Moving the Unmoved Mover?:
The Origins and Limitations of Systematic Individual-Level Change in Party Identification

Abstract

Political scientists have long disagreed about the nature of individual-level change in party identification (PID). While some scholars conclude that PID is a stable identity—attributing changes in individual responses to measurement error—others show that aggregate PID responds systematically to short-term forces such as presidential approval. In this article, we use a unique long-term panel measuring PID twelve times in the 2011-2013 period to support a subtle compromise between these competing claims. We show that individual-level PID changes systematically over time even after accounting for measurement error and that this change is related to short-term evaluations of the parties and the president. However, although such change exists, it is modest in the medium term and more common among specific subsets of respondents. We believe that our analysis provides the most systematic examination to date of individual-level changes in PID.

1. INTRODUCTION

The nature of party identification is the subject of one of the longest running debates in the study of American political behavior. The argument that party identification is a *stable*, social psychological, affective phenomenon is a central feature of *The American Voter* and the Michigan school of political behavior (Campbell et al. 1960). In contrast stands the theoretical account developed by Fiorina (1981) that party identification is a dynamic cognitive phenomenon—a running tally of net party evaluations—that is readily influenced by short-term political forces.

In this article, we argue that, while party identification (PID) remains a critical attitude and is remarkably stable and persistent for many voters, it is not the ''unmoved mover'' as characterized in *The American Voter*, with meaningful changes occurring only during periods of political instability (i.e., ''realighments''). Neither, however, is PID a simple affective tally, fluctuating fluidly in response to every political event. Instead, we argue that PID changes at the margins in response to short-term political forces, but that this change is gradual and to a certain degree restricted to individuals whose identification with the parties is less entrenched. That is, PID is a reflection of individuals' evaluations of the political

environment and changes meaningfully even during periods of normal politics. That said, individual-level changes in PID are neither rapid nor universal.

To support this claim, we use The American Panel Study (TAPS), which asked the standard PID battery 12 times over the course of three years. A panel interviewed on such a frequent basis over such a long period of time provides an unprecedented look at PID. Moreover, TAPS included monthly questions evaluating the parties, presidential job performance, and views on the state of the economy, which allowed an assessment of the relationship between moving political evaluations and PID. In all, these data give us a fresh and powerful basis for evaluating the central arguments about the nature of PID change.

We make three claims that support a subtle compromise between the PID-as-stable-identity and PID-as-running-tally camps. First, we find that PID changes systematically at the individual level even after accounting for measurement error and autocorrelation. This finding directly contradicts several previous accounts—most notably, Green and Palmquist (1990)—that treat individual-level changes in PID as artifacts of the survey process. Second, we find that individual-level shifts in PID are associated with individuals' differential evaluations of the two major parties and appraisals of the president. Third, despite the clear evidence of systematic change in individual-level identification, PID remains unchanged for most Americans during the period under study. We therefore characterize the amount of change we observe in this period and identify factors, including the strength of early life familial socialization, that distinguish individuals whose identities do not shift from those whose identities exhibited change during the 2011—2013 period.

2. COMPETING VIEWS OF PARTY IDENTIFICATION

First elucidated in the early studies of the Columbia School in the 1940s, the social psychological concept of PID became a cornerstone of our understanding of electoral behavior (e.g., Lazarsfeld, Berelson and Gaudet 1944). Scholars placed PID in the same category as other identities known to bias perceptions of the social world. In this PID-as-stable-identity view, early life experience, internalized through familial socialization, has a lasting effect on

the political attitudes of many, if not most, people (Hyman 1959; Mannheim 1952). This understanding was extended in *The American Voter*, which treats PID as an indicator of a psychological attachment—a social identity—that is internalized; serves as a perceptual screen that shapes the processing of information about candidates, issues, and events; and is reinforced by other social identities. Critically, PID occurs early in the funnel of causality that leads from individual-level traits to vote choice (Campbell et al. 1960). This process generates a ''persistent adherence'' to a party that, while not immutable, produces substantial stability in partisan preferences over a lifetime.

In contrast stand theories that treat responses to PID as a measure of individuals' current evaluations of the parties, an evaluation that is responsive to the flow of political events and reflects changing views of the two major parties. In this PID-as-running-tally view, first fully developed by Fiorina (1981) but which has origins in Downs (1957) and Key (1966), PID is readily influenced by short-term political forces that an individual evaluates. PID may change with respondents' net evaluations of the two major parties, views of the economy, and views of the president. Thus, PID constitutes a running tally of partisan evaluations based on contemporary political information. That is, PID represents the outcome of a Bayesian learning process wherein citizens update their prior attitudes about the parties in light of recent political events (Achen 1992).

2.1. *Testing theories of party identification*

The literature on PID change is vast, and supporters of both accounts have drawn on a wide array of data sources for support. For instance, the PID-as-running-tally account relies heavily on time-series analyses. Aggregate data suggests that PID at the national level moves systematically in response to events such as recessions and wars (MacKuen, Erikson and Stimson 1989). Economic performance, consumer sentiment, and exogenous events like the attacks on September 11, 2001, all predict changes in aggregate-level PID, which strongly suggests (but does not prove) that systematic change at the individual level exists as well.

On the other hand, the transmission of PID as a social identity through early familial

socialization[1] is given solid confirmation in the Niemi and Jennings studies (e.g., Jennings and Niemi 1981), which measure PID of both parents and children in interviews conducted in 1965, 1973, 1982, and 1997 to capture three generations of evolution. These studies directly confirm that PID is transmitted from generation to generation, although this transmission is imperfect. Specifically, the parent-child match weakens after the late teenage years and is stronger for families more engaged in politics and with parents who exhibit the greatest stability in PID.

Evidence from ANES panel studies: These studies notwithstanding, however, the most common way that the stable-identity and running-tally accounts have been evaluated is to compare responses for individuals over the waves of various American National Election Survey (ANES) panel surveys. The ANES panels in 1956-1960 (three waves), 1972-1976 (three waves), 1980 (four waves), 1992-1996 (four waves), and 2002-2004 (three waves) provide the data for almost all studies of individual-level PID change in the United States. Stable PID on the three basic categories (Republican, Independent, and Democrat) occurs for between 41 and 58 percent of panelists, with nearly all of the ''switching'' occurring between a party category and one of the independent categories and back (Clarke and McCutcheon 2009). Fiorina (1981) interpreted these patterns as demonstrating that PID is quite unstable and, therefore, that the ANES battery is measuring moving evaluations of the parties rather than a deeply held identity (see also Jackson 1975; Allsop and Weisberg 1988; Franklin 1992; Jackson and Kollman 2011).

In contrast stand the studies summarized in Green, Palmquist and Schickler (2002). They

[1]Identity accounts emphasize early life experience, particularly the parents' influence, and we focus on this form of socialization. However, it is worth noting that subsequent social experience can shape identity (see Sinclair 2012, 116-146). However, we leave explorations of how changing social contexts may affect PID for future research, and emphasize that the our results focus on early familial socialization.

share the view of Converse and Pierce (1985) that PID is a stable self-identity and that this stability is central to the understanding of partisanship. Further, they insist that survey responses involve a random component, which, left uncorrected, may lead to an inference that PID is more variable than it really is. Green and Palmquist (1990) show that uncorrected wave-to-wave correlations for the 1980 ANES panel range from 0.85 to 0.89, which may imply some change in party identities over the span of a few months, but error-corrected correlations are larger than 0.98, which implies only a trace of change. The difference between uncorrected and corrected estimates is large enough to affect inferences about the effects of short-term political forces on PID; the small effects of some short-term forces evaporate when estimates are corrected for measurement error.

Green and Palmquist (1994) extend this argument to the other ANES panels, but, noting that the balance of Democrats and Republicans changes over time in the aggregate (MacKuen, Erikson and Stimson 1992), they concede that shifts in PID may occur. They propose that some political forces may alter the aggregate balance by shifting nearly everyone up or down the seven-point partisan scale, thus changing mean partisanship without significantly changing the rank order among respondents. Yet, their central argument remains that "only when measurement error is ignored does one obtain results that micropartisanship [individual-level PID] moves in response to short-run political conditions" (Green and Palmquist 1994, 457), a claim echoed in later reports (e.g., Green, Palmquist and Schickler 2002, 69).[2]

More recent studies have kept the debate alive. Clarke and McCutcheon (2009) estimate mixed Markov latent class models and find substantial variation in latent PID in the multi-

[2]It would be inaccurate to characterize this set of findings as supporting the notion that PID never, under any circumstances, changes (e.g., Gerber 1998, 896). However, we believe it is fair to characterize these findings as supporting a more traditional view of PID that is unresponsive to all but the most dramatic and sustained forms of political stimuli (e.g., the realignment of the South in the civil rights era) rather than gradually responsive to the kinds of everyday political stimuli we explore here.

wave ANES panels. For the U.S., about half of respondents remained in the ''mover'' group. Dancey and Goren (2010) find that media coverage of intense issue debates that divide elite partisans can lead at least some Americans to update both partisan and issue preferences. Bartels et al. (2011) offer another approach by focusing on whether change in PID persists and whether that change is conditioned by a set of factors measured in the ANES studies. With a random effects multinomial logit model of the 1992-1996 panel, they find that older changers tend to exhibit persistence in their new partisanship more than younger changers, and changes in partisanship are often followed by a reversion to previous partisanship.[3]

Why does change occur?: A related, but separate, issue addressed in the literature is the factors that produce a change in partisan identification. As noted above, Green, Palmquist and Schickler (2002) argue that PID is almost entirely unaffected by all but the most dramatic and sustained political stimuli. In contrast, Fiorina (1981) emphasized that identification reflects a running tally of affective associations with each party that may reflect evaluations of recent political events. In this vein, Erikson, MacKuen and Stimson (2002) specifically emphasize the role of economic performance in shaping views of the two parties, with good economic news increasing support for the president's party.

Other studies have emphasized the effect of presidential job approval on PID. For instance, Jacobson (2012) demonstrated the connection between aggregate partisanship and presidential

[3]In finding a substantial volume of reversion to initial PID, Bartels et al. (2011) introduce an important qualification on standard running-tally accounts, which ignore reversion. It is plain that in the three- or four-wave ANES panels, change from Democrat to Republican or Republican to Democrat seldom occurs. The truncated pattern led Zuckerman and colleagues (e.g., Zuckerman, Dasovic and Fitzgerald 2007) to coin the term ''bounded partisanship'' to describe the pattern observed in non-American contexts. PID may limit adoption of an alternative identity and yet still not be strong enough to prevent dissatisfaction with a party to lead some to temporarily abandon partisanship.

approval in recent presidencies (Clinton, G.W. Bush, Obama), while Ghitza and Gelman (2014) demonstrate that presidential approval affects PID quite strongly in the formative years (late teens, early twenties). Both studies make the argument that presidential job approval ratings are a good barometer of national attitudes toward the president's party and so serve as a good proxy for short-term political forces.

Who changes?: The finding in Ghitza and Gelman (2014) that age moderates the degree of stability in PID echoes other studies that have identified individual-level traits that condition the amount of partisan change we should expect. Jennings and Niemi (1981) specifically note the role of age (see also Dinas 2014) and the strength of early childhood socialization, but other individual-level characteristics appear in the literature. Carsey and Layman (2006), for instance, show that changes in PID are most likely among politically *attentive* individuals who have a better understanding of party policies and are therefore *more* likely to change their identification when they disagree with their current party on salient issues. Box-Steffensmeier and DeBoef (2001) make the related claim that *sophisticated* individuals (measured by level of education) will be *more* likely to change their PID in response to their own changing ideological beliefs. However, MacKuen, Erikson and Stimson (1989) make the opposing claim that sophisticated individuals are more set in their ways and *less* likely to change their PID. Finally, Erikson, MacKuen and Stimson (2002) show that African-Americans have a particularly strong attachment to the Democratic party that is relatively impervious to events in the economic or political world (see also Bowler, Nicholson and Segura 2006).

2.2. *Theory and empirical expectations*

Based on our review of the literature above, we propose a compromise between the PID-as-stable-identity and PID-as-running-tally camps. Our theory builds on prior work emphasizing that PID stability itself may be heterogeneous in a systematic fashion (e.g., Carsey and Layman 2006; Clarke and McCutcheon 2009). Specifically, we argue that individual-level PID does, in some cases, change in response to short-term political forces. We believe that

the evidence in support of this contention at the aggregate level is too overwhelming to simply be a coincidence, and that systematic responsiveness to short-term political forces should be observable at the individual level as well.

On the other hand, we believe it is important to realistically circumscribe these claims. Past research clearly shows that PID change is neither ubiquitous nor universal. For many individuals, PID *is* an important social identity that is resistant to external political forces. We argue that for some individuals PID changes at the margins in response to factors in the political environment, but this does not refute the evidence presented by Green, Palmquist and Schickler (2002) and others showing that identification is a remarkably stable trait for most people most of the time. That change happens does not imply that it is either dramatic or even common. Indeed, the research described above points to several specific individual-level factors that we expect to be associated with a degree of PID change. In particular, past research shows that PID is more stable among older individuals whose social identities are more strongly established and individuals who experienced strong early-life familial socialization.

