

Shrinking Dictators: How much economic growth can we attribute to national leaders?

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“Benevolent autocrats”

- Academics and Policy Debates often attribute high growth to “benevolent” autocratic leaders
 - Deng Xiaoping (China): “The economic success of...China most recently, has been a consequence of good-for-growth dictators, not of institutions constraining them” de Luca et al (2015)
 - Rwanda is development’s “shining star” with “average growth of 7.5% over the past 10 years,” suggesting “much of its success is due to effective government” under Paul Kagame.” Economist (2016)
- Idea that aid agencies and citizens support dictators if they are good for growth... as measured by the average growth rate
- Benevolent Autocrats influence debate on whether autocracy is good for growth

Academic Evidence

- Jones & Olken (2005 QJE) - random leader deaths lead to change in growth for autocracies, not democracies
 - Autocratic leaders have effect on growth (in general) ($\sigma_{\mu}=1.5\%$)
 - (Besley et al 2011); (Brown 2017), (Meyersson 2016), (Yao and Zhang 2015), (Blinder and Watson 2016), (Berry and Fowler 2018)

Different Question: How much growth can we attribute to a particular leader?

- Can we identify a good-for-growth dictator from the rest?
- How informative is the average growth rate ?

This Paper: apply teach VA method

Insight: effect of leaders on growth is like assessing the “value added” of schoolteachers based on past test scores

- Huge literature in US (Kane and Staiger 2008, Chetty et al 2014)
- Shrink ‘noisy’ test scores based on signal-to-noise ratio
- Yields ‘best’ (least squares) estimates of teacher contribution

This paper: adapt the teacher VA method to leader growth context.

- To our knowledge first to do this

1. Statistical Model

Estimating Least Squared Leader effect & inputs required

A. Simplest Model

Simplest Model (all mean zero):

$$g_{it} = \mu_i + e_{it}$$

Leader \swarrow μ_i \nwarrow Noise e_{it}

Ave. growth rate during leader tenure T:

$$\bar{g}_i = \frac{1}{T} \sum_{t=1}^T g_{it}$$

Variance of leader average growth rate reflects noise as well as true leader effects

$$\text{Var}(\bar{g}_i) = \sigma_{\mu}^2 + \sigma_e^2 / T$$

A. Simplest Model

Linear Model: Estimate leader contribution as $\psi \bar{g}_i$

where $\psi = \textit{shrinkage}$ factor between 0 and 1 (more shrinkage when closer to 0)

Optimal (least squares) forecast:

