

**Is the Age-structural Transition Responsible for the  
Third Wave of Democratization?  
Partitioning Demography's Effects Between the *Transition to*,  
and the *Instability of*, a Liberal Regime**

Richard Cincotta<sup>1</sup>  
The Stimson Center, Washington, DC

Over the past four years, several researchers<sup>2</sup> have identified a statistically strong and methodologically robust relationship between the maturity of a *country-level population age structure* (independent variable, which has been measured by various indicators, all of which are highly correlated)<sup>3</sup> and the prevalence of a *state-level democratic regime* (the dependent variable, which also has been indicated by various measures).<sup>4</sup> Three different indications of age-structural maturity and three distinct measures of democracy were put to use in these analyses. Each combination yielded similar results. Despite the relationship's strength and robustness, a critical question remains unanswered: Which of its two dynamic components contributed most to the observed growth of liberal democracy, *democratic transition* or *democratic stability*—and by how much?

The objective of this paper is to resolve that question. Its resolution should provide insights into the theoretical dynamics that produced the empirical “third wave of democratization,” noted by Samuel Huntington, that began in the early 1970s in southern Europe, spreading then to Latin America and East Asia over a period of roughly three decades.<sup>5</sup>

### **Methods**

This paper focuses on the results of a discrete approach designed to help address this question. To estimate the age-structurally related probabilities of democratic transition and stability, states are annually aggregated into three discrete age-structural categories: *youthful* (median age  $\leq 25.0$  years); *intermediate* ( $>25.0$  to  $35.0$  years); and *mature* ( $>35.0$  to  $45.0$  years). Estimates of median age are drawn from country-level data

published by the UN Population Division (2010 Revision), with the exception of the Gulf Cooperation Council's six member states, for which median ages reflected the citizen-resident population (from unpublished data from the U.S. Census Bureau's International Program Center).<sup>6</sup> The dependent variable, *liberal democracy*, is assumed to be indicated by an assessment of "FREE" in Freedom House's annual survey of political rights and civil liberties.<sup>7</sup>

This method assumes that two effects influence the annual change in the number of states assessed as FREE: the probability of a rise ( $\rho$ ) to FREE among PARTLY FREE and NOT FREE states ( $G_N$ ), and the probability of a decline ( $\tau$ ) among FREE states ( $G_L$ ) to PARTLY FREE or NOT FREE. And, I hypothesize that the values of  $\rho$  and  $\tau$  vary with the median age of the country-level population. Thus, I propose the following model for three discrete median-age classes of states ( $i$ , where  $i=1\rightarrow 3$ ) over a range of population age structures with median ages between 15 to 45 years (the contemporary range, as of 2012) for the annual net change to the global number of FREE states,  $\Delta G_L$ , is:

$$\Delta G_L = \sum_i [\rho_i G_{Ni} - \tau_i G_{Li}]$$

Hypothesizing that this model can be generalized over time, the total number of FREE states,  $G_L$ , at year  $t+1$  will be:

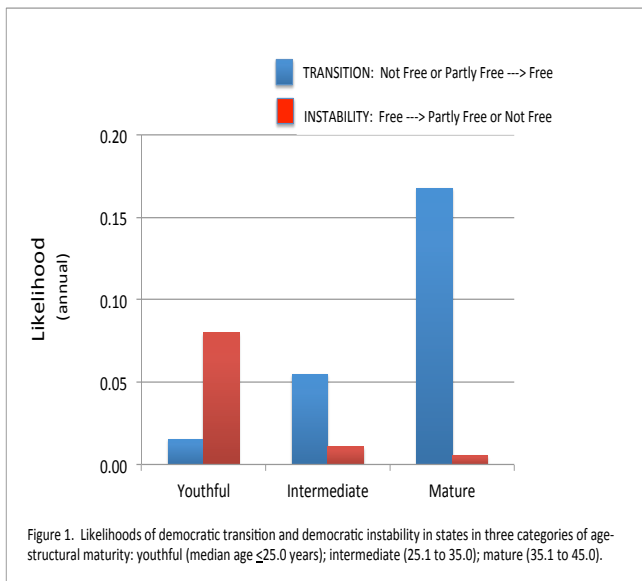
$$G_{L(t+1)} = G_{L(t)} + \sum_i [\rho_i G_{Ni} - \tau_i G_{Li}]_{(t)}$$

