

Assessing polling accuracy

Context

- ▶ **Global context:**

- ▶ Plenty recent examples of public doubting poll accuracy
- ▶ Efforts undertaken on "critical" elections to assess polling accuracy

- ▶ **Mexican Context:**

- ▶ Brief period of post-authoritarian electoral polling (2000-today)
 - ▶ 2000-2006: "Golden Era" of polling
 - ▶ 2006-2012: "Crisis of polling" (post-authoritarian period)
- ▶ 2012 "Crisis of polling"
- ▶ No systematic assessment of pollster accuracy
 - ▶ 2006 by election
 - ▶ 2012 by candidate

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- ▶ **Mexican Context:**

- ▶ Brief period of post-authoritarian electoral polling (2000-today)
- ▶ No systematic transfer of information from authoritarian period
- ▶ 2012 "Crisis of polling"
- ▶ No systematic assessment of pollster accuracy

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- ▶ Post-authoritarian transition transcending authoritarian period
- ▶ 2012 "Crisis of polling"
- ▶ No systematic assessment of pollster accuracy

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Shortcomings for multiparty settings

- ▶ **Most methods rely on single-statistic**
 - ▶ Mosteller (1949): **1-8**
 - ▶ Martin, Traugott & Kennedy (2005): A, A'_i
 - ▶ Arzheimer & Evans (2014): B, B_w
- ▶ Difficult to capture multiparty setting dynamics
 - ▶ different direction bias for different candidates
 - ▶ different biases across pollsters
 - ▶ important to address heterogenous measurement error across candidates as forecast by same pollster
- ▶ Much to be learned about pollster dynamics if unpacking measures...

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Assessing polling performance in MX

Single-statistic assessments

- ▶ Under standard single-statistic assessments we would conclude of electoral polls in Mexican presidential elections...

Year	Mosteller (1949)			Martin et al. (2005)			Arzheimer et al. (2014)	
	1	3	5	\bar{A}'_{PRI}	\bar{A}'_{PAN}	\bar{A}'_{PRD}	\bar{B}	\bar{B}_w
2006	-2.37	2.73	-3.88	.181	-.095	-.056	.129	.119
2012	4.05	3.07	1.76	.128	-.103	-.053	.140	.145

"House effects" 2006-2012

Modeling

- ▶ **Purpose:** estimate "house effects" for each polling firm by candidate and election
- ▶ Exploit all available survey information to separate noise from signal
 - i) Track vote intent for each candidate throughout the campaign
 - ii) Compute "systematic error" per candidate for each pollster
- ▶ **Data:** all *published* surveys throughout 2006/2012 presidential campaigns
 - ▶ publicly available repositories IFE & AMAI

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Kalman filter model

► State vector

$$y_{i[k]} \sim \text{Binomial}(\mu_{ij[k]t[k]}, n_k) \quad (1)$$

where

- $y_{i[k]}$ proportion of voters supporting candidate i , given poll k
- $\mu_{ij[k]t[k]}$ reported support for candidate i by polling firm j at time t , given poll k
- n_k sample size of poll k

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- ▶ Measurement equation

$$\mu_{ijt} = \text{logit}^{-1}(\alpha_{it} + \delta_{ij}) \quad (2)$$

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μ_{ijt} reported support for candidate i by polling firm j at time t

α_{it} true support for candidate i at time t

δ_{ij} "house effect" of polling firm j for candidate i

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- ▶ Transition equation (reverse random walk)

$$\alpha_{i,t} | \alpha_{i,t+1} \sim N(\alpha_{i,t+1}, \mathbf{s}_i^2) \quad (3)$$

- ▶ Priors

- ▶ α_{ij} anchored on T at proportion of votes received by candidate j
- ▶ $\delta_{ij} \sim N(0, 0.05)$
- ▶ 2012 estimation utilizes 2006 estimates of δ_{ij} as priors