Furthermore, PID is reinforced by other group identities. This has been found to be particularly true for African-Americans and the Democratic party. Since the passage of Civil Rights legislation in the 1960s, Black voters have consistently identified as Democrats in high numbers. Dawson (1994) notes how the Black middle class has not shifted to identifying as Republican, even during periods of relatively prosperous Republican rule. He attributes this partisan immobility to disproportionate vulnerability among Black citizens during economic turmoil, as well as the strength of Black consciousness in response to the Republican party's ''Southern Strategy.'' Thus, we expect Black panelists to exhibit less partisan change than white and Latino counterparts.

Finally, it is important to note the conflicting expectations of political knowledge or sophistication on change in PID. The partisan attitudes of more sophisticated individuals, who tend to be more attentive to political affairs and capable of absorbing elite arguments, might

be the more strongly influenced by short-term political developments than less sophisticated individuals (e.g., Sniderman, Brody and Tetlock 1991; Zaller 1992). This is arguably the dominant view within the PID literature. However, highly attentive, sophisticated individuals may instead rely more on their partisan identity to structure their perceptions of the political world and thus be more resistant to new information (Jacoby 1986; MacKuen, Erikson and Stimson 1989). So, for instance, Kimball (2005) finds that more sophisticated citizens are more likely to be primed by partisan considerations when evaluating congressional performance. This implies that sophistication may strengthen the screening effects of partisan identity and soften the effect of short-term political developments on that identity.

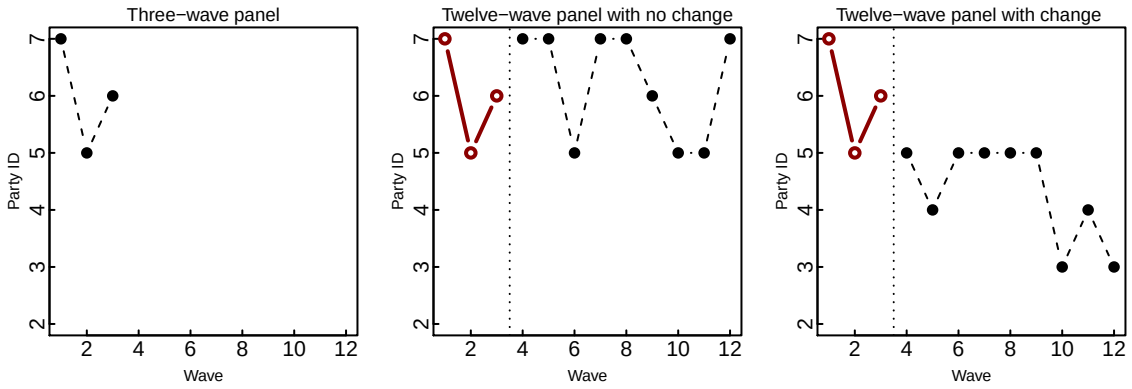
Thus, our primary concerns are whether (a) PID changes, (b) the change observed is systematically related to short-term political forces, and (c) the change is conditioned by familial socialization and other individual-level traits. We restate these formally as:

> *Hypothesis 1*: Individual-level party identification changes over time even after accounting for measurement error and autocorrelation.
>
> *Hypothesis 2*: Individual-level party identification changes over time as a function of short-term evaluations of the parties, the president, and the economy.
>
> *Hypothesis 3*: Younger adults will have increased levels of change in party identification.
>
> *Hypothesis 4*: Strength of familial partisan socialization is negatively related to change in party identification.
>
> *Hypothesis 5*: Racial and ethnic identities that are consistent with partisan identity decrease the amount of change in party identification.
>
> *Hypothesis 6*: More education, political knowledge, and interest in politics are positively related to change of party identification.

3. DATA AND METHODS

Despite the attention the topic has received, appropriate data to evaluate the competing accounts of *micro*partisanship are in short supply (Green, Palmquist and Schickler 2002, 82-83). Aggregate data is suggestive, but does not allow us to directly observe individual-level changes. Panel data, where the same respondents are surveyed in multiple waves, are more

Figure 1. Longer panels help distinguish between systematic change and error



The figure illustrates the difficulty of distinguishing true change in PID from random error in short panels. The left panel shows PID response from a simulated individual for three waves. The center panels shows that this response pattern can be consistent with an individual whose average PID does not change over time. The right panel shows that this same response pattern can be consistent with a downward trend in PID.

promising, but the data requirements for testing competing accounts are burdensome. To begin with, the panel needs to have a sufficient duration to allow changes in PID to occur in response to real-world events. Further, the panel must have a sufficiently large number of waves to allow us to discern whether changing responses reflect true trends in underlying PID or rather non-systematic measurement error. While the ANES panels certainly meet the former requirement, we believe that significantly more than three waves are needed to meet the latter. This issue is illustrated in Figure 1, which provides a simple example where having only three waves (left panel) is insufficient for determining whether an exemplar respondent's reported PID is simply measured with significant error (center panel) or is instead systematically trending (right panel).

These same concerns extend to short-term political forces, which are measured in very limited ways in the ANES panels and seldom in each of the waves. Green and Palmquist (1990), for instance, consider the effects of presidential candidate evaluations and proximity, presidential approval, and PID in the previous wave, finding no evidence of effects for short-term forces. However, their choice of short-term forces is limited by the few questions that were repeated across the waves of the 1980 ANES panel, which may be the best extant panel in terms of covariates.

3.1. *The American Panel Study*

In this article, we overcome these obstacles by using The American Panel Study (TAPS), a monthly long-term panel study. TAPS asked the standard PID battery 12 times over the course of three years, which is unique in terms of its granularity and duration. Relative to the ANES panels or the Youth-Parent Socialization Panel Study, TAPS has the advantage of more frequent waves. Moreover, its duration is roughly equal to that of one ANES panel interval. This unprecedented combination of long duration and high frequency allows us to better distinguish systematic change from non-systematic measurement error.

The frequency of the waves and the duration of the panel also provide us an opportunity to examine PID change in more diverse political contexts. The vast majority of ANES panel waves are conducted in the immediate run-up or aftermath of presidential or congressional elections, a context when partisan ties may be more salient. TAPS waves, on the other hand, occur both during periods of electoral frenzy and more mundane periods of political life when Election Day is still far off. This allows us to explore changes in PID during periods of normal politics, where citizens' attentions are less focused on the political world.

Finally, TAPS includes a monthly battery evaluating time-varying factors hypothesized to affect PID, including self-reported views of the economy, affect towards each of the parties, and evaluations of the president. It also includes an extensive battery of questions about early-life familial socialization and other factors thought to affect PID stability.

TAPS itself is a monthly online panel survey of over 2,200 people. Panelists were recruited as a national probability sample with an address-based sampling frame in the fall of 2011 by GfK-Knowledge Networks. Individuals without Internet access were provided a laptop and Internet service at no cost. In a typical month, about 1,700 of the panelists complete the online survey. Our focus is on the 12 waves shown in Table 1 where PID was measured. Table 1 also reports the dates and sizes of the panel waves. Note that it is possible for panelists to miss some months and subsequently re-enter the panel.[4]

[4]Post-stratification weights for this analysis were constructed based on the 2011 current

Table 1. Sample size by wave and variable

Wave	Date	Partisan Identity	Presidential Approval	Differential Party Evaluations	Economic Perceptions
0	November 2011	1202	1206	1200	1196
1	March 2012		736	734	757
	April 2012	1459	741	738	699
2	June 2012†	1682	1659	1668	1666
3	August 2012		858	854	827
	September 2012	1684	819	810	863
4	September 2012		819	810	863
	October 2012	1687	865	859	803
5	November 2012	1654	1659	1646	1648
6	March 2013‡		934	933	895
	April 2013 ‡	1834	886	878	927
7	April 2013		886	878	927
	May 2013	1790	923	922	860
8	June 2013		886	878	927
	July 2013	1712	923	922	860
9	November 2013		851	844	829
	December 2013	1644	805	799	836
10	February 2014		792	777	842
	March 2014	1640	846	839	795
11	May 2014		834	824	763
	June 2014	1578	764	764	808

† Panel was refreshed with 329 subjects in June 2012
‡ Panel was refreshed with 329 subjects in February 2012

3.2. *Variables*

Measuring party identification: Since the 1956 American National Election Study (ANES), PID has been measured by a short battery of questions:

(1) ‘‘Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or what?’’
(2a) (If respondent names a party in (1)) ‘‘Would you call yourself a strong [Democrat/Republican] or a not very strong [Democrat/Republican]?’’
(2b) (If respondent does not name a party in (1)) ‘‘Do you think of yourself as closer to the

population survey (CPS) population parameters. Weights were constructed using iterative raking and trimming (maximum weight = 5) using level of education, metro area, income, ethnicity, Internet access, age, and gender.

Republican Party or to the Democratic Party?''

The result is seven categories: strong Democrat, not-very-strong (weak) Democrat, Independent closer to the Democratic Party, Independent, Independent closer to the Republican Party, not-very-strong (weak) Republican, and strong Republican, with miscellaneous responses (''or what'') as an eighth category that is usually ignored. The responses have been used in various ways, although it is commonly treated as a seven-point interval-level variable (Green, Palmquist and Schickler 2002). For the purposes of this analysis, we adopt this measurement strategy, operationalizing PID as a seven-point continuous variable, with strong Democrat representing the lowest value (1) and strong Republican serving as the highest value (7).

Short-term forces: The TAPS panel is divided into two groups of near equal size, with one half receiving a job approval battery and the other half receiving a consumer confidence battery that concerns the state of the economy. Each group alternates from month to month so that every panelist receives both batteries in any two-month period. We combine responses from the waves measuring PID with the *previous* wave to obtain the most proximate prior evaluations from all panelists. Question wordings for all items used in this analysis are shown in Appendix E. Additional details about the split-panel design are provided in Table 1.

We measure short-term forces in three ways. First, following Fiorina (1981), Jacobson (2012), and Ghitza and Gelman (2014), we use the standard presidential job approval measure. Second, attitudes about the parties are measured directly. Using thermometer scales, Jacobson (2012) shows that party evaluations have effects on PID that are independent of presidential job approval. We take a slightly different approach, using questions about approval of the jobs being done by ''Washington Democrats'' and ''Washington Republicans,'' each of which is measured on a five-point scale. We use the *difference* in these evaluations of the two parties, which captures rather directly the central proposition of the running tally view of PID: Identification reflects a Bayesian updating process based on a moving net evaluation of

the two parties (Fiorina 1981; Achen 1992).

Third, we measure prospective sociotropic evaluations of the economy. Specifically, panelists are asked about whether economic conditions in the country are getting better or worse. Fiorina (1981, Chapter 6) found sizable effects of economic evaluations on PID (see also Kinder and Kiewiet 1981; Erikson, MacKuen and Stimson 2002).

Time-invariant factors: We cannot match the Jennings-Niemi studies' direct measure of parents' PID or the corresponding measurement of high school students' identities. We instead rely on the panelists' reports of their own PID at age 18. We use the three-category response: Democrat (-1), Republican (1), Independent (0). Further, we created a binary variable indicating the strength of early-life familial socialization. Specifically, the strength of socialization coded as high for individuals whose PID at age 18 matched both of their parents' PID and low in all other cases.

Finally, we include measures of several demographic traits shown to condition PID change. In the autoregressive latent trajectory models, we treat ethnicity with a simple dichotomous indicator identifying panelists as either ''white'' or ''non-white.'' However, when examining factors that influence stability, we break this variable down further, dividing the sample into Hispanic, Black, and white sub-populations. Similarly, we include a control for gender with a binary variable coded ''1'' for female panelists and ''0'' for male. We also divide respondents by age (over 55 vs. under 55), completion of a college degree, and political interest. We measured political knowledge using a battery of questions on basic facts about the American political system and divided the sample using a simple median split. Finally, in the autoregressive latent trajectory models, we employ continuous measures for education and household income, which both span 15 ordinal categories. Additional details for the question wordings and coding schemes for each of these variables is provided in Appendix E.

3.3. *Autoregressive latent trajectory models*

Model basics: While political scientists have had access to panel data on PID since the early 1960s, TAPS presents a unique opportunity to model responses across 12 waves. Our objective in selecting a statistical approach was to characterize respondents' underlying PID after removing short-term variations in response due to the survey process. That is, to the extent possible, we wish to distinguish true change in PID from measurement error.

