For the Win! The Effect of Professional Sports Records on Mayoral Elections[*]

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Objective. Voters are more likely to reelect incumbents when political outcomes are positive. Although most scholars assume this is because voters explicitly credit politicians for good outcomes, this article investigates whether some voters simply opt for the status quo when they feel happy. *Methods.* To distinguish these two voting models, I propose professional sports records as a proxy for electorate happiness unrelated to political performance. I test the impact of sports performance on incumbent mayoral elections in 39 American cities from 1948 to 2009. *Results.* Winning sports records boost incumbents' vote totals and likelihoods of reelection, exceeding in magnitude the effect of variation in unemployment. In contrast, sports records following elections display no such relationship. *Conclusion.* Retrospective voting is partly driven by feelings of happiness unrelated to political appraisal. However, I argue that the implications for democratic accountability are not as dire as many authors claim.

A core assumption of representative democracy is that voters reward incumbents for good outcomes (Key, 1966; Fiorina, 1981; Kiewiet, 1983). Indeed, evidence from a wide sample of countries demonstrates that incumbents are more likely to be reelected when the economy is thriving (Alesina, Londregan, and Rosenthal, 1993; Powell and Whitten, 1993; Wilkin, Haller, and Norpoth, 1997; Lewis-Beck and Paldam, 2000; Lewis-Beck and Stegmaier, 2000; Nadeau and Lewis-Beck, 2001; Achen and Bartels, 2005). Empirical support for "retrospective voting" rewarding successful incumbents extends to governors who reduce crime rates (Cummins, 2009), legislators who direct pork to their districts (Alvarez and Saving, 1997; Levitt and Snyder, 1997; Leigh, 2008), school board members who improve student test scores (Berry and Howell, 2007), and presidents who limit combat deaths (Hibbs, 2000). Kiewiet (1983:115) concurs that voters "clearly react in an incumbency-oriented fashion to the record of current office-holders, responding positively to success in the economic and other arenas but negatively to perceived failures."

However, it remains unclear precisely how outcomes translate into vote choices. In particular, two distinct (though not mutually exclusive) mechanisms can explain the link between positive outcomes and incumbent reelection. In the familiar *Appraisal Model*, voters assign blame for politically linked outcomes and choose to keep the politicians they associate with successful performance. In what I term the *Prosperity Model*, voters simply opt for the status quo when they feel happy. As discussed below, this may be as a conscious rule of thumb or because mood influences political evaluation (Schwarz et al., 1987; Marcus and Mackuen, 1993; Healy, Malhotra, and Mo, 2010). Both models are consistent with higher reelection rates during economic booms and other indicators of retrospective voting, but diverge in their implications for voter psychology, electoral prediction, and the incentives applied to political representatives.

One way to distinguish the two models is to test the impact on incumbent reelection of some factor that affects voter happiness across the electorate but is unrelated to political performance.[1] The current article demonstrates that professional sports records significantly influence vote shares and winning probabilities in mayoral reelection races, exceeding in magnitude the effect of unemployment. A placebo test addresses concerns over omitted variables by showing that electoral results are predicted by pre-election sports outcomes, but are unrelated to post-election sports outcomes.

Winning records among professional sports teams proxy higher city-wide happiness (Schwarz et al., 1987; Wann et al., 2001; Hagen et al., 2004; Forment, 2007), but are unlikely to factor into voters' appraisals of political performance. As a result, the link serves as evidence that the Prosperity Model shares some explanatory power with the Appraisal Model, contributing to our growing understanding of the psychological foundations of voting. However, the article concludes that the implications for democratic accountability are not as dire as is commonly argued.

Why Test the Effect of Sports Records on Elections?

Two Models of Retrospective Voting

Most descriptions of retrospective voting follow the Appraisal Model in positing that voters decide their support based on explicit associations between politicians and outcomes (Key, 1966; Fiorina, 1981; Peffley, 1984; Chappell and Keech, 1985; Boyne et al., 2009). In the standard economic voting model, for instance, "responsibility is attributed to the political economic manager.

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[1]Another possibility is to test the influence of a variable, such as deficit reduction, that most voters associate with good governance but does not affect short-term well-being. Such a study would complement the current article by indicating the relative explanatory power of each model.

When the economy is doing well, the manager is rewarded with support; when the economy is doing badly, that support goes elsewhere" (Nadeau and Lewis-Beck, 2001:168). Of course, there is disagreement over which outcomes factor into this calculus and how sophisticated it is. However, even when voters *mistakenly* attribute blame to politicians, they are operating within the Appraisal Model.

An alternative explanation for retrospective voting is that rather than connecting politicians to praiseworthy outcomes, voters favor incumbents when they feel happy. Since good economic times and the like promote well-being, this Prosperity Model is sufficient to account for retrospective voting, although nothing excludes both models from operating simultaneously. In fact, for most outcomes of public concern, the models overlap in their predictions. At the same time, the Prosperity Model holds that voters may favor the incumbent for personal reasons entirely unconnected to politics—say, they just got engaged, it is a sunny election day, or their local sports team just won a big game.