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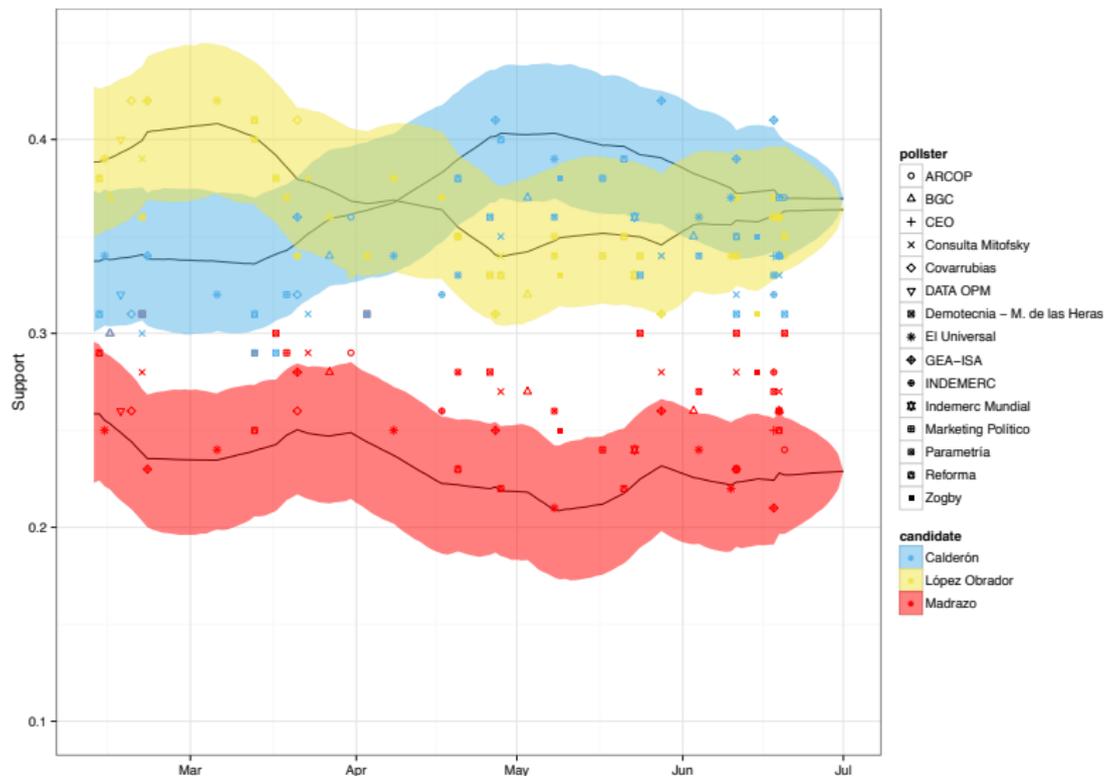
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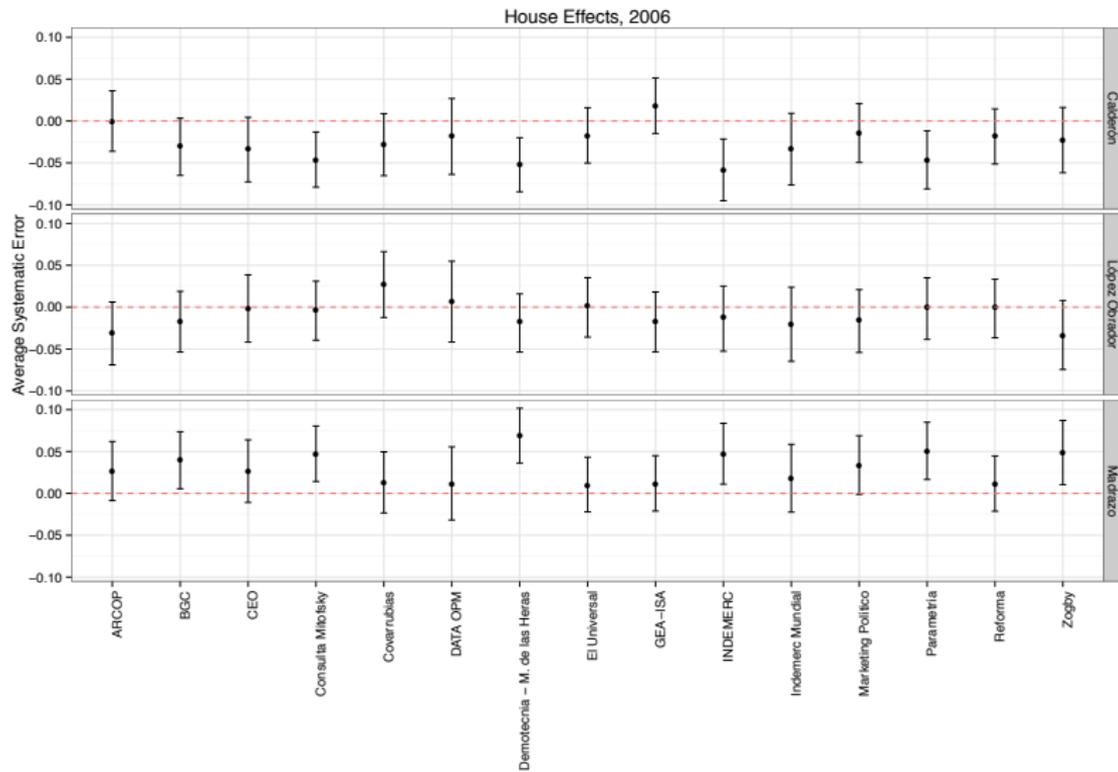
2006 Presidential election