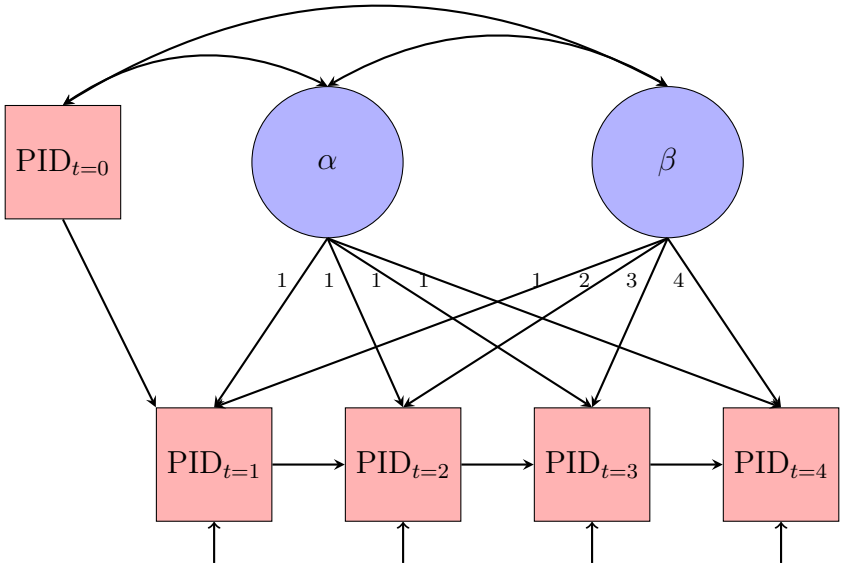
The specific models we implement below are variants of the autoregressive latent trajectory (ALT) models first proposed by Curran and Bollen (2001) (see also Bollen and Curran 2005), which were designed precisely for the task of measuring changes in an underlying latent trait in panel data. The most basic version of an ALT model, termed an unconditional univariate ALT model, is shown in Figure 2. For individual $i \in [1, N]$ at time period $t \in [1, T]$, we model PID (y_{it}) as,

$$
\begin{aligned}
& y_{it} = \alpha_i + \lambda_t \beta_i + \rho_{y_t y_{t-1}} y_{i,t-1} + \epsilon_{it}, \quad \epsilon_{it} \sim N(0, \sigma_{y_t}) \forall t \neq 0 \\
& \begin{array}{ll}
\alpha_i = \mu_\alpha + \zeta_{\alpha i}, & \\
\beta_i = \mu_\beta + \zeta_{\beta i}, & \begin{pmatrix} \zeta_{\alpha i} \\ \zeta_{\beta i} \\ y_{i,t=0} \end{pmatrix} \sim N(0, \Sigma) \\
y_{i,t=0} = \mu_{y_{t=0}} + \zeta_{y_{t=0}} &
\end{array}
\end{aligned} \tag{1}
$$

where λ_t is constrained to $\lambda = [1, 2, \ldots, T]$ to indicate a linear trend in PID over time.

In this model, we conceptualize each individual's PID as a linear trend over time specified by individual-specific intercepts (α_i) and slopes (β_i). However, *this linearity assumption is not strict*. Rather, ALT models allow a prior value of PID to influence the current value ($\rho_{y_i y_{t-1}}$), therefore allowing the implied trajectories to deviate significantly from a strict linear trend across several waves. Thus, a further advantage of the ALT model is that it allows us to estimate a model concomitant with the autoregressive (sometimes termed simplex or Wiley and Wiley (1970)) models that have historically dominated the literature on PID change (e.g., Green and Palmquist 1990; Clarke and McCutcheon 2009). These models express PID as a function of its observed value in the previous panel wave, where this autocorrelation is considered to be an indicator of the stability of PID over time. However, ALT models differ

Figure 2. Unconditional autoregressive latent trajectory model for five waves



in that they model deviations from the linear trend as an autoregressive process rather than modeling PID directly.

It is worth noting that we believe this to be the first use of an ALT model in the study of political behavior. In part, this reflects the lack of any sufficiently granular long-term panels on which such models can be estimated. The richness of the TAPS data allows us to apply these versatile models for exploring PID change. For the first time in this longstanding debate, we are able to measure latent partisanship and its trajectory for each individual over a three-year period, all while explicitly modeling both autocorrelation and measurement error.

A structural equations approach: Unlike more commonly implemented hierarchical models, the ALT models are estimated in a structural equation modeling (SEM) framework. There are two main advantages of this approach. First, it provides additional flexibility in modeling this complex dynamic process. Unlike most multilevel approaches, ALT models do not assume that the amount of error in observed PID is invariant across time periods. PID in each wave is modeled as a distinct variable. Note, for instance, that in Model (1) we estimate

a unique disturbance term for PID at each time period (σ_{y_t}). Similarly, we do not assume a constant autoregressive process, but rather estimate a different coefficient ($\rho_{y_t y_{t-1}}$) for each wave.

A further advantage of estimating in an SEM framework is the ease with which it accommodates missing data. Given the long duration of the panel, the number of waves, and the number of specific questions involved in our analysis, it is critical that we handle non-responses in a flexible manner that avoids overly-strong assumptions about the nature of this missingness. While it is quite common in the PID literature to analyze only individuals for whom we observe no missing data, such an approach would result in reducing our sample size from the 2,292 cases we analyze to fewer than 500 respondents. In addition to lowering the statistical power of our analyses, such listwise deletion of cases is well known to induce bias in estimates except under the very strict missing-completely-at-random assumption. Adopting an SEM framework allows us to leverage the direct maximum likelihood approach for handling missing data, which has been shown to be robust to missingness resulting from factors such as panel attrition (Bollen and Curran 2005, Chapter 3).[5]

Covariates: In order to test our theoretical expectations, we need to not only measure change in PID, but also to explicitly model the short-term forces associated with this change. Moreover, we wish to be able to stabilize estimates using well known time-invariant demographic indicators. To accommodate covariates, we fit the conditional ALT model with both time-invariant ($\mathbf{Z}_i$) and time-varying predictors ($\mathbf{X}_i$) shown in Figure 3. Specifically, we alter Model (1) to

[5]Specifically, it has been shown that asymptotic properties of these maximum likelihood estimators are robust to data that are missing according to the less stringent missing-at-random (MAR) assumption.

$$
\begin{aligned}
&y_{it} = \alpha_i + \lambda_t \beta_i + \rho_{y_t y_{t-1}} y_{i,t-1} + \rho_{y_t \mathbf{x}_{t-1}} \mathbf{X}_{i,t-1} + \epsilon_{it}, \quad \epsilon_{it} \sim N(0, \sigma_{yt}) \forall t \neq 0, \\
&\alpha_i = \mu_\alpha + \gamma_\alpha \mathbf{Z}_i + \zeta_{\alpha i}, \\
&\beta_i = \mu_\beta + \gamma_\beta \mathbf{Z}_i + \zeta_{\beta i}, \\
&y_{i,t=0} = \mu_{y_{t=0}} + \gamma_{y_{t=0}} \mathbf{Z}_i + \zeta_{y_{t=0}},
\end{aligned}
\tag{2}
$$

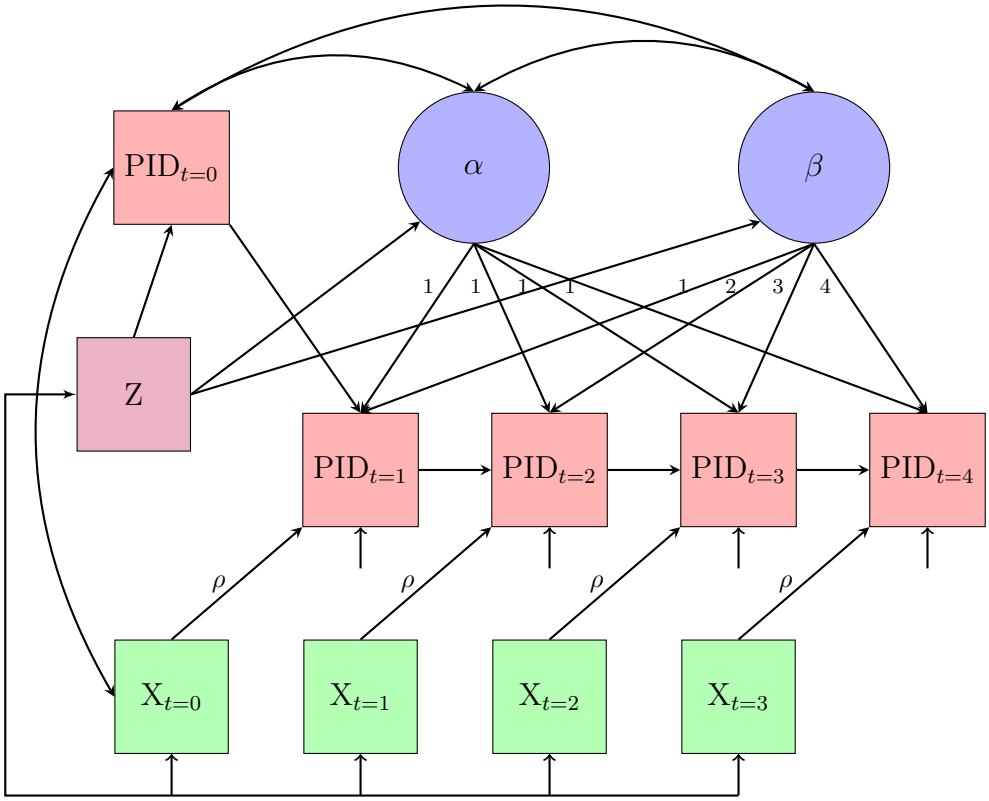
where γ_α and γ_β are vectors of coefficients relating the vector of time-invariant predictors $\mathbf{Z}$ to the intercept and slope of the latent trajectory respectively. Further, $\rho_{y_t \mathbf{x}_{t-1}}$ is a vector of coefficients relating the lagged value of time-varying factors, such as presidential approval, to PID. Note that while it is possible to estimate distinct $\rho_{y_t \mathbf{x}_{t-1}}$ for each wave, we constrain these parameters to be constant across waves to facilitate interpretation.[6]

4. FINDINGS

Having reviewed both the TAPS data and our basic methodology, in this section we present our results. We report our findings in four parts. First, we show the modest aggregate change in PID during the period under study. Second, we report that, at the individual level, panelists exhibit measurable change in PID from wave to wave, even when accounting for measurement error. Third, we test whether the observed change in PID is related to changes in net party evaluations, presidential approval, and economic evaluations. Finally, we confirm that the propensity to change PID is circumscribed and that PID stability is associated with several individual-level characteristics identified in the existing literature.

[6]For the sake of brevity, we surpress the expression of the correlated errors in Model (2), although they are depicted in Figure 3. In this model, we allow for correlated errors between the individual-specific intercept and slope and PID as measured in Wave 0 as in Model (1). However, we also allow for correlated errors between covariates as well as between PID and time-varying covariates at Wave 0. These additional parameters are primarily necessary for handling missing data through the direct maximum likelihood approach. Full model results will be provided in the replication archive at the time of publication.

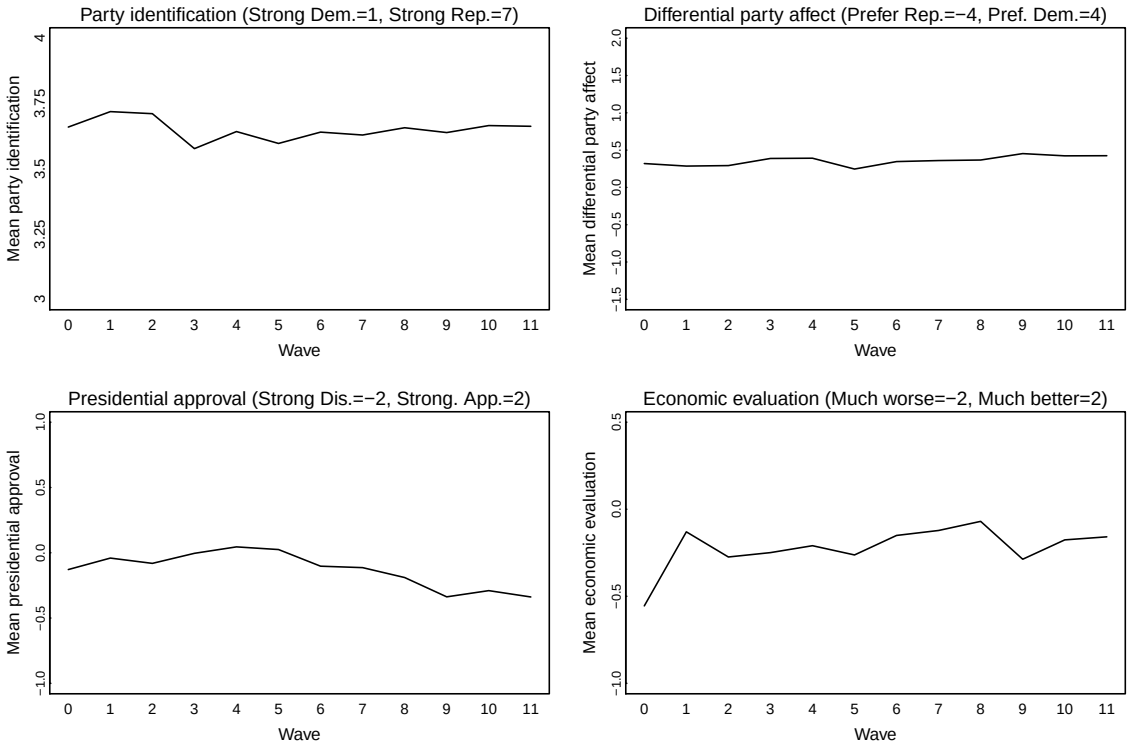
Figure 3. Conditional ALT model with both time-invariant (Z) and time-varying (X) predictors



