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The dynamic properties of individual-level party identification in the United States

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ABSTRACT

Central to traditionalist and revisionist perspectives of individual-level party identification is a debate about the stability of party identification. We revisit the debate about the dynamic properties and processes underlying party identification. We present a conceptual framework that defines heterogeneity and state dependence as endpoints of a continuum underlying partisan stability, which is important in understanding an individual's capacity for updating partisanship. Using panel data from the 1992–1996 National Election Study, we estimate dynamic, random effects multinomial logit models of party identification that distinguish between heterogeneity and "true state dependence." In accord with traditionalist perspectives, our evidence suggests that in general, minimal state dependence underlies party identification; party identification is strongly stationary. However, we find that age enhances the magnitude of state dependence, which provides some support for revisionist theories. Overall, our work showcases how explaining individual-level dynamics expands our knowledge of partisan stability.

Party identification is a fundamentally important concept for understanding mass political behavior, in both the U.S. and beyond. Analysis of this concept has produced one of the most enduring and significant literatures in American politics. Furthermore, the long-term stability of party identification at both the individual and aggregate levels has important implications for our understanding of voting, political participation, and election outcomes.

Over the years, scholars have estimated levels of partisan stability, and we know that party identification is perhaps the most stable of the many political attitudes (e.g., Campbell et al., 1960; Converse, 1964; Converse and Markus, 1979). Perspectives of partisan stability are commonly placed within traditionalist versus revisionist debates, with the former school contending that party identification is a stable "unmoved mover" and the latter school arguing that party identification is a malleable attitude that is endogenous to retrospective evaluations. However, we contend that even decades after Dreyer (1973) published on the topic of change and stability in partisanship, questions about the underlying dynamic properties of individual-level party identification remain unsettled. Specifically, what potential behavioral processes underlie partisan stability? What are the implications of these dynamic processes for our understanding of party identification? From the studies that have broached this topic (Green and Yoon, 2002; Wawro, 2002; Clarke and McCutcheon, 2009), differing methodological techniques have produced conflicting substantive results, which we discuss in more detail below.

Given the central role of partisanship in U.S. elections, understanding its dynamic properties is fundamental to

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our understanding of the formation of party coalitions and the role of party elites. If party identification is dynamic and malleable, then partisan coalitions and polarization are a continuous product of candidate positioning, retrospective considerations, and ideological sorting. For instance, a prominent explanation for partisanship's stronger role within American voting behavior is that it is a product of increased ideological sorting, where issue opinions are more closely aligned with party identifications (e.g., Abramowitz and Saunders, 2008; Bafumi and Shapiro, 2009; Fiorina, 2002; Levendusky, 2009). We can determine how endogenous the process is if we know the dynamic properties of partisan identification, thereby clarifying whether the current resurgence is a product of partisanship alone or the melding of partisanship with other forces. The implications of a more dynamic individual-level party identification would also indicate a larger role for elites to mold partisan coalitions. Finally, the stability of individual-level partisanship has macro-level implications (Box-Steffensmeier and Smith, 1996; Clarke and McCutcheon, 2009).

In this article, we place individual-level party identification within a dynamic context and offer a perspective of what underlies partisan stability. We seek to highlight and apply an important conceptual and methodological distinction between *heterogeneity* and *true state dependence* in individual dynamic processes to the concept of party identification. This distinction has been deemed substantively and methodologically important in economic studies of wages and unemployment (e.g., Arulampalam et al., 2000; Gong et al., 2004; Heckman, 1981a; Vella and Verbeek, 1998), though it has not been emphasized in political science.[3] True state dependence implies that one's individual propensity for being in a partisan state changes as a result of past experience in a partisan state. According to this view, party identification possesses memory, and changes persist into the future. On the other hand, heterogeneity suggests that individuals' characteristics are strongly determinative of their party identifications; past experiences fail to exhibit a genuine impact on current identification. According to this view, party identification is stationary, such that an individual who deviates from an identification returns to his or her original identification very quickly. Individuals may change, but such changes do not persist in the long term.

While distinguishing between these processes poses obstacles, the processes have substantively important implications for understanding the essence of party identification. Does individual-level party identification possess memory such that changes in one's partisanship persist and reversion to a long-term partisan equilibrium takes years? Or does party identification evince a strong stationary quality such that shifts in one's partisanship are followed by a quick reversion to his or her original state or equilibrium level? As we explain, the distinction contributes to traditionalist versus revisionist debates of stability by focusing on people's *capacity* for updating their partisanship. The framework also addresses conflicting accounts between Green and Yoon (2002), Wawro (2002), and Clarke and McCutcheon (2009), among others, concerning individual-level dynamics in party identification.

We employ an innovative statistical methodology capable of empirically distinguishing between heterogeneity and state dependence. Using panel data from 1992–1996, we estimate a random effects multinomial logit model. Results reveal that minimal state dependence underlies partisan stability, and instead, individual-level party identification evinces a strong stationary quality. However, we do find that age enhances the magnitude of true state dependence. On the whole, our conceptual and statistical framework showcases how explaining individual-level dynamics can expand our knowledge of not only party identification but other attitudes as well.

1. Stability and party identification

It has become commonplace to divide research on party identification into "traditionalist" and "revisionist" categories. Traditionalists support *The American Voter* conception of party identification as a psychological attachment that serves as an "unmoved mover" within a field of causal forces that culminates in the vote choice (Campbell et al., 1960). Revisionists argue that party identification is malleable, and that it should be viewed as a running tally of retrospective evaluations (Fiorina, 1981). In this conception, party identification is responsive to short-term forces such as evaluations of presidential candidates (Markus and Converse, 1979), retrospective evaluations of the economy and government officials (Fiorina, 1981; Brody and Rothenberg, 1988), and issue proximity (Franklin and Jackson, 1983; Franklin, 1984, 1992).

At the heart of both traditionalist and revisionist perspectives is a concern about the extent to which individuals maintain stable party identification levels over time. Because party loyalties are a type of group identification, Campbell et al. (1960) expect party identification to be as enduring as religious or ethnic loyalties, a contention reiterated more recently by Green et al. (2002). If citizens learn their party identifications as children and maintain them thereafter, then these attitudes are logically antecedent, and therefore exogenous, to election-specific issues and candidate evaluations. In short, party identification is highly stable, according to traditionalists.

