

**Comments on Ricard Gil & Steve Levitt's
“Testing the Efficiency of Markets in the
2002 World Cup”**

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Motivation and Method

- ❑ Observation: Data limitations limit tests of finance theories
 - ▶ Cannot observe arrival of new information
 - ▶ Trader identities typically obscured
- ❑ Research approaches
 - ▶ Analyze cases where it is clear new info becomes available
 - But some may have earlier access to info
 - ▶ Lab studies
 - But perhaps an artificial environment
 - ▶ Gil and Levitt: Analyze soccer prediction markets
 - Goals are identifiable info
 - Traders are knowledgeable
 - Real money on the line
 - Data are available

Findings: Glass Half Full (Empty)

- ❑ Few arbitrage opportunities
- ❑ Rapid response to info (goals)
- ❑ But incomplete response: Prices rise from over next 15 mins
- ❑ Behavioral biases: Favorite-longshot bias and Short-aversion
- ❑ Market-makers emerge, but lose money

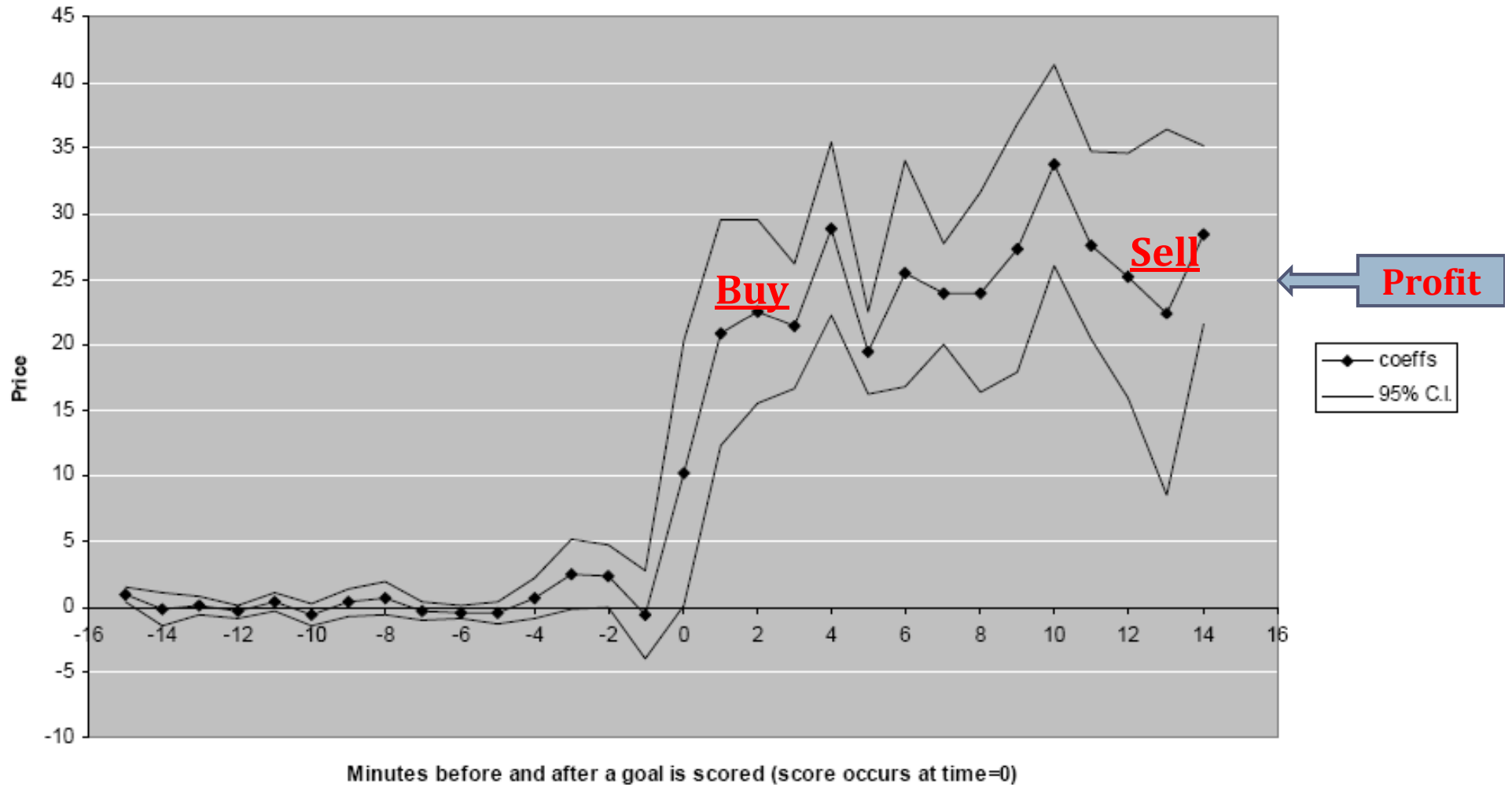
Implications for Research on Prediction Markets

- ❑ Is 15 minutes worrying slow?
- ❑ Is it just a feature of an immature market?
 - Tradesports on 2002 World Cup v. BetFair on 2006 World Cup
- ❑ The Larry Summers Critique
 - ❑ *"ketchup economists have an impressive research program, focusing on the scope for excess opportunities in the ketchup market. They have shown that two quart bottles of ketchup invariably sell for twice as much as one quart bottles of ketchup except for deviations traceable to transactions costs, and that one cannot get a bargain on ketchup by buying and combining ingredients once one takes account of transactions costs. Nor are there gains to be had from storing ketchup, or mixing together different-quality ketchups and selling the resulting product.*

