# A Comprehensive Test of Insurance Theory

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Abstract

A leading theory to explain the origin of judicial independence posits that regimes empower independent courts as a form of insurance when they are eventually ousted from power. Despite the prevalence of this theory, it has rarely been tested cross-nationally. Using 21 different indicators of electoral competition and examining 207 countries over 30 years, we find substantively important evidence that levels of *de facto* judicial independence vary based upon levels of electoral competition. Our results therefore provide robust evidence in support of insurance-based explanations of judicial independence.

*We thank . . . for their comments. All data files necessary to replicate the analysis presented in the article will be publicly available upon publication at dataverse repositories maintained by the authors.

## Introduction

Determining the causes and consequences of judicial independence has been a major project of comparative judicial politics scholarship for decades. The most prominent current theory of judicial independence is Insurance Theory (Landes and Posner, 1975; Ginsburg, 2003). The theory suggests "that judicial independence relies on the extent to which those politicians currently in power expect to lose office in the future. Leaders have strong incentives to empower the courts with greater levels of independence when they are threatened politically or when they believe that they will no longer remain in power" (Randazzo, Gibler and Reid, 2016, 2). Because they fear that they will need to be protected from their successors' possible overreach, rulers empower independent courts. The theory suggests increased electoral competition should be positively associated with increased judicial independence.

Surprisingly, Insurance Theory has rarely been tested cross-nationally (but see Aydin, 2013; Randazzo, Gibler and Reid, 2016). We bring new empirical evidence to bear on the central empirical implication of this leading theory of judicial independence. Using 21 different indicators of electoral competition and examining 207 countries over 30 years, we find robust and substantively important evidence that levels of *de facto* judicial independence vary based upon regime tenure.[1] Our results, the largest and most comprehensive empirical evaluation of this major theory of judicial independence, provide strong support for the general explanatory power of Insurance Theory.

## Theory

Initially, the choices of regimes to empower independent courts seem irrational because such courts can stymie a regime's ability to enact and implement its chosen policies. Yet, an independent court can also be advantageous for regimes because it can protect the regime's

[1]We examine both democracies and nondemocracies. For careful empirical work that examines Insurance Theory in exclusively nondemocracies, see Epperly (2016).

policies when that regime is out of power. This latter intuition lies at the heart of Insurance Theory. Drawing on insights from Landes and Posner (1975), Ginsburg (2003) explained the adoption of judicial review as a form of longer-term security. The theory posits that regimes allow independent courts because those independent courts can protect regimes when they are out of office. Of course, not all regimes are equally concerned about needing this type of assurance; the need for protection by an independent court should be positively associated with the probability that the regime will be ousted. As a result, the central empirical implication of Insurance Theory is a positive relationship between the likelihood the regime will lose office and judicial independence.

*Electoral competition* reflects the likelihood a regime will lose office. The concept has been measured in a variety of ways. In the American states, the most common measure of electoral competition, the Holbrook-Van Dunk Index (Holbrook and Dunk, 1993) is a composite of vote share, vote margin, and the number of marginal seats over the past $t$ state-years. This concept is harder to measures outside of the United States's rigid two party system and strong democratic norms. In more recent work, Hyde and Marinov (2012) conceptualize electoral competition as "those elections which can be lost," suggesting that competitive elections allow opposition, allow multiple parties, and feature multiple candidates. Thus, existing approaches to measure the concept use a variety of indicators to assess the extent to which a country's elections are competitive at a given point in time.

Despite the theoretical appeal of Insurance Theory, empirical support for the theory has been mixed. For example, Popova (2010) argues that electoral competition has actually retarded the development of judicial independence in Russia. Randazzo, Gibler and Reid (2016) suggest that the incentives of leaders differ by regime type and by levels of electoral competition, finding that the size of a country's winning coalition, level of ethnic fractionalization, and level of political competition have differing effects on judicial independence across regime types. Aydin (2013) presents similar results, showing that the effect of electoral competition on judicial independence is conditional upon regime type.

However, these existing examinations have been limited by data availability, in their failure to use recent or multiple measures of electoral competition, and, in many cases, their focus on single countries. Thus, we take the opportunity to test the key empirical implication of Insurance Theory relying on a suite of recent measures of electoral competition. Our approach does not privilege any single metric of electoral competition, relying instead on 21 separate indicators, enabling us to assess the theory's performance across a variety of reasonable operationalizations. To reiterate, our central guiding hypothesis is that *increased electoral competition is associated with increased judicial independence*.

## Research Design and Results

To test our theoretical expectations, we use a panel dataset that includes 5987 observations, covering 207 countries from $1981 - 2011$.[2] This represents the largest dataset yet used to test Insurance Theory.[3] This is important because data limitations, including missingness on key variables (Lall, 2016), may have limited prior empirical tests of the theory.