Many traditionalists and revisionists agree that childhood socialization, especially transmission of partisan information by parents, influences the party identification of adults (e.g., Achen, 1992; Beck and Jennings, 1975; Franklin, 1984; Jennings and Niemi, 1968). But revisionists also claim that party identification is updated throughout a person's lifetime on the basis of retrospective evaluations (Fiorina, 1981) and prospective gains (Achen, 1992). If party identification is endogenous to short-term influences, such as presidential approval or candidate issue positions, then stability in party identification is dependent on the extent to which short-term forces influence current party

[3] However, work in political science has emphasized the related concept of *path dependence* underlying political processes (Jackson and Kollman, 2007; Page, 2006; Pierson, 2000), and important work by Clarke and McCutcheon (2009) uses mixed Markov latent class models to show that partisan attachments exhibit substantial dynamism at the latent variable level in the American, British, and Canadian electorates.

identification as well as the stability of such factors. Green and Palmquist (1990, 1994) contend that when controlling for measurement error, the impact of short-term forces on party identification disappears and party identification is highly stable.[4]

A deeper inquiry into partisan stability, and one to which our research contributes, centers on the *underlying sources of stability* and the need to account for individual heterogeneity. This question has received limited attention in the literature. In an innovative study, Green and Yoon (2002); (see also Green et al., 2002) estimate dynamic linear panel data models that account for unobserved heterogeneity. They estimate dynamics in party identification by including a lagged dependent variable and account for individual-level heterogeneity by specifying temporally constant individual-specific effects. For various datasets, they find that individual-level party identification does not exhibit significant memory. Their evidence suggests that short-term movements in party identification fade away quickly, and people return to their long-term equilibrium levels, a finding in accord with the traditionalist conception of partisan stability. In response, Wawro (2002) employs alternative dynamic linear panel data models and specification tests. Wawro finds that party identification at the individual-level exhibits significant memory, leading to the kinds of shifts in partisanship that are expected at the macro level (Wawro, 2002, p. 46). That is, past party identification has a genuine impact on current party identification after accounting for unobserved heterogeneity, a finding in accord with revisionist conceptions of partisan persistence.

Beyond their conflicting conclusions, these findings also provide problematic methodological interpretations. Both studies treat partisanship as a linear dynamic process, since partisanship is assumed to be an interval-level measure. Second, as Clarke and McCutcheon (2009) argue, the first-difference instrumental variables estimates of Green and Yoon (2002) substantially complicate and change interpretations of their significance tests. In response, Clarke and McCutcheon present and use a latent class approach, which accounts for measurement error and uses categorical measures. An advantage of their model is that it provides a relative measure of the time-constant and dynamic components underlying partisan dynamics. However, this mixture is only allowed to exist in the aggregate, as their theoretical model characterizes individuals as either of a stable group or a fluid group. We go beyond this "black or white" model by proposing a distinction between heterogeneity and true state dependence as two processes at either end of a continuum within which we can place individual-level party identification dynamics. Our work addresses many of Clarke and McCutcheon's arguments, but also improves upon current findings by providing straightforward estimates of individual capacities for updating and examining what types of people show persistence in their dynamics and which types do not.

[4] Others have shown through analytical solutions and simulation that the Wiley and Wiley (1970) estimator is biased upward when unobserved heterogeneity is present (Brady, 1993; Box-Steffensmeier and Smith, 1996; Green and Yoon, 2002).

2. Foundations of partisan stability: the heterogeneity and state dependence continuum

Our conceptual discussion centers on *heterogeneity* and *true state dependence* as two endpoints of a continuum underlying partisan stability (e.g., Heckman, 1981a). We treat party identification as a choice that individuals make between discrete states (Democrat, Republican, or Independent). While this contradicts the interval-level assumption made by many, including Green and Yoon (2002) and Wawro (2002), it is consistent with discrete choice assumptions made by others (e.g., Clarke and McCutcheon, 2009; Fiorina, 1981; Franklin and Jackson, 1983; Franklin, 1992; Mebane and Wand, 1997). The assumption that the seven-point party identification measure provides analysts with interval-level information is troublesome, as Mebane and Wand (1997, p. 4) point out:

> The problem is that at any given time some kinds of partisans may be stable in their orientations while others are not. During a particular election year it may be, for instance, that Democrats are likely to become Republicans but Republicans are unlikely to return the favor and become Democrats. Treating [party identification] as an interval-level variable implies that any instability in [party identification] must act on all of the variable's values in a uniform manner.

Thus, the assumption that party identification is a continuous, interval-level measure assumes away any subtle effects that might emerge when examining individual-level dynamics.

Individual heterogeneity and state dependence are two different processes by which an individual might come to enter into a Democratic, Republican, or Independent state over time. Heterogeneity means individuals possess certain characteristics that are strongly determinative of their party identifications. According to this approach, party identification is stationary, so that if an individual deviates from his or her partisan state, s/he will almost immediately return to the baseline identification. Because of this stationary property, individuals are unlikely to persist in any identification that deviates from their core identification determined by individual characteristics. In short, this view suggests that individuals may change, but such changes are very short-lived and individuals revert rather quickly to their long-term equilibrium identification.

On the other hand, state dependence implies that experiencing a state in the past alters one's underlying utility for choosing a certain state in the future; the past transforms a person's preferences and constraints for future behavior (Heckman, 1981a). State dependence suggests that a person who experiences a state in the past will be more likely to experience that state in the future than an otherwise identical person who did not experience the state in the past. Under a state dependent process, individual party identification would follow a dynamic process with memory, such that any changes or shifts in identification would not fade away quickly but would persist in the long term. Thus, experience in a particular state, even if it happens randomly, has a strong impact on subsequent identification. As a result, state dependence

implies that people can and do move from one state to another.

In what way could the state "change" somebody? One way of characterizing state dependence is via a Bayesian updating, or "running tally," process (Fiorina, 1981) in which the last period's tally is used as a prior and combined with new information to constitute a new tally (one's new partisan state) based on a posterior belief. A Bayesian updating process is necessarily state dependent; one's previous tally or state constitutes an anchor that weighs and informs one's current partisan identification. In contrast, if individuals do not update their partisan preferences or beliefs based on recent experiences (the heterogeneity perspective), then any previous changes in their partisan state are quickly forgotten and show no influence in the future.

There are several important theoretical implications for distinguishing between heterogeneity and state dependence as sources of partisan stability. If individual heterogeneity underlies stability, then each person has an exogenous propensity to experience a partisan state in *all* periods. Past experience in a particular state will not structurally affect current state membership because state membership is essentially predetermined by an individual's characteristics. Thus, party identification is immune to over-time contextual changes or short-term forces. Evidence of this process would support the traditionalist perspective as well as Green and Yoon's (2002; Green et al., 2002) general contention that individual-level dynamics of party identification are stationary, and people maintain a long-term partisan equilibrium. Short-term shocks fade away quickly with people returning to their equilibrium states.

The state dependence explanation fits within revisionist claims of partisan stability. Party identification is *not* immune to over-time contextual influences or short-term forces, and it is capable of being transformed, or updated, by past experiences. According to this view, people do not possess equilibrium partisan states to which they return in the face of short-term shocks. Instead, these shocks persist because party identification evinces memory, which means that if one were to change parties this year, the person would not immediately return to his or her partisan equilibrium in the short term. The magnitude of state dependence determines how slowly or quickly one returns to equilibrium in response to shocks to the process.

