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Proxy voting in the U.S. House of Representatives: Legislative shirking in new clothing?

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New technological developments have heightened interest in understanding and evaluating new tools of participatory and representative engagement in the political sphere. Recent academic research in this area is mainly theoretical, and focuses on voters rather than legislators. This study addresses this gap in the literature by empirically exploring the unique case of proxy voting by members of the U.S. House of Representatives that was introduced as an emergency measure to allow the Congress to function during COVID-19. The core result from this study, given its finding that vote skipping during 2019 is positively correlated with the use of proxy voting during 2021, indicates that proxy voting in this case is connected to legislative shirking. Thus, it appears that the proxy voting mechanism introduced in 2020 *via* a U.S. House resolution represents a new configuration of traditional legislative shirking or vote skipping.

KEYWORDS

proxy voting, legislative shirking, vote skipping, representative democracy, negative binomial regression

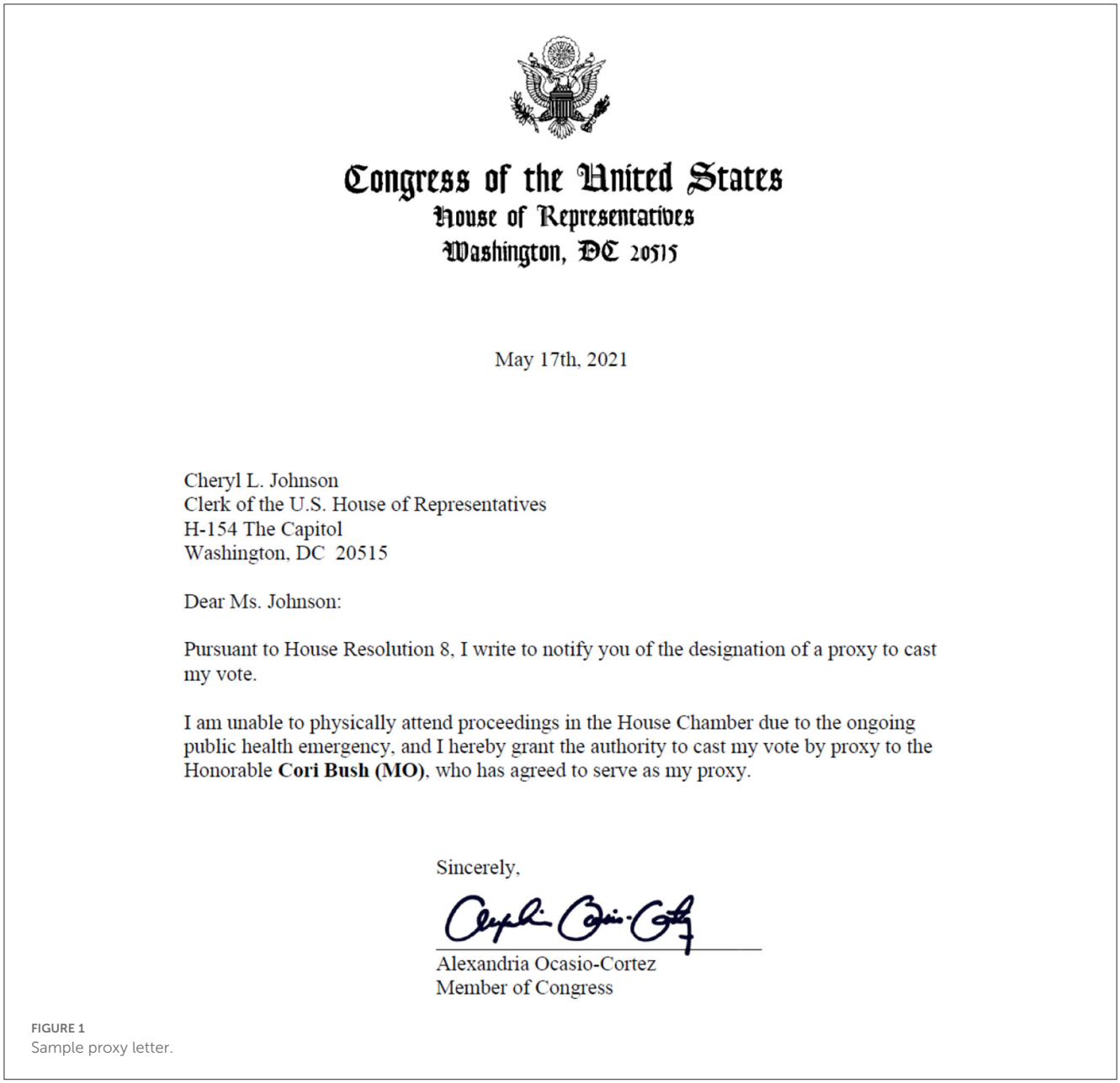
1. Introduction and brief background

On May 14, 2020, members of the U.S. House of Representatives' Committee on Rules (i.e., Rules Committee) voted eight to four in favor of submitting *House Resolution 965* (*HR 965*), which authorized "remote voting by proxy in the U.S. House of Representatives and providing for remote committee proceedings during a public health emergency due to a novel coronavirus, and for other purposes," to the House floor.[1] The next day, May 15, 2020, *HR 965* passed a full vote in the U.S. House 207 to 199, with 24 Representatives not voting.[2] More specifically, *HR 965* establishes procedures for a Representative, *h*, to authorize another Representative, *k*, to vote (or record *k*'s presence) on *h*'s behalf, for altering or revoking such authorization, and for voting in the House Chamber. The resolution also authorizes remote proceedings in committees, for Representatives to participate remotely during such proceedings and to be counted for purposes of establishing a quorum.