We measure *de facto* judicial independence using Linzer and Staton's (2015) latent variable measure, which ranges from $0 - 1$.[4] This measure is preferred over others because it (1) contains less bias, (2) is continuous instead of ordinal, and (3) provides researchers with a way to account for the fact that judicial independence can only be observed with uncertainty.

For our primary independent variable, we use 21 existing measures of electoral competitiveness. Similar to *de facto* judicial independence, we only observe this threat indirectly

[2]Our results are not sensitive to our data's temporal domain. They are substantively similar if we estimate our model using only country-year observations either prior to or after 1991.

[3]In comparison, Randazzo, Gibler and Reid (2016)'s data includes 4233 observations, which span 145 countries from $1960 - 2000$.

[4]Once we take into account uncertainty, the variable includes values on either side of this interval. This means that it is appropriate to use OLS. Our results, however, are robust to using the point estimates from the measure and estimating beta regressions.

and with uncertainty. Moreover, as discussed above, existing attempts to measure the concept rely upon a variety of different indicators to account for the various institutional and behavioral underpinnings of the concept. We therefore use 21 different indicators of the concept to assess the concept as broadly as possible. Most of our electoral competition indicators come from the recently released Varieties of Democracy Project (Coppedge et al., 2016).[5] The variables cover many institutional and behavioral features related to electoral competitiveness — suffrage, electoral integrity, political pluralism, party institutionalization. A correlation plot, presented in Appendix A, shows that 394 of the 420 pairwise correlations between these measures are positive.

We include several control variables that are plausibly related to both *de facto* judicial independence and electoral competitiveness. These measures include GDP (PER CAPITA), POPULATION, and binary indicators for INTERSTATE CONFLICT, INTRASTATE CONFLICT, and DEMOCRACY. Importantly, our measure of democracy classifies country-years based on whether regimes meet four important election-related criteria.[6] These criteria, however, are not exhaustive of all the ways in which a country's electoral landscape might differ and our slate of 21 indicators of electoral competition tap many of these other dimensions.[7] While

[5]There are many measures of electoral competitiveness. In order to ensure that our results are not specific to the indicators from one data project, we use VDem and non-VDem measures of electoral competitiveness. We find no clear differences in the estimated effect of competitiveness between the two subsets of indicators. We weakly prefer the VDem measures to others, such as those created by Hyde and Marinov (2012), because the measures offer a principled way to take into account measurement uncertainty.

[6]The criteria are: (1) the chief executive must be chosen by popular election or by a popularly elected body; (2) the legislature must be popularly elected; (3) there must be more than one party competing in the elections; and (4) an alternation in power under electoral rules identical to the ones that brought the incumbent to office must have taken place.

[7]Indeed, our measures of electoral competitiveness vary both across *and* within regime types.

we could use a different measure of democracy (e.g. Marshall and Jaggers, 2010), our aim is to conduct a conservative test of Insurance Theory. If, even including this measure, we find a correlation between *de facto* judicial independence and electoral competitiveness, we will have strong evidence for a possible relationship between these factors.

One possible concern, however, is that increased *de facto* judicial independence and electoral competitiveness might both be the result some trend within regimes, such as liberalization. We address this by including a measure of Regime Duration in our model. This allows us to rule out the possibility that any observed relationship between these two factors is the result of unobserved temporal trends within regimes (Wooldridge, 2010). To account for unobserved differences across countries, we include country fixed effects. We control for common shocks felt across all countries by including year fixed effects.

We address missingness in our variables through multiple imputation.[8] We lag all variable to minimize simultaneity bias and the possibility that our controls are measured post-treatment. Appendix B presents our variable names as the appear in the underlying data, descriptions of our data, data sources, and summary statistics.

Since our outcome measure is continuous, we test our hypothesis using ordinary least squares regression. The full model specification is shown in Eq. (1).

$$\begin{aligned}\text{De Facto Judicial Independence} = {} & \beta_0 + \beta_1 \,\text{Electoral Competitiveness}_{\,t-1} + \beta_2 \,\text{Democracy}_{\,t-1} \\ & + \beta_3 \,\text{GDP(per capita)}_{\,t-1} + \beta_4 \,\text{Population}_{\,t-1} \\ & + \beta_5 \,\text{Intrastate Conflict}_{\,t-1} + \beta_6 \,\text{Interstate Conflict}_{\,t-1} \\ & + \beta_7 \,\text{Regime Duration}_{\,t-1} + \text{Country Fixed Effects} \\ & + \text{Year Fixed Effects} + \epsilon \end{aligned} \tag{1}$$

Our outcome measure and several of our independent variables are latent variables that are estimated with uncertainty (Crabtree and Fariss, 2015). We therefore create 1000

[8]Since there is considerable missingness for some of our indicators, we take a conservative approach and impute 100 data sets. This helps ensure that we calculate accurate and stable coefficient estimates and standard errors (Lall, 2016).

datasets and assign a random draw from the posterior distribution of the latent variable for a country-year to each country-year observation (Schnakenberg and Fariss, 2014); this is the outcome measure in our OLS models. We combine the results from these models to create one vector of coefficient and standard error estimates.