It is important to note that we do not view individual-level stability as solely a binary function of one of these processes. We expect and account for the possibility that both processes operate concurrently within individuals' partisanship dynamics. In fact, it could be argued that both traditionalist and revisionist camps allow for each of these processes—to a degree—within their explanations. Campbell et al. (1960) and socialization theories of party identification allow for certain "shocks" to persist via events such as getting married, moving, or young adults coming of age. Revisionists would not suggest that state dependence exclusively produces the stability we observe. But traditionalists and revisionists would differ in what they think is the more prevalent process producing stability. We are therefore interested in assessing whether one process accounts for observed stability more than the other. This question is left unanswered by differing accounts and estimation methods employed by Green and Yoon (2002), Wawro (2002), and Clarke and McCutcheon (2009), yet it is certainly important for our understanding of partisan dynamics.

By distinguishing between these two processes of stability, our work broadens previous examinations of stability by focusing on the extent to which party identification has the *capacity* to be updated. To what extent do people maintain exogenous propensities to be Democrats, Republicans, or Independents at any given time period such that these propensities are immune to short-term forces? The answers to these questions have several practical implications for understanding voters in a political context. One example is the case of presidential evaluations. If the president's co-partisans become disillusioned with the president, this could cause them to bolt from their current party identification. The extent to which this shock will persist in the long-term depends on the degree of state dependence that underlies party identification. If party identification exhibits a more stationary property, suggesting no state dependence, the shock of disillusionment with the president of one's own party will die off quickly since party identification is immune to such shocks. In sum, short-term forces will exhibit a long-term effect on party identification depending on the degree of state dependence. In the face of no state dependence, party identification has no capacity for being transformed by short-term forces. As the magnitude of state dependence increases, the capacity for short-term forces to exhibit a long-term, transformational effect on party identification increases as well.

2.1. Distinguishing between heterogeneity and state dependence

While heterogeneity and state dependence are two theoretically distinct processes, distinguishing between the two processes *empirically* poses several obstacles. Procedures for distinguishing heterogeneity and state dependence are crucial for understanding the true dynamic nature of party identification. The modus operandi in previous tests of partisan stability has been to examine the impact of one's past party identification on his or her present party identification using panel data (Converse, 1964; Fiorina, 1981; Franklin and Jackson, 1983; Green and Palmquist, 1990). Scholars interpret statistically significant stability coefficients as evidence that past party identification has a significant impact on current party identification. These scholars are implicitly making a claim about state dependence, i.e., past experience in a state exhibits a genuine impact on present state choice. The key empirical problem is whether one can ever adequately control for individual characteristics that sufficiently account for individual heterogeneity in order to determine whether there is "true" state dependence. In short, heterogeneity can look like state dependence if the heterogeneity is not controlled for appropriately.

For example, in the case of unemployment (e.g., Arulampalam et al. 2000; Heckman, 1981c), imagine two different people with different amounts of education and ability who go on welfare. A person with greater education

and ability will get a job more quickly and will therefore exit welfare. But a person with less education and ability will stay on welfare longer. Importantly, if education and ability are not measured and accounted for, then there will be an appearance of state dependence because being on welfare last period will appear to cause someone (i.e., a person with less education and ability) to be likely to be on welfare in the next period. In reality, a person who stays on welfare from period to period is doing so not because of state dependence but instead because s/he lacks the ability and education to get off welfare. Thus, the crucial issue is unmeasured heterogeneity. Heterogeneity can look like state dependence if the heterogeneity is not measured. The key empirical problem, then, is that it is impossible to measure all the ways that individuals might be different from one another. Hence, there is almost always some residual heterogeneity, which can look like state dependence when not accounted for.

To elaborate on these issues within the context of the dynamics of party identification, consider the following first-order Markov model of party identification:[5]

$$y_{it} = \alpha_i + \beta_i y_{it-1} + \gamma_1 x_{1it} + \gamma_2 x_{2i} + \gamma_3 x_{3t} + \epsilon_{it} \quad (1)$$

y_{it} represents person i's party identification at time t, and y_{it-1} represents person i's party identification at time $t-1$. x_{1it} represents individual-specific factors that vary over time, x_{2i} represents individual-specific factors that do not vary over time, and x_{3t} represents observed and/or unobserved temporal factors that may influence party choice. x_{1it} and x_{2i} represent *observed* individual heterogeneity.

The two key parameters for understanding the dynamic properties of party identification are α and β. The assumptions we make about α and β have specific implications for understanding the processes underlying stability. Each parameter takes on a different substantive meaning depending on whether each is specified as individual-specific or not. Fig. 1 presents a summary of the different meanings of the parameters depending on assumptions we make about α and β. Note that our model in Eq. (1) assumes that a first-order Markov process is sufficient for assessing state dependence.

When α is assumed to be unique for each individual, as specified in Eq. (1) and denoted on the right-hand column of Fig. 1, α_i represents an individual-specific intercept, which accounts for unobserved heterogeneity that may affect a person's propensity to choose a certain party. Unobserved heterogeneity accounts for unmeasured, unmeasurable, or unimagined individual-level factors that exhibit an impact on party choice. When α is not allowed to be individual-specific, as denoted on the left-hand column of Fig. 1, α represents a "global intercept," and individual-level, unobserved heterogeneity is not directly accounted for. A model that does not account for unobserved heterogeneity depends solely on observed, individual-specific variables to capture individual heterogeneity.

As shown in Fig. 1, the assumptions we make about α have direct implications for the substantive meaning of β. The upper-left box of Fig. 1 indicates the meaning of the parameters when we do not account for unobserved heterogeneity. Assuming our model in Eq. (1) is the true model, then failure to account for unobserved heterogeneity, by not allowing for individual-specific intercepts, gives rise to "spurious state dependence" (Heckman, 1981a). As discussed above, heterogeneity will resemble state dependence if unobserved heterogeneity is not directly accounted for; past membership will serve as a stand-in for this unobserved heterogeneity, giving a false appearance of state dependence. Importantly, a model that assumes a global intercept is incapable of distinguishing whether partisan stability has its foundations in individual heterogeneity or true state dependence. The lower-left box of Fig. 1 depicts a situation where unobserved heterogeneity is again not accounted for and the stability parameter, β, is allowed to vary across individuals (β_i).

The boxes in the right-hand column of Fig. 1 depict assumptions whereby one can distinguish explicitly between heterogeneity and true state dependence as underlying processes of partisan stability. First, the upper-right box denotes the situation where unobserved heterogeneity is accounted for via the specification of α_i and where dynamics are assumed to be fixed across individuals. Under these assumptions, β represents a global estimate of true state dependence. The lower-right box of Fig. 1 represents a model where unobserved heterogeneity is again accounted for, and the degree of true state dependence is allowed to vary across individuals. Importantly, then, misspecifying Eq. (1) by not allowing for varying intercepts can lead to spurious state dependence.