Justin Wolfers, *Comments on Gil & Levitt*

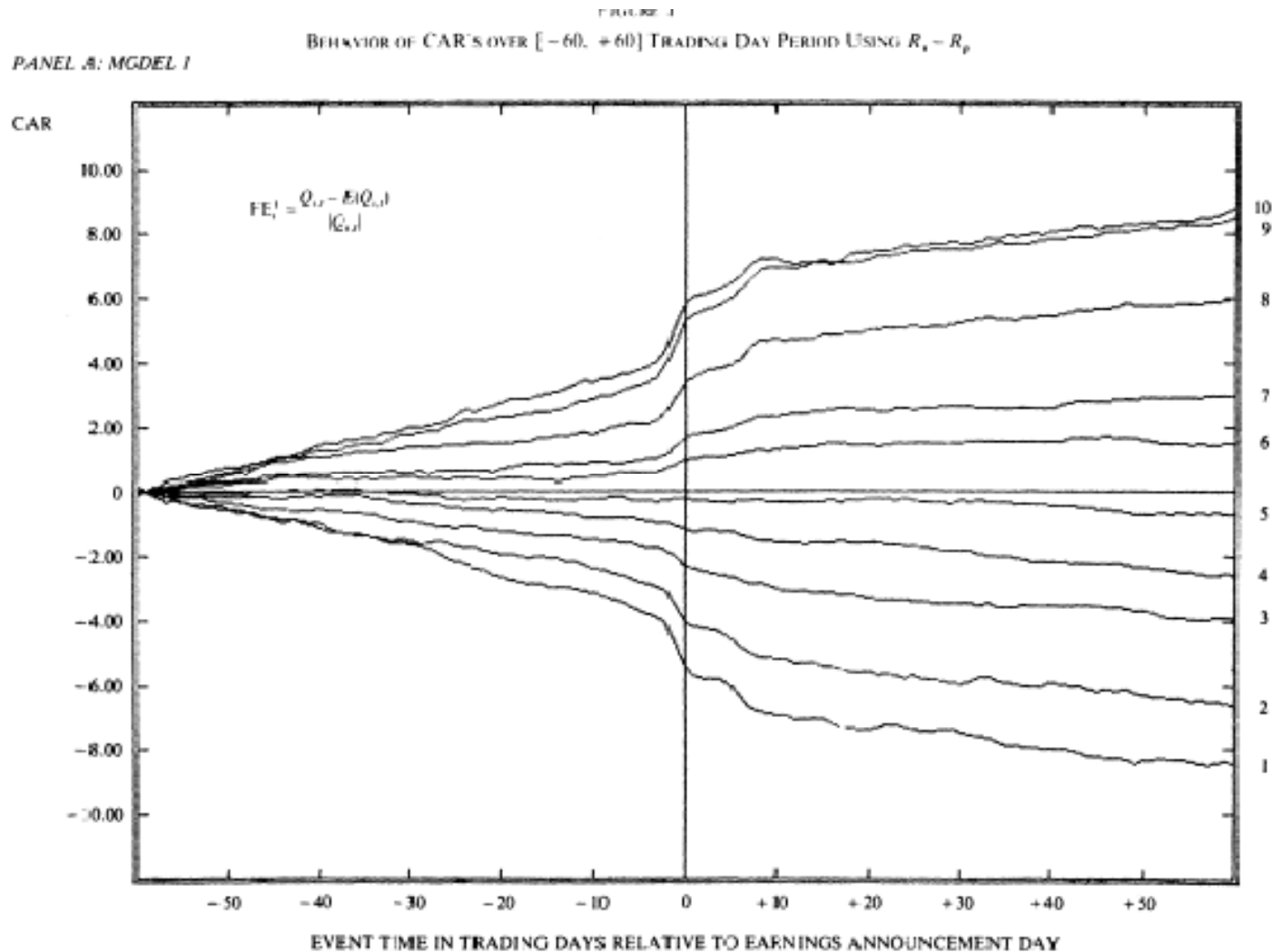
Key Finding

Figure 1: Price Response to a Goal Scored



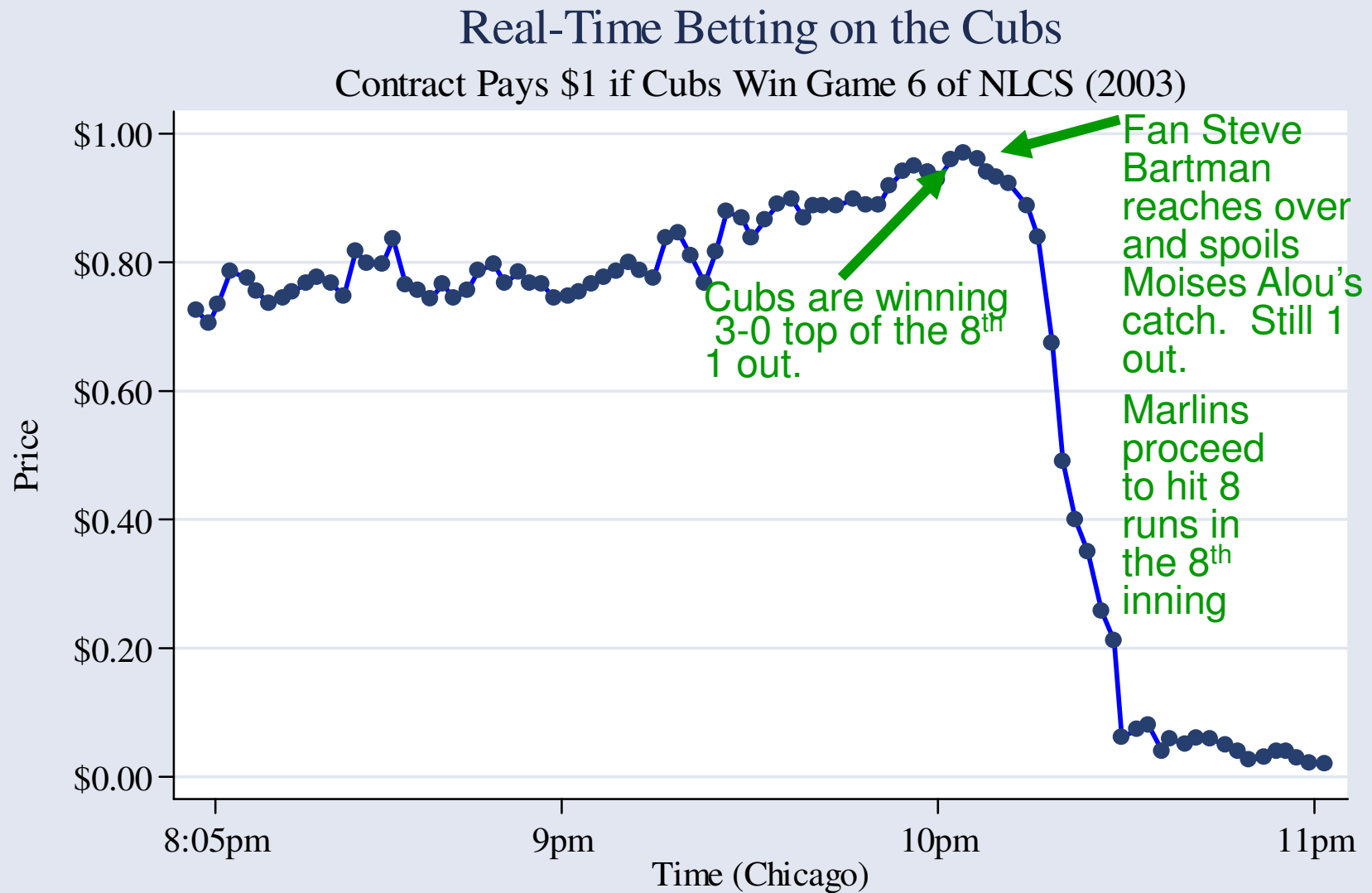
Justin Wolfers, *Comments on Gil & Levitt*