Why might voters opt for incumbents when their well-being is high? First, in a world of complex political outcomes and competing campaign messages, voters may feel uncertain about their ability to assign blame for political outcomes (Lau and Redlawsk, 1997; Boyne et al., 2009). A reasonable rule of thumb is to hold onto incumbents when things are going well. As Fiorina (1981:5–6) argues: "Citizens . . . typically have one comparatively hard bit of data: They know what life has been like during the incumbent's administration. . . . In order to ascertain whether the incumbents have performed poorly or well, citizens need only calculate the changes in their own welfare." Even if voters attempt to, there is no guarantee they can disaggregate their senses of well-being between the politically determined and the personal. Hence, individual happiness will seep into vote choice.

Second, it is well established in the psychological literature that mood unconsciously affects evaluation, including political evaluation. A positive mood directly improves the favorability of whatever is on the mind (Schwarz and Clore, 1983; Damasio, 1994; Clore and Huntsinger, 2007, 2009; Slovic et al., 2007) and amplifies the preference for the status quo (Yen and Chuang, 2008), advantaging incumbents who rule during periods of electorate well-being. In addition, mood influences information processing (Schwarz and Clore, 1983; Marcus and MacKuen, 1993; Marcus, Neuman, and MacKuen, 2000). According to Schwarz and Clore (1983:520), since "mood-congruent events should be more available in memory . . . moods themselves have an informational function." Contented voters tend to fixate on positive knowledge, favoring incumbents. Moreover, without feelings of anxiety and other negative emotions, voters avoid seeking new information, hampering the competitiveness of challengers (Marcus, Neuman, and MacKuen, 2000).

Since voter appraisal certainly accounts for a large fraction of retrospective voting, the question motivating this article is whether some additional part

of the relationship operates directly through voter happiness. To formulate a convincing test, we must identify a variable outcome that affects average well-being across the electorate but for which voters are unlikely to assign blame to politicians. If positive incidences of this outcome improve incumbent electoral fortunes, the Prosperity Model will be supported.

Distinguishing the Two Models

Several other studies have connected nonpolitically determined events to retrospective voting. Perhaps most famously, Achen and Bartels (2004a) show that a well-publicized shark attack reduced the 1916 presidential reelection vote for Woodrow Wilson in four New Jersey beach counties. Local politicians are punished for economic variation outside of their control, such as oil shocks (Wolfers, 2002) and world or national economic growth (Leigh, 2008; Leigh and McLeish, 2008). Finally, scholars have demonstrated the political impact of natural disasters such as droughts and floods (Achen and Bartels, 2004a; Healy and Malhotra, 2009; Cole, Healy, and Werker, 2012) and other weather events such as rainfall (Afzal, 2007; Healy, 2008). However, a concern with many of these studies is that voters may actually be evaluating perceived government responses to these random events or prior actions that mitigated the severity of the damage, such as flood preparation (Arceneaux and Stein, 2006; Healy and Malhotra, 2009; Cole, Healy, and Werker, 2012). Even if voters do not blame politicians as the sources of these problems, they may be pessimistically biased against government reactions. This complicates the effort to firmly distinguish voter appraisal from well-being.

Sports outcomes offer researchers a clear proxy for average voter happiness (Schwarz et al., 1987; Wann et al., 2001; Hagen et al., 2004; Forment, 2007) disconnected from political causation, since voters are unlikely to either blame politicians or expect a political response. Adopting this line of thought, Hagen et al. (2004) find that German national soccer wins affect political party popularity. Edmans, Garcia, and Norli (2007) show, on a related theme, that a country's stock market tends to decline following a loss by its national soccer team because of the resulting negative mood among investors. Finally, Card and Dahl (2009) show that professional football losses lead to a significant rise in local domestic violence.

The most closely related work to this article relates the outcomes of the two most recent college football games to county-level voting for the incumbent party in races for governor, senator, and president (Healy, Malhotra, and Mo, 2010). The main finding is a 1 percent boost for the incumbent party after each college football win. The current analysis, which was conceived and developed independently, differs by looking exclusively at professional team records. Since 53 of the 62 college football teams Healy, Malhotra, and Mo (2010) investigate are at state or public universities, it

is possible that voters blame their performances on politicians, particularly governors.[2] In addition, this study differs by finding a significant effect on the likelihood of incumbent reelection in addition to vote shares, demonstrating that the results are not produced by padded margins in runaway elections. Finally, this article tests the effect of sports outcomes over the previous year, challenging the common presumption that mood effects are highly transient. Given that mood operates as a continual (albeit unconscious) influence on the political evaluation of leaders, events that occur well before an election may still impact vote outcomes (e.g., Wolfers, 2002; Achen and Bartels, 2004a; Leigh, 2008).