One of the procedures established by *HR 965* for proxy voting is submission to the Clerk of the U.S. House of Representatives a letter informing the Clerk of a proxy designation.

1 See www.congress.gov.

2 *HR 965* was supported by 207 Democrats, and opposed by 14 Democrats, 184 Republicans, and one Independent. The 24 non-voting Representatives were evenly split between Democrats and Republicans. See www.clerk.house.gov.



Congress of the United States
House of Representatives
Washington, DC 20515

May 17th, 2021

Cheryl L. Johnson
Clerk of the U.S. House of Representatives
H-154 The Capitol
Washington, DC 20515

Dear Ms. Johnson:

Pursuant to House Resolution 8, I write to notify you of the designation of a proxy to cast my vote.

I am unable to physically attend proceedings in the House Chamber due to the ongoing public health emergency, and I hereby grant the authority to cast my vote by proxy to the Honorable **Cori Bush (MO)**, who has agreed to serve as my proxy.

Sincerely,

Alexandria Ocasio-Cortez
Member of Congress

FIGURE 1
Sample proxy letter.

Figure 1 provides a sample proxy letter, submitted by Alexandria Ocasio-Cortez (D-NY), one of the most well-known U.S. Representatives [1]. Ocasio-Cortez indicates in her proxy letter of May 17, 2021, that she is designating U.S. Representative Cori Bush (D-MO) to serve as her proxy due to an inability to physically attend proceedings in the House Chamber as a result of COVID-19.[3]

Speaker of the U.S. House of Representatives, Nancy Pelosi, would later extend proxy voting on several occasions [e.g., see [2–5]]. In multiple cases, this occurred 18 months or more after introduction of several vaccines, when hospitalizations and death due to COVID-19 had subsided dramatically from their spring and summer of 2020 levels. Partly as a result of these extensions, proxy voting has been heavily criticized by some media outlets and others as an excuse for engaging in other activities, or for reasons far beyond its intent, such as campaigning for re-election, engaging in political fundraising, attending to events and family matters beyond emergencies, enjoying holidays, doing interviews, or for simply personal or political convenience [6–8].[4] As the proxy letter requires only that a representative state that he or she is "unable to physically attend proceedings in the House Chamber due to

3 Ocasio-Cortez's letter invokes *House Resolution 8* (*HR 8*), which was adopted in order to bring forward into the 117th Congress (2021–2023) all of the rules adopted from the 116th Congress (2019–2021), one of which was *HR 965*.

4 Congressional criticism also continued, as 160 members of the House Republican Conference signed on to a lawsuit that was brought to federal court challenging proxy voting.

the ongoing public health emergency," the actual reasons for proxy voting can be challenging to identify.

Criticism of proxy voting has also extended to think tanks and other organizations. For example, a Brookings Institution report by Reynolds et al. [9] emphasizes that representatives and their constituencies should consider the circumstances under which casting a vote without being physically present is permitted and whether the tactic should be limited to certain types of votes. Despite these and other criticisms, majority party legislators such as U.S. House Majority Leader Steny Hoyer—a Democrat who concedes that representatives are using proxy voting in ways it was not initially intended—continue to staunchly defend the practice, arguing that proxy voting, like virtual work, is accommodating to issues that one confronts in life [7]. Other Democrats, such as Representative Jackie Speier, echo Hoyer's sentiment in asserting that proxy voting serves the U.S. House well, and is part of life in the 21st century.

The economics literature on proxy voting extends back at least 50 years [e.g., [10]]. More recent contributions to this literature are mostly theoretical or conceptual, and focus mostly on voters [11–17]. For example, the study by Ford [11] discusses "delegative democracy," wherein weighted open specialized forums exist such that delegates can apply the principle of delegation if they cannot or do not want to participate in a particular forum. More recently, "transitive proxy voting," or "liquid voting," has been suggested as a collective decision-making tool [e.g., [14, 16–18]]. Liquid democracy allows a voter to delegate his or her vote to a trustee (i.e., a transitive proxy), who in turn can further delegate the vote to a proxy's proxy, thus building a network of trust. Any of these delegations can be altered and revoked by topic, such that a dynamic scheme of representation occurs [18].[5]

This study extends the literature on proxy voting by empirically examining the factors that influence the number of proxy voting letters initiated by members of the U.S. House of Representative during 2021. As noted above, *HR 965* provides a unique opportunity to explore proxy voting, especially within the context of the literature on legislative shirking, which is reviewed in the next section. Such an examination would be particularly compelling given the contention in Larson et al. [20] that there may be a demand to make proxy voting in the U.S. House of Representatives permanent, at least in some form.

2. Prior literature: A review

This section provides a review of the academic literature on legislative shirking over the past 30 years. As indicated below, this review is divided into two sub-sections. The first of these reviews research on legislative shirking that employs data from the U.S., where the second reports on empirical work on legislative shirking that makes use of data from legislatures in Asia and Europe.

5 The Pirate Party in Germany has already implemented liquid democratic elements in their internal decision-making processes [19].

