

The Economists' Voice

Volume 1, Issue 2

2004

Article 1

Experimental Political Betting Markets and the 2004 Election

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Experimental Political Betting Markets and the 2004 Election*

Justin Wolfers and Eric Zitzewitz

Summary

Betting on elections has been of interest to economists and political scientists for some time. We recently persuaded TradeSports to run experimental contingent betting markets, in which one bets on whether President Bush will be re-elected, conditional on other specified events occurring. Early results suggest that market participants strongly believe that Osama bin Laden's capture would have a substantial effect on President Bush's electoral fortunes, and interestingly that the chance of his capture peaks just before the election. More generally, these markets suggest that issues outside the campaign — like the state of the economy, and progress on the war on terror — are the key factors in the forthcoming election.

KEYWORDS: Prediction Markets, Contingent Claims

*The authors would like to thank John Delaney of TradeSports for his ongoing help in launching the experimental securities which form the basis of our analysis. Justin Wolfers: Business and Public Policy Department, The Wharton School, University of Pennsylvania; 3620 Locust Walk; Philadelphia, PA 19104, USA. Eric Zitzewitz: Stanford GSB; 518 Memorial Way, Stanford CA 94305, USA.

With all eyes fixed on the November election, there is clearly substantial uncertainty about who will be the next U.S. President. Yet what is the source of this uncertainty? We already know who the candidates are, and their positions on the issues are reasonably predictable.

The political pundits on Sunday television will make all sorts of claims about what scenarios favor each candidate, but such talk is cheap, and may be biased by a desire to affect the outcome.

In order to try to get some sense of the factors that are driving this election, we decided to create a situation where people put their money where their mouths are. We asked Tradesports to run some experimental political betting markets for us.

The betting offers some interesting answers. Early results suggest that market participants strongly believe that Osama bin Laden's capture would have a substantial positive effect on President Bush's electoral fortunes. More generally, issues outside the control of the campaigns, such as the economy and progress in the war on terror — are the key factors in the November election.

Traditional vs. Contingent Election Markets

Our idea is a twist on the usual election betting markets. In standard election betting markets, traders buy and sell securities whose payoffs are tied to the performance of a particular candidate. For example, since 1988 the Iowa Electronic Markets have traded securities that pay a penny for each percentage point of the two-party popular vote garnered by each of the major candidates, and these have proven to be accurate indicators. And as far back as Lincoln's election, there were organized betting markets on the Presidency, and again, these markets were quite accurate.

More recently, the emergence of online betting exchanges — such as www.tradesports.com — have led to substantially greater trading on election outcomes. We decided to take advantage of this renewed interest to launch a new set of experimental contingent securities.

Our contingent securities are linked to both the election outcome and to specific events that could influence the election. The three new contracts that we

listed pay \$100 if President Bush is re-elected, AND (respectively):

- Osama bin Laden is caught prior to the election;
- The unemployment rate falls to 5 percent or below;
- The terror alert level is at its highest level (red).

Bettors call this sort of combination bet a “parlay,” and they have long recognized that if the two events in a parlay are not independent, then the pricing of the bet needs to take their interrelationship into account. We can exploit this to learn about what market participants think about the correlation between any two events.

Osama’s Capture Would Hand the Election to Bush

The data on the first contract are the easiest to interpret. At the time of writing, the Osama-and-Bush contract is at \$9, suggesting a 9 percent probability that both events will occur. (We are sampling the mid-point of the bid-ask spreads).

By comparison, a contract paying \$100 if Osama is captured by October 31 (two days before the election) is trading for \$9.90. Comparing these prices suggests that if Osama is captured, the markets believe the likelihood of a Bush victory to be 91 percent. (Why so high? The difference between the two prices, which is small in this case, corresponds to the likelihood that Kerry would win despite Osama’s capture.)

By comparison, a contract simply tied to whether Bush is re-elected is trading at \$66.60, suggesting that overall, Bush is a two-in-three chance to be re-elected.

We can also use the Bush and Bush-and-Osama securities to learn about Bush’s chances if Osama is not captured. By purchasing a Bush contract and selling a Bush-and-Osama contract, we get a portfolio that pays \$100 only if Bush is re-elected and Osama is *not* captured. Paying the \$66.60, and receiving the \$9, yields a total cost of \$57.60. Comparing this with the probability of 90.1 percent that Osama is not captured, this suggests that the markets believe that if Osama is not captured by the end of October, the likelihood of a Bush victory falls to 64 percent.