In sum, this article contends that professional sports results are a proxy for electorate happiness as far removed as possible from political performance. One potential link between mayoral voting and professional sports records is through stadium funding, but this is highly unlikely to bias the results for four reasons. First, the empirical models control for sports franchises entering or exiting a city, the most salient outcome of stadium funding decisions. Second, stadiums are only constructed every few decades, hence there are few races in which stadium funding arises as an issue. Third, the time cycle from supporting stadium financing to passing it into law to constructing the stadium to improving the team's finances to improving the team's record is simply too long to affect mayoral evaluation. Largely because of term limits, 80 percent of mayors in this article's sample do not face reelection more than four years after their initial election. Fourth, most stadium funding is handled through private and state financing and public referenda, not city budgets under mayoral control (Siegfried and Zimbalist, 2000; Brown and Paul, 2002; Coates and Humphreys, 2006). Hence, it is reasonable to conclude that any effect professional sports results have on voting operates through voters' senses of well-being and not political blame.

Data and Variables

This study relates professional sports outcomes to mayoral vote shares and reelection probabilities in 39 American cities from 1948 to 2009. This section overviews the coding for sports teams and records, mayoral election results, and a set of control variables. Summary statistics are shown in Table 1. A variety of specifications are considered in the following section, with minimal effect on the significantly positive relationship between sports performance and voting.

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[2]Healy, Malhotra, and Mo (2010) address this concern by looking at presidential races, but the effect is smaller and in some specifications insignificant.

TABLE 1

Summary Statistics

Variable	Mean	Standard Deviation	Minimum	Maximum	N
Vote Share	0.640	0.146	0.219	0.985	305
Reelection	0.839	0.368	0	1	311
Sports Record	0.504	0.126	0.071	0.929	311
Playoffs	0.394	0.375	0	1	311
Prior Vote Share	0.644	0.124	0.417	1	303
Mayoral Term	1.756	1.040	1	6	311
Team Entry	0.087	0.282	0	1	311
Team Exit	0.045	0.208	0	1	311
Unemployment	5.541	2.162	1.9	17.7	139
Maximum Sports Record	0.577	0.145	0.071	0.929	311
Current Sports Record	0.514	0.127	0.107	0.929	311
Z-Scored Sports Record	0.504	0.126	0.147	0.855	311

Sports Teams and Records

This article's sample begins with all 41 American cities that have a professional franchise in baseball, basketball, or football.[3] Teams not named after a city were assigned to the most closely associated large city.[4] For cities with multiple franchises in a single sport, the team with the longest history in the city was chosen.[5] Hence, in a given year, each city was assigned at most one franchise in each sport.

Data were gathered on the performances of these cities' sports franchises from 1948 to 2009.[6] The sample includes franchises that are now defunct. The main explanatory variable, *Sports Record*, is the average regular season record of a city's franchises in the most recently completed seasons at the time of each election.[7] *Playoffs* measures the portion of a city's teams that made

[3]Hockey is not included as it is less popular than the other three sports and would add some one-sport cities to the sample.

[4]In most cases, such as assigning the New England Patriots to Boston, this choice was obvious. Carolina teams were assigned to Charlotte, the New Jersey Nets to Newark, the Texas Rangers to Dallas, and the Florida Marlins to Miami. Multiple assignment occurred in two cases in which a team has played home games in multiple cities. The Tennessee Titans were thus assigned to both Memphis and Nashville and the Green Bay Packers were assigned to both Green Bay and Milwaukee. The results are not sensitive to selections among these cities.

[5]Using an alternative coding with the franchise records averaged does not change the results. The two measures have a correlation of 0.997. This issue arose in five cases (corresponding to 8 percent of the data points), with the following selections: New York Giants, L.A. Lakers, L.A. Rams, New York Yankees, and Chicago Cubs.

[6]These data came from three online sources: www.baseball-reference.com, www.basketball-reference.com, and www.pro-football-reference.com.

[7]To be clear, the fraction of games won is computed for each sport and then averaged, rather than the total wins across sports being divided by the total number of games.

the playoffs in the most recently completed seasons.[8] As a placebo test, data were gathered on regular season records in the year following each election (*Sports Record Year After*). Finally, three alternatives to *Sports Record* are also tested below, including one that instead looks at current team records at the time of the election. Each of these variables theoretically ranges between 0 and 1.

Mayoral Elections

The sample was pared down to the 39 cities with mayors currently elected directly by the people and by some form of plurality voting.[9] Data were then gathered on elections from 1948 to 2009 in which the incumbent mayor ran for reelection. This sample is complete through the November 2009 elections. The lower end of the date range follows from the primary source, Ferreira and Gyourko (2009), which supplied about half the election data points. This was supplemented by online election data and news archives.[10] Incumbents who were in office solely by appointment were left out. The 29 cases in which the mayor ran unopposed or which were otherwise flagged as unreliable by Ferreira and Gyourko (2009) were also thrown out.

The result is 311 races in which a winner is known and 305 races in which the vote share of the incumbent is known. This includes 186 unique incumbent mayors. The main dependent variable, *Vote Share*, is the incumbent's portion of the vote compared with the highest remaining vote-getter. For instance, if the incumbent receives 60 votes, opponent A receives 30 votes, and opponent B receives 10 votes, *Vote Share* is $60/(60 + 30) = 2/3$. This measure is used instead of the share of the total vote to avoid biasing the variable downward for races with robust third-party competition or an open primary. The electoral stage used to calculate *Vote Share* is the incumbent's final stage in the election. Hence, if the incumbent loses in the primary, the primary outcome is used; otherwise, the outcome of the general election or general election runoff is used. The other dependent variable, *Reelection*, is a dichotomous variable equal to 1 if the incumbent is reelected and 0 otherwise. *Reelection* = 1 in 83.9 percent of cases.