Anchoring & Earnings Surprises

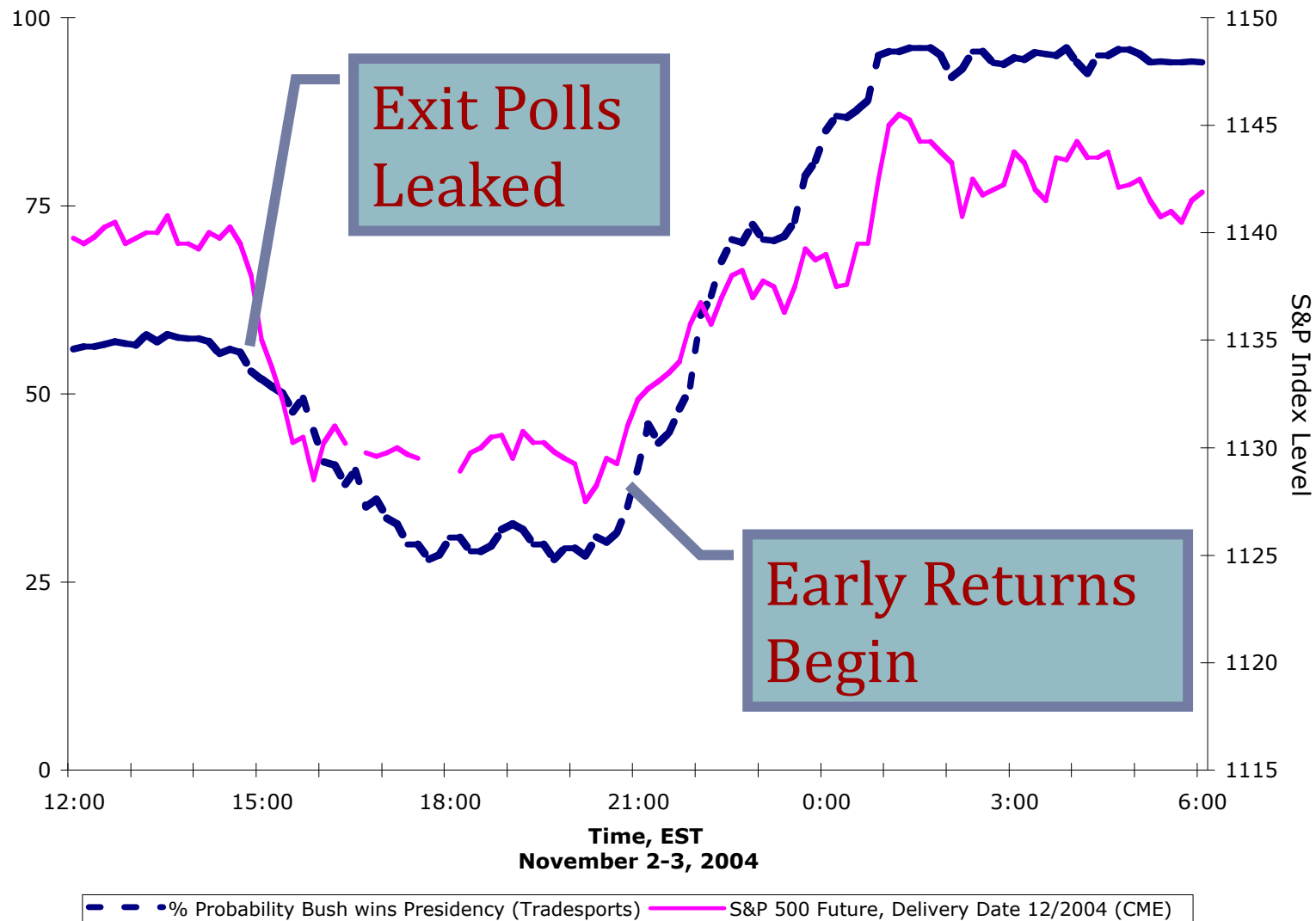


Reference: George Foster et al (1984), "Earnings Releases, Anomalies, and the Behavior of Security Returns, *The Accounting Review*.

Rapid Reaction to News



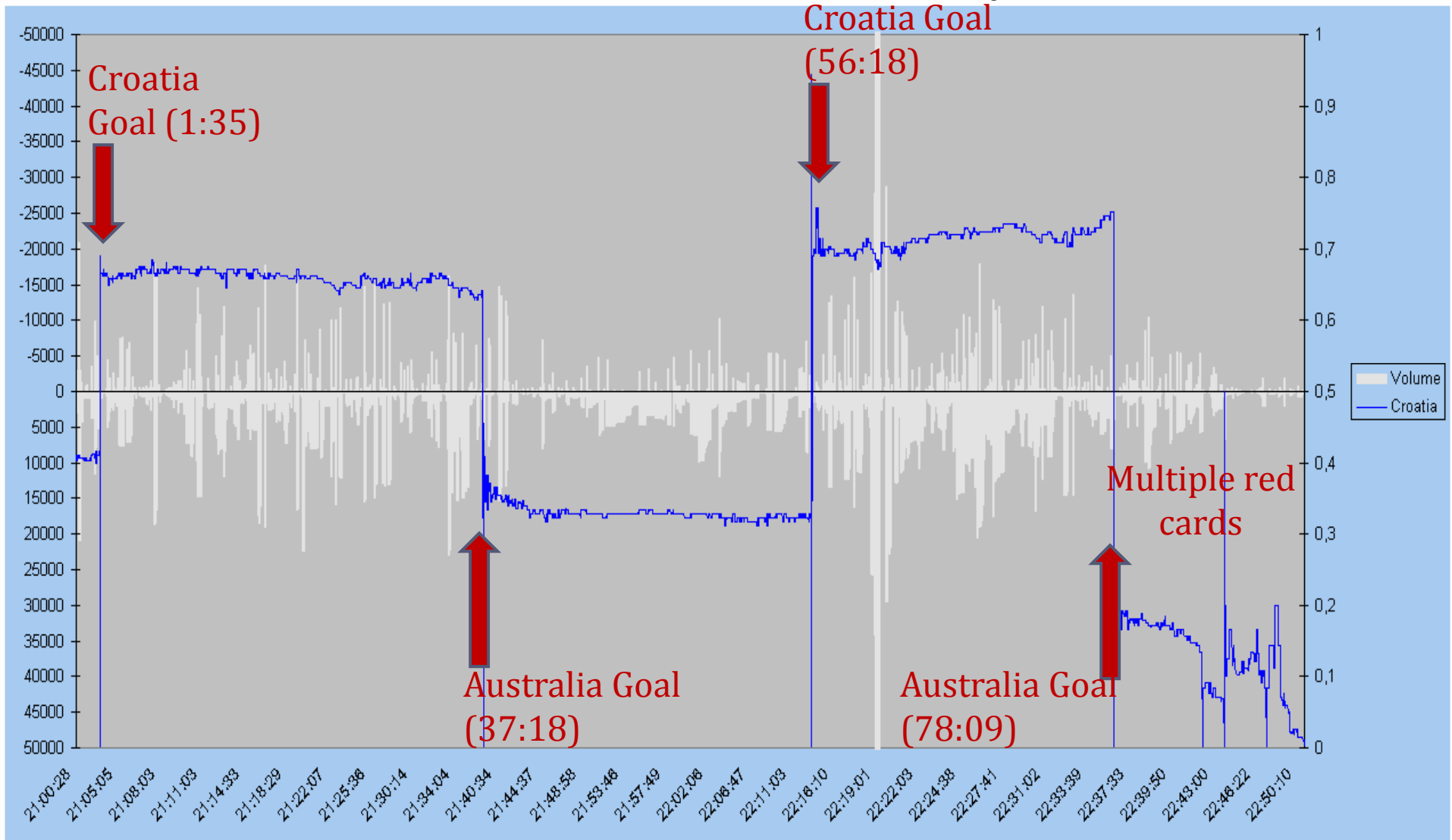
Imperfect Adjustment to News: Election Day, 2004