2.1. Legislative shirking in the United States

The bulk of the literature on legislative shirking using U.S. data concerns the determinants of voting abstention (i.e., less voting), a phenomenon referred to by Rothenberg and Sanders [21] as "participatory shirking." An early study by Cohen and Noll [22] developed a formal model predicting that supporters of legislation are more likely to abstain than are its opponents, that conflicted Representatives will abstain when the formal vote is close, and that indifferent Representatives choose to abstain when votes are not close, and will engage in logrolling when the outcome is uncertain. In order to test these predictions, a series of Congressional votes between 1975 and 1982 on funding for the Clinch River Breeder Reactor are analyzed [22]. Empirical results from binary logit models indicate that the probability of abstention increases with vote margins, as predicted. Moreover, on votes where funding for the project prevails, supporters are more likely to abstain than are opponents, and the probability of abstention by opponents declines the closer the vote [22]. A much newer study by Brown and Goodliffe [23] examines vote-skipping in democracies through examination of absenteeism and vote closeness in American state legislatures.[6] Their analysis employs hierarchical logit with nested and crossed random effects and indicates that state-level incumbent representatives tend to abstain in close or major votes, favoring reelection concerns over policy influence [23]. They also report that the length of legislative sessions affects abstentions. More specifically, shorter sessions lead to greater vote-skipping [23].[7]

A study by Rothenberg and Sanders [25], which considered abstentions and vote choices being jointly determined, examined roll call voting in the 104th U.S. Congress.[8] Their ordered logit examination reveals that abstention and voting choices are indeed integrated, and that absenteeism is higher among legislators with the greatest influence over outcomes—that is, among majority-party legislators. More specifically, Rothenberg and Sanders [25] indicate that relatively senior legislators report 43 fewer votes over the 104th U.S. Congress, *ceteris paribus*, than junior members. A subsequent study by Rothenberg and Sanders [21] investigates shirking in the U.S. House of Representatives over the period from 1991 through 1996. According to the authors, this period of legislative history is ideal because 114 Representatives retired from the U.S. House, 49 Representatives left the U.S. House to pursue another office, and 24 Representatives exited the U.S. House after losing their party primaries. Ordinary least squares evidence based on data from 998 legislators confirms that all three situations (e.g., retirement, pursuit of another office and electoral defeat) are significantly associated with greater abstentions. Next, a

6 This approach to the issue results in a sample of 2,916,471 individual votes cast by 4,392 legislators from 64 legislative chambers in the U.S. [23].

7 In a study that is tangentially related to those by Cohen and Noll [22] and Brown and Goodliffe [23], Sulkin et al. [24] examine the relationship between legislative activity (e.g., roll call voting patterns) of U.S. Representatives in the 109th and 110th Congresses and Representatives' job approval. Using binary logit estimation, these authors find that, *ceteris paribus*, missing votes is negatively and significantly related to scores of job approval [24].

8 Their empirical approach results in 492,584 observations, with each corresponding to one vote by a particular legislator on a single roll call [25].

more recent study by Clark and Williams [26] examines legislator behavior under various electoral circumstances at the state-level in the U.S. Ordinary least squares estimates presented in Clark and Williams [26] suggest that legislators who are no longer constrained by election to a particular office—whether due to retirement or term limits—exhibit a greater degree of roll call abstention. However, term-limited legislators who are seeking a different public office continue to participate on votes that are critical to their political party [26]. Lastly, not all studies find participatory shirking under circumstances similar to those examined Clark and Williams [26] and other studies. For example, Jenkins and Nokken [27] examine the historical case of the Twentieth Amendment to the U.S. Constitution, which changed the beginning of Congressional terms from early March to early January, thus eliminating short, or so-called "lame-duck" sessions of the U.S. Congress that occurred prior to 1933. As the authors indicate, these sessions created a somewhat unique situation for observing (potentially) legislative shirking. However, using a variety of data and both ordinary and weighted least squares, Jenkins and Nokken [27] find little systematic evidence of legislative shirking by exiting members in their last terms in office.

Other research constituting the literature on legislative shirking using U.S. data concerns what Rothenberg and Sanders [21] refer as "ideological shirking." For example, Yakovlev [28] estimates a system of equations that links incumbent re-election rates to divergence from the median voter (i.e., ideological polarization) in the U.S. House of Representatives. Using data from 1948 to 2000 and two-stage least squares estimation, the study finds that entrenchment of incumbents is significantly associated with an increase in the divergence from the median voter. Also important to this study, Yakovlev [28] finds that the number of bills introduced in the U.S. House of Representatives is negatively related to divergence from the median voter (i.e., ideological polarization), which could be interpreted as evidence of non-ideological shirking. Relatedly, Lindstädt and Vander Wielen [29] examine time-dependent constituent monitoring of legislative shirking by developing a theoretical model wherein legislators' behavior is constrained by upcoming elections. Their empirical findings, based on Bayesian item response theory models of roll-call voting in the U.S. Congress, show that a substantial portion of the U.S. Senate's roster engages in systematic, time-dependent shirking. That is, senators move toward more extreme positions when constituent monitoring is low, as it may be following an election, and toward the middle when constituent monitoring is high, as it often is during an election season [29].

Other forms of legislative shirking exist. A recent study by Romano [30] investigates the interesting phenomenon of "cognitive shirking" in his analysis of the way U.S. Representatives communicate during their final term. More specifically, using mixed effect logit models he examined the speeches made by members of the U.S. House of Representatives over the 105th through 109th Congresses, and found that psychological indicators of losses in cognition predicted patterns of shifting legislative priorities and a higher probability of retirement.[9] Lastly, and relatedly, in noting that almost one third of all U.S. Senators who served between 1943 and 2020 ascended to that position directly from the U.S. House of Representatives, Faria and Mixon [38] assert that the legislative branch of the U.S. federal government operates as an internal labor market. Their formal model explores aspects of this particular internal labor market, including the possibility that some U.S. Representatives are being promoted to positions in the U.S. Senate for which they are not competent. This may occur because legislators are endowed to varying degrees with two competing competencies, technical capacity and charisma, and service in the two congressional chambers constituting the U.S. Congress require different mixes of these two competing competencies [38]. Bias-corrected logit analysis of Gallup polling data on congressional approval rates suggests that the American public is traditionally less satisfied with the performance of the U.S. Congress during periods in which the internal promotion process is the most robust. Additionally, former U.S. Representatives are shown by Faria and Mixon [38] to be more likely to engage in legislative shirking in the U.S. Senate than are their counterparts who reached the Senate from external positions. These two outcomes are perhaps related to the notion advanced in Faria and Mixon [38] that former Representatives are relatively ill-equipped to be productive in the U.S. Senate.