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[8]Measures of playoff success were tested, including the number of postseason wins and championships. Perhaps because of limited variation, these proved to be inconsistently related to voting when controlling for *Playoffs*.

[9]The former requirement eliminates Cincinnati and most of Salt Lake City. The latter requirement eliminates San Francisco, which currently uses an instant-runoff system.

[10]The most valuable source was www.ourcampaigns.com. Other sources included www.citymayors.com/usa, chicagodemocracy.org, and city newspaper archives.

Control Variables

A variety of city-specific factors may simultaneously affect incumbent entrenchment and sports records, hence all displayed OLS models employ city fixed effects and cluster standard errors by city.[11] Models predicting *Reelection* account for city effects using a conditional logit model. Five additional control variables are employed.

Prior Vote Share is the vote share for the incumbent mayor in the immediately preceding election. This is taken from the same electoral stage as *Vote Share* and is calculated in the same manner. For instance, in Washington, DC in 1978, incumbent mayor Walter Washington lost to Marion Barry in the Democratic primary. *Prior Vote Share* is thus Washington's primary vote total (compared with the second-place vote-getter) in 1974. Note that *Prior Vote Share* is not a true lagged dependent variable since most of its values (all first-term mayors) are not among the dependent variable data points. Hence, the potential bias in dynamic panel models (see fn. 16) is less of a concern. Moreover, none of the results in this article are substantively affected by dropping either the city fixed effects or *Prior Vote Share*. Controlling for *Prior Vote Share* serves three purposes. First, like a lagged dependent variable, it helps account for possible autocorrelation. Second, it controls for mayor-specific factors, such as political skill and race (Hajnal and Trounstine, 2005). Third, it accounts for the electoral stage used for *Vote Share*. In many cities, the primary election is the most competitive, with winning vote shares that may be much smaller on average than in the general election.

Mayoral Term is the current term of the incumbent when seeking reelection, which may affect vote totals.[12]

Team Entry and *Team Exit* are dummy variables for whether any sports franchise entered or exited the city, respectively, in the three-year period surrounding the election.[13] Both may be related to mayoral popularity and sports performance. In particular, newly arrived teams may boost mayors and drag down sports records.

Unemployment, a common economic variable used to predict elections, is the seasonally adjusted percentage unemployed in each city's metropolitan area in the month of the election, collected from the Bureau of Labor Statistics' Local Area Unemployment Statistics (LAUS, 2009). Coverage extends back to 1990 for each city, and to 1977 for a few cities. As a result, the sample size when including *Unemployment* is pared down to 139 cases. Because of this data

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[11]City fixed effects control for various political institutions—such as nonpartisan elections, the mayor-council versus council-manager system, and election month—which rarely change within a city. Adding any of these variables does not affect the results and none are significant in models without city fixed effects.

[12]This is included in the presented models as a variable ranging from 1 to 6. Alternative specifications using dummy variables for each mayoral term find similar results.

[13]This period was used because it is typically known at least a year ahead of time that a sports franchise will be leaving a city. The alternative coding in which the window is the entire mayoral term does not change the results.

limitation, results are shown with and without controlling for *Unemployment*. Other measures of incumbent performance with wide coverage are in short supply. However, lacking such controls will only bias the results if there exists a performance factor that also predicts sports outcomes. In fact, as the placebo test shows, it must possess the unlikely property of predicting sports outcomes before the election, but not after.

Empirical Results: Do Sports Records Matter for Mayoral Elections?

Before jumping into the empirical tests, Figure 1 displays how the mean values of *Vote Share* and *Reelection* vary with *Sports Record* and *Playoffs*. The top panel splits the sample into three ranges for *Sports Record*: fewer than 1/3 of games won, between 1/3 and 2/3, and more than 2/3. Both *Vote Share* and the probability of reelection rise incrementally across the three categories. The story is similar when comparing cases for which no city teams made the playoffs, some did, and all did, as seen in the bottom panel. This section's remainder statistically tests these relationships, first predicting *Vote Share*, then *Reelection*, followed by a placebo test addressing concerns over omitted variables. The final subsection considers alternative measures of sports performance.

Vote Share

We now proceed to OLS predictions of *Vote Share*. Since *Vote Share* and *Sports Record* vary strictly between 0 and 1, it is natural to log both variables to avoid ceiling effects. This log–log model assumes that a proportional increase in *Sports Record* has a constant effect on the proportional increase in *Vote Share*. As Breusch-Pagan tests produce evidence of heteroskedasticity in most specifications, all models use Huber-White robust standard errors clustered by city.[14] Durbin-Watson tests fail to indicate autocorrelation.[15] Table 2 displays three OLS specifications using *Sports Record*, progressively adding controls that eliminate the fewest cases. Model 1 includes only logged *Sports Record* and city fixed effects. Model 2 adds all of the controls besides *Unemployment*. Model 3 then adds *Unemployment*.