Reference: Erik Snowberg, Justin Wolfers and Eric Zitzewitz (2007), "Partisan Impacts on the Economy: Evidence from Prediction Markets and Close Elections", *Quarterly Journal of Economics*

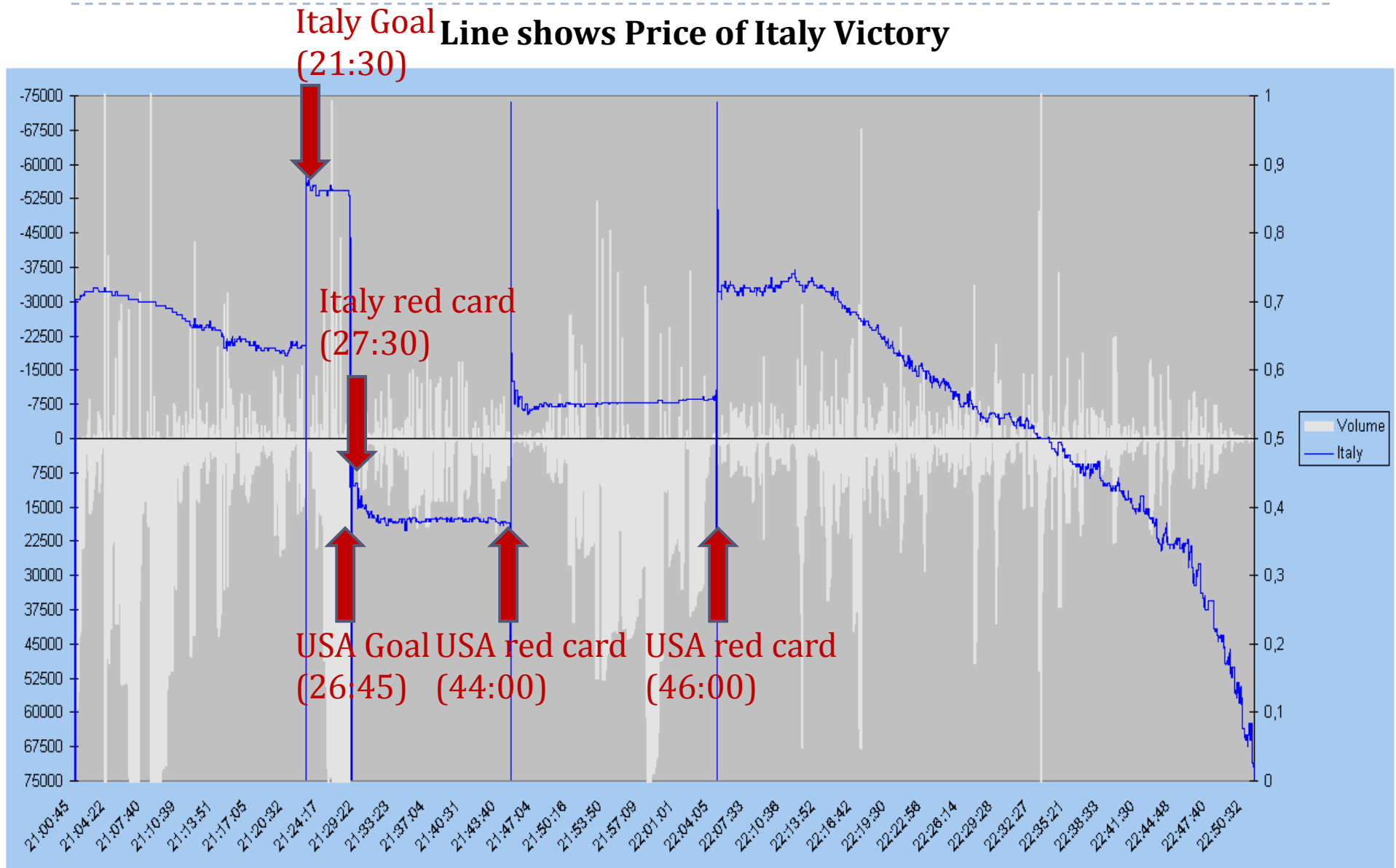
2006 Soccer World Cup: Croatia 2 v. Australia 2

Line shows Price of Croatia Victory



Source: BetFair data collected by Frantisek Kopriva.