4.1. *Stability and change*

We begin by noting that the 2011-2014 period, the period of our 12 waves, was a relatively steady period in American politics. The stability of this period is illustrated in Figure 4, which shows mean aggregate PID, net party evaluations, presidential approval, and economic evaluations across all 12 waves of the panel. During this period, the American economy showed gradual improvement. Gridlock on major issues and muddling through in meeting fiscal deadlines characterized the policy-making arena, while Republicans retained their majority in the House of Representatives, and Democrats remained in control of the Senate and presidency through the 2012 and 2014 elections that bookend the period under study. By most measures, Congress and the public showed substantial partisan polarization on major issues, a condition that had not changed much for more than a decade. Consequently, we do not see dramatic changes in PID or in the nature of the political environment captured

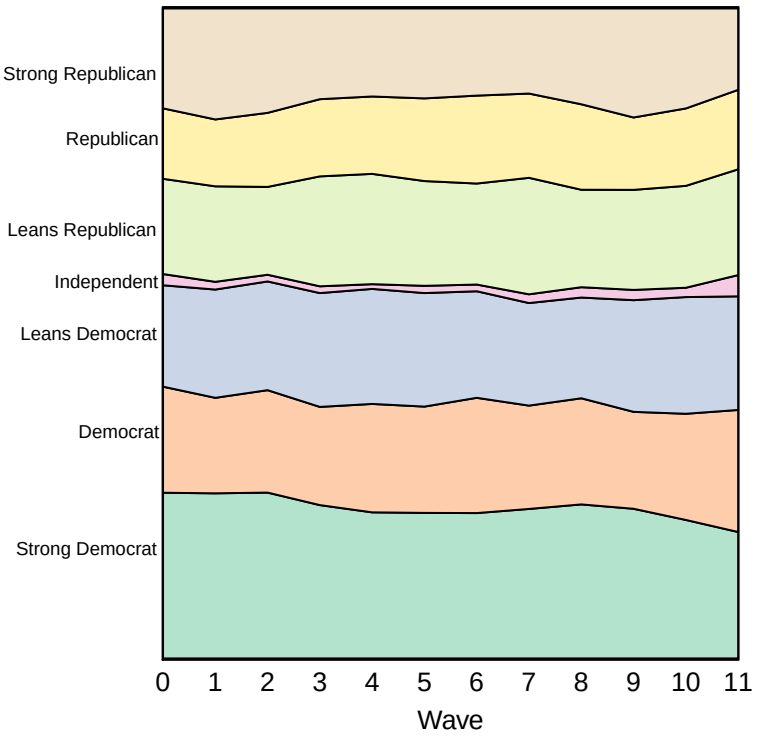
Figure 4. Aggregate trends for time-varying variables



by our measures of short-term forces. Nonetheless, the measures of short-term political forces exhibit more change than aggregate PID. As in other surveys, the president's approval improved a little during the 2012 election year but dipped in the two years following his reelection. Economic evaluations show a slight positive trend over the period under study. However, in all, this is a period of stability, and we should expect relatively small effects of short-term political forces on PID, making it more difficult to uncover systematic change.[7] Moreover, this aggregate-level stability in PID holds even when breaking down PID by category. Figure 5 shows the proportion of respondents in each category.

[7]The TAPS sample finds Independents and partisan leaners slightly decrease in the months leading up to an election. This brief bump in Republican and Democratic identification dissipates almost immediately in the aggregate once the campaign is finished. An examination of PID change was completed using only the waves leading up to the 2012 presidential election, and the results were analagous to those found in the main analysis.

Figure 5. Aggregate trends in PID

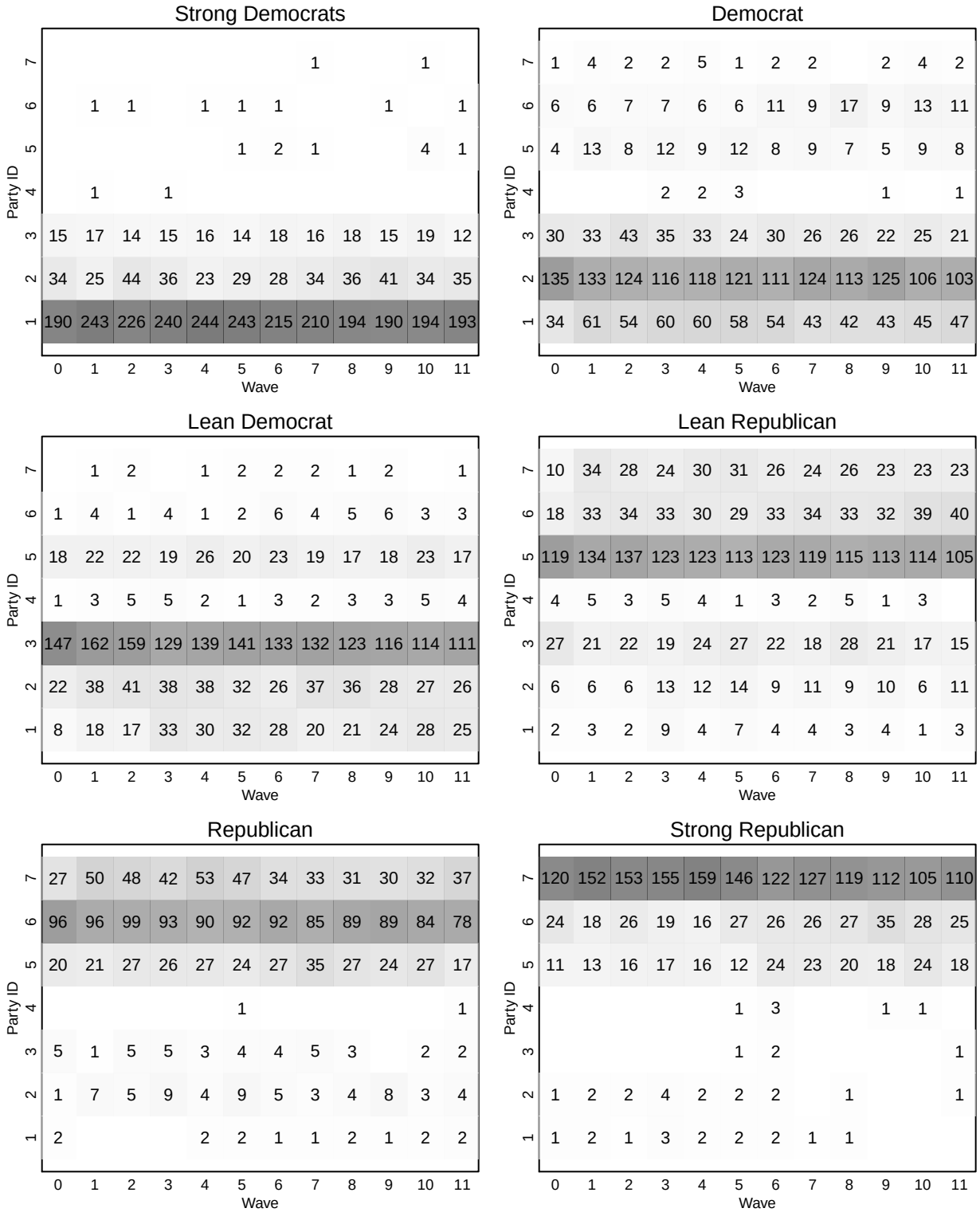


Although PID appears superficially stable, beneath the surface there is nonetheless individual-level variation. To show this, we disaggregate PID. Figure 6 shows individual-level PID in each wave, where the sample has been divided based on PID in the pre-panel interview.[8] Thus, the top-left and bottom-right panels show that strong Democrats and Republicans move little—roughly 85 percent end in the same PID category in which they began. However, the remaining panels show that there is some significant—if fundamentally limited—movement across categories during the panel. The majority of the individual-level movement is among the not-strong (weak) identifiers and leaners. In both cases, these respondents are more likely to move than strong identifiers, and, although the number is still small, are somewhat more likely to shift into weak identification with the opposite party.

Surely, much of the variation exhibited in Figure 6 is due to random measurement error, as Green and Palmquist (1990) emphasize. That is, panelists may choose different options from

[8]All panelists complete a pre-panel survey before entering the panel. Obviously, the timing of this interview varies depending on when respondents joined the panel.

Figure 6. Party identification over time by party identification in pre-entrance interview



Numbers are the raw count of respondents in each cell. Cells are colored according the proportion of respondents in each wave contained in the cell. Darker cells contain a higher proportion of respondents for each wave. There is significant variation at the individual level in PID across the panel, although this is less true for strong partisans.

wave to wave in a somewhat unintentional way without any real change in their attachment to or attitudes about the parties. Before we can interpret this individual-level change, therefore, it is essential that such error is taken into account when estimating the frequency and nature of change in PID. In the remainder of this section we turn to characterizing this individual-level change.

4.2. *Evidence of real change in party identification*

Our first task is to determine whether the PID of our panelists changes over time or if it maintains relative stability across all observable waves once we account for measurement error. More specifically, we ask whether responses merely vary at random around an unchanging constant, or if there are instead individual-level trends in PID over time. To answer this question, we test a model in which the individual-level trends are assumed to be fixed at zero. That is, we estimate a model of latent partisanship by assuming the trend in partisanship over time is non-existent ($\beta_i = 0 \; \forall i \in [1, N]$) and that survey responses are best conceptualized solely as variation around the individual-level constant (α_i). We then compare this model to one in which we *also* estimate individual-specific level trends for each respondent ($\beta_i \neq 0$). Since the former model is nested within the latter, we are able to formally test whether allowing for individual-specific trends in PID across waves significantly improves model fit.

Table 2 provides the model fit statistics and parameter estimates of an unconditional ALT model of PID both excluding (Column 1) and including (Column 2) a trend in PID.[9] We find that all estimates of lagged PID's effect on current PID are significant in both frameworks. That is, the previous period's partisan identification influences the current period's. More importantly, the fit statistics of the nested and non-nested model all indicate that a model including individual-level slopes improves model fit. The comparative fit indices (CFI) and adjusted root mean square errors (RMSEA) are quite close to 1 and 0 respectively, indicating overall excellent fit. However, in both cases the model allowing for the estimation

[9]Both models were estimated with maximum likelihood estimation with robust standard errors using MPlus (ESTIMATOR=MLR).

of individual-level linear trends fits better.

While the more fully specified model shows improved model fit, it is necessary to perform a significance test on the difference to determine if allowing for trends provides additional information. Since the χ^2 statistic for the differences in nested models produces imprecise results due to scaling, we adjust our significance test using the methods recommended by Satorra and Bentler (2010) by implementing the scaling correction factor. The estimated χ^2 statistic ($\chi^2 = 31.77$, df=4, $p < 0.001$) shows that adding individual-level trajectories significantly improves the model fit. That is, allowing for a trend in partisan identification provides significantly more information on the true latent value of individual-level PID. Thus, we conclude that our panelists exhibit significant, albeit limited, partisan change in support of Hypothesis 1.

To better understand this result, it is helpful to consider several specific respondents. Figure 7 provides illustrative examples of estimated latent trajectories for four individuals as well as their observed PID responses across all 12 waves. The left panels show examples where the model provides relatively stable PID estimates with a limited trend. The right panels show individuals for whom the model estimates change over time. The top panels are examples where observed responses are (relatively) tightly bound around the model estimate, while the bottom panels are examples where there is (relatively) more error around respondents' true positions.