In each model, *Sports Record* is significantly positive for *Vote Share*. The coefficient on logged *Sports Record* in Model 2 implies that when a city's average sports record proportionally increases by 10 percent, the incumbent's vote share proportionally increases by 1.3 percent; for Model 3, the implied effect is a proportional increase of 3.7 percent. In actual vote terms, assuming

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[14]Results are similar when clustering standard errors by mayor instead.
[15]The test statistics for the two main specifications—Models 2 and 3 in Table 2—are 2.21 and 2.39, respectively, well within the range for rejecting autocorrelation.

FIGURE 1

Mayoral Election Outcomes by City Sports Performance
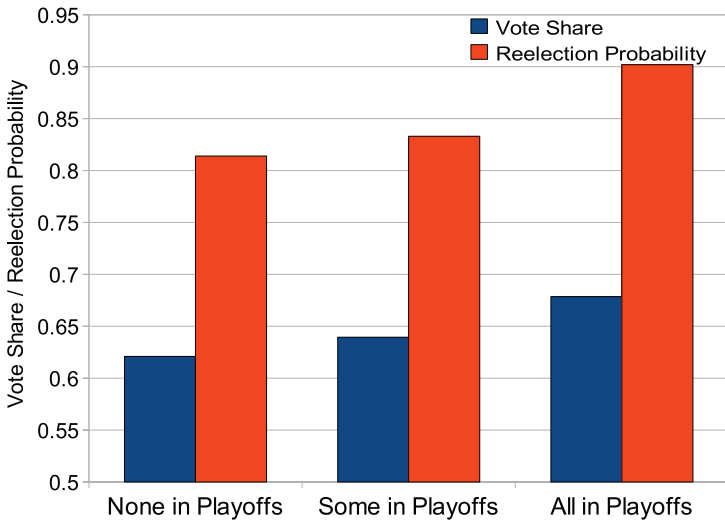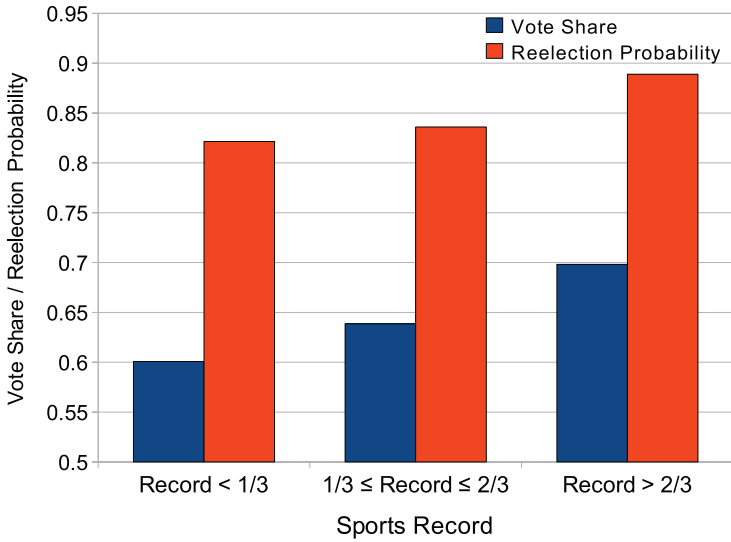
The top panel shows incumbent vote shares and reelection probabilities for three ranges of professional sports records. The bottom panel shows incumbent vote shares and reelection probabilities based on whether none, some, or all of the city's sports teams made the playoffs. The sample size is 305 for *Vote Share* and 311 for reelection probability.

TABLE 2

OLS Regressions Predicting Incumbent Vote Shares

DV: *Vote Share (logged)*	(1)	(2)	(3)	(4)	(5)
Sports Record (logged)	0.125* (2.51)	0.132** (2.95)	0.366** (2.76)		
Playoffs				0.106* (2.54)	0.234* (2.49)
Prior Vote Share (logged)		0.380*** (5.55)	0.477** (3.22)	0.394*** (5.78)	0.514*** (3.44)
Mayoral Term		−0.069*** (−3.34)	−0.078* (−2.54)	−0.070*** (−3.53)	−0.074* (−2.44)
Team Entry		0.042 (1.08)	0.163 (1.71)	0.041 (1.11)	0.129 (1.34)
Team Exit		−0.010 (−0.11)	0.077 (1.12)	−0.026 (−0.26)	0.078 (1.22)
Unemployment			0.004 (0.31)		−0.000 (−0.01)
City Fixed Effects?	Y	Y	Y	Y	Y
N	305	303	139	303	139
Adjusted R^2	0.04	0.14	0.16	0.13	0.12

NOTES: The five OLS regressions predict (logged) incumbent vote shares from measures of sports performance. The sample is 39 cities from 1948 to 2009. Including *Unemployment* restricts the sample primarily to the post-1990 period. *t*-values (based on Huber-White robust standard errors clustered by city) are shown in parentheses beneath each coefficient. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Vote Share is exactly average, a one-standard-deviation increase in logged *Sports Record* increases *Vote Share* by 2.1 percent according to Model 2, or 6.1 percent according to Model 3. The coefficient is consistently higher when *Unemployment* is included primarily because *Sports Record*'s effect is stronger for later time periods.[16] ANOVA indicates that logged *Sports Record* accounts for 7.2 percent of the variance in logged *Vote Share* in Model 3.