The probabilities,  $\rho$  and  $\tau$ , were estimated from annually observed transitions to and from FREE, from 1973 to 2012, for each of the three age-structural categories (youthful, intermediate, and mature). The means of these parameters, for each discrete category, were compared using two-tailed  $t$ -tests. The output of the discrete models for  $\Delta G_L$  and  $G_L$  were tested against annual observations from this period using linear regression to determine model goodness-of-fit using chi-square and  $r^2$ , and using these to determine for the most parsimonious, yet sufficient, model [*note: this analysis has not yet been completed*].

## Results and Discussion

Preliminary results from this analysis suggest that the mean probabilities of the parameters  $\rho$  (the probability of a transition to liberal democracy) and  $\tau$  (the probability of a decline from liberal democracy) vary significantly with the categorical increase in median age. The probability of democratic transition,  $\rho$ , *increases* with increasing median age (Fig. 1), while the likelihood of democratic decline,  $\tau$ , *decreases* with increasing median age for the range of median ages available covered by youthful, intermediate and mature categories (15 to 45 years).

There is, however, concrete reason to assume that this relationship will carry into the next category, category IV—*post-mature* age-structures, with median ages greater



than 45 years. So far, only two states—Japan and Germany—have entered this category, an insufficient number for which to include the category in an analysis. However, during the coming two decades, a substantial number of states are projected to surpass a median-age of 45 years, most of them in Europe and East Asia. These states will experience a rapidly growing proportion of seniors, and a declining

and aging workforce. For some European states currently beyond a median age of 40, sovereign debt has already become a serious fiscal issue that could spawn internal political tensions that could weaken forces maintaining democratic stability. For other aging states, democratic stability could be shaken as the proportion of immigrants grows larger and more politically and socially visible.<sup>8</sup>

Statistical comparisons showed the  $\rho$  and  $\tau$  of youthful and intermediate age-structural categories to be significantly different between ( $p_{\tau}=0.01, p_{\rho} \ll 0.01$ ), and youthful and mature categories ( $p_{\tau}=0.03, p_{\rho} \ll 0.01$ ). For intermediate and mature categories, both parameters appeared less likely to be different ( $p_{\tau}=0.12, p_{\rho}=0.38$ ). A large variance around the mature category's parameter means (both  $\rho$  and  $\tau$ ) was responsible for the lack of statistical difference. The episodic (rather than continuous) nature of recent democratic transitions among mature states (e.g., the breakup of the Soviet Union) within a relatively small pool of illiberal states (PARTLY FREE and NOT FREE) was largely responsible for the large variance.

The model suggests that both (a) the *transition* to FREE status and (b) the stability of states with FREE status are active processes. However, for the “third wave of

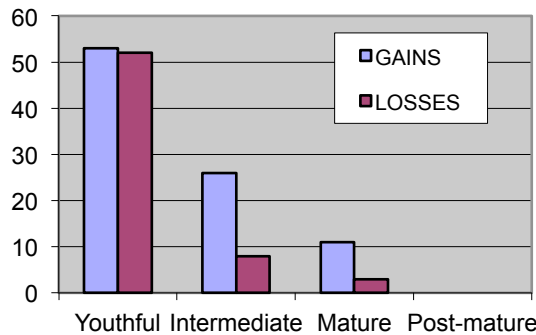


Figure 2. Gains and losses in the absolute numbers of states to the category "Free", from 1973 to 2011.

democratization,” which encompassed a period when states with youthful age structures strongly dominated the international system, I conclude that democratic stability in the intermediate and mature categories may

have been the most important factor for accumulating a large number of liberal democracies. Certainly, there was a significant number of countries that rose to liberal democracy in youthful category, but were unable to maintain that rating. During the period from 1973 to 2011, 52 states in the youthful age-structural category acquired the position as “FREE”, whereas 51 states in that category experienced the loss of that status (Fig. 2).

