succeed in democratizing a consistently autocratic regime, the opposition must replace the incumbent with one elected in open, fair, and regulated elections as well as establishing effective systems of checks and balances to constrain the newly elected leader. In such situations, the external impetus for change must be exceedingly strong to produce a lasting effect.

Another source of stickiness is consolidation of institutions – as the elites and the opposition within the political system adapt to existing institutions, bolstering their power and acknowledge situations of stalemate, the constellation of components becomes more stable.

A third source of stickiness elaborated by Kuran (1989) is due to a combination of collective action and coordination problems and incentives for preference falsification among the supporters of the opposition. Since the autocratic regime routinely punishes individuals issuing public statements of support for the opposition, individuals will refrain from revealing their preferences. Even in cases where a sufficient proportion of the population privately supports a revolution to make it feasible, it will not occur because they are not aware of how large this support is. In such a situation, the regime is very unstable without anybody knowing it. It will only take a spark such as the self-immolation of Mohammed Bouazizi in Tunisia to ignite the 'prairie fire' of revolution.

These expectations are summarized in the following propositions:

Proposition 3 *Inconsistent regimes are more likely to experience political transition*

Proposition 4 *Inconsistent regimes are more likely to change toward the most proximate consistent*

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open free elections), constrained executives, and high levels of political participation. Consistent 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.

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regime type

Proposition 5 *A constellation of institutions becomes less likely to change the longer it exists*

3.2 External factors

We identify three external-factor explanations for the wave structure observed in the figures above. In this section, we treat a set of political neighborhood effects. In the next section, we return to shocks to the international system (such as global war) and the birth of new states with weak institutions (often born out of such systemic shocks).

3.2.1 Political neighborhood

Political neighborhoods are also important (Gleditsch and Ward, 2000, Gleditsch, 2002, Gleditsch and Ward, 2006). Kuran's argument also provides a partial explanation for snowballing – the preference revelation in Tunisia observed at the end of 2010 provided information on preferences also to the potential opposition in Egypt and Libya. Changes to political systems, then, depend on the situation and events in other countries, in particular in the immediate neighborhood. Assuming that autocratic elites in neighboring countries have joint interests in preserving the status quo, they are also likely to assist each other, just as a strong opposition movement may strengthen that of a neighboring country. In cases where the power balance between the incumbent and the opposition is already precarious, the shift in power due to changes in foreign support may be sufficient to tip the balance. Given this, autocratic systems should be more stable in autocratic neighborhoods, and vice versa.

Likewise, 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, Knutsen and Moses, 1996, Thompson, 1996). Examples of restricted freedom during wartime, e.g. martial law, demonstrate how democratization can be hindered by a security threat.

The expectation, then, is that political systems are less stable when surrounded by regimes different from themselves, and tend to change in the direction of the prevailing regime type in the neighborhood:

Proposition 6 *The more a country differs from its political neighborhood, the more likely it is to experience a political transition.*

Proposition 7 *States are more likely to have polity changes towards the average democracy value (SIP value) in its neighborhood.*

Proposition 8 *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.*

3.2.2 Systemic wars

War and system shock are the most important external factors for explaining why waves crest when they do. As demonstrated by the analysis of the international system 1816–1992 in Mitchell, Gates and Hegre (1999), the dominant systemic effect of war is to increase democratization. They conclude that '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).[10]

Kadera, Crescenzi and Shannon (2003)) further link the relationship between war and democracy. Their article concludes that the survival of democracies depends on the capabilities of the democratic group relative to other political systems in the international community. Bueno de Mesquita, Siverson and Woller (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 III, 1998).[11] 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 im-

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[10]Mitchell, Gates and Hegre (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.

[11]See Gleditsch and Hegre (1997), Crescenzi and Enterline (1999), and Cederman (2001), for studies of the systemic links between democracy and war. See Stam (1996), Reiter and Stam III (1998), and Bueno de Mesquita et al. (2003) for explanations as to why democracies are more likely to win wars than non-democracies.

posed their form of government on the vanquished in the war's aftermath.[12] 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.

This argument gives rise to the following propositions:

Proposition 9 *Shocks to the international system (systemic wars) will result in significant increases in the likelihood of democratization.*

Proposition 10 *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 and Ward, 2006). In this way, the effects of a country's neighborhood, expressed as propositions 6 and 7 are associated with the systemic factors expressed above.

3.2.3 New states

In the aftermath of systemic shocks, a number of new states have emerged. World War One saw the breakup of the Austro-Hungarian and Ottoman Empires. World War Two brought about decolonialization. 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 first political systems in these states, we hypothesize, were relatively democratic. If so, the emergence of new states give rise to democratic waves if independence is clustered in time.

Reverse waves, however, 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. 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, but that unconsolidated regimes are more vulnerable than consolidated regimes. We thus posit the following propositions:

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[12]It should be noted, however, that the analysis in Werner (1996) 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.

Proposition 11 *New states are more likely it is to experience political changes in either direction.*

Proposition 12 *New states tend to be more democratic than old states with similar characteristics*

Proposition 13 *New states are more likely it is to experience political changes towards autocracy.*

4   International shocks, new states, and political neighborhoods: A look at global trends

The pattern of spikes observable during the 20th Century in Figure 3 indicates the big role played by international shocks and newly independent states. 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 5 parallels Figure 1, but in addition to the average level of democracy for all countries it shows, on separate trend lines, the average level of democracy among countries that originated immediately after four global 'shocks': (1) during or immediately after World War One (1914–1923); (2) during or immediately after World War Two (1939–48); (3) the decolonization of Africa (1960–65); and (4) after the end of the Cold War (1988–1995).