Results for the control variables are a mix of the expected and unexpected. *Prior Vote Share* is positive and highly significant.[17] *Mayoral Term* yields a

[16]The larger magnitude of *Sports Record* post-1990 versus pre-1990 is significant (at the 0.05 level). Possible reasons for this include the increasing popularity of professional sports and the decreasing attention paid to relevant local political news.

[17]Problems can arise from combining fixed effects and a lagged dependent variable, as the differenced equation used to calculate the fixed effects can produce an error term that is correlated with the differenced lagged dependent variable (Nickell, 1981; Angrist and Pischke, 2009:243–47; but see Wilson and Butler, 2007:107–08). This is less of an issue here since most of the values for *Prior Vote Share* (all first-term mayors) are not themselves among the dependent variable data points. However, it is worth following Angrist and Pischke's (2009:246) recommendation to perform two checks, alternately dropping the fixed effects and *Prior Vote Share*, to arrive at a range for the estimated effects of the explanatory variables. Adjusting Model 3 in Table 1, the estimated coefficients on logged *Sports Record* range from 0.254 ($p = 0.041$) to 0.338 ($p = 0.026$), respectively. As a further check, the model was replicated

strong negative effect on *Vote Share*, indicating waning vote totals across a mayor's tenure. *Team Entry* and *Team Exit* are insignificant, although the former is on the edge of positive significance. Surprisingly, *Unemployment* is insignificant in all specifications.

Table 2 also displays two OLS regressions relating *Vote Share* and *Playoffs*, with and without *Unemployment*. In both models, *Playoffs* is significant and substantive. Assuming *Vote Share* is exactly average, Model 5 implies that moving from no teams in the playoffs to all teams in the playoffs boosts the incumbent's vote share by 7.2 percent.

Eight specifications relating sports performance and *Vote Share* were tested, varying by the following parameters: (1) *Sports Record* or *Playoffs*, (2) logged or nonlogged, and (3) *Unemployment* included or not. All specifications include city fixed effects, the remaining four controls, and robust standard errors clustered by city. In all eight specifications, the coefficient on *Sports Record* or *Playoffs* is significant at the 0.05 level; in three of eight specifications, it is significant at the 0.01 level. This indicates a highly robust relationship between sports performance and voting.

How big is the effect of sports performance? *Sports Record*'s impact exceeds that of *Unemployment* in all tests, as well as that typically estimated for campaign spending in congressional elections (Green and Krasno, 1988; Levitt, 1994). Comparing the effect of *Sports Record* to the distribution in *Vote Share*, and treating Models 2 and 3 as providing a range of estimated effects, a one-standard-deviation shift in *Sports Record* could switch the winner in between 8 percent and 20 percent of mayoral reelection races. Between 14 percent and 43 percent of election outcomes could be switched by a two-standard-deviation shift. Another way of addressing the question is to predict how many races would have had different outcomes had *Sports Record* been exactly average (0.5). By this test, between 7 and 18 races were determined by the deviation of *Sports Record*. Thus, according to the latter number, about 1 in 17 modern major-city elections are decided by sports outcomes. However, a firm conclusion requires directly testing the effect of *Sports Record* on *Reelection*.

Reelection

Testing *Reelection* in addition to *Vote Share* helps ensure that the results for the latter are not being driven by changes at the margins in noncompetitive elections. For instance, it may be that voters pay greater attention to substantive issues when the winner is uncertain, leading mood to shift vote totals in runaway elections but to have little effect on which candidate wins. Results

using a sample of only first-term mayors. This produces a coefficient on logged *Sports Record* of 0.634 ($p < 0.001$).

TABLE 3

Conditional Logit Models Predicting Incumbent Reelection

DV: *Reelection*	(1)	(2)	(3)	(4)
Sports Record	3.152*	8.260*		
	(2.41)	(2.15)		
Playoffs			1.713**	4.394**
			(3.03)	(3.06)
Prior Vote Share	9.390***	15.410*	10.045***	18.150**
	(3.51)	(2.09)	(3.67)	(2.83)
Mayoral Term	−0.768**	−1.119**	−0.827***	−1.342**
	(−3.25)	(−2.74)	(−3.41)	(−2.61)
Team Entry	1.026		1.094	
	(1.23)		(1.32)	
Team Exit	−0.752		−0.891	
	(−0.95)		(−1.20)	
Unemployment		−0.118		−0.038
		(−0.66)		(−0.22)
N	303	139	303	139
BIC	161.4	51.29	156.9	46.41

NOTES: The four conditional logit models predict whether incumbents win reelection based on sports outcomes. Conditional logits account for city-specific variation without estimating city fixed effects. The sample is 39 cities from 1948 to 2009, but including *Unemployment* restricts the sample primarily to the post-1990 period. z-values (based on standard errors clustered by city) are shown in parentheses beneath each coefficient.
* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

show that this is not the case—both *Sports Record* and *Playoffs* significantly improve the likelihood of incumbent reelection.