3. Data and methods

As we have discussed, many scholars would generally agree that individual-level party identification is fairly stable, particularly when compared to other political attitudes and considerations (Converse, 1964; Converse and Markus, 1979). Indeed, a high proportion of those who call themselves Democrats at time 1 remain Democrats at time 2 (and the same with Republicans and Independents). Our goal is to shed light on the extent to which each process—heterogeneity versus true state dependence—accounts for the stability we see in party identification. Our empirical analysis begins with a descriptive view of partisan stability, which is followed by our statistical model capable of distinguishing between heterogeneity and state dependence in partisan stability. The data used in the paper are from the 4-wave, 1992–1996 NES panel of 508 respondents.[6] Importantly, our analysis centers on longer-term individual dynamics of party identification, as opposed to the relatively short-term dynamics explored by other scholars. For example, Green and Palmquist's (1990) use of the 4-wave 1980 NES panel spanning only one year.

[5] This theoretical model is designed to illustrate the distinction between the two processes underlying stability, so we are agnostic at this point about the level of measurement party identification takes on. We are explicit about this in the data and methods section.

[6] We eliminated respondents not responding to the party identification question at all four waves in order the balance the panel. Thus, our data consist of 508 respondents over 4 waves, resulting in $N = 2032$. Wave 1 occurred in 1992, wave 2 in 1993, wave 3 in 1994, and wave 4 in 1996.

Substantive Interpretations of Individual-Level Dynamics of Party Identification Depending on Assumptions and Model Specification

Assumptions about Dynamics	*Assumptions about Unobserved Heterogeneity* α	α_i
β	α = "global intercept", no individual-specific unobserved heterogeneity β = stability; *spurious state dependence*	α_i = individual-specific unobserved heterogeneity β = *true state dependence*
β_i	α = "global intercept", no individual-specific unobserved heterogeneity β_i = variation in stability across individuals	α_i = individual-specific unobserved heterogeneity β_i = variation in *true state dependence* across individuals

Fig. 1. Substantive interpretations of individual-level dynamics of party identification depending on assumptions and model specification.

Therefore, our inferences are confined to longer-term dynamics, spanning over multiple years as opposed to shorter-term dynamics covering only a single year.[7]

Table 1 reports descriptive transition rates for a 3-category party identification scale (Republican, Democrat, or Independent).[8] The table reports the proportion of transitions from the state at time $t-1$ (row) to the state at time t (column). The main diagonal of Table 1 (in bold) reports the proportion of occasions in which party identification remains constant for each party identification state from time $t-1$ to time t; these 3 entries are "stability rates." Note the quite high stability rates for Democrats and Republicans. The rate for Democrats is 84.7%; the rate of switching from Democrat to Independent is 13% and from Democrat to Republican, only 2.4%. The stability rate for Republicans is 83.7%; the rate of switching from Republican to Independent is 14% and the switching rate from Republican to Democrat is only 2.3%. As might be expected, Independents exhibit more mobility than their partisan counterparts. The stability rate for Independents is 70.3%. The rate of switching from Independent to Democrat is 16.0% and from Independent to Republican, 13.7%. The average stability for all time periods is 79.2%, which means that in almost 80% of occasions, party identification remained unchanged between time $t-1$ and t.

Table 2 presents magnitudes of partisan stability, with each entry representing the change in the proportion of occasions of currently being in party j as past party choice moves from i to j. First, the average proportion of Democrats increases by 0.687 as previous party choice moves from Independent to Democrat, and by 0.824 as previous party choice moves from Republican to Democrat. The latter is the highest magnitude of stability reported in Table 2. The magnitude for stability among Independents, as shown in Table 1 as well, is lower, with the average proportion of Independents increasing by 0.574 and 0.563 as previous party state moves from Democrat and Republican, respectively, to Independent. Finally, Republican

Table 1
Sample partisan transition rates.

PID_{t-1}	PID_t		
	Dem	Ind	Rep
Dem	**0.847**	0.129	0.024
Ind	0.160	**0.703**	0.137
Rep	0.023	0.140	**0.837**
Average stability	0.792		

Entries are sample transition probabilities of being in a column state given that one was in a row state previously. For example, the sample transition probability (over all periods) of being a Democrat given that one was an Independent previously is 0.160.

[7] We suspect that the sources of stability may be different for short versus long time spans; this is an inquiry we plan to investigate in the future. Ideally, panel data tracking even broader time spans would also be studied, though high quality panel data with several waves covering, e.g., a decade are sorely lacking in political science.

[8] Our categorization is based on the first question in the traditional party identification measure: "Generally speaking, do you consider yourself a Democrat, Republican, Independent, or what?".

Table 2
Magnitude of partisan stability.

	$\Delta pr(Dem_t)$
Dem_{t-1} relative to Ind_{t-1}	0.687
Dem_{t-1} relative to Rep_{t-1}	0.824
	$\Delta pr(Ind_t)$
Ind_{t-1} relative to Dem_{t-1}	0.574
Ind_{t-1} relative to Rep_{t-1}	0.563
	$\Delta pr(Rep_t)$
Rep_{t-1} relative to Dem_{t-1}	0.813
Rep_{t-1} relative to Ind_{t-1}	0.700

Derived from Table 1, entries are changes in the sample probabilities of being in state j at time t as previous state ($t-1$) moves from i to j. For instance, the sample probability of being a Democrat at time t increases by 0.687 (i.e., 0.847–0.160) as previous state ($t-1$) moves from Independent (0.160) to Democrat (0.847).

stability exhibits similar magnitudes as Democratic stability. The average proportion of Republicans increases by 0.70 as previous party state moves from Independent to Republican, and by 0.813 as previous state moves from Democrat to Republican. In sum, party identification shows quite high levels of stability over the four-wave span from 1992–1996.

3.1. Model specification

To distinguish the relative influence of heterogeneity and state dependence, we estimate a dynamic, random effects multinomial logit panel data model. The model accounts for and estimates the degree of state dependence by (1) including lagged state dummy variables, leading to a first-order Markov process, and (2) accounting for unobserved individual-level heterogeneity with the inclusion of individual-specific, choice-specific random effects that are allowed to be correlated across choices.[9]

The utility, η, for individual i being in party identification state j for $t > 1$ is specified as:[10]

$$\eta_{ijt} = Z'_{it-1}\beta_j + \alpha_{ij} + \epsilon_{ijt} \quad (2)$$

Individuals are modeled as belonging in one of three party identification states: Independent ($j = 1$), Democrat ($j = 2$), or Republican ($j = 3$). Z_{it-1} is a vector of dummy variables indicating whether an individual is in party state j at time $t-1$. We use dummy variables for Democrat and Republican at $t-1$; Independent is the reference category. α_{ij} is an individual-specific, time-invariant, and choice-specific effect that captures both observed and unobserved heterogeneity (discussed in more detail below).[11] β_j is the effect of past membership ($t-1$) in state j on current membership (time t) in state j (relative to the reference category) and thereby provides an estimate of true state dependence. ϵ_{ijt} is an i.i.d. error term assumed to be independent of Z'_{it-1} and α_{ij} and, in the context of a multinomial logit model, it is drawn from a Type-1 extreme value distribution.