The first 'after-shock' (1917–) shows a remarkable trend. The average democracy value is initially very high, but it 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 during this period. 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.

The second period of democratization evident in Figure 3 occurs right after World War Two.

Figure 5: Three waves of new countries
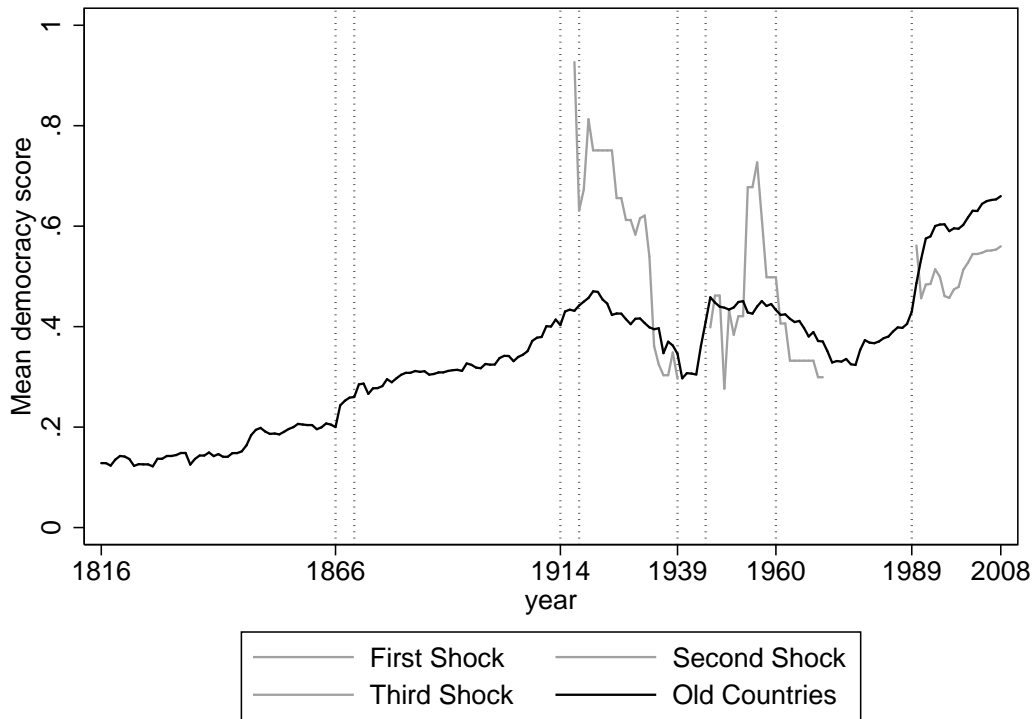
Once again, a number of new states emerged in the aftermath of the war. Among the new independent states (mainly former colonies) there was a tendency to emulate the victors. The new states were initially equally democratic as the old states, and the average democracy level increased up to 1995. After that, these countries changed in an autocratic direction.

The third positive spike in Figure 3 occurs in 1992.[13] 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 5 shows initially high levels of democracy in the group of new states, followed by 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.

Figure 5 provides support for Propositions 12 and 13. Systemic shocks are associated with global

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

bursts of political transformation. Democratizing spikes are associated with the end of World War One, World War Two, and the Cold War. By singling out the states created in conjunction with these shocks, we see one reason 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.

We now turn to a multivariate analysis, which will allow us to better evaluate our propositions.

5   An empirical model of political transitions

The figures presented so far in this paper provide 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, controlling for 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.

To compensate for the lack of flexibility in this model relative to the full Markov Chain model, we code a set of covariates 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.

5.1 Dependent variable

Institutional change: 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).

5.2 Independent variables in our four models

We will specify four different models to organize the testing of our propositions. The first two models include internal factors only, the third includes neighborhood factors, and the final the impact of system-wide shocks and the creation of new states.

All models include two terms that capture the fact that with a dependent variable bounded between 0 and 1, the probability of change toward an end point is very small close to these end points:

Upper end: A dummy variable that denotes whether the SIP index last year was higher than .91.

Lower end: A dummy variable that denotes whether the SIP index last year was lower than .06.

5.2.1 The 'economic' model

In this model, we test propositions 1 and 2. It includes two variables:

GDP per capita: The natural logarithm of constant-dollar GDP per capita. The variable is lagged by one year. We also include the square of log GDP per capita to be able to model a possible non-linear relationship.

GDP growth: Growth in constant-dollar GDP per capita. The variable is measured as the difference in log GDP per capita between year $t-1$ and t, and is lagged by one year. Sources are the same as for GDP per capita.

5.2.2 The 'internal' model

In the 'internal' model, we add three variables to the 'economic' model that allow us to test Propositions 3, 4, and 5:

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).

Brevity of polity: The probability of a regime change is likely to be dependent on whether there has recently been a change in the country. We include two terms to capture this. Both variables are decaying functions of the time since the last change in either direction. One of them is constructed with a half-life of 16 years, the other with a half-life of 4 years.