Tracking vote intention



2006 Presidential election

Estimated "house effects" - vote intent



2006 Presidential election

Estimated "house effects" - vote intent

- ▶ 16 pollsters published 58 polls
- ▶ ALL (16) firms **accurately estimate** AMLO (PRD)
- ▶ Few (4) firms **underestimate** FCH (PAN)
 - ▶ including: Consulta-Mitofsky, Demotecnia, Indemerc, Parametría
- ▶ Few (6) firms **overestimate** RMP (PRI)
 - ▶ including: BGC, Consulta-Mitofsky, Demotecnia, Indemerc, Parametría, Zogby
- ▶ Many (9) firms estimate all candidates **accurately**:
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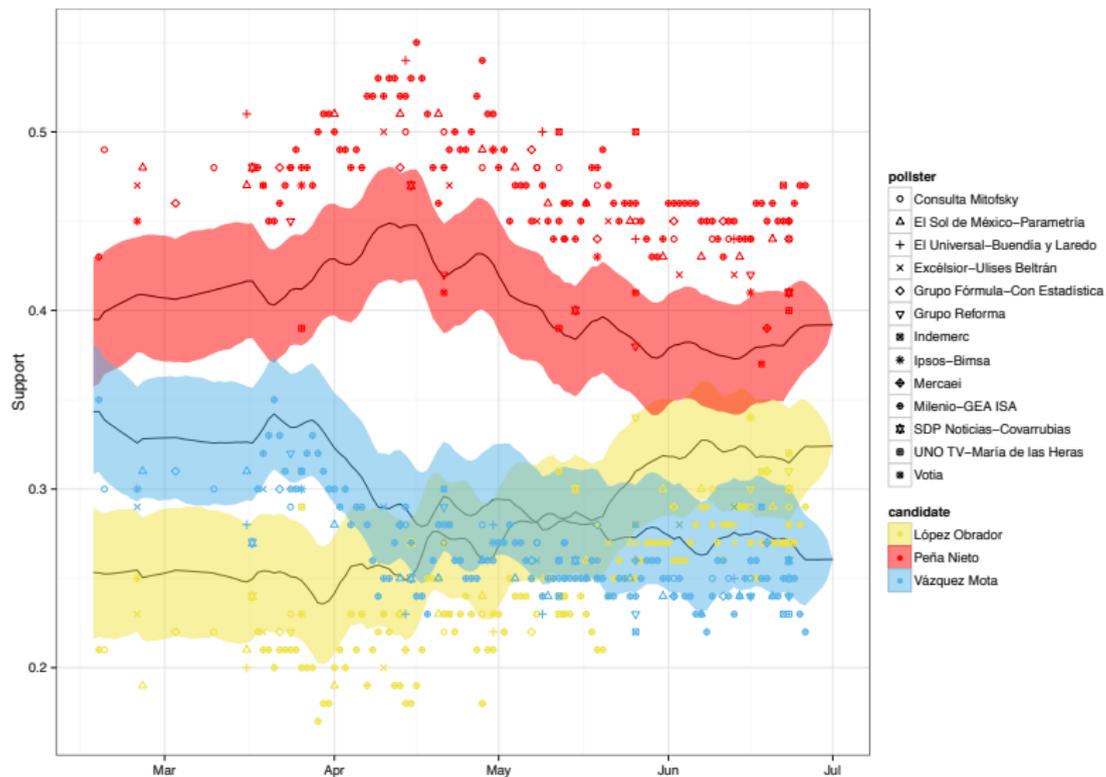
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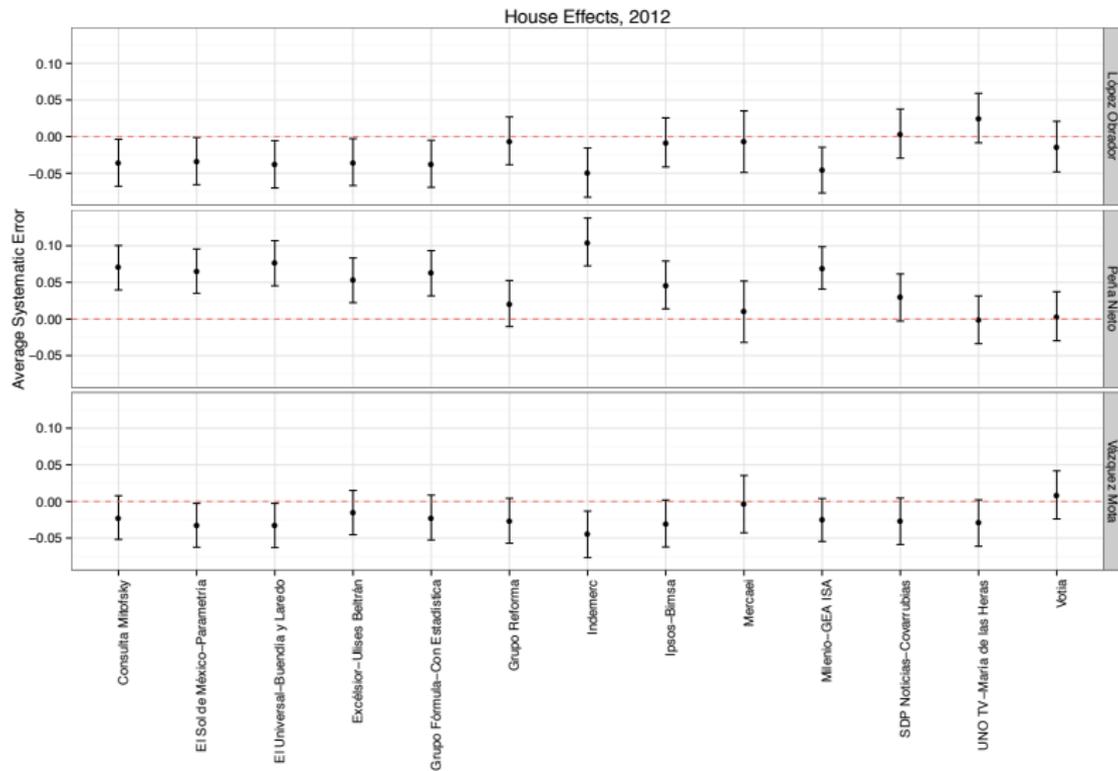
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2012 Presidential election