2.2. Legislative shirking in Asia and Europe

In their examination of legislator behavior in the Japanese House of Councillors, Fukumoto and Matsuo [39] find, based two-stage least squares estimation, that legislators standing for re-election (across a staggered electoral calendar) exhibit higher absentee rates than those not facing election. However, this form of participatory shirking is offset, at least to some degree, through the additional finding that when present, these same legislators tend to participate more intensively (e.g., they speak longer). Thus, legislator productivity can be measured across multiple dimensions [39]. Next, Roberts [40] posits that the length of legislative terms may relate to incentives to shirk. For example, shorter terms may lead to participatory shirking either because investment in legislative work requires a longer time horizon or because constant campaigning limits time for legislative work [40]. The study uses the Czech Senate, which was established in 1996, to devise a natural experiment given that the initial class of senators was assigned to one of three term lengths in order to create staggered terms. Using ordinary least squares to regress several outcome variables related to shirking (e.g., bills reported, bills proposed, speeches, and attendance) on term length and other demographic and political factors, Roberts [40] finds that different term lengths have small and inconsistent effects on legislator behavior. That is, neither shorter nor longer terms seem to encourage greater legislative effort [40].

9 These findings likely relate to research on the stability of the political ideology of legislators [e.g., [31–37]]. For example, using data on political party and roll call voting behavior in the U.S. Congress between 1795 and 1995, Nokken and Poole [33] find significant shifts in party-switching roll-call voting behavior during periods of high ideological polarization. Moreover, Mixon et al. [37] examine Congressional voting data from 1991 to 2019 and report that political ideology is unstable over time for a sizable portion of the members of both major political parties, particularly near career's end.

With the membership of the European Parliament (EP) as a test case, Høyland et al. [41] explore participatory shirking using data on both "stated" and "realized" career ambitions of legislators from various countries. In doing so, they report hierarchical binomial model estimates suggesting that EP representatives who seek to move from the EP to a home-based elective office tend to participate less in EP-related legislative activities than those who plan to stay in the EP [41]. Frech et al. [42] leverage variation in mandatory term limits across the Swiss federal chambers and two cantonal parliaments to explore, using a differences-in-differences design, the extent to which term-limited legislators reduce their parliamentary activities. As with some other studies, the results in Frech et al. [42] are mixed. A contemporaneous study by Frank and Stadelmann [43] examines potential legislative shirking in the German Bundestag from 1953 to 2017 by way of a rule that ensures at least one federal legislator per constituency with a varying number of elected competitors (i.e., zero to four) from the same constituency.[10] Using these cases and both fixed effects and two-stage least squares regressions, the study reports that the existence of elected competitors from the same constituency reduces absentee rates in roll-call votes by about 6.1%-points, which corresponds to almost 50% of the mean absentee rate [43]. Lastly, a new study by Beldowski et al. [44] uses data from 2005 through 2019 on Members of the lower chamber of Poland's Parliament to investigate the relationship between incumbent security and Members' engagement and political performance. Ordinary least squares results indicate that a more secure incumbency is associated with fewer parliamentary speeches, statements and interpellations. As the study concludes, incumbents whose political survival is less uncertain work less than those with a more precarious future [44].

A more recent study by Koo et al. [45] bridges the gap between participatory shirking and ideological shirking by investigating shirking during lame-duck sessions of the Korean National Assembly through the lens of two competing motivations of legislative shirking in voting participation—to secure more leisure time and to utilize the last valuable voting opportunity [45]. Empirical evidence from a hurdle Tobit approach strongly supports the first motivation, while only partial evidence is found for the second motivation. These results support the overall conclusion that, in addition to the trade-off between labor and leisure (i.e., participatory shirking motivation), lame-duck sessions also provide motivation for ideological shirking as they are often viewed by representatives as an opportunity to express their own preferences unconstrained [45]. As in the case of studies using U.S. data, Portmann and Stadelmann [46] investigate ideological shirking by examining situations in Switzerland where voters are often able to accept or reject policy proposals in referenda and thereby reveal their preferences. Identically worded versions of these policy proposals often face roll-call votes in the Swiss Parliament, meaning that ideological shirking is directly observable whenever the roll-call vote of a Representative does not correspond to the preferences of the majority of his or her constituency [46]. Using data on Swiss referenda from 2008 to 2012, the study reports binary logit estimates suggesting that legislators' votes align with the desires of their constituents in 68.5% cases. Thus, as Portmann and Stadelmann [46] conclude, the unconditional probability of this ideological form of legislative shirking is 31.5%.

The next section of this study provides background details on *House Resolution 965*, which is a U.S. House rule that allows U.S. Representatives to vote by proxy on bills and other resolutions brought by members to the House floor.

3. Empirical approach and data

Although *House Resolution 965* was adopted, at least ostensibly, to deal with issues related to COVID-19, this study posits that adoption of *House Resolution 965* provided would-be shirkers in the U.S. House with the opportunity to engage in vote skipping under "electoral cover" by having an official vote cast on their behalf by a congressional colleague. In order to test this possibility, the following proxy voting model, amenable to econometric analysis, is proposed,

$$ProxyVotes_i = \alpha + \sum_{j=1}^{k} \beta_j D_{ji} + \sum_{l=1}^{m} \gamma_l P_{li} + \varepsilon, \qquad (1)$$