5.2.3 The 'internal-external' model

In this model, we add another three variables that facilitate testing of propositions 6, 7, 8, and 10.

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 an indictor 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 neighborhood. We define the neighborhood of country A as the countries that are directly contiguous to A as coded by Stinnett et al. (2002). The variable is lagged by one year. It accounts for the pull from one's contiguous neighbors.

Change in neighborhood: Change in neighbors' average SIP score from year$_{t-2}$ till year$_{t-1}$. The variable is weighted on population. For those countries that have missing SIP score for year$_{t-2}$, but not for year$_{t-1}$ and year$_{t-3}$, year$_{t-2}$ has been replaced by year$_{t-3}$.

5.2.4 The 'system shock' model

The final model subsumes the variables in the three preceding models. In addition, we add two variables that allow testing of propositions 9, 11, and 13.

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

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

6   Results and Discussion

Our main results are presented Table 2. The table has one column for each of our four models.

6.1   The economic model

The first column presents the results from the 'economic' model. Our propositions 1 and 2 receive considerable support in this model. In line with the results in Lipset (1959), Przeworski et al. (2000), and other studies, per-capita income is negatively correlated with the risk of autocratization and positively correlated with democratization. The estimated relationship is strong – the odds of change toward autocracy for a poor country like Niger is almost 10 times higher than that of a rich country like South Korea.[14] Correspondingly, the odds of change toward democracy are 70% higher in South Korea than in Niger.

Figure 6 shows that the relationship between GDP per capita and the likelihood of change in either direction is non-monotonic. The non-monotonicity is consistent with modernization theory – at low modernization levels (proxied by low average income here), countries tend to be stably autocratic. As income levels increase, a struggle over the setup of institutions emerges. At high income levels, most countries have become either democratic or reached a stable autocratic system where the opposition is regularly bought off (as in oil-rich states). We estimate that changes toward autocracy are most likely at about USD 500, and democratizations most likely at about USD 4,000.

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[14]GDP per capita for Niger in 2008 is USD 485. That of South Korea is USD 19,200. The difference in log GDP per capita is 3.68.

Table 2: Multinomial logit model results, four equilibrium models, 1816–2008

	(1) Baseline	(2) Economic	(3) Internal	(4) Internal-external	(5) System shock
Autocratization					
Log, centered GDP per capita, t−1		-0.645***	-0.501**	-0.221	-0.219
		(-3.86)	(-2.81)	(-1.48)	(-1.45)
Log GDP per capita squared		-0.355*	-0.348*	-0.204	-0.193
		(-2.56)	(-2.42)	(-1.53)	(-1.53)
Economic growth, t−1		-2.265	-2.457	-2.202	-1.964
		(-1.39)	(-1.45)	(-1.45)	(-1.35)
SIP score, t−1				1.682	1.756
				(1.84)	(1.82)
SIP score squared, t−1				-7.714***	-8.697***
				(-4.43)	(-4.93)
Brevity of polity, $\alpha = 16$				2.107	2.096
				(1.55)	(1.55)
Brevity of polity, $\alpha = 4$				-0.368	-0.501
				(-0.46)	(-0.60)
Global SIP pull			1.054	1.108	0.959
			(1.87)	(1.24)	(1.04)
Neighborhood SIP pull			-1.469**	-1.592**	-1.576**
			(-2.60)	(-2.78)	(-2.82)
Change in neighborhood			0.167	0.283	0.291
			(0.10)	(0.20)	(0.24)
Brevity of independence					0.0952
					(0.17)
o.upperend	0	0	0	0	0
	(.)	(.)	(.)	(.)	(.)
Lower end	-2.588***	-2.790***	-2.685***	-1.212	-1.143
	(-4.43)	(-4.80)	(-4.65)	(-1.79)	(-1.68)
sys_newst_5					0.0464***
					(4.62)
Constant	-3.471***	-3.290***	-3.361***	-4.184***	-4.364***
	(-23.82)	(-19.33)	(-18.09)	(-5.39)	(-5.72)
Democratization					
Log, centered GDP per capita, t−1		0.0877	0.0423	0.0249	0.0208
		(0.69)	(0.31)	(0.20)	(0.17)
Log GDP per capita squared		-0.178*	-0.168	-0.124	-0.123
		(-2.04)	(-1.84)	(-1.60)	(-1.57)
Economic growth, t−1		-3.140**	-3.036**	-2.887***	-3.006***
		(-3.22)	(-3.09)	(-3.56)	(-3.50)
SIP score, t−1				2.615***	2.648***
				(4.43)	(4.57)
SIP score squared, t−1				-5.514***	-5.503***
				(-4.16)	(-4.18)
Brevity of polity, $\alpha = 16$				0.261	0.309
				(0.30)	(0.35)
Brevity of polity, $\alpha = 4$				-0.0885	-0.0714
				(-0.15)	(-0.12)
Global SIP pull			-0.368	1.739**	1.778***
			(-0.96)	(3.22)	(3.34)
Neighborhood SIP pull			1.740***	1.929***	1.930***
			(4.11)	(4.58)	(4.66)
Change in neighborhood			0.213	-0.242	-0.263
			(0.15)	(-0.17)	(-0.19)
Brevity of independence					-0.596
					(-0.87)
Upper end	-3.680***	-3.623***	-3.269***	-2.505**	-2.504**
	(-3.88)	(-3.84)	(-3.50)	(-2.70)	(-2.70)
o.lowerend	0	0	0	0	0
	(.)	(.)	(.)	(.)	(.)
sys_newst_5					-0.00109
					(-0.10)
Constant	-3.053***	-2.831***	-2.965***	-2.647***	-2.659***
	(-31.21)	(-27.09)	(-24.99)	(-5.16)	(-5.20)
_ shock_*					
N	5055	5055	5055	5055	5055
ll likelihood	-1271.5	-1244.6	-1223.1	-1182.6	-1174.9