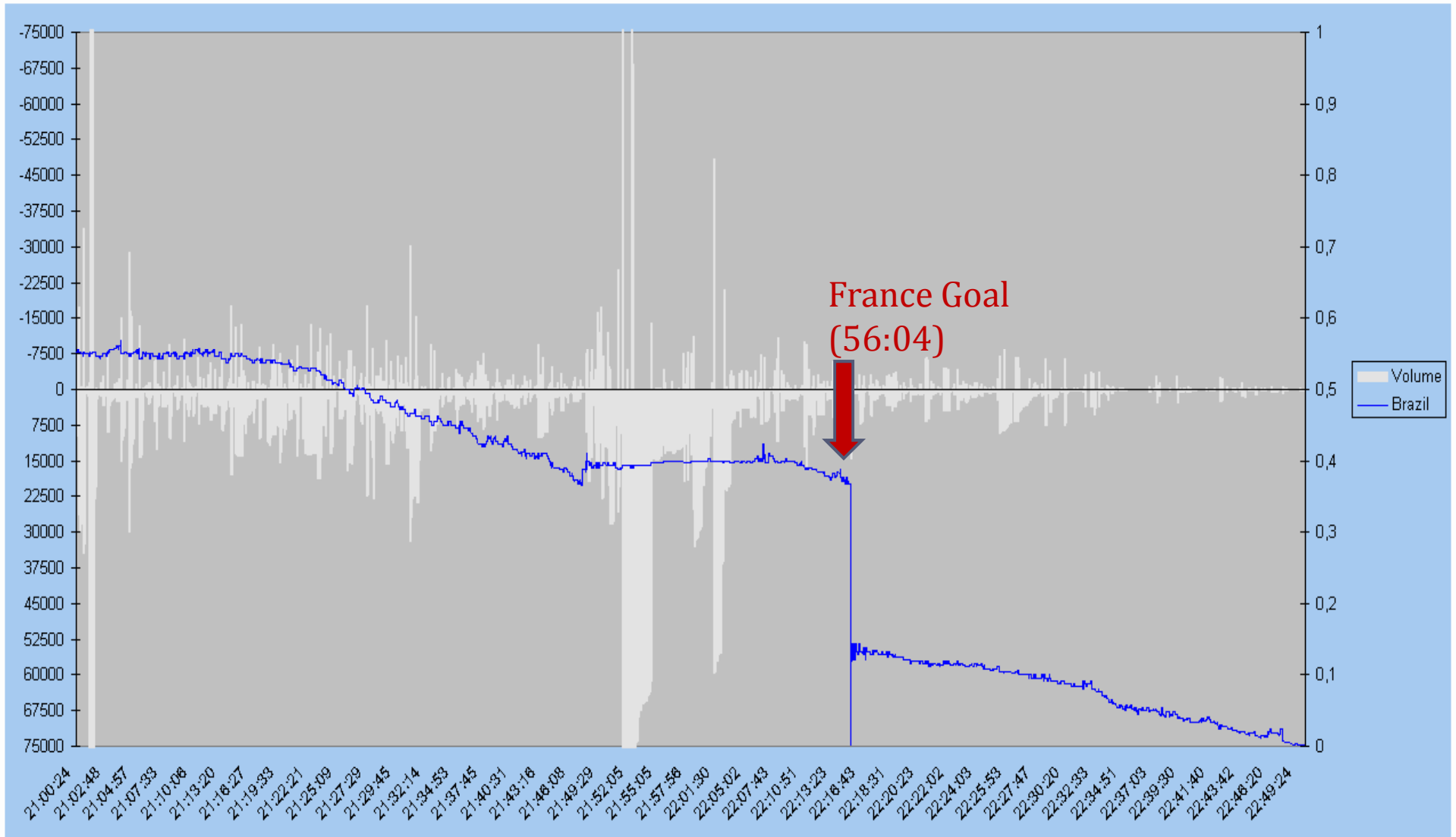
2006 Soccer World Cup: Italy 1 v. USA 1



Source: BetFair data collected by Frantisek Kopriva.