Specifying α_{ij} as a random parameter is preferable over alternatives,[12] but an initial conditions problem arises (Heckman, 1981b; Hsiao, 2003, p. 208). The initial condition of one's party identification is not exogenous when the dynamic process has been in operation prior to observation. This initially observed state is most likely a function of both unobserved past state membership and the individual effect, α_{ij} (an individual's underlying propensity to be in a given state). To treat the individual effect as uncorrelated with the initially observed state is a strong and most often inappropriate assumption.

Methods for dealing with the initial conditions problem are well-developed in the case of continuous dependent variables and have been applied to the standard 7-point party identification scale (Green and Yoon, 2002; Wawro, 2002). For discrete choice situations, Wooldridge (2005) outlines an approach for estimating dynamic, non-linear panel data models by modeling the distribution of the individual effect conditional on the observed initial value (at $t = 1$) of the dependent variable and any exogenous individual-specific explanatory variables. In this case, we parameterize the distribution of the individual effect as:

$$\alpha_{ij} = \nu_{0j} + Z'_{i0}\nu_{1j} + X'_i\nu_{2j} + u_{ij} \quad (3)$$

where Z_{i0} is a vector of dummy variables (for Democrats and Republicans) indicating the initially observed party identification state (at $t = 1$), and X_i is a vector of time-invariant, individual-specific covariates (observed heterogeneity). u_{ij} represents individual-specific and choice-specific unobserved heterogeneity (random effects) that is assumed to be distributed multivariate normal. Thus, we estimate $\text{var}(u_{i2})$, $\text{var}(u_{i3})$, and $\text{cov}(u_{i2}, u_{i3})$. The individual effect, α_{ij} is now modeled as a function of three components: the initially observed party identification state (initial condition), observed heterogeneity in the form of time-invariant covariates (e.g., race, sex, education), and unobserved heterogeneity. Plugging Eq. (3) into Eq. (2) gives us the following:

$$\eta_{ijt} = Z'_{it-1}\beta_j + \nu_{0j} + Z'_{i0}\nu_{1j} + X'_i\nu_{2j} + u_{ij} + \epsilon_{ijt} \quad (4)$$

In implementing the Wooldridge solution, we estimate, via maximum likelihood estimation, a random effects multinomial logit model where one's current party identification is a function of a set of dummy variables indicating previous partisan state, a set of dummy variables indicating one's observed party identification in the first time period (the initial condition), a set of dummy variables for each time period (to account for temporal heterogeneity), and the individual-specific random effects (individual unobserved heterogeneity). To analyze the robustness of our specification, we also estimate a second model including observed heterogeneity, particularly age, sex, race, education, and family income. To evaluate the likelihood function, we use

[9] This correlation of the choice-specific random effects allows for the relaxation of the restrictive "Independence from Irrelevant Alternatives" assumption, which is an advantage of this model.

[10] Our model set-up is akin to Gong et al. (2004).

[11] Recall that Eq. (1) also included individual variables that vary over time (x_{it}). We do not include these variables in our specification, though doing so would be a simple extension.

[12] A fixed-effects specification suffers from inconsistent estimates that appear to be even more of a problem in dynamic models (Heckman, 1981b; Wooldridge, 2005).

numerical integration via Gauss–Hermite quadrature, as implemented in the GLLAMM package (Rabe-Hesketh et al., 2004). Online Appendix A includes further details on estimation procedures.[13] The inclusion of the lagged and initial condition dummies reduces the estimable time periods to three, and thus the model includes two time period dummy variables (time 3 and time 4), where time 2 serves as the excluded year. These dummies enhance the validity of estimates of state dependence by controlling for temporal changes in partisanship that are common to all respondents and, thus, likely externally driven. Finally, we estimate additional models to examine if state dependence varies as a function of age, political knowledge, or political interest.

One final consideration concerns whether we have an adequate number of panel waves to estimate true state dependence. We addressed this concern using Monte Carlo simulation, which is discussed in Online Appendix A. Results showed no perceivable bias in the estimates of true state dependence when varying the number of waves or sample size. Lowering the number of waves and observations does decrease the efficiency of our estimates, which may limit the power of our significance tests for state dependence. In sum, the number of waves and sample size do not appear to bias our estimated magnitudes of state dependence, but these issues do have implications for standard errors.

4. Results

Table 3 presents estimates from our primary random effects multinomial logit model. This model contains estimates for the lagged state dummy variables, initial conditions dummies, and the time dummies. Online Appendix B contains an alternative model that includes five observed heterogeneity variables. Our main inferences do not change between these two models, which is intuitive given that the random effects specification controls for unobserved heterogeneity in the response across individuals. Thus, we focus on the results from Table 3.

Since "Independent" is the reference group in the models, a positive coefficient indicates that a variable has a positive impact on one's propensity of being in state *j* (either Democrat or Republican) compared to being an Independent (the reference group). For both the lagged state dummies and the initial condition dummies, "Independent" is also the baseline category. Thus, for example, a positive coefficient for the Democratic lagged state dummy (in the Democratic relative to Independent set of coefficients) means that a person who was previously a Democrat is more likely to be a Democrat at the next time period compared to an otherwise similar person who was previously an Independent. As such, the coefficients for the lagged state dummies give us explicit tests of whether true state dependence underlies partisan stability. We include substantive analyses of the magnitude of state dependence in the form of average partial effects (Wooldridge, 2005) later on in the paper. The initial conditions dummies represent effects on one's average propensity of being in state *j*. Thus, a positive Republican initial condition dummy (in the Republican relative to Independent set of coefficients) means that one who was a Republican initially is on average more likely to be a Republican (relative to an Independent) than an otherwise similar person who was initially an Independent.

Table 3
Dynamic random effects multinomial logit model of party identification.

Variables	Dem relative to Ind	Rep relative to Ind
	Coeff. (S.E.)	Coeff. (S.E.)
Democrat_{t-1}	0.833* (0.415)	−0.046 (0.632)
Republican_{t-1}	0.318 (0.671)	0.347 (0.498)
$\text{Democrat}_{t=1}$ (Initial condition)	4.957** (0.825)	−1.281 (0.808)
$\text{Republican}_{t=1}$ (Initial condition)	−2.517** (0.941)	6.191** (1.158)
Time 3	0.220 (0.263)	0.316 (0.273)
Time 4	0.696* (0.272)	−0.039 (0.277)
Constant	−3.074** (0.416)	−3.340** (0.512)
$\text{var}(u_D)$	7.119** (2.164)	
$\text{var}(u_R)$	7.744** (2.927)	
$\text{cov}(u_D, u_R)$	−3.608** (1.705)	

$N = 1524$ (508 individuals); Log likelihood = −865.95.
$^{**}p < .01$ $^{*}p < .05$; 2-tailed tests are used for the time dummies. 1-tailed tests are used for the lagged state dummies and initial conditions dummies.