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 6: Log odds of change, internal model: toward democracy (blue), toward autocracy (red)
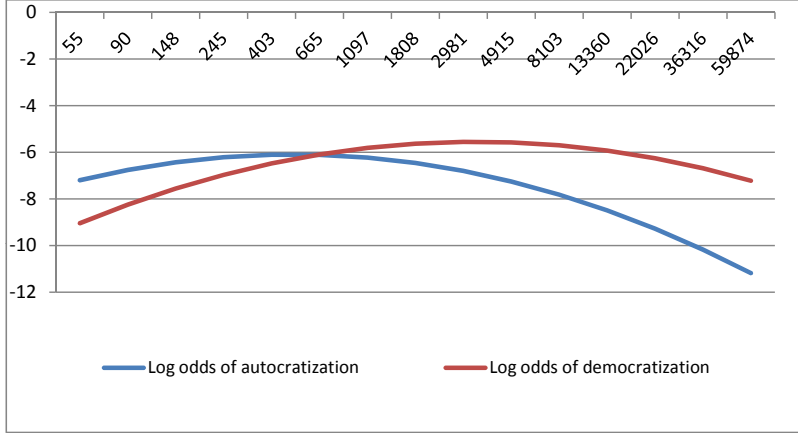

Table 3: AUCs for the three models

Outcome	Model				
	Constants	Economic	Internal	Internal-external	System shock
Democr.	0.540	0.650	0.703	0.740	0.746
	(0.522,0.557)	(0.627, 0.673)	(0.681, 0.724)	(0.717, 0.763)	(0.723, 0.769)
Autocr.	0.586	0.760	0.811	0.812	0.813
	(0.574,0.597)	(0.737, 0.782)	(0.791, 0.830)	(0.792, 0.832)	(0.793, 0.834)

Economic growth reduces the odds of change in either direction – a five-percent increase in annual growth reduces odds of autocratization by about 7% and that of democratization by about 2%.[15]

To facilitate comparison of the explanatory power of our four models, the AUCs for the four models are shown in Table 4. AUC is short for 'Area Under Curve', or more precisely the area under the Receiver Operator Curve.[16] The AUC is equal to the probability that the simulation predicts a randomly chosen positive observed instance as more probable than a randomly chosen negative one. Two AUC values are reported for each model along with estimated 95% confidence intervals for the

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[15]The growth variable is measured as difference in log GDP per capita, so that a change of 0.01 roughly corresponds to 1 percent growth.

[16]See Hosmer and Lemeshow (2000, p. 156–164) for an introduction to Receiver Operator Curves, AUC, and the related concepts of sensitivity (or True Positive Rate) and specificity (1–False Positive Rate) in the context of logistic regression.

Table 4: AUCs for the four models; Out-of-sample (50%)

Outcome	Model				
	Constants	Economic	Diffusion	Plug model	System shock
Democr.	0.583	0.640	0.663	0.715	0.720
	(0.556,0.603)	(0.606, 0.673)	(0.630, 0.696)	(0.683, 0.747)	(0.688, 0.753)
Autocr.	0.551	0.712	0.727	0.782	0.773
	(0.529,0.573)	(0.675, 0.749)	(0.690, 0.763)	(0.750, 0.814)	(0.738, 0.807)

Figure 7: Separation plots, Economic model: Democratization (top), autocratization (bottom)


AUC. In the upper row of the table, the predicted probability of democratization is compared with observed instances of change toward democracy according to our definition. In the lower row, the predicted probability of autocratization is compared to instances of change toward autocracy.

Reflecting that the estimate for GDP per capita is much larger in the autocracy equation, the economic model predicts changes toward autocracy considerably better than changes toward democracy. This is also seen in the 'separation plots' for this model shown in Figure 7 (Greenhill, Ward and Sacks, 2011). Each vertical line in the separation plots represent an observed outcome – democratization in the upper plot, autocratization in the lower. The x-axis in the plot reflects the ranking of the 10,077 country years in terms of predicted probability of the outcome – low predicted values to the left, and to the right. A larger fraction of the observed outcomes lie to the right in the lower plot, reflecting that the model has better predictive power for autocratizations.

We have argued that slowly changing factors like per-capita income are unlikely explanations of democratic waves. It took South Korea, one of the most rapidly growing economies of the 20th century, more than 70 years to grow from the poverty levels of Niger to its level today. Global economic crises might conceivably lead to wavelets, but the estimates for economic growth in the 'economic model' did not indicate a sufficiently strong effect of growth to explain the waves.