where the dependent variable, $ProxyVotes_i$, is equal to the number of proxy voting letters initiated by Representative i during 2021, α, β_j and γ_l are parameters to be estimated, and ε is a stochastic error term.[11] Next, D_{ji} is a group of k demographic characteristics, j, associated with each Representative, i. Included in this group of regressors is $Female_i$, which is a dummy variable equal to one if Representative i is female, and 0 otherwise. According to Anzia and Berry [50], voter bias against female candidates results in female candidates who are more qualified, and thus more productive, than male candidates. If so, then we expect the coefficient estimate attached to $Female_i$ to be negatively signed and statistically significant, *ceteris paribus*. On the other hand, Jenkins [51] asserts that gender rarely exerts a direct influence on roll-call voting. In this case, the coefficient estimate attached $Female_i$, whether negatively or positively signed, will not be significantly different from zero. Relatedly, a set of three dummy variables—$Black_i$, $Hispanic_i$ and $Asian_i$—captures ethnicities of U.S. Representatives. The first of these, $Black_i$, is a dummy variable equal to 1 if Representative i is Black, and 0 otherwise. The dummy variables for Hispanic and Asian representatives (i.e., $Hispanic_i$ and $Asian_i$) are defined

10 The study capitalizes on the exogenous variation in elected competitors by focusing on situations where legislators exit parliament during the legislative period.

11 A key assumption of the linear regression model, wherein the dependent variable is continuous, is that the stochastic error term follows a normal distribution. However, as explained later, the dependent variable employed in this study, $ProxyVotes_i$, is discrete. In these and similar instances, a Poisson regression is useful given that it models the natural log of the dependent variable, $ProxyVotes_i$, as a linear function of the coefficients and assumes that the stochastic error follows a Poisson distribution [47–49]. The Poisson model assumes that the mean and variance of the error are equal. In practice, however, the variance and mean of the error are typically unequal [47–49]. In such cases, a negative binomial regression is useful. It relies on a form of the Poisson distribution in which the distribution's parameter is considered to be a random variable. The variation of this parameter can account for a variance of the data that is higher than the mean [47–49].

in a similar fashion. As these three variables are included simply to test for any ethnicity effects in congressional shirking, no *a priori* is maintained regarding the signs and/or significance of these regressors.

Additionally, $Pacific_i$ is a dummy variable equal to 1 if Representative i represents citizens in a state bordering the Pacific Ocean, and 0 otherwise. Representatives from these states face the greatest travel distances to and from Washington, D.C. As such, any travel restrictions emanating from the COVID-19 pandemic will be most troublesome for these individuals. Thus, the regression coefficient estimate attached to $Pacific_i$ is expected to be positively signed. A similar variable, $Border_i$, is a dummy variable equal to 1 if Representative i represents citizens in a state bordering Washington, D.C., and 0 otherwise. Representatives from these states should face the fewest difficulties traveling to and from Washington, D.C., even when travel restrictions due to COVID-19 are imposed. As such, the regression coefficient estimate attached to $Border_i$ is expected to be negatively signed. The final variable included in D_{ji}, $StayHome_i$, is a dummy variable equal to 1 if Representative i represents citizens in a state maintaining some form of stay-at-home order (due to COVID-19) at the beginning of 2021, and 0 otherwise. Representatives from these areas will be most affected by COVID-19 restrictions and will more likely find proxy voting beneficial. In this case, the regression coefficient estimate attached to $StayHome_i$ is expected to be positively signed.

A set of m political variables on the coefficient estimates attached to U.S. Representatives is contained in the group of regressors described in Equation [1] as P_{li}. Included here is $Tenure_i$, which captures Representatives' legislative tenures (in years) in the U.S. House. Representatives who have held office for several years have a more established and lengthy voting record, and are more likely to have sponsored bills, held important committee assignments in the past, and appeared on network and cable television news and talk shows debating political issues [52–54]. Thus, longer-serving legislators have garnered substantial name recognition and legislative clout. Therefore, these Representatives are not as electorally vulnerable as those who are newer to the lower chamber of Congress [23, 38, 55, 56].[12] This means that the coefficient estimate attached to $Tenure_i$ should be positively signed.

Next, $Democrat_i$ is a dummy variable equal to 1 if Legislator i is a Democrat, and 0 otherwise. Following Cohen and Noll [22], Poole and Rosenthal [31], and Rothenberg and Sanders [25], absenteeism is higher among legislators with the greatest influence over outcomes—that is, among majority-party legislators [23]. Given that Democrats held the majority in the U.S. House of Representatives during 2021, one would expect the coefficient estimate attached to $Democrat_i$ to be positively signed, *ceteris paribus*. $DemLeader_i$ and $RepLeader_i$ are dummy variables capturing congressional leadership status in the U.S. Congress during 2021. $DemLeader_i$ ($RepLeader_i$) is a dummy variable equal to 1 if Representative i is a member of Democrat (Republican) leadership, and 0 otherwise. Given the important and high-profile nature of leadership positions in the U.S. House of Representatives, both variables are expected be negatively related to $ProxyVotes_i$.

Seminal work on the value of committee assignments in Congress by Groseclose and Stewart [58] identifies the U.S. House's Ways and Means Committee as the most powerful and prestigious committee in that branch of Congress.[13] The Appropriations Committee and the Rules Committee follow closely in second and third, respectively [58].[14] Using this research as a foundation, three committee-related variables are also included in P_{li}. The first of these is $WaysMeans_i$, which is a dummy variable equal to 1 if Representative i is a member of the Ways and Means Committee of the U.S. House of Representatives, and 0 otherwise. Also included here are $Rules_i$ and $Appropriations_i$. $Rules_i$ ($Appropriations_i$) is a dummy variable equal to 1 if Representative i is a member of the Rules (Appropriations) Committee of the U.S. House of Representatives, and 0 otherwise. Given the high-profile nature of positions on these key committees, it is expected that their members will be more hesitant to rely on proxy voting, *ceteris paribus*. Thus, the coefficient estimates attached to these three variables are expected to be negatively signed.