Table 3 provides compelling empirical results with strong theoretical implications for our understanding of the dynamics of individual-level party identification. We first tested the joint significance of the coefficients for the lagged state dummies, and a Wald test reveals that the lagged state dummies are jointly statistically insignificant ($\chi^2 = 4.96$, df = 4, $p = 0.29$). Thus, across the board, there appears to be no significant state dependence underlying partisan stability. However, since we have operationalized party identification as a nominal discrete choice variable, we can get a better sense of whether some types of partisans are more likely to exhibit state dependence than others. First, the coefficient for the lagged Democrat coefficient is positive and statistically significant in the "Democrat relative to Independent" set of coefficients, indicating that being a Democrat in a previous period makes one more likely to be a Democrat (relative to an Independent) in the subsequent time period than an otherwise identical person who was previously an Independent. This is evidence of true state dependence for Democrats, compared to Independents. None of the other lagged state variables are statistically significant.

Thus, while there appears to be true state dependence for Democrats (compared to Independents), on the whole, there is no significant "global" state dependence (as revealed in the Wald test). We will have more to say about the magnitude of Democratic state dependence, but substantively, this finding means that, at least among Democrats, past experience in a partisan state has a genuine impact on future membership in that state. But this same finding does not emerge for Republicans, meaning that past experience as a Republican does not necessarily make one more likely to be a Republican

[13] Appendices will be posted on authors' websites in the event of publication. All appendices are included in this document.

(relative to an Independent) in the future than an otherwise identical person who was previously an Independent.

Three out of the four coefficients for the initial conditions dummies in Table 3 are large and statistically significant. These findings, along with the jointly insignificant results of the state dependence terms, bode well for the heterogeneity explanation of partisan stability. Note that those who were Democrats in the initial time period were significantly more likely to be Democrats on average (relative to Independents) than those who were initially Independents; the same finding emerges for Republicans. Also, those who were initially Republicans were significantly less likely to be Democrats (relative to Independents) than those who were initially Independents. These findings indicate that one's initial party state provides much greater explanatory power than one's lagged ($t-1$) party state. In addition to the significant initial conditions variables, the temporal heterogeneity term for time 4 is positive and significant in the Democrat relative to Independent set of coefficients, meaning that people were more likely to be Democrats (relative to Republicans) in time 4 (1996) than in time 2 (the baseline time dummy, which is 1993). We think this finding may have its foundations in Democrats' rising fortunes resulting from the economic boom that was beginning, Bill Clinton's increasing popularity, and Clinton's being on the verge of victory for a second term.

Finally, the variances of the random effects term are statistically significant, indicating that there is significant unobserved heterogeneity across individuals in their party choices. The covariance between the two random effects is statistically significant and negative, which intuitively indicates that unobserved factors that make one more likely to be a Democrat relative to an Independent are negatively correlated to unobserved factors that make one more likely to be a Republican relative to an Independent.

To shed more substantive light on some of the key findings, we calculated average partial effects (APEs) for various quantities of interest (see Wooldridge, 2005). APEs are predicted probabilities that are particularly valuable in dynamic, non-linear models with unobserved heterogeneity since they average over this heterogeneity in the sample. APEs allow us to compute the predicted probabilities of membership in current states given particular values of lagged party states while controlling for unobserved heterogeneity. Moreover, our APEs are based on simulations of the model parameters. After estimating our model, we used a Clarify-like (King et al., 2000) procedure to simulate 1000 estimates of each model parameter.[14] Thus, for each quantity of interest, we calculated 1000 APEs, which allows us to communicate uncertainty (in the form of standard errors) in the substantive quantities of interest.

Tables 4 and 5 present a compelling substantive view of our most important findings regarding heterogeneity versus state dependence as underlying processes of partisan stability. The entries in Table 4 are predicted transition probabilities based on APEs, and each entry is actually the mean of the 1000 simulated APEs. Note that the entries in Table 4 are analogous to the descriptive transition probabilities we presented in Table 1, which presented the degree of partisan stability without a parsing out of whether this stability resulted from true state dependence or heterogeneity. The difference, of course, is that Table 4's transition probabilities control for unobserved heterogeneity across individuals, and thus, present the extent to which there exists true state dependence in partisan stability. Note that if true state dependence perfectly accounted for stability, the diagonal terms in Table 4 would equal 1; the past would perfectly predict one's present partisan state. At the other extreme, if there were no true state dependence in partisan stability, the diagonal terms, as well as every other entry in the table, would equal 0.333. This would mean that being in a state in the previous time period makes one *no more likely* to be in that same state in the present time period compared to an otherwise identical person who was not in the state previously. This latter result would strongly support the heterogeneity process as underlying partisan stability. The evidence in Table 4 clearly supports the latter view more than the former. The findings indicate substantively small magnitudes of true state dependence. Note that the diagonal terms, which may be termed "true state dependence rates," are not much different than 0.333, which is what we would expect if no true state dependence exists.

Table 5 presents the magnitudes of true state dependence for each partisan category, where entries represent how much being in a particular state in the past increases one's probability of being in the same state in the present compared to being in one of the other two states in the past. The benefits of parameter simulation are apparent in Table 5, as we are able to estimate standard errors for each

Table 4
Predicted partisan transition rates, controlling for unobserved heterogeneity.

y_{t-1}	y_t		
	Dem	Ind	Rep
Dem	**0.374**	0.324	0.302
Ind	0.313	**0.376**	0.311
Rep	0.332	0.334	**0.334**

Table 5
Predicted magnitude of true state dependence (standard errors in parentheses).

	Δpr(Dem$_t$) (SE)
Dem$_{t-1}$ relative to Ind$_{t-1}$	0.061* (0.036)
Dem$_{t-1}$ relative to Rep$_{t-1}$	0.042 (0.051)
	Δpr(Ind$_t$) (SE)
Ind$_{t-1}$ relative to Dem$_{t-1}$	0.052 (0.050)
Ind$_{t-1}$ relative to Rep$_{t-1}$	0.042 (0.052)
	Δpr(Rep$_t$) (SE)
Rep$_{t-1}$ relative to Dem$_{t-1}$	0.032 (0.046)
Rep$_{t-1}$ relative to Ind$_{t-1}$	0.023 (0.035)

Entries are changes in the probability of being in state j at time t as previous state ($t-1$) moves from i to j. For instance, the probability of being a Democrat at time t increases by 0.061 (i.e., 0.374–0.313) as previous state ($t-1$) moves from Independent (0.313) to Democrat (0.374). Standard errors were estimated as a result of parameter simulation; see text for details.
*$p < .05$ (one-tailed).