Figure 8 gives another portrait of the explanatory power of the economic model. It shows the proportion of changes toward democracy (over the 0 line) and autocracy (under the line) observed over the two centuries as dashed lines (as in Figure 3, but as a moving average in line form). It also shows, as solid lines, the predicted probabilities of change in either direction based on the economic model. Finally, the dotted line shows the net predicted change or the difference between the two predicted probabilities. If the model is a good model of democratic waves, the predicted changes should follow a pattern that resembles the observed patterns. More precisely, the predicted probabilities of changes toward democracy should be high during the democratic wave periods identified in Section 2 (1816–1920, 1940–1955, 1975–), and low during the reverse waves (1921–

Figure 8: Observed change and predicted probability of change, toward democracy or autocracy, predictions based on the economic model
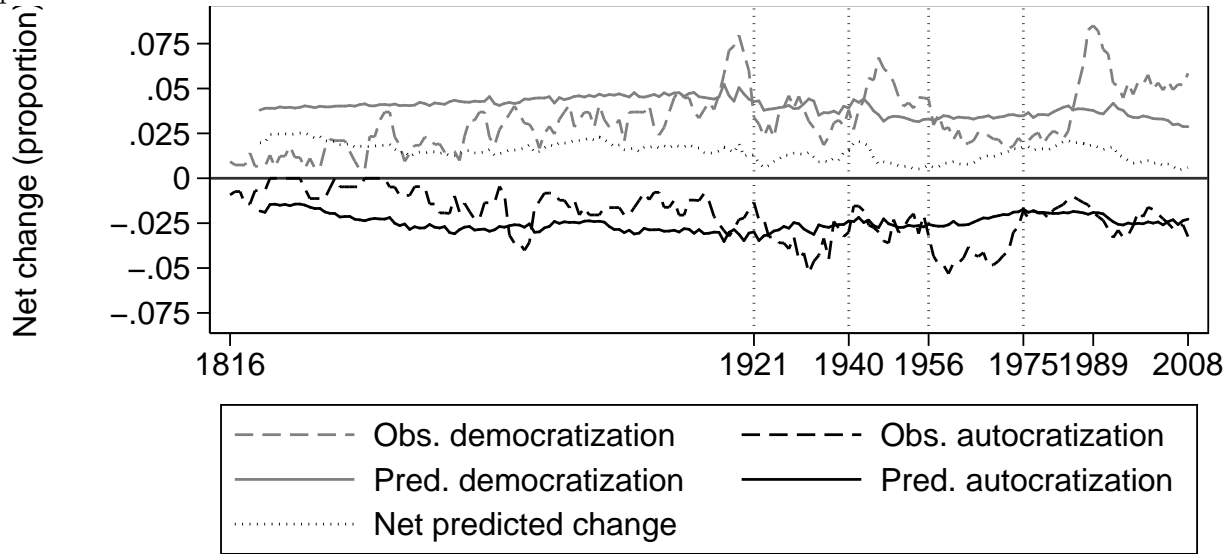
1939, 1956–1974). The converse should hold for the predicted probabilities of autocratization. The years delimiting these waves are marked with vertical lines in the figure.

The predictions from the economic model poorly reflects the observed waves. For the most part, the predicted lines are mostly flat, and do not change in unison with the observed rates of change.

6.2   The internal model

In column 2 in Table 2, we have added four terms that allow testing Propositions 4–5. The estimates for the 'SIP score' and 'SIP score squared' terms support Proposition 4. The estimated log odds of the two types of change is plotted as a function of initial SIP in Figure 9. Log odds of change toward autocracy is highest somewhat over the middle of the SIP index. Close to the upper endpoint, odds of change is only a third of this maximum. Close to the lower endpoint (but above the 'lower end'), odds of change are less than a fifth of the maximum.

The odds of change toward democracy follow a similar pattern, with a maximum at the middle of the SIP index and odds of change about a third of the maximum at democracy levels close to the end points.

Proposition 5 implies that polities that have existed for a short period are more likely to change. The estimates in Table 2 indicate that such consolidation reduce the risk of autocratization, but does not affect the risk of democratization. The combined effect of the estimates for 'Brevity of

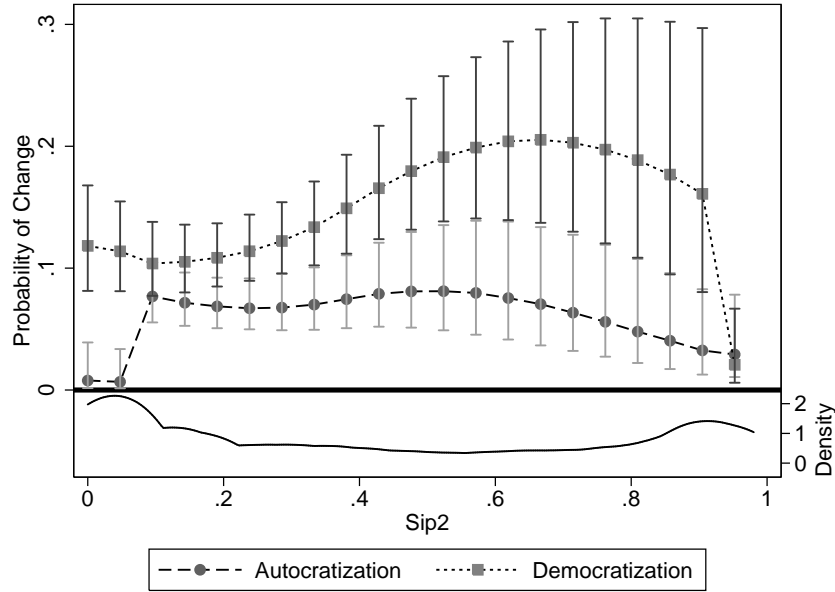Figure 9: Log odds of change, internal model: toward democracy (blue), toward autocracy (red)

Figure 10: Separation plots, Internal model: Democratization (top), autocratization (bottom)

polity, $\alpha = 16$' and 'Brevity of polity, $\alpha = 4$' in the democratization equation means that the risk of autocratization is initially high, is reduced to about half of this level after 21 years, and half of this again after 38 years. The estimates in the autocratization equation also imply that the probability of democratization is high in the first year after a change, but the effects are much smaller and vanishes more quickly.