2006 Soccer World Cup: Brazil 0 v. France 1

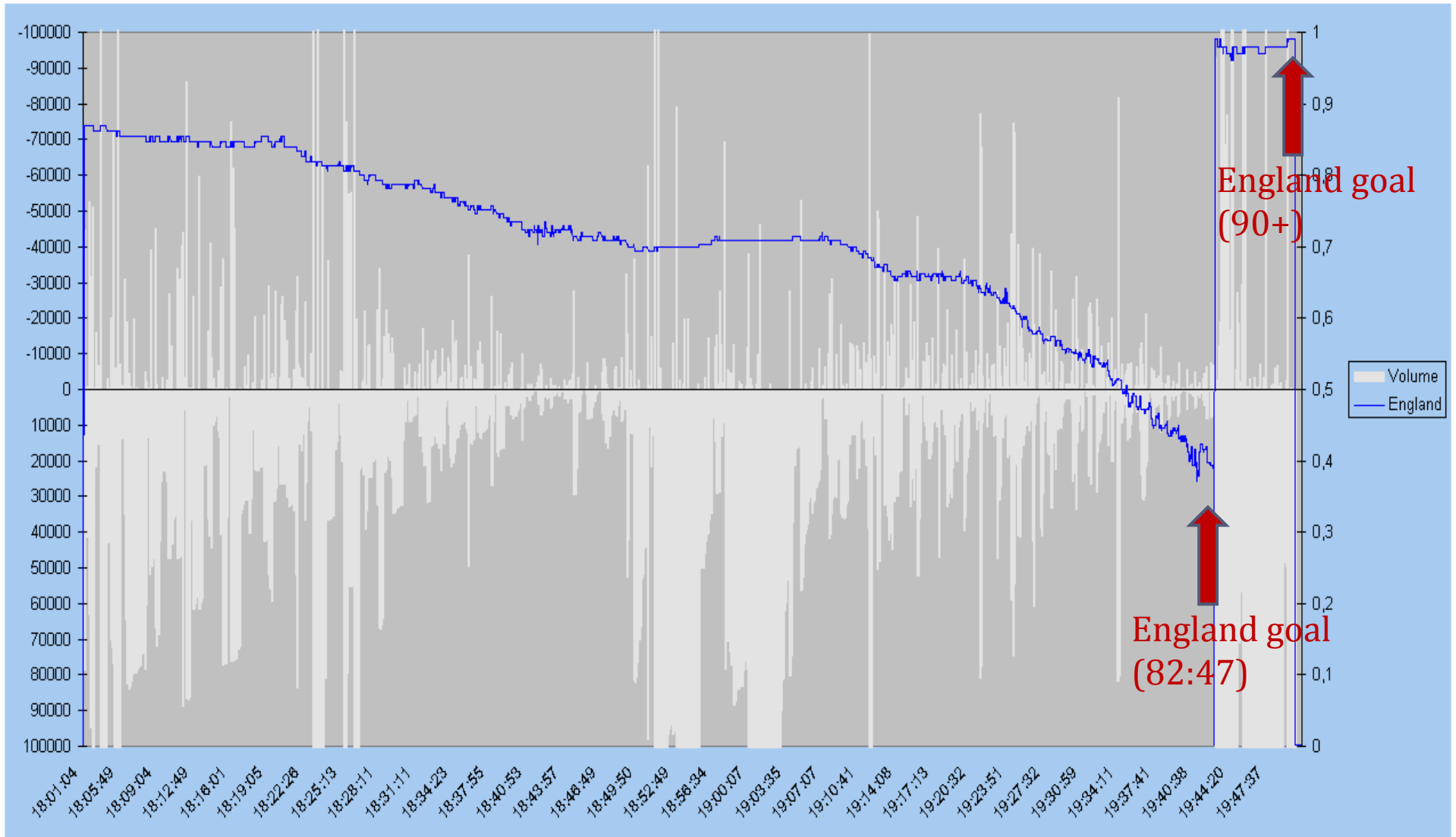
Line shows Price of Brazil Victory