Lastly, our variable of interest is $PriorShirking_i$. This variable captures the percentage of votes missed by Representative i during 2019, the year prior to adoption of *HR 965* in 2020. As such, $PriorShirking_i$ measures the degree to which each Representative engaged in shirking an important official duty in a prior year of Congress. A positively-signed and statistically significant regression coefficient estimate attached to $PriorShirking_i$ would support the notion that proxy voting in the U.S. House of Representatives allowed by *HR 965* is simply a modern outlet for traditional participatory shirkers to employ. Any other result fails to support this notion, perhaps instead suggesting that proxy voting allowed by *HR 965* is a way for Representatives to pursue other legislative or parliamentary tactics (e.g., logrolling, etc.).

The list of U.S. Representatives used in this study is taken from the U.S. House of Representatives website (House.gov) and GovTrack.us. Given that $ProxyVotes_i$ captures proxy voting during 2021, and that the inclusion of $PriorShirking_i$ introduces shirking data from 2019, only those Representatives who served during

12 Stated differently, legislators who face less electoral competition are able to engage in legislative shirking at lower cost than that faced by their counterparts in competitive districts. For example, in his analysis of data on deputies in the French National Assembly from 1959 to 2012, Gavoille [57] finds that the typical shirking deputy is an old man with a low level of schooling who is elected in from a jurisdiction with a low level of political competition.

13 Groseclose and Stewart [58] employ a technique akin to the well-established Bradley-Terry model [59], which involves a set of pairwise comparisons, for aggregating binary comparisons into a percentile. This method has been used to compare the physical attractiveness of individuals [60], the strength of college football teams [61] and even the quality of big-wave surf breaks [62].

14 The results in Groseclose and Stewart [58] generally support those in an earlier study by Coker and Crain [63], which views legislative committees as loyalty-generating institutions. More recent research [e.g., [64–67]] employs the findings reported in Groseclose and Stewart [58] and Coker and Crain [63] to demonstrate how Democratic Party leadership uses the committee assignment process to reward members of the Congressional Black Caucus for their party loyalty.

TABLE 1 Variable definitions and summary statistics.

Variable name	Variable group	Variable description	Mean	Standard deviation
$ProxyVotes_i$	—	The number of proxy letters submitted by Representative *i* during 2021.	5.961	5.312
$Female_i$	D_{ji}	Dummy variable equal to 1 if Representative *i* is female, and 0 otherwise.	0.248	0.432
$Black_i$	D_{ji}	Dummy variable equal to 1 if Representative *i* is Black, and 0 otherwise.	0.118	0.323
$Hispanic_i$	D_{ji}	Dummy variable equal to 1 if Representative *i* is Hispanic, and 0 otherwise.	0.076	0.265
$Asian_i$	D_{ji}	Dummy variable equal to 1 if Representative *i* is Asian, and 0 otherwise.	0.025	0.157
$Pacific_i$	D_{ji}	Dummy variable equal to 1 if Representative *i* represents citizens in a state bordering the Pacific Ocean, and 0 otherwise.	0.163	0.370
$Border_i$	D_{ji}	Dummy variable equal to 1 if Representative *i* represents citizens in a state bordering Washington, D.C., and 0 otherwise.	0.048	0.214
$StayHome_i$	D_{ji}	Dummy variable equal to 1 if Representative *i* represents citizens in a state maintaining some form of stay-at-home order (due to COVID-19) at the beginning of 2021, and 0 otherwise.	0.310	0.463
$Tenure_i$	P_{li}	The congressional tenure of each Representative, *i*, calculated as 2021 minus the year in which *i* was first elected to the U.S. House of Representatives.	11.15	8.468
$Democrat_i$	P_{li}	Dummy variable equal to 1 if Representative *i* is a Democrat, and 0 otherwise.	0.563	0.497
$DemLeader_i$	P_{li}	Dummy variable equal to 1 if Representative *i* is a member of Democratic leadership of the U.S. House of Representatives, and 0 otherwise.	0.014	0.118
$RepLeader_i$	P_{li}	Dummy variable equal to 1 if Representative *i* is a member of Republican leadership of the U.S. House of Representatives, and 0 otherwise.	0.011	0.106
$WaysMeans_i$	P_{li}	Dummy variable equal to 1 if Representative *i* is a member of the Ways and Means Committee of the U.S. House of Representatives, and 0 otherwise.	0.115	0.320
$Rules_i$	P_{li}	Dummy variable equal to 1 if Representative *i* is a member of the Rules Committee of the U.S. House of Representatives, and 0 otherwise.	0.031	0.174
$Appropriations_i$	P_{li}	Dummy variable equal to 1 if Representative *i* is a member of the Ways and Means Committee of the U.S. House of Representatives, and 0 otherwise.	0.152	0.360
$PriorShirking_i$	P_{li}	The percentage of votes missed by Representative *i* during 2019.	2.510	3.549

both of these years are included in the data set. Next, these same sources (i.e., House.gov and GovTrack.us) provide data for $Female_i$, $Black_i$, $Hispanic_i$, $Asian_i$, $Democrat_i$, $Tenure_i$, $DemLeader_i$, and $RepLeader_i$. Information used to construct $StayHome_i$ is provided by the Kaiser Family Foundation (KFF). The KFF explores state-level data on a variety of COVID-19 metrics, such as the latest hotspots and hospitalizations, cases, deaths, and vaccinations by race and ethnicity, and cases and deaths at long-term care facilities. The types of stay-at-home orders used in this study to code the variable $StayHome_i$ as being equal to 1 include general stay-at-home edicts, stay-at-home orders pertaining to elderly and otherwise high-risk populations, and curfews.[15] Information for coding the committee variables, $WaysMeans_i$, $Rules_i$, and $Appropriations_i$, are found on the various committee websites. The information on proxy voting and proxy letters needed to construct the variable of interest, $ProxyVotes_i$, is collected from the Clerk of the U.S. House of Representatives.[16] Lastly, data on $PriorShirking_i$ are taken from the congressional report cards available at GovTrack.us.