Table 4 shows that taking the internal consistency and consolidation of regimes into account improves the in-sample predictive performance of the model considerably – from 0.65 to 0.70 for democratization, and from 0.76 to 0.81 for autocratization. The separation plot (Figure 10) also demonstrates this improvement.

We proposed that the stickiness of consistent and consolidated institutions might give rise to wavelike behavior as institutions change to more unstable configurations. Figure 11 shows that the internal model is hardly better able to reproduce the observed waves than the economic model.

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Figure 11: Observed change and predicted probability of change, toward democracy or autocracy, predictions based on the internal model
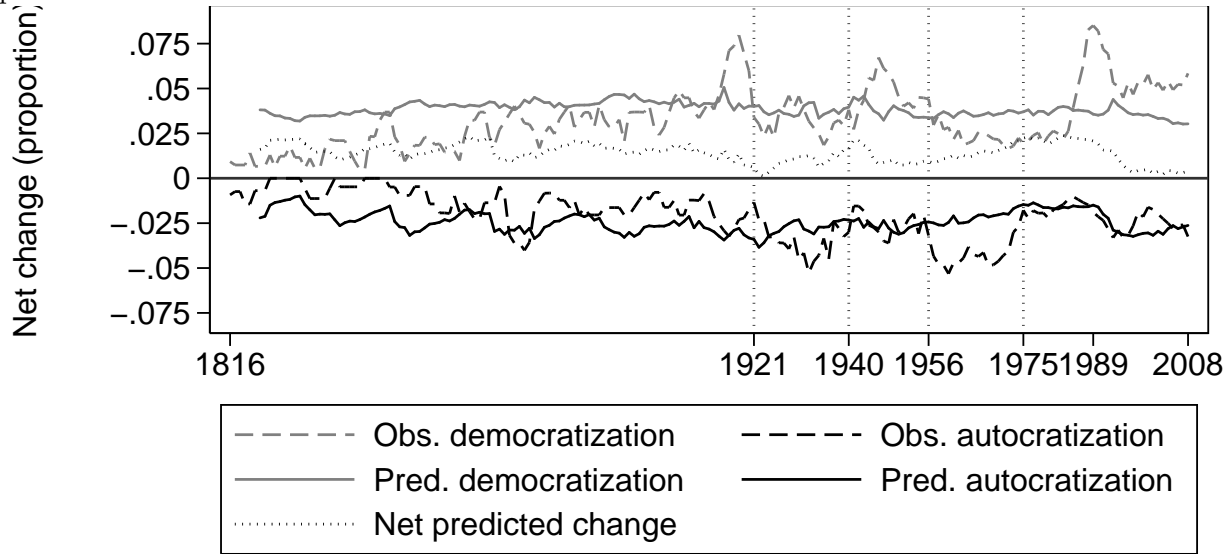
6.3 The internal-external model

In column 3 in Table 2, we also include terms capturing the 'pull' created by a difference between a country's SIP score and that of the average globally and in the neighborhood. Three of four estimates are in line with Propositions 10 and 6: In the democratization equation, the estimates for 'Global SIP pull' and 'Neighborhood SIP pull' are positive and statistically significant. If these two variables have positive values, i.e. if the world or the neighborhood is more democratic than the country in question, the probability of change toward democracy increases. In the equation for autocratization, the estimate for neighborhood pull is negative as expected: If the neighborhood is more democratic than the country, the risk of change toward autocracy decreases. The estimate for 'Global SIP pull' in the autocratization equation has the opposite sign of what we expected.[17]

The estimates for the 'Change in neighborhood' variable are positive but not statistically significant.

Table 4 show that the external influence variables greatly improves the predictive ability of the model for democratization, but does little to improve predictions for autocratizations. The separation plot for democratization (Figure 12, bottom) also shows improvement relative to the internal and economic models.

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[17]This might be due to collinearity.