Because fixed effects are inappropriate for a normal probit or logit test, *Reelection* is predicted using the conditional logit model, which conditions on city-specific effects by treating them as nuisance variables rather than individually estimating them (Chamberlain, 1980). Four conditional logit tests are displayed in Table 3. Models 1 and 2 predict *Reelection* from *Sports Record*, with and without *Unemployment*. To reach estimation convergence, *Team Entry* and *Team Exit* are omitted when *Unemployment* is included. Models 3 and 4 repeat this pattern using *Playoffs*.

For all four tests, the coefficient on *Sports Record* or *Playoffs* is significantly positive for *Reelection* (at the 0.05 level). According to Model 1, a one-standard-deviation increase in *Sports Record* improves the likelihood of reelection by 4.8 percent, assuming the probability of reelection is at its mean. For Model 2, the implied effect is 9.9 percent. In comparison, a one-standard-deviation increase in *Unemployment* reduces the likelihood of reelection by 3.7 percent. Turning to the effect of *Playoffs*, moving the number of city teams making the playoffs from none to all improves the likelihood of reelection by 12.7 percent in Model 3 or 15.8 percent in Model 4, again assuming the probability of reelection is at its mean.

Placebo Test

At least two concerns may be registered against the results so far. First, some omitted factor might mutually influence *Sports Record* and *Vote Share*. For instance, a high quality of life in a city may attract better athletes and lead to more content citizens. Second, only correlation has been demonstrated, rather than the causal effect of sports performance. A placebo test can help address both concerns by exploiting the timing of sports outcomes. Sports records from the years before and after an election should be equally correlated with any omitted variables affecting the election, but only the former can have a causal effect on the electoral result. If omitted variables are driving the relationship between *Vote Share* and *Sports Record*, a similar association should be found between *Vote Share* and *Sports Record Year After*. Since *Sports Record* and *Sports Record Year After* have a correlation of 0.44, we should expect the latter to have a small positive correlation with *Vote Share* that will disappear when *Sports Record* is controlled for.

The results shown in Table 4 bolster the case for the causal impact of sports performance. Models 1 and 2 replicate Models 2 and 3 from Table 2, except

TABLE 4

Placebo Tests Predicting Incumbent Vote Shares

DV: *Vote Share (logged)*	(1)	(2)	(3)	(4)
Sports Record Year After (logged)	0.077 (1.43)	0.039 (0.38)	0.026 (0.42)	−0.023 (−0.24)
Sports Record (logged)			0.122* (2.32)	0.361** (2.74)
Prior Vote Share (logged)	0.389*** (6.18)	0.482** (3.16)	0.392*** (5.99)	0.503** (3.32)
Mayoral Term	−0.067** (−3.28)	−0.065* (−2.17)	−0.067** (−3.25)	−0.073* (−2.35)
Team Entry	0.025 (0.65)	0.084 (0.89)	0.038 (0.99)	0.155 (1.59)
Team Exit	−0.016 (−0.16)	0.062 (1.21)	−0.014 (−0.14)	0.062 (0.80)
Unemployment		0.004 (0.22)		0.009 (0.47)
City Fixed Effects?	Y	Y	Y	Y
N	296	127	296	127
Adjusted R^2	0.12	0.04	0.13	0.13

NOTES: As a placebo test, the four OLS regressions predict incumbent vote shares from sports records in the year after the election. The insignificant influence of post-election sports outcomes bolsters the case for the forward causal impact of prior sports performance. The sample is 39 cities from 1948 to 2009, but including *Unemployment* restricts the sample primarily to the post-1990 period. *t*-values (based on Huber-White robust standard errors clustered by city) are shown in parentheses beneath each coefficient.
* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

with *Sports Record Year After* (logged) in place of *Sports Record* (logged). This variable is insignificant in both specifications. It also remains insignificant when either *Prior Vote Share* or the city fixed effects are dropped. Models 3 and 4 add *Sports Record* (logged). As predicted, the coefficients on *Sports Record Year After* (logged) are driven down, whereas the coefficients on *Sports Record* (logged) retain their positive significance and are virtually identical to those in Table 2. Hence, sports performance significantly correlates with electoral outcomes only when preceding the elections in time, making it unlikely that the relationship is driven by omitted variable bias.

Alternative Measures of Sports Record

It may be questioned whether *Sports Record*, an averaging of team records, is the appropriate measure of how sports performance translates into electorate happiness. If not, this measurement error should have biased the results away from significance. However, it is worth investigating how robust the results are and whether a superior measure of sports performance can be found. This subsection replicates Models 2 and 3 from Table 2 for three alternative measures (all logged). Results are discussed in text. Recall that the coefficients for *Sports Record* are 0.132 ($p = 0.003$) without *Unemployment* and 0.366 ($p = 0.007$) with *Unemployment*.