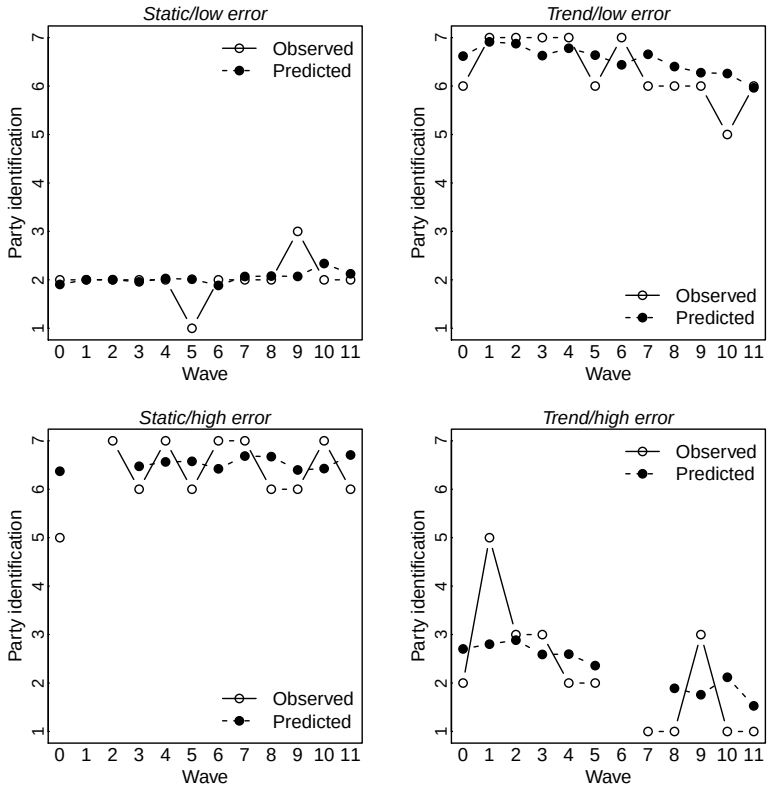
These examples illustrate how the ALT models discriminate between short-term random variations in PID across waves and systematic change. Temporary movements away from a central tendency are largely ignored as measurement error; predicted values do not change much in response to temporary shifts in reported PID. For example, in the upper left panel the panelist identifies as a strong Democrat (PID=1) once in Wave 5. However, the predicted value does not deviate significantly in response, providing an expectation that the panelist will continue to be a "not-strong Democrat" (PID=2) throughout the panel. On the other hand, this model is able to capture systematic and enduring shifts in PID when they are

Table 2. Autoregressive latent trajectory models of party identification with and without linear trends

	Column 1 No Slopes ($\beta = 0$)	*Column 2* With Slopes ($\beta \neq 0$)
Model fit statistics		
CFI	0.978	0.992
RMSEA	0.025	0.015
χ^2 Fit	152.220	92.051
Deg. of Freedom	64	60
χ^2 Difference	31.77 (DF=4, $p < 0.001$)	
Autoregressive component		
$\text{PID}_{t=0} \rightarrow \text{PID}_{t=1}$	0.117 *	0.049*
	(0.019)	(0.010)
$\text{PID}_{t=1} \rightarrow \text{PID}_{t=2}$	0.111*	0.065*
	(0.019)	(0.020)
$\text{PID}_{t=2} \rightarrow \text{PID}_{t=3}$	0.082*	0.058*
	(0.017)	(0.024)
$\text{PID}_{t=3} \rightarrow \text{PID}_{t=4}$	0.109*	0.108*
	(0.016)	(0.029)
$\text{PID}_{t=4} \rightarrow \text{PID}_{t=5}$	0.094*	0.116*
	(0.016)	(0.034)
$\text{PID}_{t=5} \rightarrow \text{PID}_{t=6}$	0.091*	0.135*
	(0.018)	(0.044)
$\text{PID}_{t=6} \rightarrow \text{PID}_{t=7}$	0.109*	0.175*
	(0.018)	(0.048)
$\text{PID}_{t=8} \rightarrow \text{PID}_{t=9}$	0.107*	0.195*
	(0.017)	(0.054)
$\text{PID}_{t=9} \rightarrow \text{PID}_{t=10}$	0.099*	0.207*
	(0.017)	(0.058)
$\text{PID}_{t=10} \rightarrow \text{PID}_{t=11}$	0.108*	0.237*
	(0.017)	(0.067)
$\text{PID}_{t=11} \rightarrow \text{PID}_{t=12}$	0.116*	0.265*
	(0.017)	(0.074)
Hierarchical component		
μ_α	3.22*	3.54*
	(0.083)	(0.065)
σ^2_α	3.30*	4.17*
	(0.147)	(0.170)
μ_β		-0.079*
		(0.024)
σ^2_β		0.006*
		(0.001)
$\alpha \leftrightarrow \beta$		-0.115*
		(0.022))
$\text{PID}_{t=0} \leftrightarrow \alpha$	0.091	-0.333*
	(0.076)	(0.148)
$\text{PID}_{t=0} \leftrightarrow \beta$		0.016
		(0.019)
N	2292	2292

* indicates statistical significance at the $p < 0.05$ level. Standard errors are in parentheses.

Figure 7. Exemplar individual-level latent trajectories



present in the data. Consider the top right panel. Here the panelist reports being a strong Republican (PID=7) in four of the first five waves, and the model predicts a value near seven. However, as the panel continues, the individual's responses decrease significantly, and the model adjusts, predicting the subject's PID to be a ''not strong Republican'' (PID=6) by the end of the panel.

4.3. *Party identification and short-term evaluations of the political environment*

Next, we test whether change in PID is systematic. That is, are individual-level changes in PID related to individual-level evaluations of events theorized to affect PID ? We fit the conditional ALT model with time-invariant and time-varying predictors shown in Figure 3. As time-invariant predictors, we include education, gender, race, income, and self-reported PID at age 18, which primarily serve to improve estimates of individual-level intercepts. As time-varying predictors, we include lagged net party evaluations, lagged prospective economic evaluations, and lagged presidential approval.

The primary results for this model are shown in Table 3, and critical coefficients are

highlighted.[10] They show that PID is significantly related to lagged net party evaluations ($\rho = -0.088$, $se = 0.013$) and lagged presidential approval ($\rho = -0.115$, $se = 0.017$). These coefficients are negative, indicating that stronger net approval of Democrats versus Republicans and strong approval of the president are associated with becoming more Democratic. While also in the same direction, our estimates for lagged evaluations of the economy do not reach reliable levels of statistical significance ($\rho = -0.010$, $se = 0.016$).

Understanding substantive effects: While the results in Table 3 show that short-term forces are statistically related to PID, understanding the substantive effects requires further analysis given the complexity of the conditional ALT model. In particular, the positive autoregressive nature of the model suggests that expected changes in PID for one time period can be amplified as the effect in one time period is ''passed forward'' to future waves.

To further unpack the substantive implications of these results, we conduct a simulation experiment exploring the effect of an exogenous shock in short-term evaluations on expected PID for a chosen individual in the dataset.[11] Specifically, holding all parameter estimates constant, including estimated individual-level intercepts (α_i) and slopes (β_i), we imagine decreasing the time-varying covariate *lagged net party evaluations* (LNPE) by three categories in Wave 7—a significant but realistic change in LNPE in favor of Republicans.[12] We compare these results to our expectations for this same individual if we left her short-term evaluations exactly as observed. We interpret the differences in our predicted values of PID under these two scenarios to represent the substantive effect of this hypothetical exogenous shock.

First, in Figure 8 we show the estimated effect of a *temporary* (one-wave) exogenous

[10]The model in Table 3 was estimated with maximum likelihood estimation with robust standard errors using MPlus (ESTIMATOR=MLR).

[11]We consider a white female respondent with an associates degree with a household income between $100,000 and $125,000 who reported being a Republican at age 18.

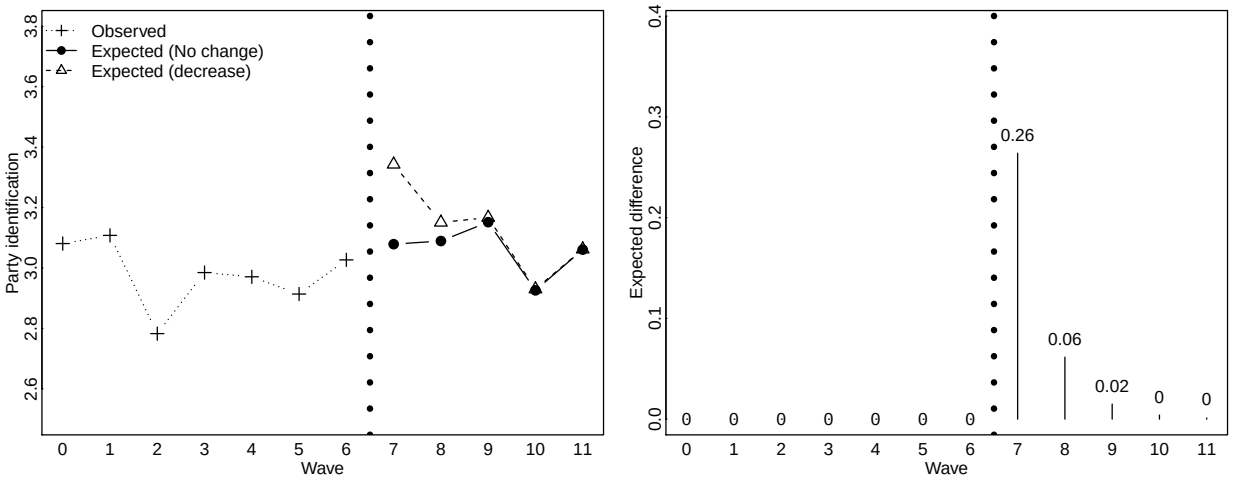
[12]Specifically, we subtract three categories from the observed LNPE reported in each wave. This decrease does not move any observation outside of the range of possible values (-4, 4).

Table 3. Determinants of individual-level party identification: Conditional ALT model with time-invariant and time-varying predictors

Time-varying predictors	
Net party evaluation$_{t-1}$ →PID$_t$	−0.088*
	(0.013)
Pres. App.$_{t-1}$ →PID$_t$	−0.115*
	(0.017)
Economy$_{t-1}$ →PID$_t$	−0.010
	(0.016)
Party ID Constant	
Intercept	4.062*
	(0.260)
Education	−0.088*
	(0.024)
Female	−0.183*
	(0.086)
White	0.583*
	(0.105)
Income	0.028
	(0.014)
PID at 18	1.125*
	(0.065)
σ^2_α	1.680*
	(0.146)
Party ID Slope	
Intercept	−0.118∗
	(0.040)
Education	0.004
	(0.002)
Female	0.017*
	(0.006)
White	−0.004
	(0.011)
Income	−0.001
	(0.001)
PID at 18	−0.035*
	(0.010)
σ^2_β	0.003*
	(0.001)
CFI	0.914
RMSEA	0.030
χ^2	1756.806
DOF	493
N	2783

The ∗ indicates coefficients significant at the $p < 0.05$ level. Standard errors are in parentheses. Autoregressive coefficients are shown in Table SI-1 in Appendix A. Additional model parameters are suppressed for clarity.

Figure 8. Simulated predicted effects of a temporary change in time-varying covariates

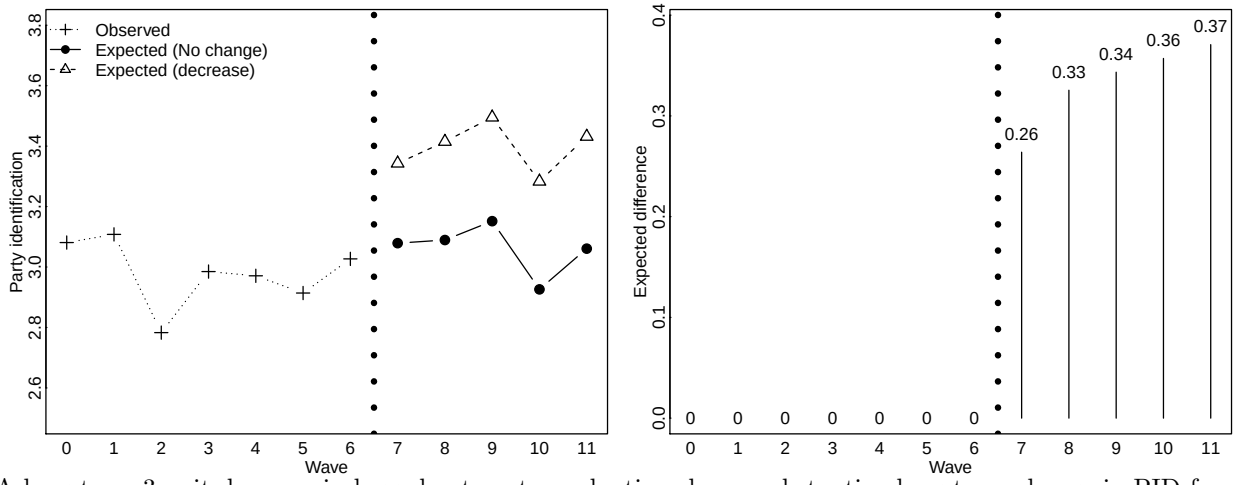


A short-term 3-unit decrease in lagged net party evaluations has a temporary effect on PID for a white female respondent with an associates degree with a household income between $100,000 $125,000 who reported being a Republican at age 18.

change in LNPE. That is, we simulated expected values for PID as if this shift were a temporary single-wave phenomenon. As can be seen, such a short-term shift in LNPE temporarily alters our expectations about respondent's PID in the next wave, but this difference is not lasting. After jumping by 0.26 categories in Wave 7, the long-term expected PID for this individual is almost completely unaffected.

A very different story appears when we simulate under the assumption that the exogenous shock to LNPE is permanent. That is, we imagine that, beginning in Wave 7, LNPE decreases three categories *for the duration of the panel*. Figure 9 shows that this change is associated with permanent shift in expected PID. To begin with, we observe an increase of 0.26 categories. However, this change is then amplified by the autoregressive components of the model until the respondent reaches a level of PID approximately 0.37 categories higher than we would have otherwise expected. As discussed below, this 0.37 category change is more than we observe for the the median panelist. Thus, this simulation illustrates that a permanent change in a respondent's LNPE has both a substantively and statistically significant effect

Figure 9. Simulated predicted effects of a durable change in time-varying covariates



A long-term 3-unit decrease in lagged net party evaluations has a substantive long-term change in PID for a white female respondent with an associates degree with a household income between $100,000 and $125,000 who reported being a Republican at age 18.

on PID, strongly supporting Hypothesis 2.[13]

Instrumental variables analysis: While the preceding analyses provide strong support to the contention that current partisan identification is influenced by lagged views of the president and the parties in Washington, they do not address the issue of contemporaneous relationships. That is, the models fail to estimate the relationship between current-period ''running tally'' variables and current-period PID while controlling for previous partisanship and other demographics. While it would be possible to estimate such a model using an ALT framework, the introduction of contemporaneous effects increases the possibility that the estimated relationship is endogenous.