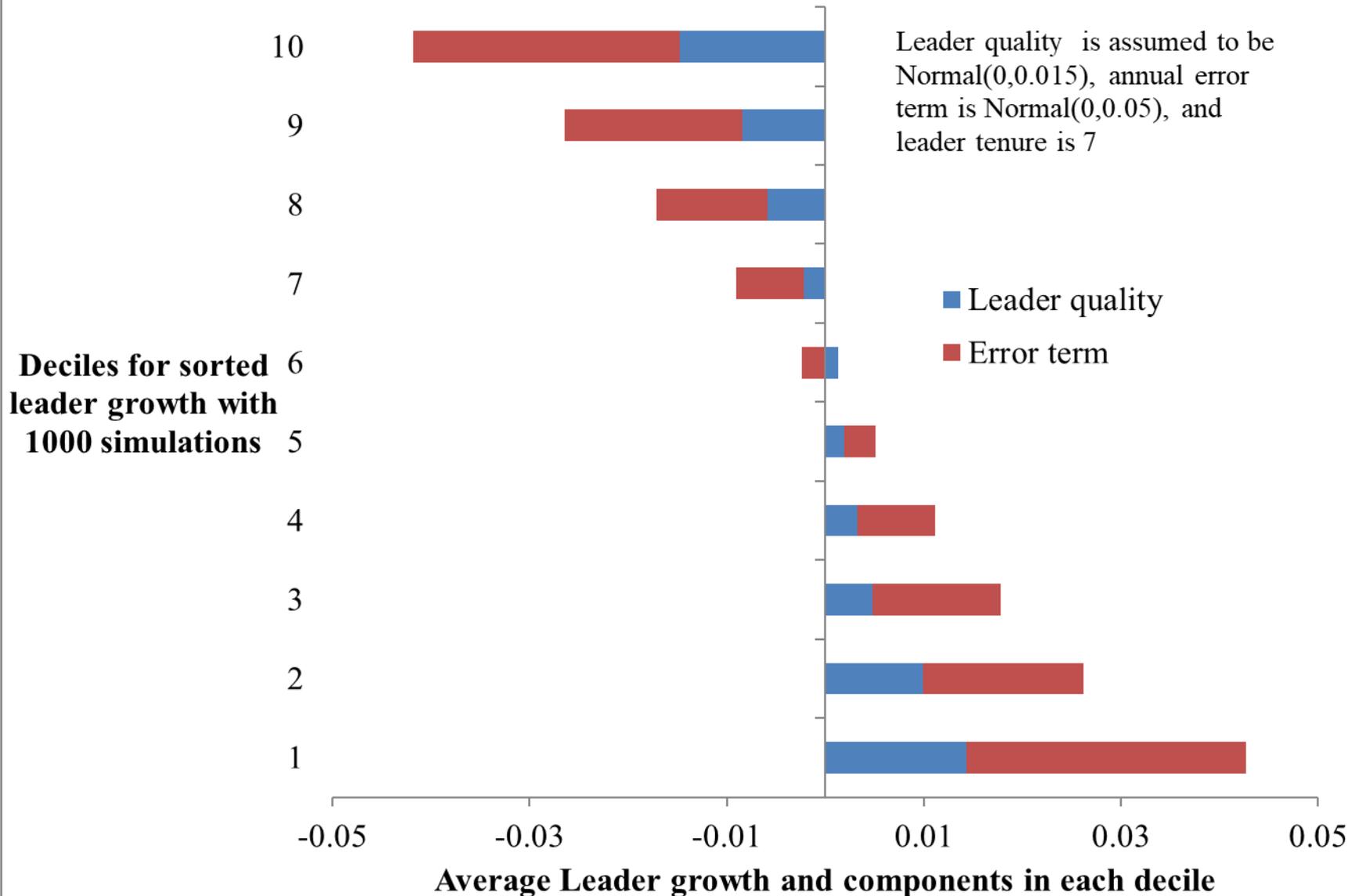
$$\psi = \left[\frac{\sigma_\mu^2}{\sigma_\mu^2 + \sigma_e^2 / T} \right]$$