We cluster standard errors by country. This is because we have multiple observations for each unit over time and therefore might be concerned about autocorrelation (Wooldridge, 2010).[9] This approach also allows us to account for heteroskedasticity in the error term. One final concern with our research design is that we are estimating many different models (one for each measure of electoral competitiveness) and are therefore more likely to find a positive result by sheer chance. We account for this by adjusting our $p$-values using the Benjamini-Hochberg multiple testing correction.

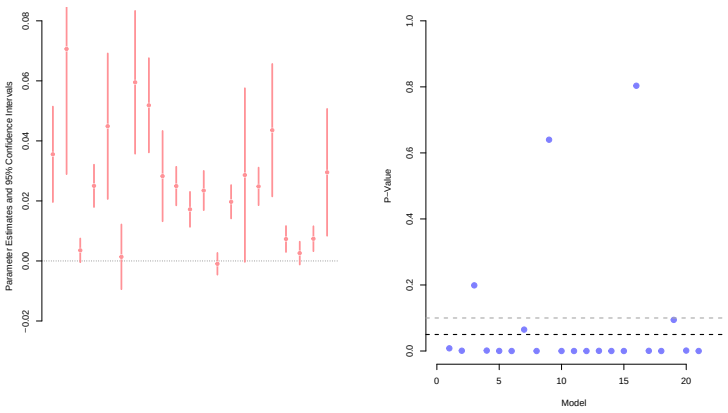
Figure 1 presents the results of our models and Appendix C contains the tabular results. The left panel plots the estimated coefficients and 95 percent confidence intervals for the electoral competitiveness measures. The dotted gray line denotes 0. As expected, the coefficient is positively signed across all models. The right panel plots the adjusted $p$-values for the coefficients of the various electoral competitiveness measures. The dashed gray line denotes $p = 0.10$ and the dashed black line denotes $p = 0.05$. It shows that the electoral competitiveness measures is statistically significant at the $p < 0.05$ level in 16 of 21 specifications.[10] These plots provide strong evidence for Insurance Theory.

The estimated effect of electoral competition is substantively meaningful. While we do not interpret all the coefficients here, we note that an increase in our measures of electoral

[9] A lagged dependent variable is an alternative approach, but Angrist and Pischke (2008) show that this can cause serious bias in a fixed effects specification. If we include a lagged dependent variable but exclude the fixed effects, our results hold.

[10] Perhaps, however, our adjusted $p$-values are not conservative enough. To deal with this objection, we adjust the original values using the Bonferroni correction. 15 of the 21 coefficients are still statistically significant at the $p < 0.05$ level.

Figure 1: Tests of Insurance Theory




*Note*: Figure 1 presents the relationship between *de facto* judicial independence and electoral competitiveness. The left panel plots the estimated coefficients and 95 percent confidence intervals for the electoral competitiveness measures. The dotted gray line denotes 0. The right panel plots the adjusted $p$-values for the coefficients of the electoral competitiveness measures. The dashed gray line denotes $p = 0.10$ and the dashed black line denotes $p = 0.05$. Coefficient estimates and $p$-values are presented in alphabetical order by the name of the variable. See Appendix B for variable names.

competition from the 25 percentile to the 75 percentile is associated with a mean 0.11 increase in *de facto* judicial independence. This is equivalent to a $\frac{1}{3}$ standard deviation change in the outcome measure. To put this into context, it is approximately the change in *de facto* judicial independence that was observed in South Africa from 1994–2000. This period is when the African National Congress defeated the apartheid regime in an electoral revolution and initiated a series of dramatic judicial reforms that included the desegregation of the courts, the construction of a Constitutional Court, judicial appointment reforms, and new training and accountability programs to protect human rights (Gordon and Bruce, 2007).

## Sensitivity Checks

To examine whether these results are robust to different research design strategies, we conduct a series of sensitivity checks. One potential issue is that our results might be dependent upon our estimates of uncertainty around the coefficients. We check our results with classic

standard errors. A second objection might be that our number of countries is too small for the large-sample properties of our fixed effects models to hold. We address this by using first difference estimators (Wooldridge, 2010). A third concern might be that the lags may be inappropriate, particularly for our control variables. To account for this, we re-estimate our models with independent variables that are not lagged. Our findings hold across all these additional tests. Appendix D contains a plot of the adjusted $p$-values from these models.