Figure 12: Separation plots, Internal-external model: Democratization (top), autocratization (bottom)

Figure 13: Observed change and predicted probability of change, toward democracy or autocracy, predictions based on the internal-external model
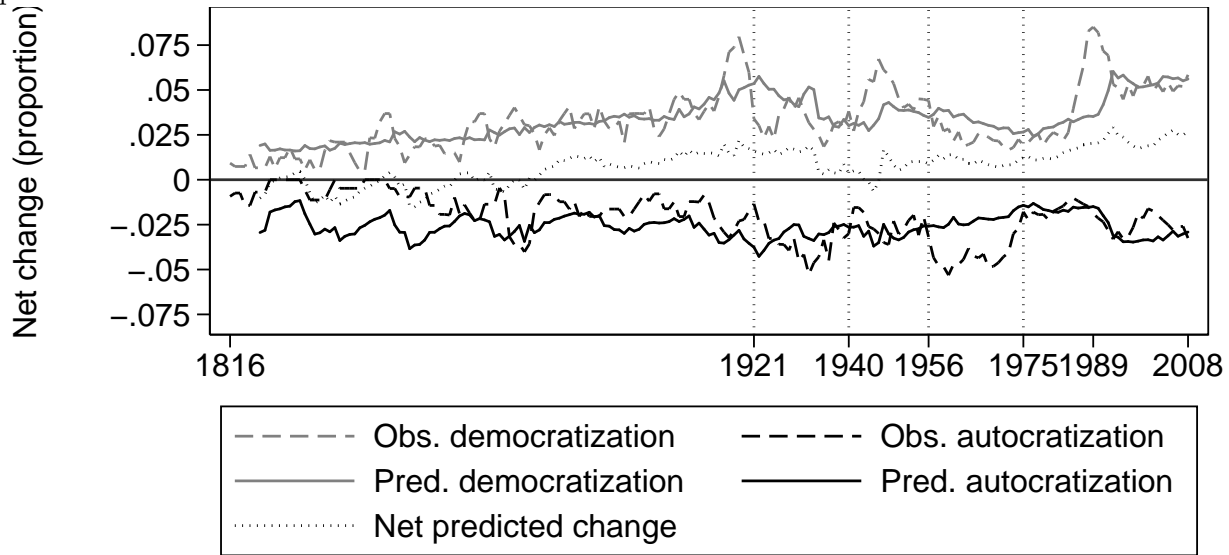

Figure 13 shows that the internal-external model is much better able to predict the wave behavior in aggregate. In particular, the average predicted probabilities of democratization follow the observed pattern quite closely, but autocratizations are harder to predict. Net predicted change reflect the wave pattern to some extent – at least the first and third wave are discernible, as is the second reverse wave.

6.4 The system-shock model

The fourth column presents results from a model where we add the system shock variables: A dummy variable denoting the periods 1914–23, 1939–48, 1960–65, and 1988–95. The estimates indicate that changes toward autocracy were particularly frequent in the second and third of these periods, whereas changes toward democracy happened more often in the first, second, and fourth period. The estimates for the second period are only borderline significant in both equations. All

Figure 14: Separation plots, Internal-external system-shock model: Democratization (top), autocratization (bottom)

Figure 15: Observed change and predicted probability of change, toward democracy or autocracy, predictions based on the system-shock model
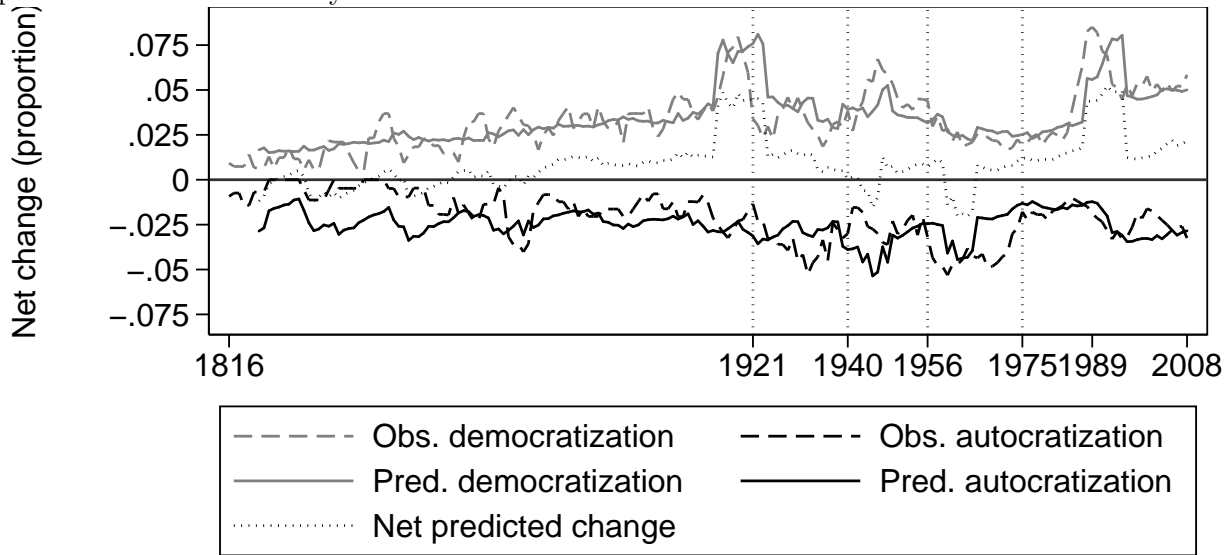
in all, Proposition 9 is well supported by the model.

The estimates for 'brevity of independence' suggest that countries that have been independent only briefly have a higher probability of change toward autocracy than their peers, and lower probability of change toward democracy. These estimates are also associated with relatively large standard errors, and only partly confirm with Proposition 11 and 13.

The AUC statistics in Table 4 indicate that the improvement in predictive ability due to the shock variables is modest, and the separation plots (Figure 14) are quite similar to those for the internal-external model.