## End Notes

---

<sup>1</sup> Demographer-in-residence, The Stimson Center, 1111 19<sup>th</sup> St., NW, Washington, DC 20036 USA; and consulting political demographer, Woodrow Wilson Center, 1 Woodrow Wilson Plaza, Washington, DC 20004, USA. Please direct comments to: [rcincotta@stimson.org](mailto:rcincotta@stimson.org)

<sup>2</sup> Cincotta, Richard P. "How Democracies Grow Up: Countries with Too Many Young People May Not Have a Fighting Chance for Freedom." *Foreign Policy*, no. 165 (2008): 80-82; Cincotta, Richard. 2008/09. "Half a Chance: Youth Bulges and Transitions to Liberal Democracy," *Environmental Change and Security Program Report*, 13: 10-18; also see: Cincotta, Richard P., and John Doces. "The Age-Structural Maturity Thesis: The Youth Bulge's Influence on the Advent and Stability of Liberal Democracy." In *Political Demography: How Population Changes Are Reshaping International Security and National Politics*, edited by Jack A. Goldstone, Eric Kaufmann and Monica Duffy Toft, 98-116. Oxford: Oxford University Press, 2012; Weber, Hannes. 2012. "Demography and Democracy: the Impact of Youth Cohort Size on Democratic Stability in the World." *Democratization*, iFirst (1-23); Dyson, Timothy. 2012. "On the Democratic and Demographic Transitions." Pp. 19. London: London School of Economics.

<sup>3</sup> Measures of age-structural maturity that have been used as an independent variable to discern this relationship include: the young-adult proportion (YA), which is equal to the proportion of young adults, aged 15 to 29 years, in the working-age population (used by Cincotta, 2008; 2008/09; Cincotta and Doces, 2012); the youth bulge proportion (YB), which is equal to the proportion of young adults, aged 15 to 24, in the adult population, aged 15 and over (used by Weber 2012); and the median age (MA), the age of the person for whom precisely 50 percent of the population is younger (used by Dyson, 2012). This essay uses the median age.

<sup>4</sup> Three measures have been used to define, at various levels, a democratic regime: Freedom House's assessment of FREE to indicate a liberal democracy (a very high level of political rights and civil liberties, used by Cincotta, 2008, 2008/09); high levels of the Polity IV "polity scores" (+8 to +10) to indicate a similarly high level of democracy, or liberal democracy (used by Cincotta and Doces, 2012). Weber used AID Scores, \$, (used by Dyson, 2012).

<sup>5</sup> Huntington, Samuel P. (1991). *The Third Wave: Democratization in the Late Twentieth Century*. Norman, Okla.: University of Oklahoma Press.

<sup>6</sup> Median ages were, with six exceptions, obtained from the UN Population Division. *Population Prospects, the 2010 Revision*. New York: United Nations, Economic and Social Affairs, 2011. The six exceptions were the GCC states: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. For these states, the median age was calculated from the population of citizen-residents, disregarding large proportions of resident labor migrants.

<sup>7</sup> Freedom House. 2012. *Freedom in the World, 2012*. New York, Freedom House. *Note*: Freedom House has annually assessed each country and territory of the world since 1972. Freedom status is derived from the average of scores for political rights (PR) and civil liberties (CL) assessed in Freedom House's annual survey. Both PR and CL are scored from 1 to 7, the score of 1 representing the highest level of freedom. The average of PR and CL scores, which range from 1.0 to 7.0, are divided into three categories: Free (1.0 to 2.5); Partly Free (3.0 to 5.0); and Not Free (5.5 to 7.0).

<sup>8</sup> Cincotta, Richard. "The Beginning of History: Advanced Aging and the Liberalness of Democracy." GT2030 Blog, Washington, DC: National Intelligence Council (Aug. 1, 2012). <http://www.gt2030.com>