Variable names, variable groups, variable descriptions and summary statistics are included in Table 1. As indicated there, the mean number of proxy letter submissions during 2021 is approximately six. The largest number of proxy letter submissions by a single Representative is 27. Next, female Representatives comprise about 25% of the sample, while Black Representatives constitute 12% of the sample. Smaller percentages −7.6 and 2.5%—represent Hispanic and Asian portions, respectively, of the sample of Representatives. In terms of geography, about 16% of the Representatives in the sample hold office in states bordering the Pacific Ocean, while about 5% hold office in states bordering Washington, D.C. Lastly, in terms of public health regulations, 31% of the Representatives in the sample hold office in states that maintained some form of stay-at-home order at the beginning of 2021.

As indicated in Table 1, the mean congressional tenure among the Representatives is just over 11 years. Additionally, 56.3% of the Representatives are Democrats, and 1.4 (1.1) percent are members of Democratic (Republican) leadership. In term of premier committee positions, 11.5% of Representatives sit on the Ways and Means Committee, while 15.2% hold positions on the Appropriations Committee. Members of the Rules Committee comprise about 3% of the Representatives in the sample.

15 See kff.org.

16 See www.clerk.house.gov.

4. Econometric strategy and results

Given that the dependent variable in Equation [1] above, $ProxyVotes_i$, is observed, discrete and includes small values, estimation of Equation [1] requires a limited dependent variables approach [68, 69]. A Poisson model, wherein a random variable, Y, follows a Poisson distribution with parameter λ with probability, P,

$$P\left(Y=y\right)=\frac{e^{-\lambda}\lambda^{y}}{y!},\ for\ y=0,\ 1,\ 2,\ \ldots,\ where\ \lambda\ is\ the\ mean\ and\ variance,\ and\ \lambda>0, \tag{2}$$

is seemingly an obvious choice to explore the determinants of proxy voting by representatives during 2021. However, when Equation [1] above is estimated using a Poisson regression approach, the deviance/df statistic is much > 1, indicating that the data employed in this study are not well-suited for use of a Poisson regression.[17] As such, estimation of Equation [1] above using a negative binomial regression is recommended [68, 69].[18] The probability mass function of the negative binomial distribution is,

$$f\left(k;r,p\right)\equiv\Pr\left(X=k\right)=\binom{k+r-1}{k}(1-p)^{k}p^{r},\ with\ mean\ of\ \frac{r(1-p)}{p}\ and\ variance\ of\ \frac{r(1-p)}{p^{2}}, \tag{3}$$

where r is the number of successes, k is the number of failures and p is the probability of success on each trial, with k failures chosen from $k+r-1$ trials.

Negative binomial regression estimates of two separate versions of Equation [1] above are shown in Table 2. Each being close to 1, the deviance/df statistics shown at the bottom of Table 2 support the use of negative binomial regression. Next, the R_d^2 statistics, each being a pseudo R^2 based on residual deviances when using Poisson and negative binomial regressions [68], are acceptable for the cross-sectional data employed in this study.[19] They indicate that just over 15% of the variability in the likelihood of a Representative's employment of proxy voting is explained by the demographic and political variables on the right-hand side of Equation [1] above.

TABLE 2 Maximum likelihood estimates—negative binomial.

Variables	Version 1	Version 2
Constant	1.152* (0.121)	0.693† (0.289)
Demographics		
Female	0.189 (0.129)	0.171 (0.127)
Age	—	0.010† (0.005)
Black	−0.152 (0.177)	−0.172 (0.176)
Hispanic	0.299 (0.202)	0.340‡ (0.204)
Asian	0.223 (0.333)	0.275 (0.334)
Pacific	−0.077 (0.167)	−0.084 (0.165)
Border	−0.841* (0.285)	−0.907* (0.282)
StayHome	−0.086 (0.128)	−0.080 (0.127)
Politics		
Tenure	0.011• (0.007)	—
Democrat	0.505* (0.129)	0.500* (0.128)
DemLeader	−2.101* (0.655)	−2.033* (0.654)
RepLeader	−0.162 (0.533)	−0.012 (0.537)
WaysMeans	0.205 (0.162)	0.201 (0.161)
Rules	0.254 (0.298)	0.245 (0.296)
Appropriations	−0.026 (0.151)	−0.034 (0.150)
PriorShirking	0.067* (0.017)	0.070* (0.017)
Obs.	355	355
Deviance/df	1.261	1.262
k	0.733	0.727
R_d^2	0.151	0.151

Numbers in parentheses above are robust standard errors for the regression coefficients. *(†)[‡]{•} denotes the 0.01 (0.05) [0.10] {0.11} level of significance.

17 In the case of Poisson regression, the deviance/df statistic does not test for the joint significance of the regressors specified in the model, as in other cases. Instead, it tests for the appropriateness of the model [70, 71]. The appropriateness of Poisson is indicated by a deviance/df statistic that is close to one. In this case, that statistic exceeds 4.5.

18 Cox [70] and McCullagh and Nelder [71] indicate how introduction of a dispersion parameter can rescue the Poisson approach, but only if overdispersion is modest.