The aggregate prediction figure based on the system-shock model (Figure 15) shows a much closer correspondence between the observed and predicted changes. This is not so strange, given that the temporal dummy variables were partly selected on the waves observed in Figure 3.

Proposition 12 cannot be evaluated on the basis of the analysis in Table 2. In Table 5, we

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Table 5: Are newborn states more democratic?

	(1) sip2	
New country	0.0983***	(3.37)
Average SIP, globally	0.0829	(0.72)
Average SIP, neighborhood	0.486***	(8.03)
Log, centered GDP per capita, t		
Log GDP per capita squared		
Economic growth, t	0.0268	(0.32)
gdpcap	0.136***	(9.06)
_cons	-0.855***	(-8.40)
N	11317	

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

present the results from a model with the democracy level (SIP score) as a dependent variable. The analysis controls for the average SIP score globally and in the neighborhood, GDP per capita in the country, and GDP growth.[18] As expected, countries are more democratic the richer they are, and the more democratic are their neighborhoods.

Controlling for this, the analysis clearly supports Proposition 12: New countries (i.e., the in their first year after independence) are considerably more democratic than predicted from the other factors. The estimate is 0.117, which is more than 10% of the range of the democracy index.

6.5 Individual predictions

Figure 16 shows the predicted probabilities of changes toward autocracy (x axis) and democracy (y axis) for the years 1950, 1965, 1989, and 2008 based on the system-shock model.

The 1950 plot, located in the middle of the second wave of democratization, shows a high probability of democratization for many countries, but also a considerable risk of autocratization. The plot for 1965, some years into the following reverse wave shows a different picture – most countries have low predicted probabilities of democratization but are at risk of autocratization. The plot for 1989 shows very high chance of democratization for many countries, in particular in South and Central America, and low risks of change in the reverse direction. In 2008, several countries are predicted to democratize, but many also to reverse previous democratizations. Notably, Syria and Pakistan have high probabilities of democratization, reflecting their middle-income status and large democratic neighbors.

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[18]The square term for GDP per capita was not significant in this model.

Figure 16: Probability of Autocratization and Democratization in 1950, 1965, 1989, and 2008
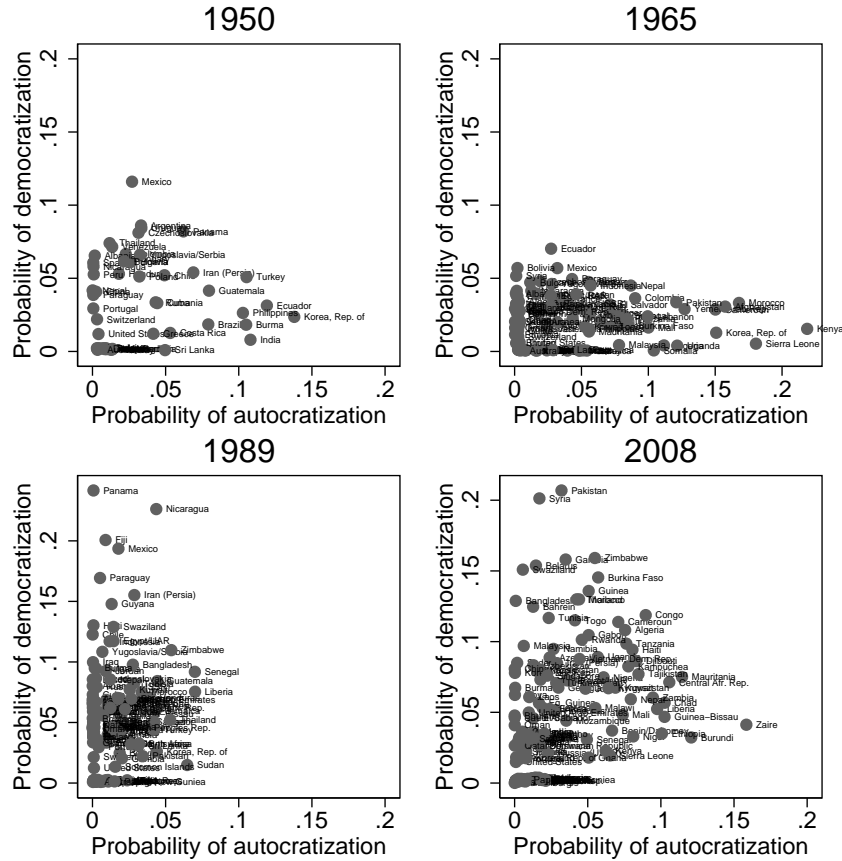
7 Conclusion

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*a*, Przeworski et al., 2000).

We are also able to say something about why waves occur. We identify three major sources of democratic waves, all of them partly fuelled by the slow impact of economic development: First, as shown in Gleditsch and Ward (2006), the neighborhood of a country and the global context exerts a forcefull pull on the setup of its political system, resulting in a clustering of changes in similar directions. Moreover, the internal consistency of institutions initially prevents change, but opens

up for series of changes as soon as this consistency is broken. Finally, newly formed states tend to be more democratic than otherwise similar states. Systemic shocks such as the two World Wars, decolonialization in the 1960s, and the fall of the Soviet Union both opened up for change in existing countries and led to the emergence of new countries. Such clustered formation of states gives rise to clustered changes to global democracy. We also find that new democracies have tended to be partly nonsustainable, so that clustered state formation creates subsequent reverse waves.

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