These odds are still good for Bush, but nothing like his 91 percent chance if Osama is captured. It seems to be no exaggeration to state that the election

depends more on whether Osama is captured than on any amount of campaign strategy.

Timing Osama's Capture: Bush May Game It, But the Public Won't Care

A second series of "Osama futures" appears to show that the markets believe that this lesson is not lost on the Bush administration. These futures pay \$100 if Osama is captured by the end of September, October, November, and December 2004, respectively. Comparing the prices of adjacent contracts reveals the market's assessment of the likelihood of Osama being captured in any specific month.

If we go back to the beginning of September, these markets suggested a 6 percent chance of a September capture and an 8 percent chance of an October capture, but only a 4 percent chance each in November and December (the post-election months). At the beginning of October, the odds of an October capture were still well above what the odds had been for subsequent months.

The spike in expected probability in October suggests that traders would be reasonably skeptical of the timing of any "October surprise" capture of Osama.¹ But the fact that they still expect such a capture to hand the election to Bush suggests that they expect the public relief over the capture to overwhelm any such cynicism.

A Better Economy Would Help Bush, But Not As Much

A similar exercise can be performed to compute the effects of a better performing economy on the election.

Unfortunately, the likelihood of an unemployment rate below 5 percent — the contingency our contract depends on — is currently so low that the relevant contract has generated little recent trade. However, if we look to earlier trading in June 2004, it is clear that markets believe that a stronger economy would have given President Bush at least an 80 percent chance to win re-election, well above his overall odds at the time.

So these two markets expect that (arguably modest) improvements in the economy or the war on terror would have a substantial effect on the election.

¹ Another possibility is that the October weather in Northwest Pakistan is especially conducive to finding Osama. Evaluating this takes us outside our area of expertise, but we doubt that this is the primary reason for the October spike.

Factors Under The Candidates' Control

What about the factors arguably more under the candidates' control? We followed the active trading in Tradesport's "Bush reelection" security during the first debate and found that even during a debate that was regarded as a clear win for Kerry, the security hardly moved (it was at 66 percent at the beginning and end of the debate and fell to 64 percent during the post-debate analysis). Price movements during the convention speeches were also quite small.

In contrast, an adjustment in the terror alert level — raising it to red, its highest value — would matter a great deal, according to the markets. And the choice whether to make such an adjustment is, to some extent, under the President's control. The prices of the terror alert parlay imply a high probability of a Bush reelection, conditional on a red alert.

Reverse Causation and Other Issues

But this case highlights the question of possible reverse causation. For instance, the high price of the Bush-and-red-alert contract could reflect a view that, in a climate of fear, voters are likely to rally around the flag and to re-elect the incumbent. Alternatively, traders may think that Bush-hating terrorists believe that terrorist acts are likely to lead to an anti-incumbent vote (as they arguably did in Spain), and so if Bush's election looks like a sure thing, they will strike.

So these markets are no magic cure for the old issue of distinguishing correlation from causality that bedevils all empirical research.

Other issues arise if we want to use what we learn from these markets to inform decision making. While other prediction markets have proved surprisingly immune to attempted manipulation, once the stakes become more than academic, the incentive for manipulators will rise dramatically. Once security prices are used for decision making, other traders' beliefs start affecting their payoffs, and so a trader's goal can move from predicting what will happen toward predicting what others think will happen. Careful market design can help on both issues, but the issues are fairly complex, and the focus of current study.

We should also emphasize that these results are only experimental. They come from fairly thin, and quite novel, markets. The prices represent the beliefs of a small and possibly quite unrepresentative population of traders, and the

financial incentives here are small. They also involve asking people to evaluate small probabilities, which studies suggest many have a hard time doing. Against this, the historical experience of political markets at the University of Iowa suggests that there may be something to data like these.

One thing we know about the participants in this market is that unlike political pundits on Sunday television, these participants are putting their money where their mouths are. That feature is what makes market opinions well worth watching.

And if there is a common thread to these experiments, it is that our markets suggest the most important factors driving this election lie well beyond the hustings. Instead, the economy, the war on terror, and the climate of fear look to be crucial.

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