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- ▶ 13 pollsters published 183 polls
- ▶ Many (8) firms **overestimate** EPN (PRI)
 - ▶ except: Reforma, Mercaei, Covarrubias, María de las Heras, Votia
- ▶ Many (7) firms **underestimate** AMLO (PRD)
 - ▶ except: Reforma, IPSOS-BIMSA, Mercaei, Covarrubias, María de las Heras, Votia
- ▶ Few (3) firms **underestimate** JVM (PAN)
 - ▶ including: Parametría, Buendía & Laredo, Indemerc
- ▶ Few (5) firms estimate all three **accurately**:
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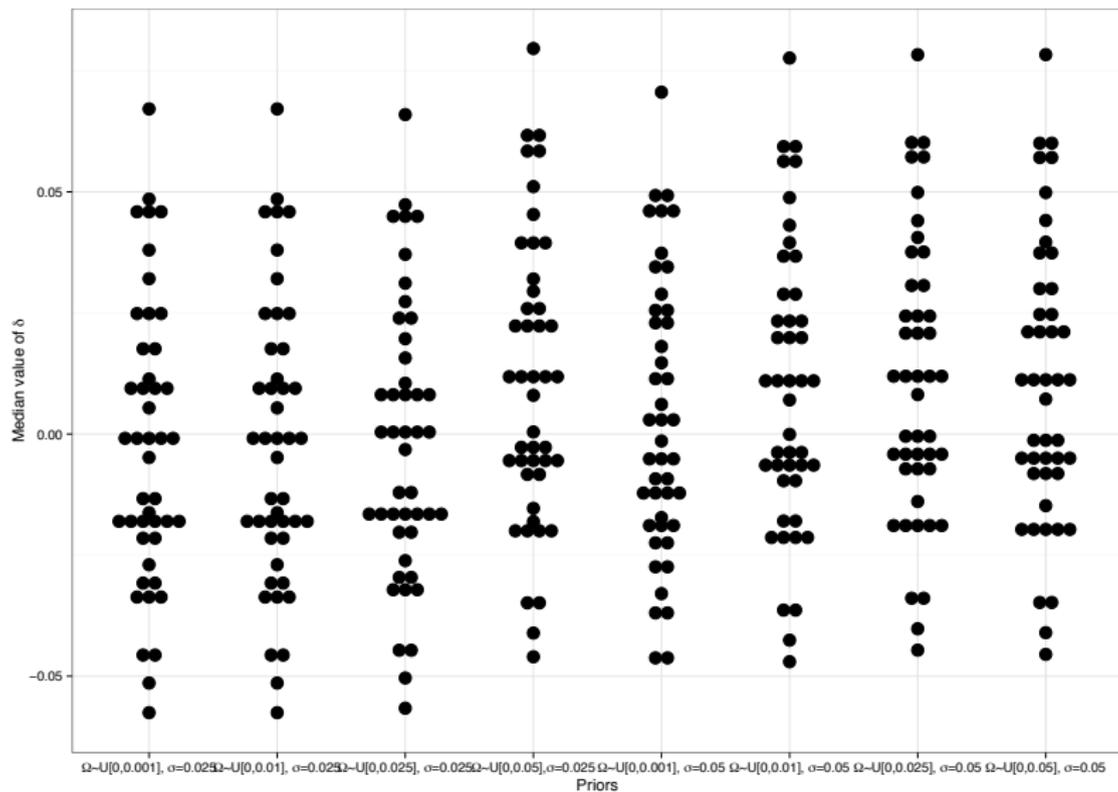
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MPSA
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