Source: BetFair data collected by Frantisek Kopriva.

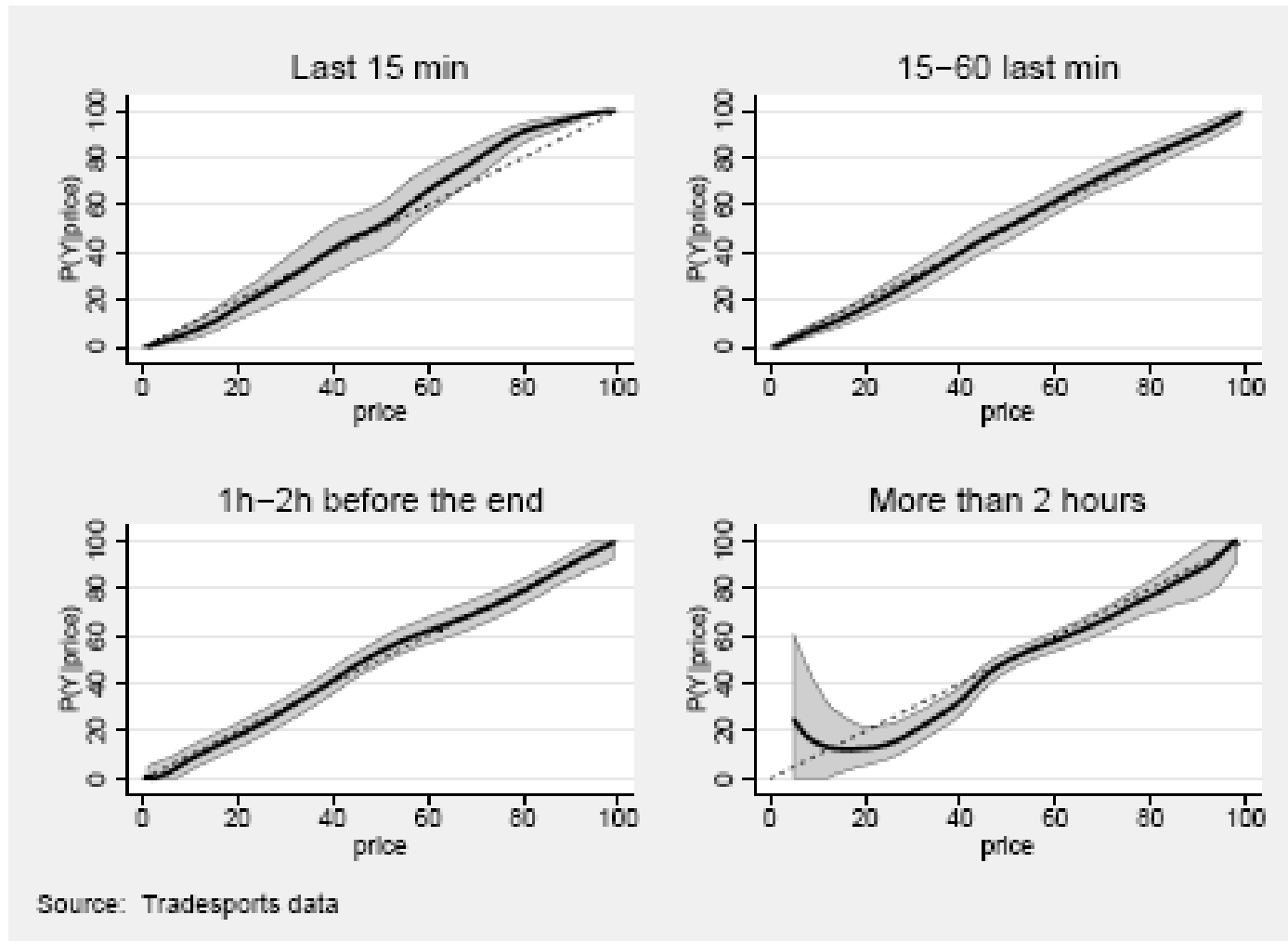
2006 Soccer World Cup: England 2 v. Trinidad & Tobago 0