To address these causal issues, we estimate the effect of *current* economic perception, presidential approval, and net party differential evaluations on PID using an instrumental variable regression. Since current period short-term evaluations may be endogenous with

[13]In Appendix B, we also consider a conditional bivariate ALT model, which shows that individual-specific slopes for net party evaluations and PID are correlated in the expected (negative) direction across the panel.

PID, we instrument using lagged values. Formally, the model is,

$$\begin{aligned} \mathbf{x}_{it} &= \tau_1 + \mathbf{z}_i\alpha_1 + \mathbf{x}_{i,t-1}\beta_1 + y_{i,t-1}\rho_1 + v_{it} \\ y_{it} &= \tau_2 + \mathbf{z}_i\alpha_2 + \mathbf{x}_{it}\beta_2 + y_{i,t-1}\rho_2 + u_{it} \end{aligned} \tag{3}$$

where y_{it} represents individual i's PID at time t, $\mathbf{z}_i$ is a vector of time-invariant covariates, and $\mathbf{x}_{it}$ is a vector of time-varying covariates. For each period t, we use the lagged values of the time-varying factors ($\mathbf{x}_{i,t-1}$) as instruments (see Wooldridge (2005)).[14] Thus, our results are based on the assumption that, for instance, net party evaluations at time $t-1$ affect PID at time t only through net party evaluations at time t.

The main results of these panel instrumental variable regressions may be found in Table 4.[15] Columns I-III show estimated effects for economic evaluations, presidential approval, and net party evaluations separately, while Column IV shows the full model. Broadly speaking, the results in Column IV are quite consistent with those produced using the ALT model. When all three main explanatory variables are instrumented within the same model, we find that presidential approval and net party evaluations are both statistically related to partisan identification in the expected direction. In Appendix C, we subject these results to several additional robustness checks, which largely support these conculsions. Specifically, the results in Table 4 hold using the generalized method of moments two-staged estimation procedure (GMM2S) and unweighted bootstrapped standard errors. Further, the results hold in the more stringent first-differences framework, where the dependent variable is *change* in PID and the explanatory variables are *changes* in short-term evaluations, although in this case the effect of presidential approval is no longer reliably distinguishable from zero.

4.4. *Evaluating the scope of change*

Having established that changes in PID are both real and related to theorized short-term forces, we next turn to characterizing the change in PID we observe across our 12 waves. Our

[14]The models were estimated using the `xtivreg2` command in STATA 14.

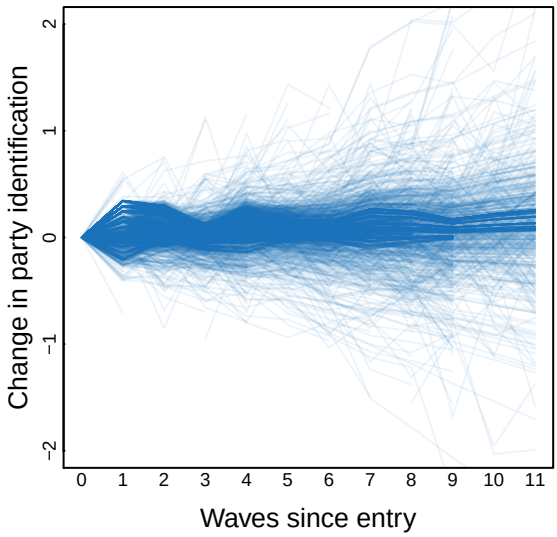
[15]First-level results for all four models can be found in Appendix C.

Table 4. Determinants of individual-level party identification: Instrumental variable regression

	(I)	(II)	(III)	(IV)
Economy$_t$	−0.152*			0.018
	(0.023)			(0.029)
Pres. App.$_t$		−0.271*		−0.147*
		(0.033)		(0.028)
Net party eval.$_t$			−0.235*	−0.170*
			(0.032)	(0.033)
PID$_{t-1}$	0.850*	0.745*	0.730*	0.704*
	(0.016)	(0.026)	(0.029)	(0.030)
Education	−0.006	−0.007	−0.009	−0.004
	(0.006)	(0.006)	(0.008)	(0.007)
Female	−0.009	−0.012	−0.004	0.007
	(0.020)	(0.021)	(0.024)	(0.024)
White	0.080*	0.011	0.106*	0.057
	(0.024)	(0.025)	(0.032)	(0.031)
Income	0.003	−0.002	0.001	−0.000
	(0.004)	(0.003)	(0.003)	(0.004)
PID at 18	0.161*	0.170*	0.153*	0.152*
	(0.021)	(0.020)	(0.019)	(0.019)
Constant	0.635*	1.128*	1.223*	1.277*
	(0.099)	(0.122)	(0.148)	(0.143)
Wave FE	Yes	Yes	Yes	Yes
R^2	0.838	0.850	0.850	0.855
RMSEA	0.886	0.855	0.854	0.841
N	12,469	12,588	11,590	11,057
Clusters	1,448	1,449	1,446	1,440

The $*$ indicates coefficients significant at the $p < 0.05$ level. Standard errors (shown in parentheses) are clustered on respondent and adjusted for the panel structure.

Figure 10. Latent trajectories for all respondents



aim is to show that while we believe we have demonstrated that PID is not the ''unmoved mover'' of *The American Voter*, it would be both unrealistic and untrue to ignore the fact that for most people most of the time, PID is a remarkably stable individual-level trait. To illustrate this point, in Figure 10 we show the *change* in estimated PID for all respondents in our dataset beginning from the wave where they first enter the panel. These estimates can be interpreted as the true change in underlying PID after removing variation resulting from measurement error.[16] As can be seen, although there is some substantial change for a few respondents, the vast plurality of respondents change very little or not at all.

The scope of this individual-level stability is further illustrated in Table 5. Here, we estimate the overall level of change for each respondent for whom latent PID could be estimated in at least five waves (n=1,773). Specifically, we calculated the absolute value of the difference between the maximum and minimum *estimated* PID from the model for each individual (which again represents the change in respondents' true PID absent measurement error). Table 5 shows that for roughly 41.6% of respondents, PID was essentially unchanged

[16]These estimates are from Model 1 above. Specifically, we estimate the latent trajectories of all respondents and place their estimated PID in the first wave where we can generate these estimates at the point (0,0).

Table 5. Amount of change in latent party identification among long-term panelists

Amount of change	Number	Percentage
$0 - 0.25$	738	41.6
$0.25 - 0.5$	605	34.1
$0.5 - 1$	322	18.2
$1 - 1.5$	82	4.6
≥ 1.5	26	1.5
Total	1773	100

Change is estimated for individual i as $|\max(\text{PID}_{it}) - \min(\text{PID}_{it})|$. These unweighted counts were estimated only among panelists for whom estimates could be generated for at least five waves.

(< 0.25 categories) across the panel. Another 34% changed less than a half of a category. Indeed, estimated PID changed more than a full category for only 7% of respondents. Thus, while we are able to demonstrate significant and explainable changes in PID, it is important to understand these results in context.

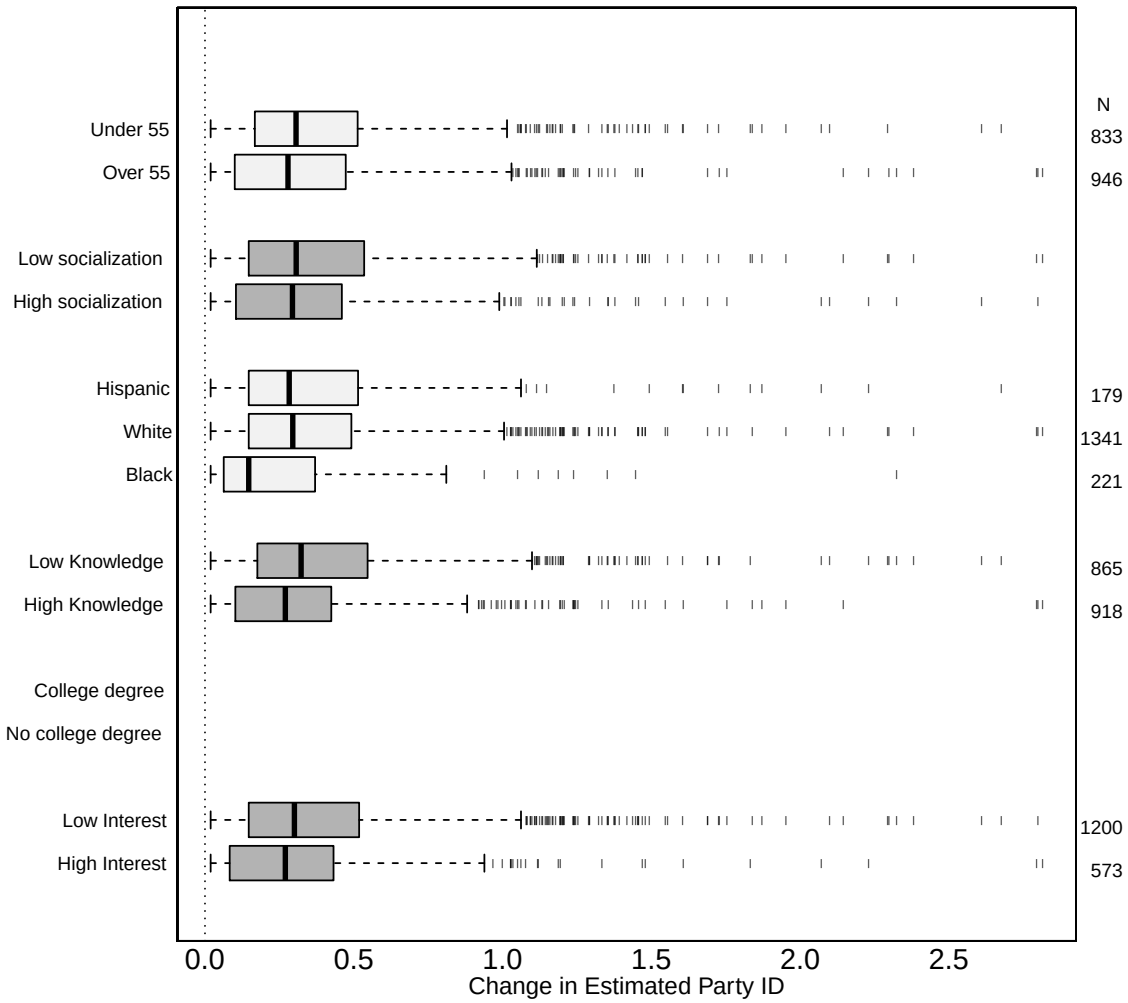
Are there important individual-level differences in PID change as Hypotheses 3–6 state? To test this, we examine how the *estimated change* in PID among long-term panelists[17] differs among several subgroups, defined by time-invariant individual-level predictors. Specifically, we break down change by age (over 55 vs. under 55), political socialization (coded as high for individuals whose ID at age 18 matched both of their parents), race/ethnicity, political knowledge, education, and political interest. The results are shown in Figure 11.

With one exception, our expectations are met. Individuals over 55 do exhibit significantly less change in PID (Hypothesis 3), and the same is true for individuals whose PID at age 18 matched both of their parents (Hypothesis 4). Further, change in PID is significantly lower for Black respondents (Hypothesis 5), although there is little difference in the change of White and Hispanic respondents.

However, the evidence does not support Hypothesis 6. PID is most likely to change among

[17]As above, we focus here on panelists for whom PID could be estimated in at least five waves. Since the model requires a lagged value, this requires panelists to have responded to at least six waves.

Figure 11. Change in estimated party identification among long-term panelists by subgroup



Change is estimated for individual i as $|\max(\text{PID}_{it}) - \min(\text{PID}_{it})|$. All group-level differences are significant ($p < 0.05$) according to the Wilcoxon Sign-Rank test for difference in medians with the exception that Hispanics are not distinguishable from whites. These unweighted analyses were estimated using only panelists for whom estimates could be generated for at least five waves.

individuals who score *below* average on our measure of political knowledge, which does not support the notion that change is most likely among individuals who are attuned to relevant political information.[18] Further, PID change is *lower* for individuals who have completed a college degree, which contradicts previous studies that have used level of education as a proxy for political sophistication (Box-Steffensmeier and DeBoef 2001). Finally, self-reported interest in politics is negatively associated with changes in PID, which also goes against Hypothesis 6. These findings may reflect the fact that PID is more extreme (i.e., stronger) for highly interested and sophisticated individuals. For instance, over 50% of ''highly interested'' respondents identified in the pre-panel survey as either strong Democrats (n=157) or strong Republicans (n=115), while fewer than 25% of respondents in the less interested category did likewise.