## An Extension

One might imagine that the effect of electoral competition varies across regime types (Randazzo, Gibler and Reid, 2016). To test this, we interacted the electoral competition measure in each model with our measure of Democracy and re-estimated our models. The interaction term was not significant in any of the 21 models. Appendix E plots the adjusted $p$-values from these models. Contra to Randazzo, Gibler and Reid (2016), but in line with Epperly (2016), there is little evidence then that the relationship between increased electoral threat and increased *de facto* judicial independence is conditioned by regime type.

## Discussion

We have provided the most systematic test of Insurance Theory, finding robust evidence that executives respond to increased risks of leaving office by empowering courts. Our results are robust to many different operationalizations of this risk. They also hold across a range of model specifications. In addition to providing strong empirical support for Insurance Theory, we also show that the effect of stronger electoral competition does not vary across regime types. This suggests that the strategic calculus of leaders in democracies and authoritarian regimes is much the same in this instance. In the face of an uncertain political future, executives hedge their bets and encourage independent judicial decisions.

Scholars can build upon our findings by specifying both theoretically and empirically the dimensions of electoral competitions (voting, party competition, etc.) to which leaders

react. Our results show that competition on some dimensions appears to matter more than others. Researchers could also examine the extent to which Insurance Theory travels to other institutions, such as the security services, the military, or any others that could be used threaten or punish electorally defeated leaders. Similarly, researchers might want to see if leaders who operate in the shadow of possible defeat are more likely to adopt international treaties that bind future regimes. While prior work has focused on how domestic threats to future political power influence executive constraints on the court, future work might also consider the potential influence of international threats, such as the potential of foreign removal, on leader action. Finally, while Insurance Theory offers a compelling explanation about why leaders empower courts, and though our empirical tests should increase confidence in the theory, researchers still have a long way to go before fully understanding the link between executive fears over the future and judicial independence.

## References


Angrist, Joshua D and Jörn-Steffen Pischke. 2008. *Mostly harmless econometrics: An empiricist's companion*. Princeton, NJ: Princeton University Press.

Aydin, Aylin. 2013. "Judicial Independence across Democratic Regimes: Understanding the Varying Impact of Political Competition." *Law & Society Review* 47(1):105–134.

Coppedge, Michael, John Gerring, Staffan I Lindberg, Jan Teorell, David Altman, Michael Bernhard, M Steven Fish, Adam Glynn, Allen Hicken, Carl Henrik Knutsen et al. 2016. "Varieties of Democracy: Codebook v6." *Varieties of Democracy (V-Dem) Project* .

Crabtree, Charles and Christopher J. Fariss. 2015. "Uncovering Patterns Among Latent Variables: Human Rights and De Facto Judicial Independence." *Research and Politics* 2(3):1–9.

Epperly, Brad. 2016. "Political competition and de facto judicial independence in nondemocracies." *European Journal of Political Research* Forthcoming. doi: 10.1111/1475-6765.12186.

Ginsburg, Tom. 2003. *Judicial Review in New Democracies: Constitutional Courts in Asian Cases*. Cambridge, UK: Cambridge University Press.

Gordon, Amy and David Bruce. 2007. *Transformation and the independence of the judiciary in South Africa*. Centre for the Study of Violence and Reconciliation.

Holbrook, Thomas M. and Emily Van Dunk. 1993. "Electoral Competition in the American States." *American Political Science Review* 87(4):995–962.

Hyde, Susan and Nikolay Marinov. 2012. "Which Elections Can Be Lost." *Political Analysis* 20:191–210.

Lall, Ranjit. 2016. "How multiple imputation makes a difference." *Political Analysis* 24(4):414–433.

Landes, William M. and Richard A. Posner. 1975. "The Independent Judiciary in Interest-Group Perspective." *The Journal of Law and Economics* 18(3):875–901.

Linzer, Drew A and Jeffrey K Staton. 2015. "Global Measure of Judicial Independence, 1948–2012." *Journal of Law and Courts* 3(2):223–256.

Marshall, Monty G. and Keith Jaggers. 2010. "Polity IV Project: Political Regime Characteristics and Transitions, 1800-2010." Available at `http://www.systemicpeace.org/polity/polity4.htm`.

Popova, Maria. 2010. "Political Competition as an Obstacle to Judicial Independence: Evidence from Russia and Ukraine." *Comparative Political Studies* 43(10):1202–1229.

Randazzo, Kirk, Douglas M Gibler and Rebecca Reid. 2016. "Examining the Development of Judicial Independence." *Political Research Quarterly* 69(3):583–593.

Schnakenberg, Keith E and Christopher J Fariss. 2014. "Dynamic Patterns of Human Rights Practices." *Political Science Research and Methods* 2(1):1–31.

Wooldridge, Jeffrey M. 2010. *Econometric Analysis of Cross-Sectional and Panel Data*. 2nd edition ed. MIT Press.