Line shows Price of England Victory



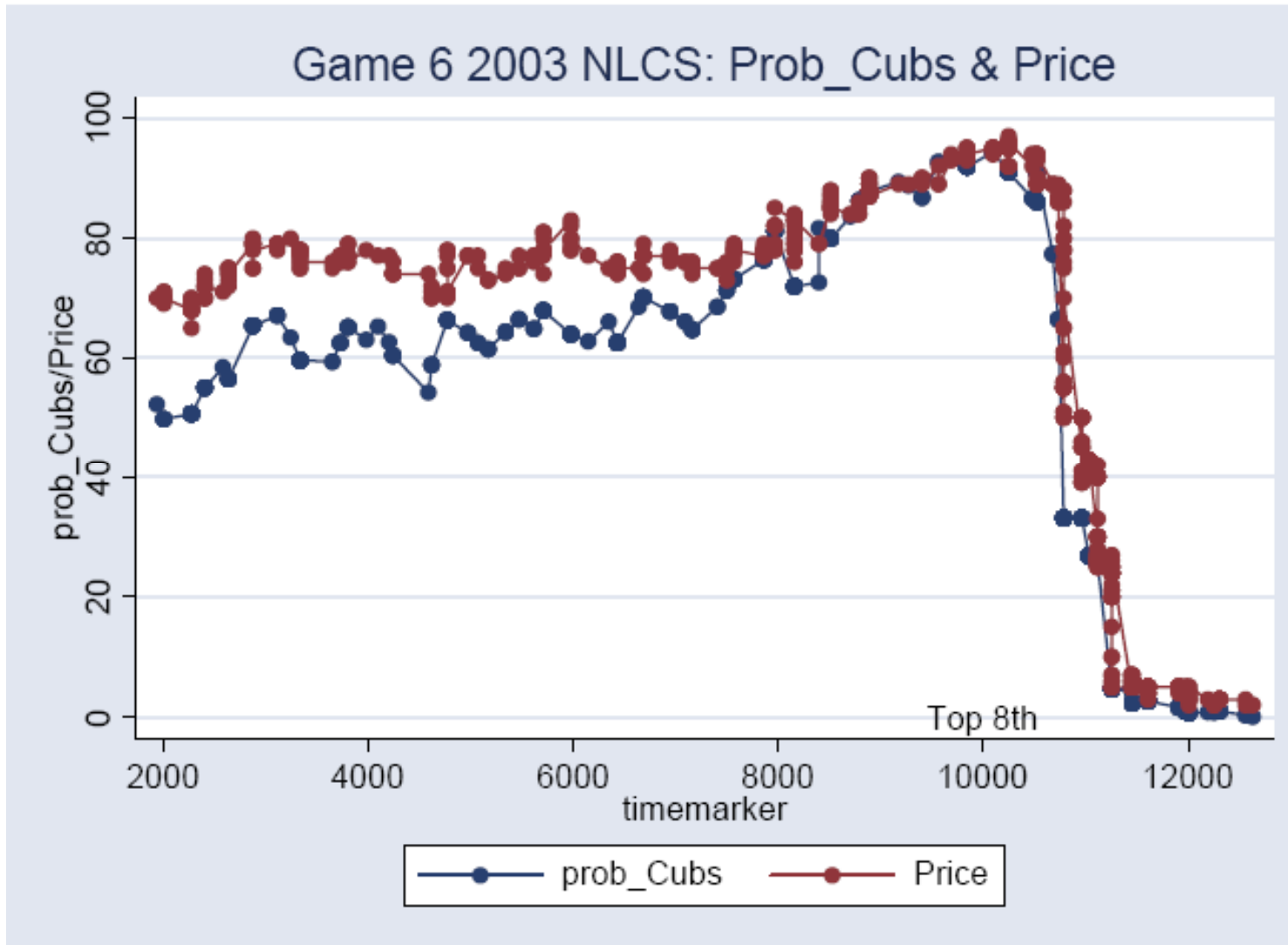
Source: BetFair data collected by Frantisek Kopriva.

A Related Bias



Source: Lionel Page, "It ain't over till it's over. Yogi Berra Bias on Sports Prediction Markets".

Are Price Levels Sensible?



Source: Jahn Hakes, Raymond Sauer and J. Kerry Waller, "The Progress of the Betting in Baseball Game"

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Conclusions

- ❑ Gil and Levitt add to our knowledge about sports and prediction markets
- ❑ We learn that markets are “fairly efficient”
 - ▶ Which of these two words is more interesting is in the eye of the beholder
 - ▶ The range of inefficiency here doesn't yield large unexploited profits