Before concluding, we note that each of the differences shown in Figure 5 is statistically significant according to a Wilcoxon sign-rank test for the difference in medians, which requires no strong distributional assumptions. Further, we show in Appendix D that the conclusions above also hold in a multivariate regression analysis, although the relationship between political interest and PID stability is no longer statistically distinguishable from zero after controlling for other factors.

5. CONCLUDING DISCUSSION

The central focus of the contending perspectives on PID concerns the claimed impervious nature of PID to the short-term influence of political experiences, such as affect towards the parties, presidential approval, and evaluations of the economy. Are citizens watching the parties, keeping score in their minds, and updating their attachments in response to events? Or do citizens internalize their attachements to the parties, allowing their understandings of their selves and their worlds to take on a partisan tinge? While these are central questions in

[18]If we break respondents up into three categories (low knowledge, medium knowledge, high knowledge), the relationship between PID change and political knowledge is strictly negative.

the history of the scientific study of political behavior, the answers to these questions remain unclear. As Erikson, MacKuen and Stimson (2002) note, ''The micro behavior literature fails to resolve this issue of the nature of citizen attachment to party, in particular, whether it is fundamentally based upon rational appraisals of outcomes or on 'identification' in its strongest sense, a self-image of commitment to one side'' (p. 15).

In this article, we exploit the unprecedented richness of The American Panel Study to show that *both* the PID-as-stable-identity and the PID-as-running-tally conceptualizations are correct for different people at different times. Using a novel conditional autoregressive latent trajectory model, we show that PID does change for some individuals, and that this change is associated with short-term political factors including net evaluations of the parties and the president. Notably, we are able to show that this relationship holds even after accounting for measurement error. On the other hand, we show that changes in latent PID are neither rapid nor universal. When PID changes, it changes slowly, and for many people it does not change at all. Thus, PID is not so much the ''unmoved mover'' as the ''very slow mover'' or perhaps the ''infrequent mover'' of public opinion.

These findings echo scholars of *aggregate* PID who have long argued that PID is neither a simple evaluation of the parties nor an immutable identity, but rather a bit of both (Erikson, MacKuen and Stimson 2002, 15). At the aggregate level, PID is not static, but neither is it as responsive to short-run forces as, say, presidential approval reflecting heterogeneity in PID change at the individual level. Thus, in a real sense our results provide concrete micro-level foundations for the dynamics of macropartisanship (MacKuen, Erikson and Stimson 1989).

In all, we believe that the results above represent the most comprehensive examination of individual-level PID change to date. Nonetheless, their are limitations to the present study and opportunities for future research. First, we argue that PID changes as a consequence of changes in net party evaluations and presidential approval. As these factors are extremely difficult to manipulate experimentally on a durable basis, we are left to evaluate these effects in an observational setting that presents serious challenges for measurement and causal

inference. Although we have sought to systematically address these concerns using a variety of statistical approaches, our study, like all observational studies, has important limitations, and our conclusions must be qualified accordingly.

Second, TAPS covers a limited, tranquil period in American politics. During the 2011–2014 period, fiscal deadlines provided the most salient political issues, with both parties suffering public approbation, and no change in party control of the presidency, House, or Senate took place. These conditions stack the deck against finding an influence of short-term political forces. Indeed, aggregate party evaluations and PID changed little during the period. We believe that a longer study that encompasses more dramatic political events (e.g., a change in presidential administrations) is likely to demonstrate stronger effects.

Third, we have not reported results for an alternative specification of the party identification variable. Specifically, we find the argument, made by Bartels et al. (2011) and many others, that PID is properly treated as a nominal-level three-category variable, to be reasonable. While most of the analysis of change in PID uses the seven-point scale, as we have here, we expect that we would find less change in PID using a three-category variable and may find it more difficult to find significant effects for short-term political forces. A skeptical interpretation of our results, therefore, is that we have demonstrated systematic changes in the *strength* of PID, rather than shifts in a "true" social identity captured by the three-category measure.

Finally, the running tally account of PID describes how a lifetime of accumulated party evaluations serves as the baseline from which a recent event may tip the balance from one party to another. Likewise, it is possible that socialization may continue beyond the early lifetime, and social identity itself can change in response to important life events. Panel data collected over a few years cannot capture either the life-long social process or life-long accumulation of party evaluations, and it is possible that panels spanning longer periods may reach somewhat different conclusions.

Despite these limitations, we believe that the results above may serve as a basis for

renewed explorations of the micro-level foundations of PID dynamics. For instance, we have shown that net party evaluations and presidential approval are key drivers of PID, but what factors are most critical in shaping these evaluations in turn? Further, future research should also examine additional factors that affect PID stability, and particularly the role of political sophistication. Other potential explanatory factors here might include personality traits, race and class identities, cognitive styles, political sophistication, and more. Finally, another avenue of future research using long-term panels could explore how PID changes in response to critical life events and changes in one's social and geographic environment. The robustness of our results suggests that investigation into this long-running debate should be expanded and evaluated.

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A. SUPPLEMENTARY TABLE FOR MODEL 2

Table SI-1. Autoregressive coefficients for Table 2

April 2012	0.094*
	(0.030)
June 2012	0.110*
	(0.028)
September 2012	0.101*
	(0.025)
October 2012	0.152*
	(0.027)
November 2012	0.157*
	(0.030)
April 2013	0.177*
	(0.037)
May 2013	0.215*
	(0.042)
July 2013	0.233*
	(0.047)
December 2013	0.244*
	(0.051)
March 2014	0.271*
	(0.059)
June 2014	0.299*
	(0.067)

All coefficients are significant at the $p < 0.001$ level. Standard errors are in parentheses.

B. BIVARIATE CONDITIONAL ALT MODEL

We also estimated the relationship between the *trends* in net party evaluation and PID. Figure SI-1 shows the conditional bivariate ALT model we use to test for such a relationship between PID and net party evaluations. This model estimates individual-specific constants and slopes for latent PID, but we now also estimate constants and slopes for latent net party evaluations. In both cases, we control for the autoregressive nature of the data, but we now also included cross-lagged of both net party evaluations on PID and *vice versa*. Finally, we control for the same time-invariant factors included in the main text. The main results are reported in Tables SI-2 and SI-3. Most critically, Table SI-2 shows that the individual-specific slopes for PID and net party evaluations are negatively related, indicating that stronger net evaluations of Democrats leads individuals to be more likely to identify as Democrats over time.

Figure SI-1. Conditional bivariate ALT with time-invariant predictors (Z)

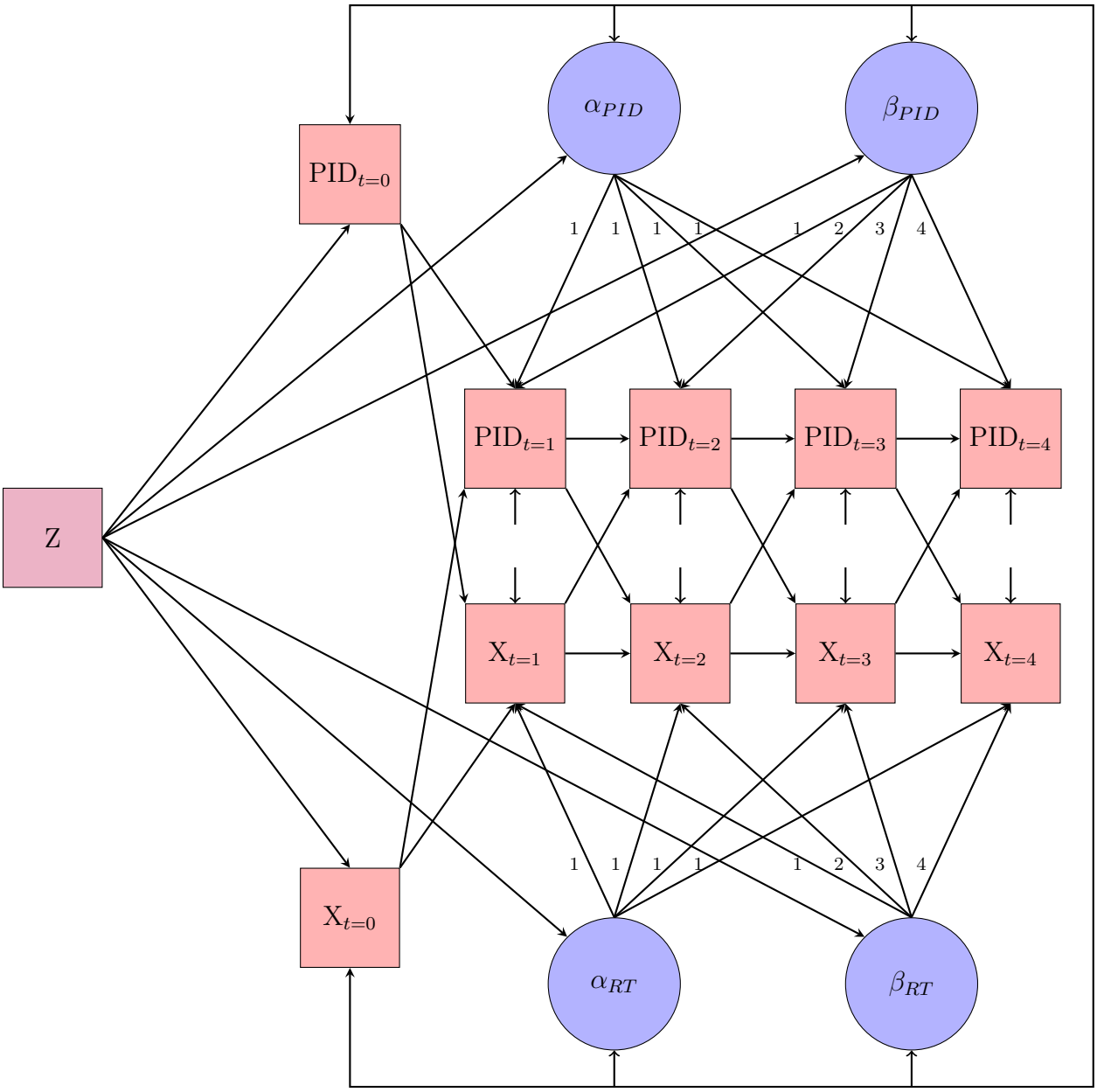

Table SI-2. Hierarchical components of conditional bivariate ALT model of party identification (PID) and net party evaluations (NPE)

	Party ID Constant	*Net Evaluation Constant*
Intercept	4.486 *	−0.942*
	(0.326)	(0.295)
PID at age 18	1.135*	−0.748*
	(0.068)	(0.066)
Education	−0.139*	0.135*
	(0.028)	(0.026)
Female	−0.413*	0.252*
	(0.100)	(0.094)
White	0.672*	−0.579*
	(0.111)	(0.105)
Income	0.036*	−0.035*
	(0.016)	(0.014)
σ_α^2	2.400*	1.935*
	(0.147)	(0.136)
	Party ID Slope	*Net Evaluation Slope*
Intercept	−0.060	0.017
	(0.035)	(0.025)
PID at age 18	−0.015	0.012
	(0.008)	(0.006)
Education	0.001	0.001
	(0.002)	(0.002)
Female	0.015*	-0.012
	(0.006)	(0.007)
White	0.010	0.006
	(0.009)	(0.008)
Income	0.000	0.000
	(0.001)	(0.001)
σ_β	0.002	0.002
	(0.001)	(0.001)
Correlated errors		
α_{PID} with α_{NPE}	−1.851*	
	(0.111)	
β_{PID} with β_{NPE}	−0.002*	
	(0.000)	
α_{PID} with β_{PID}	−0.039*	
	(0.015)	
α_{PID} with β_{NPE}	0.030*	
	(0.011)	
β_{PID} with α_{NPE}	0.028*	
	(0.012)	
CFI	0.981	
RMSEA	0.031	
BIC	76342.6	
χ^2	24722	
DOF	396	
N	1463	

* Indicates significant at $p < 0.05$. Standard errors are in parentheses.