[14] The method we used for simulating the parameter estimates from a multivariate normal distribution is identical to the procedure suggested by King et al. (2000).

state dependence magnitude estimate. Since we calculated 1000 estimates of each difference based on the simulated parameter estimates, each standard error of the difference is simply the standard deviation of the 1000 simulated differences for a given magnitude. The results in Table 5 indicate that true state dependence in partisan stability is minimal. In accord with the results in Table 3, only one magnitude is statistically significant; being a Democrat in the past significantly increases one's probability of being a Democrat in the present by 0.061 compared to someone who was an Independent previously. None of the other magnitudes are statistically significant, which provides strong support for the contention that true state dependence does not offer a potent explanation of partisan stability, and instead, individual heterogeneity does so with more force. The results indicate that instead of past experience exhibiting a genuine impact on one's current party state choice, people maintain relatively constant propensities to be Democrats, Independents, or Republicans at any given time period, and these propensities are not transformed by past experience in a party state.

4.1. Does true state dependence vary across individuals?

So far, we have presented global estimates of true state dependence across all individuals as depicted in the upper-right box of Fig. 1. In this section, we estimate models that test the inquiry central to the lower-right box of Fig. 1, namely, whether true state dependence varies across individuals. Similar to Green and Yoon's (2002) analyses, we examine whether the magnitude of true state dependence is contingent on three individual-level characteristics—political interest, political knowledge, and age—by interacting the lagged state dummies with each of these three characteristics.[15] We first discuss the results analyzing the interest and knowledge interactions. Political interest is based on a three-point scale tapping people's self-reported interest in politics. Following Delli Carpini et al. (1993), the political knowledge measure is a summative scale using the 1992 wave items regarding civic knowledge and identifying political figures. As Green and Yoon (2002) do, we treat political interest as a nominal independent variable and dummy out its categories; high political interest is the excluded group. Further measurement details and model results are reported in Online Appendix C. A Wald test reveals that the political interest by lagged state dummies interactions are jointly statistically insignificant ($\chi^2 = 3.42$, df = 8, $p = 0.91$). For the political knowledge model, a Wald test reveals that the political knowledge interactions are also jointly statistically insignificant ($\chi^2 = 0.62$; df = 4; $p = 0.96$). The results for the interest and knowledge interactions provide strong evidence that true state dependence does not vary as a function of these characteristics.

[15] Instead of interaction terms, Green and Yoon stratify their samples by categories of each characteristic and estimate separate models for low, medium, and high interest individuals and separate models for young, middle-age, and old-age individuals. We conducted the empirical analyses both ways and found that using interaction terms yields similar inferences to the stratification procedure.

Next, we investigate whether state dependence varies across age groups. As Green and Yoon (2002) do, we treat age as a nominal-level variable with three categories. The "young age" group consists of people who are 30 years old and younger. The "middle-age" group consists of people who are between 31 and 60, and the "old-age" group contains people who are 61 and older. Table 6 presents the results from this model. A Wald test of the joint significance of the age groups by lagged party state dummies interactions indicates that age exhibits a jointly significant moderating effect on the magnitude of state dependence ($\chi^2 = 20.08$; df = 8; $p = 0.01$). Importantly, the results provide evidence that the magnitude of state dependence is significantly influenced by age levels. Because the results in Table 6 can be difficult to interpret, we move to the substantive interpretations of these effects based on calculation of APEs.

Tables 7 and 8 represent the substantive effects from the age interaction model based on APEs (and their associated standard errors retrieved via parameter simulation) that control for unobserved heterogeneity. Table 7 stratifies partisan transition rates by the three age groups. Recall that if true state dependence underlies partisan stability, the diagonal terms of each matrix would equal 1. If heterogeneity underlies stability, all entries in each matrix would equal 0.333. For young people, a similar pattern emerges that was revealed in Table 4—the true state dependence rates do not depart too far from 0.333, a finding indicating that young people's stability is rooted in individual heterogeneity. However, Table 8 shows that for young people, the magnitude of state dependence for Independents, as previous state moves from Republican to Independent, is statistically significant. Thus, for young people, there is evidence that past experience as an Independent has a genuine impact on being an Independent in the present (relative to being a Republican previously). None of the other state dependence magnitudes are significant for young people.

Table 6
Dynamic random effects multinomial logit model of party identification with age interaction terms, 1992–1996 NES panel.

Variables	Dem relative to Ind	Rep relative to Ind
	Coeff. (S.E.)	Coeff. (S.E.)
Democrat_{t-1}	0.024 (0.595)	−1.117 (1.110)
Republican_{t-1}	1.762 (0.981)	0.602 (0.736)
$\text{Democrat}_{t=1}$ (Initial condition)	4.591** (0.834)	−1.056 (0.901)
$\text{Republican}_{t=1}$ (Initial condition)	−2.112 (1.085)	6.041** (1.140)
Time 3 Dummy (1994)	0.177 (0.265)	0.313 (0.272)
Time 4 Dummy (1996)	0.672* (0.275)	−0.052 (0.277)
Middle Age (31–60)	0.005 (0.539)	−0.506 (0.580)
Old Age (61 and over)	−0.545 (0.793)	−0.490 (0.751)
Democrat_{t-1}*Middle age	0.829 (0.618)	1.456 (1.208)
Republican_{t-1}* Middle age	−2.926* (1.248)	−0.155 (0.735)
Democrat_{t-1}*Old age	3.737** (1.085)	1.091 (2.028)
Republican_{t-1}*Old age	−1.138 (1.582)	−0.479 (0.928)
Constant	−2.903** (0.584)	−2.869** (0.630)
$\text{Var}(u_D)$	6.645** (2.226)	
$\text{Var}(u_R)$	7.030** (2.710)	
$\text{Cov}(u_D, u_R)$	−2.882** (1.965)	

$N = 1524$ (508 individuals); Log likelihood = −852.28; $^{**}p < .01$ $^{*}p < .05$ (2-tailed tests).

Table 7
Predicted partisan transition rates by age group, controlling for unobserved heterogeneity.

y_{t-1}	Young age (<31)			Middle age (31–60)			Old age (>60)		
	y_t			y_t			y_t		
	Dem	Ind	Rep	Dem	Ind	Rep	Dem	Ind	Rep
Dem	**0.320**	0.406	0.273	**0.374**	0.311	0.315	**0.554**	0.184	0.262
Ind	0.307	**0.359**	0.334	0.312	**0.386**	0.302	0.272	**0.420**	0.308
Rep	0.427	0.223	**0.350**	0.235	0.419	**0.346**	0.320	0.364	**0.316**

Table 8
Predicted magnitude of true state dependence by age group (standard errors in parentheses).