Maximum Sports Record equals the best record among a city's franchises in their most recently completed seasons. The resulting coefficients are 0.150 ($p = 0.0003$) without *Unemployment* and 0.424 ($p = 0.0005$) with *Unemployment*. In both cases, the coefficient, the t-value, and the amount of explained variance in *Vote Share* (according to ANOVA) are marginally larger compared to *Sports Record*. Why might this be? It tends to be the very successful sports seasons that cause excitement to build across a city, driving up the salience of the sports teams and perhaps the city itself. This cumulative social enthusiasm may exert a unique influence on electoral outcomes.

Current Sports Record adopts the following method of averaging: if a season is ongoing, it uses the current season record; otherwise, it uses the most recently completed season.[18] The resulting coefficients are 0.136 ($p = 0.005$) without *Unemployment* and 0.236 ($p = 0.124$) with *Unemployment*, implying no stronger effect for sports results in the immediate past.

Finally, *Z-Scored Sports Record* attempts to adjust for the different variances in records among the different sports.[19] Each sport was linearly adjusted to have the same variance and mean, then the records were averaged, and the result was finally linearly adjusted to have the same variance and mean as *Sports Record*. The resulting coefficients are 0.142 ($p = 0.018$) without

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[18]I assume that at least 20 percent of a season needs to be elapsed to be considered ongoing.
[19]The standard deviations of season records in this article's sample are 0.072 for baseball, 0.148 for basketball, and 0.201 for football.

Unemployment and 0.291 ($p = 0.018$) with *Unemployment*, indicating little difference compared to *Sports Record*.

Conclusion: What Are the Implications for Democracy?

Sports outcomes exercise a strong effect on the share of votes for incumbents and the probability they win reelection. The 6.1 percent change in incumbent vote share estimated to result from an unexceptional, one-standard-deviation shift in sports records is substantively very large, exceeding the margin of victory for, say, New York City's Michael Bloomberg in 2009 or Rudy Giuliani in 1997. According to the model estimate, about 1 in 17 modern major-city elections are decided by variation in sports records. This was corroborated by conditional logit tests that found a 5–10 percent higher likelihood of incumbent reelection from a one-standard-deviation increase in sports records.

Several alternative measures and specifications confirmed the positive association between sports performance and incumbent electoral success. The relationship is stronger after 1990 and of similar magnitude for sports results in the immediate past. There is ample room to build on the current article in future work. The effect of sports success should be strongest for the most popular teams, although it is difficult to derive an objective measure of franchise popularity across time and the three sports. In particular, the relative magnitude of each sport's effect on citizen utility likely varies by city. Lastly, this study compared the influence on each election of the past year's season, the current season, and the following year's season. Greater nuance in testing the timing of sports outcomes could go further in determining how long mood effects persist.

As emphasized in the first section, the upshot of the current article is that at least some voters are accurately described by the Prosperity Model, in which voters unreflectively opt for the status quo when happy. How catastrophic is this conclusion for democracy? When confronting the random and emotional component of voter decision making, many authors posit a serious threat to democratic accountability (e.g., Sunstein, 1991; Bartels, 2003; Achen and Bartels, 2004a, 2004b, 2006; Healy, 2008; Healy, Malhotra, and Mo, 2010). For instance, Achen and Bartels (2004b:38) conclude, "[d]emocratic government as practiced in the United States, then, is a form of limited, random oligarchy," in which voters exercise a positive impact not by choosing good policies but by setting bounds on elite exploitation.

This article's position is that the implications of the Prosperity Model are not nearly so dire. First, the main contribution of random, nonpolitical factors such as sports outcomes, weather, and shark attacks is noise. Electoral choice becomes only a fuzzy reflection of the rational evaluations of voters. However, even when random events affect votes on the margins, better candidates remain advantaged. As such, randomness is far less pernicious than factors that bias electoral selection toward bad or manipulative leaders. Nothing in

the justification of representative democracy guarantees that voters will pick the best candidate each and every time, only on average. This still holds true under the Prosperity Model.

Second, the flip side to how voters choose their leaders is how this incentivizes politicians in office looking for reelection. Under the Prosperity Model, incumbent politicians are motivated to maximize voter happiness at the time of the election. This is hardly the gravest of threats, even if motivating politicians to maximize well-being in the long run is preferable. Other voter biases are more worrisome. For instance, Healy and Malhotra (2009:387) find that "voters reward the incumbent presidential party for delivering disaster relief spending, but not for investing in disaster preparedness spending." This response, born of attention bias and media priming, causes politicians to underinvest in disaster preparedness at considerable damage to public welfare. In comparison, if voters exclusively chose their political leaders based on their happiness at election time, public officials might aim for a more balanced strategy of disaster relief to maximize welfare.

It is fair to say that voters are imperfect and occasionally irrational. It does not follow that democracy is seriously questioned. In fact, voting for incumbents when well-being is high is a sensible rule of thumb for voters who cannot reliably connect the dots between political actions and outcomes. Although irrelevant events may seep into this calculation, voting remains an effective method for selecting and disciplining leaders.

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