Table SI-3. Autoregressive and cross-lag components of conditional bivariate ALT model of party identification (PID) and net party evaluations (NPE)

Autoregressive (PID)		Autoregressive (NPE)	
$PID_0 \rightarrow PID_1$	0.125*	$NPE_0 \rightarrow NPE_1$	0.153*
	(0.024)		(0.034)
$PID_1 \rightarrow PID_2$	0.126*	$NPE_1 \rightarrow NPE_2$	0.123*
	(0.023)		(0.029)
$PID_2 \rightarrow PID_3$	0.104*	$NPE_2 \rightarrow NPE_3$	0.205*
	(0.022)		(0.025)
$PID_3 \rightarrow PID_4$	0.140*	$NPE_3 \rightarrow NPE_4$	0.290*
	(0.026)		(0.025)
$PID_4 \rightarrow PID_5$	0.138*	$NPE_4 \rightarrow NPE_5$	0.059*
	(0.030)		(0.026)
$PID_5 \rightarrow PID_6$	0.153*	$NPE_5 \rightarrow NPE_6$	0.177*
	(0.037)		(0.023)
$PID_6 \rightarrow PID_7$	0.167*	$NPE_6 \rightarrow NPE_7$	0.242*
	(0.043)		(0.025)
$PID_7 \rightarrow PID_8$	0.174*	$NPE_7 \rightarrow NPE_8$	0.143*
	(0.049)		(0.028)
$PID_8 \rightarrow PID_9$	0.170 *	$NPE_8 \rightarrow NPE_9$	0.203*
	(0.050)		(0.029)
$PID_9 \rightarrow PID_{10}$	0.186*	$NPE_9 \rightarrow NPE_{10}$	0.143*
	(0.058)		(0.032)
$PID_{10} \rightarrow PID_{11}$	0.199*	$NPE_{10} \rightarrow NPE_{11}$	0.187*
	(0.066)		(0.035)
Cross-lag (NPE→PID)		Cross-lag (PID→NPE)	
$NPE_0 \rightarrow PID_1$	0.030	$PID_0 \rightarrow NPE_1$	0.000
	(0.024)		(0.019)
$NPE_1 \rightarrow PID_2$	0.012	$PID_1 \rightarrow NPE_2$	0.030
	(0.020)		(0.015)
$NPE_2 \rightarrow PID_3$	0.031	$PID_2 \rightarrow NPE_3$	−0.021
	(0.018)		(0.015)
$NPE_3 \rightarrow PID_4$	0.023	$PID_3 \rightarrow NPE_4$	−0.013
	(0.016)		(0.012)
$NPE_4 \rightarrow PID_5$	−0.025	$PID_4 \rightarrow NPE_5$	-0.024
	(0.018)		(0.013)
$NPE_5 \rightarrow PID_6$	0.017	$PID_5 \rightarrow NPE_6$	0.021
	(0.015)		(0.015)
$NPE_6 \rightarrow PID_7$	0.019	$PID_6 \rightarrow NPE_7$	0.012
	(0.015)		(0.012)
$NPE_7 \rightarrow PID_8$	−0.007	$PID_7 \rightarrow NPE_8$	0.019
	(0.013)		(0.013)
$NPE_8 \rightarrow PID_9$	0.008	$PID_8 \rightarrow NPE_9$	0.019
	(0.020)		(0.019)
$NPE_9 \rightarrow PID_{10}$	0.001	$PID_9 \rightarrow NPE_{10}$	0.004
	(0.023)		(0.016)
$NPE_{10} \rightarrow PID_{11}$	0.016	$PID_{10} \rightarrow NPE_{11}$	0.001
	(0.019)		(0.019)

* Indicates significant at $p < 0.05$ level. Standard errors in parentheses.

C. SUPPLEMENTAL TABLES FOR INSTRUMENTAL VARIABLES ANALYSIS

Table SI-4. First Stage Results for Models I-III

	(I) Economy$_t$	(II) Pres. App.$_t$	(III)) Net party eval.$_t$
Economy$_{t-1}$	0.658*		
	(0.016)		
Pres. App.$_{t-1}$		0.725*	
		(0.015)	
Net party eval.$_{t-1}$			0.617*
			(0.019)
PID$_{t-1}$	−0.068*	−0.137*	−0.253*
	(0.007)	(0.009)	(0.017)
Education	0.027*	0.015	0.022*
	(0.006)	(0.005)	(0.009)
Female	−0.024	−0.017	−0.024
	(0.020)	(0.017)	(0.031)
White	−0.069*	−0.012*	−0.045
	(0.026)	(0.023)	(0.040)
Income	0.000	−0.004	−0.004
	(0.003)	(0.002)	(0.004)
PID at 18	0.028*	0.017	0.017
	(0.013)	(0.011)	(0.022)
Constant	0.291*	0.539*	0.874*
	(0.085)	(0.081)	(0.159)
Wave FE	Yes	Yes	Yes
N	12,469	12,588	11,590
Clusters	1,448	1,449	1,446

The $*$ indicates coefficients significant at the $p < 0.05$ level. Standard errors are in parentheses.

Tables SI-4 and SI-5 show the first-stage results for the instrumental variables analysis shown in the the main text. As one would expect, lagged values of the covariates strongly predict contemporaneous values.

Table SI-6 displays the results for alternative instrumental variable regressions shown in Table 4. Column I displays the results for the instrumental variable regression obtained using the generalized method of moments two-staged estimation (GMM2S). Column II displays the results with bootstrapped standard errors. In both cases, we find very similar results as reported in the main text.

Finally, Column III shows the instrumental variable regression results using first differences

Table SI-5. First Stage Results Model IV

	Economy$_t$	Pres. App.$_t$	Net party eval.$_t$
Economy$_{t-1}$	0.609*	0.111	0.060*
	(0.014)	(0.013)	(0.019)
Pres. App.$_{t-1}$	0.109*	0.655*	0.176*
	(0.010)	(0.017)	(0.019)
Net party eval.$_{t-1}$	0.021*	0.058*	0.555*
	(0.007)	(0.008)	(0.021)
PID$_{t-1}$	−0.011	−0.111*	−0.197*
	(0.008)	(0.011)	(0.016)
Education	0.028*	0.006	0.010*
	(0.007)	(0.006)	(0.010)
Female	−0.023	−0.002	−0.010
	(0.020)	(0.018)	(0.034)
White	−0.031	−0.121*	−0.044
	(0.026)	(0.025)	(0.044)
Income	0.001	−0.005	−0.000
	(0.003)	(0.003)	(0.005)
PID at 18	0.029*	0.006	0.007
	(0.013)	(0.011)	(0.022)
Constant	0.005*	0.570*	0.752*
	(0.096)	(0.089)	(0.178)
Wave FE	Yes	Yes	Yes
N	11,057	11,057	11,057
Clusters	1,440	1,440	1,440

The $*$ indicates coefficients significant at the $p < 0.05$ level. Standard errors are in parentheses.

of the observed variables. That is, we use the difference between time period $t-2$ and $t-1$ as an instrument on the difference between $t-1$ and t. Given the stability of many of these factors across the panel, this is a very stringent test. Nonetheless, the results in this model exhibit a significant statistical relationship between PID change and change in net party evaluations.

Table SI-6. Alternative Instrumental Variable Analyses

	(GMM)	(Bootstrap)	(FD)
Economy$_t$	0.018	0.011	−0.035
	(0.033)	(0.018)	(0.047)
Pres. App.$_t$	−0.147*	−0.130*	0.058
	(0.028)	(0.021)	(0.062)
Net party eval.$_t$	−0.170*	−0.149*	0.079*
	(0.033)	(0.017)	(0.030)
PID$_{t-1}$	0.704*	0.727*	−0.433*
	(0.030)	(0.015)	(0.035)
Education	−0.004	−0.006	
	(0.007)	(0.005)	
Female	0.007	−0.017	
	(0.024)	(0.017)	
White	0.057	0.065*	
	(0.031)	(0.019)	
Income	−0.001	0.004	
	(0.003)	(0.003)	
PID at 18	0.152*	0.138*	
	(0.019)	(0.016)	
Constant	1.128*	1.103*	
	(0.143)	(0.084)	
Wave FE	Yes	Yes	Yes
R^2	0.855	0.871	0.172
N	11,057	11,057	8,924
Clusters	1,440	1,440	1,412

The $*$ indicates coefficients significant at the $p < 0.05$ level. Standard errors are in parentheses.

D. MULTIVARIATE ANALYSIS OF PID CHANGE

To supplement the analysis in the main text, we conducted a multivariate analysis of PID change, where the dependent variable is the log-transformed value of individual-level change in PID over the course of the panel. We control for all of the explanatory factors shown in Figure 11. For political knowledge, we divide the sample into tertials, and include indicators for individuals in the highest and lowest third on our political knowledge score, leaving the middle category as the reference group. We also control for age and level of eduction (using the full 15-category variable). Further, we include indicators for individuals who indicated a high level of interest in politics and those who with strong familial socialization. Finally, we include indicators for Black respondents and Hispanics, leaving non-Hispanic white respondents as the reference category. The results are shown in Table SI-7. These coefficients are consistent with the results in the main text, with the exception that level of interest is not significantly related to PID stability after controlling for these other factors.

Table SI-7. Multivariate analysis of logged change in PID for long-term panelists

Constant	-0.2467
	(0.2002)
High political knowledge	-0.2302*
	(0.0674)
Low political knowledge	0.1349*
	(0.0609)
Age	-0.0052*
	0.0017
High interest	-0.0931
	(0.0575)
Education	-0.0603*
	(0.0146)
Black	-0.6678*
	(0.0935)
Hispanic	-0.0462
	(0.0850)
Strong socialization	-0.1091*
	(0.0520)
R^2	0.0916
N	1,468

Change is estimated for individual i as $ln(|\max(\text{PID}_{it}) - \min(\text{PID}_{it})|)$. The $*$ indicates coefficients significant at the $p < 0.05$ level. Standard errors are in parentheses. This analyses was not estimated using survey weights.

E. QUESTION WORDING

Party Identification (PID) Generally speaking, do you think of yourself as a ...? Would you call yourself a strong [party name] or not so strong [party name]? Do you think of yourself as closer to the Republican Party or to the Democratic Party? *[Strong Democrat; Not so strong Democrat; Lean Democrat; Independent; Lean Republican; Not so strong Republican; Strong Republican]*

Presidential Approval Do you approve or disapprove of the way the following are doing their jobs?:[*Strongly Approve (coded 2), Somewhat Approve (coded 1), Somewhat Disapprove (coded -1), Strongly Disapprove (coded -2), Not Sure (coded 0)*]

- President Obama

Differential Party Affect Do you approve or disapprove of the way the following are doing their jobs?:[*Strongly Approve (coded 2), Somewhat Approve (coded 1), Somewhat Disapprove (coded -1), Strongly Disapprove (coded -2), Not Sure (coded 0). (Feeling towards Democrats) —(Feeling towards Republicans)=Differential Party Affect*]

- Democrats in Washington
- Republicans in Washington

Economic Perceptions Are the economic conditions in your household and in the country getting better, worse, or not changing much?:[*getting much better (coded 2) getting somewhat better (coded 1) not changing much (coded 0) getting somewhat worse (coded -1) getting much worse (coded -2) not sure (coded 0)*]

- in the country as a whole

Partisanship at 18 Looking back to the time you were a teenager, did your father consider himself to be a Democrat, Republican, independent, or affiliated with another party? **Father's Partisanship** Looking back to the time you were a teenager, did your father consider himself to be a Democrat, Republican, independent, or affiliated with another party? **Mother's Partisanship** When you turned 18 years old, did you consider yourself to be a Democrat, Republican, an independent, or what? **Partisan Socialization** [*coded as ''high'' if panelist's Partisanship at 18 is Republican with both parents identified as Republicans or if panelist's Partisanship at 18 is Democrat with both parents identified as Democrats. All other values are coded as ''low.''*]

Gender: Are you male or female? *[Male; Female]. Coded as 1 if Female, 0 if Male.*

Hispanic: This question is about Hispanic ethnicity. Are you of Spanish, Hispanic or Latino descent? **Race:** Please check one or more categories below to indicate what race(s) you consider yourself to be?

- White
- Black or African American
- American Indian or Alaska Native
- Asian/Pacific Islander

Income: We want to know about the total income in your household. What was your household income in the past year? *[below $10,000; $10,000 to $19,999; $20,000 to $29,999; $30,000 to $39,999; $40,000 to $49,999; $50,000 to $59,999; $60,000 to $69,999; $70,000 to $79,999; $80,000 to $89,999; $90,000 to $99,999; $100,000 to $124,999; $125,000 to $149,999; $150,000 to $199,999; $200,000 to $249,999; $250,000 to $299,999; $300,000 or more]*

Education: What is the highest level of school you have completed? *[No formal education; 1st, 2nd, 3rd, or 4th grade; 5th or 6th grade; 7th or 8th grade; 9th grade; 10th grade; 11th grade; 12th grade NO DIPLOMA; HIGH SCHOOL GRADUATE —high school DIPLOMA or the equivalent (GED); Some college, but no degree; Associate degree; Bachelor's degree; Master's degree; Professional degree; Doctorate degree]*

Political Interest: How interested would you say you are in politics and current affairs? *[very interested; somewhat interested; not very interested; not at all interested]. Coded as 1, or ''high interest'' if answered ''very interested.'' All others coded as 0 or ''low interest.''*

Political Knowledge: *[Coded as the sum of correct answers. Response options for these questions are*

available at `taps.wustl.edu`*]*

- Which party holds a majority of seats in the U.S. House of Representatives in Washinton?
- How many votes are required in Congress to override a presidential veto?
- How long is one term for a member of the U.S. Senate? *[two years; four years; six years; eight years; Don't know]*
- The ability of a minority of senators to prevent a vote on a bill is known as what?
- Who is the Vice President of the United States?
- A president may serve ... *[one term; two terms; three terms; any number of terms; Don't know]*
- Members of the U.S. Supreme Court may serve ...
- Who is Chief Justice of the United States Supreme Court?
- Social Security is ... *[the benefit program for senior citizens; the responsibility of the Department of Defense; operated by state governments; funded by the personal income tax; Don't know]*
- On which of the following federal programs is the most money spent each year? *[aid to foreign countries; Medicare; subsidies to farmers; education; Don't know]*