	Young (<30)	Middle age (31–60)	Old age (>60)
Previous state	Δpr(Dem_t) (SE)	Δpr(Dem_t) (SE)	Δpr(Dem_t) (SE)
Dem_{t-1} relative to Ind_{t-1}	0.013 (0.044)	0.062 (0.040)	0.282** (0.091)
Dem_{t-1} relative to Rep_{t-1}	−0.106 (0.071)	0.139* (0.071)	0.233* (0.129)
	Δpr(Ind_t) (SE)	Δpr(Ind_t) (SE)	Δpr(Ind_t) (SE)
Ind_{t-1} relative to Dem_{t-1}	−0.047 (0.076)	0.075 (0.055)	0.236** (0.094)
Ind_{t-1} relative to Rep_{t-1}	0.136* (0.070)	−0.033 (0.069)	0.056 (0.101)
	Δpr(Rep_t) (SE)	Δpr(Rep_t) (SE)	Δpr(Rep_t) (SE)
Rep_{t-1} relative to Dem_{t-1}	0.077 (0.074)	0.031 (0.057)	0.053 (0.100)
Rep_{t-1} relative to Ind_{t-1}	0.016 (0.049)	0.044 (0.046)	0.007 (0.053)

Entries are changes in the probability of being in state j at time t as previous state ($t-1$) moves from i to j. *$p < .05$ **$p < .01$ (one-tailed).

For middle-aged individuals, though the state dependence rates in Table 7 increase marginally compared to young people, these figures do not deviate much from 0.333, again supporting the contention that on the whole, individual heterogeneity appears to explain partisan stability among middle-aged people. A qualification to this finding arises from Table 8, which suggests that some statistically significant state dependence exists among Democrats. In particular, for the middle-aged group, past experience as a Democrat makes one about 0.14 more likely to be a Democrat currently compared to an otherwise similar individual who was a Republican previously. None of the other state dependence magnitudes are statistically significant for middle-aged people.

The results from Tables 7 and 8 indicate that older people exhibit the highest levels of state dependence among the three age groups. From Table 7, note the particularly large state dependence rates for Democrats and to a lesser degree for Republicans. Table 8 provides compelling evidence of statistically significant and sizable state dependence among Democrats. Note that being a Democrat in the past significantly increases the probability of being a Democrat in the present compared to being both an Independent previously *and* a Republican previously. Thus, compared to both baselines (Independent and Republican), past experience as a Democrat genuinely influences one's current propensity of being a Democrat among older people. There is also evidence of state dependence among older-aged Independents; previous experience as an Independent significantly increases the probability of being an Independent in the present compared to an otherwise similar individual who was a Democrat previously. As was the case for young and middle-aged people, Republican state dependence is statistically insignificant for older people.

What accounts for the results indicating that state dependence is enhanced with increasing age, particularly for Democrats? One reason might be that a deviation in partisanship is much more profound and meaningful among those who are older. Younger individuals are more susceptible to deviate from their partisanship, but such deviations have less meaning and they revert more quickly to their original identification (i.e., they have low levels of state dependence). However, those who are older deviate less often.[16] When older individuals do depart from their identification, it represents a stronger or more profound political experience such that it has lasting effects into the future. In other words, they move for a reason, which makes it a more lasting change (i.e., they have high levels of state dependence). Of course, there exist other possible explanations. In contrast to this life-cycle explanation, a generational explanation would recognize that since these now older-aged Democrats came of age during the New Deal era, they bring with them an experience which may have produced within them a different capacity for updating their partisanship. Determining which of these two explanations best accounts for this finding is beyond the scope of this study. Nonetheless, the evidence does produce important implications for future research.

5. Discussion and conclusion

Although partisanship's role in the American political system is well documented, we suggested that little is known about the processes and properties underlying partisanship's stability at the individual level. This is unfortunate, since understanding this process helps inform us about the stability of party coalitions and the roles of campaigns, party elites, and economic conditions within the political system.

[16] Looking at descriptive transition rates (akin to Table 1 in the paper) broken down by age group, older individuals exhibit the highest overall stability rate of 82.33%, followed by middle-aged (78.66%) and young individuals (76.78%).

On the whole, our evidence supports the notion that there is minimal state dependence underlying partisan stability. Instead, most people possess exogenous propensities to hold a partisan affiliation, and they rarely stray from these positions over time. We found statistically significant, but substantively small levels of state dependence for Democrats. On the whole, our core conclusions comport more with Green and Yoon's (2002) findings, yet under a limited set of conditions, particularly for older Americans, we find evidence supporting Wawro's (2002) findings. And unlike Clarke and McCutcheon (2009), whose model characterizes individuals as either completely stable or completely fluid, our model allows individuals to be placed on a continuum that ranges from heterogeneity to true state dependence.

Dynamically, then, our evidence suggests that party identification has a strong stationary component to it. Shifts in partisanship are followed by people quickly reverting to their original partisan state or equilibrium level. Thus, we add a more dynamic component to the traditionalist story of individual-level partisan stability. Party identification is an individual-level orientation that is capable of mobility, yet such movements do not persist for long. As a "mean-reverting" orientation, party identification is resilient in the long term to "shocks" in the political environment. While these shocks may bring about short-term movements in party identification, our evidence suggests that most people move back to their long-term partisan propensities.

We also investigated whether the magnitude of state dependence was conditional on individual characteristics. While political interest and knowledge did not significantly influence the magnitude of state dependence, age did. Our evidence revealed that older people evince statistically significant and substantively meaningful levels of state dependence—particularly older Democrats. Older people appear to have the greatest capacity for "updating" and thus, our evidence suggests that older people fit the revisionist model of party identification better than their young or middle-aged counterparts. Shocks to the process appear to stick for older people, while they fade away more quickly for young and middle-aged individuals. As noted, we suspect that either a generational or life-cycle effect could explain such a result.

One potential limitation of this study, as well as all political science survey data, is the limited number of panel waves. This criticism is partially addressed by the results of our Monte Carlo simulation (Online Appendix A), which found that limiting the number of waves produces no perceivable bias in estimates of state dependence and, thus, cannot explain the substantively minor effects of state dependence. However, beyond statistical concerns, it remains valid to wonder whether this four-year span covers a meaningful time period to observe substantive change in partisanship. On the one hand this concern seems minor. Prominent aggregate studies claim partisanship consistently responds to slight changes in the political-economic environment (Clarke and Suzuki 1994; Clarke et al 2010; MacKuen et al., 1989). Likewise, the Perot candidacy, the Republican takeover of Congress, and substantial economic growth during a Democratic administration make this in no way an innocuous time within American politics. However, we concede that observing individuals in between two presidential elections, instead of before and after, potentially limits the type of changes in partisanship that we can observe people experiencing.

Studying individual-level dynamics allows scholars to proffer richer explanations of public opinion and political behavior. Ascertaining the degree to which an attitude or orientation exhibits memory or stationarity can greatly expand our knowledge about the properties of attitudes heretofore uncovered. The stability and heterogeneity in partisanship fundamentally affects our understanding of election outcomes, the role of campaigns, micro-macro links to partisanship, other political attitudes, changing political conditions, and party systems. In short, the stability and heterogeneity of partisanship is a fundamental aspect of a fundamental concept in American politics. Moreover, the methodological framework for distinguishing between heterogeneity and state dependence in dynamic processes provides an explicit test of this type of inquiry, which can be generalized for political science beyond partisan identification.

Appendix. Supplementary data

Supplementary data related to this article can be found online at doi:10.1016/j.electstud.2010.11.002

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