19 There is no immediate concern about the seemingly relatively low R_d^2 statistics reported at the bottom of Table 2. Kennedy [72] points out that there is no universally accepted goodness-of-fit measure for count data models and generally argues against reliance on pseudo R^2 statistics in limited dependent variables settings. Moreover, relatively small R^2 statistics are not uncommon in labor economics, which is where studies of shirking originate. For example, among the 20 or so studies regressing sons' earnings on those of their fathers (and grandfathers) that are reviewed in the well-known study by Becker and Tomes [73] in the *Journal of Labor Economics*, the average R^2 is 0.14. Interestingly, only two of the shirking studies utilizing limited dependent variables that are cited in the literature review in this paper even report pseudo R^2 statistics. Portmann and Stadelmann [46] report a pseudo R^2 as low as 0.101, while Faria and Mixon [38] report a pseudo R^2 as low as 0.052. Lastly, OLS estimation of the two versions of the model reported above in Table 2 produce traditional R^2 statistics that are about 15 to 18 percent larger than those reported in Table 2.

Turning to the individual results from the negative binomial approach that are presented in Table 2, female Representatives tend to utilize proxy voting more often than their male counterparts.[20] However, the parameter estimate attached to *Female* is not significant, a result that is somewhat inconsistent with research by Anzia and Berry [50], which suggests that female legislator are, as a result of voter bias, more productive than their male counterparts. On the other hand, this result supports research by Jenkins [51], which asserts that gender does not exert a direct influence on roll-call voting. Interestingly, the version of Equation [1] wherein *Age* is substituted for *Tenure* produces a positively-signed and significant coefficient estimate attaching to *Hispanic*. The estimated coefficient suggests that members of the Hispanic Caucus tend to use proxy voting in the U.S. House about 40% more frequently than their non-Black and non-Asian counterparts. Moreover, although the variable *Black* is not significant at usual levels, Black Representatives tend to use proxy voting about 15% less often than their non-Hispanic and non-Asian counterparts. This result is likely consistent with studies of the Congressional Black Caucus as a congressional cartel by Mixon and Ressler [64], Chittom and Mixon [65], Mixon and Pagels [66], and King and Mixon [67]. Lastly, Representatives from Maryland and Virginia tend to employ proxy voting significantly less often than their counterparts from states that do not share a border with Washington, D.C.[21] Of course, this likely occurs as a result of their proximity to their Capitol offices.

A few of the political variables are, as expected, significantly related to Representatives' use of proxy voting. First, as indicated in Table 2 Democratic Representatives tend to utilize proxy voting to a significantly greater degree (i.e., about 65% more often) than their Republican counterparts. This result perhaps arises from having greater influence over legislative outcomes as a consequence of their majority-party status in 2021 [22, 23, 25, 31, 38]. Second, given the important and high-profile nature of leadership positions in the U.S. House of Representatives, it is also not surprising that the parameter estimate attached to *DemLeader* is negatively signed and statistically significant.[22] Third, the positively-signed parameter estimate attached to *Tenure* in the first set of results in Table 2, which is significant at the 0.11 level, suggests that longer-serving legislators are able to use proxy voting with less of an expectation of punishment from voters than are their more junior colleagues in legislature.[23] Of course, this result is consistent with studies by Rothenberg and Sanders [55], Jones [56], Brown and Goodliffe [23], and others. Lastly, the regression estimate attached to the variable of interest, *PriorShirking*, is positively-signed and significant at the 0.01 level. This finding, which suggests that a 1%-point increase in prior shirking by a legislator is associated with a 6.9–7.3% increase in the number of proxy votes cast on behalf of that legislator, supports the idea that the proxy voting allowance produced by passage of *HR 965* in 2020 is simply a new avenue for old-fashioned legislative shirking (i.e., vote skipping). In this case, however, vote-skipping Representatives can provide evidence of recorded votes, which shields them to some degree from electoral (i.e., ballot box) retaliation by their voting constituents, who may otherwise be frustrated by the lack of legislative representation from their shirking legislators.

5. Conclusions

Recent academic research on proxy voting in the political sphere has been both largely theoretical and mainly focused on the perspective of voters due to new technological developments in online voting tools. This study addresses the relative paucity of research on proxy voting at the legislative level by examining the unique proxy voting procedures established, ostensibly to deal with the COVID-19 pandemic, by *House Resolution 965* in the U.S. House of Representatives. In doing so, we provide empirical evidence relating on the individual factors that lead Representatives to engage in proxy voting.

Empirical results presented in this study suggest that legislative tenure is positively correlated with proxy voting. This finding supports prior research indicating that because longer-serving legislators are not as electorally vulnerable as their newer colleagues due to having greater name recognition and legislative clout, any public sentiment opposing proxy voting will be less likely to impact them at the electoral level. Most importantly, we also find substantial evidence that proxy voting in the U.S. House of Representatives is connected to legislative shirking. That evidence lies in the positive correlation between the percentage of votes missed by a representative during 2019, the year prior to adoption of *HR 965*, and the number of times he or she employs proxy voting during 2021, the year after adoption of *HR 965*. This result supports the notion that the proxy voting allowance produced by the passage of *HR 965* in 2020 represents a new configuration of traditional legislative shirking or vote skipping.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

FM and BT contributed to conception and design of the study and wrote the first draft of the manuscript. FM organized the database and performed the statistical analysis. All authors read and approved the submitted version.

20 The parameter estimates suggest that female legislators employ proxy voting 18.6 to 20.8 percent more often than their male counterparts.

21 The parameter estimates suggest that Representatives from Maryland and Virginia utilize proxy voting only about two-fifths as often as Representatives who live in states that do not border either Washington, D.C. or the Pacific Ocean.

22 The regression estimates suggests that Democratic leaders utilize proxy voting only 12.5 percent as often as legislators who do not hold top leadership positions.

23 Based on the parameter estimate, a one year increase in legislative tenure is associated with a 1.1 percent increase in the number of times proxy voting is utilized by a legislator.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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