ψ increasing in leader var. σ_μ^2 , leader tenure T , decreasing in noise σ_e^2

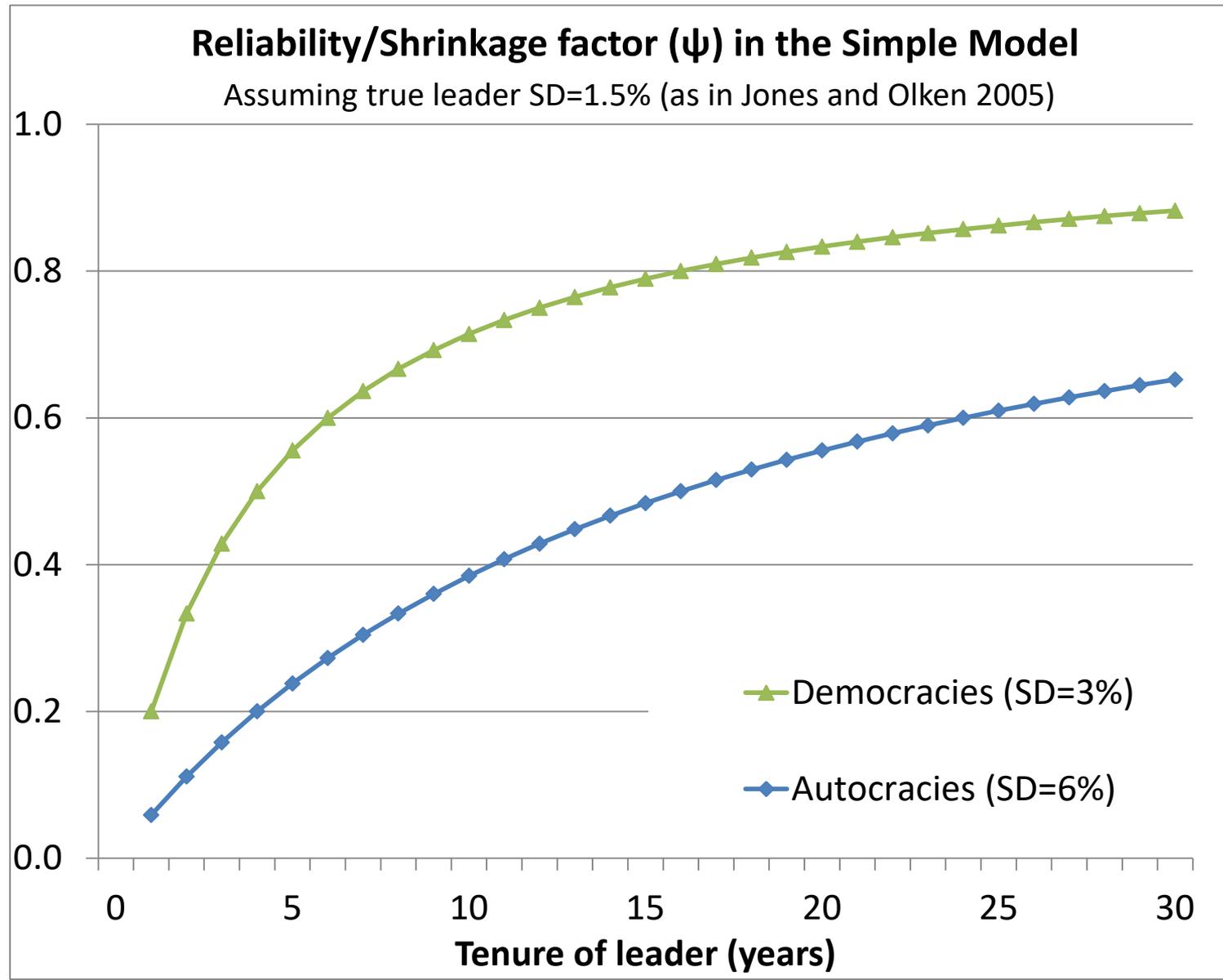
$\psi = 0$ if $\sigma_\mu^2 = 0$ (leaders don't affect growth), and $\psi \rightarrow 0$ as $\sigma_e^2 \rightarrow \infty$

If $\sigma_\mu^2 > 0$, (leaders affect growth) then $\psi \rightarrow 1$ as $\sigma_e^2 \rightarrow 0$
or as leader tenure $T \rightarrow \infty$

Monte Carlo simulation of leader growth average as sum of leader quality and error term



Harder to detect leader effects in autocracies because they have higher noise



B. Full Model

Same as the simple model except for:

- country effects μ_c (institutions, culture, geography...)
- observables $\bar{g}_t + X\beta$

(Continent X Year Fixed Effects)

$$g_{ict}^* = \bar{g}_t + X\beta + \mu_i + \mu_c + \varepsilon_{ict}$$

Monte Carlo Evidence

How well does the least squares leader method work on *simulated* growth data?

	Root Mean Squared Error (smaller is better)
1. Naïve growth average ($\hat{\mu}_i = \bar{g}_{ic}^*$)	3.2%
2. Optimal least-squares (estimated)	1.3%

- Naïve leader growth average much worse than our method

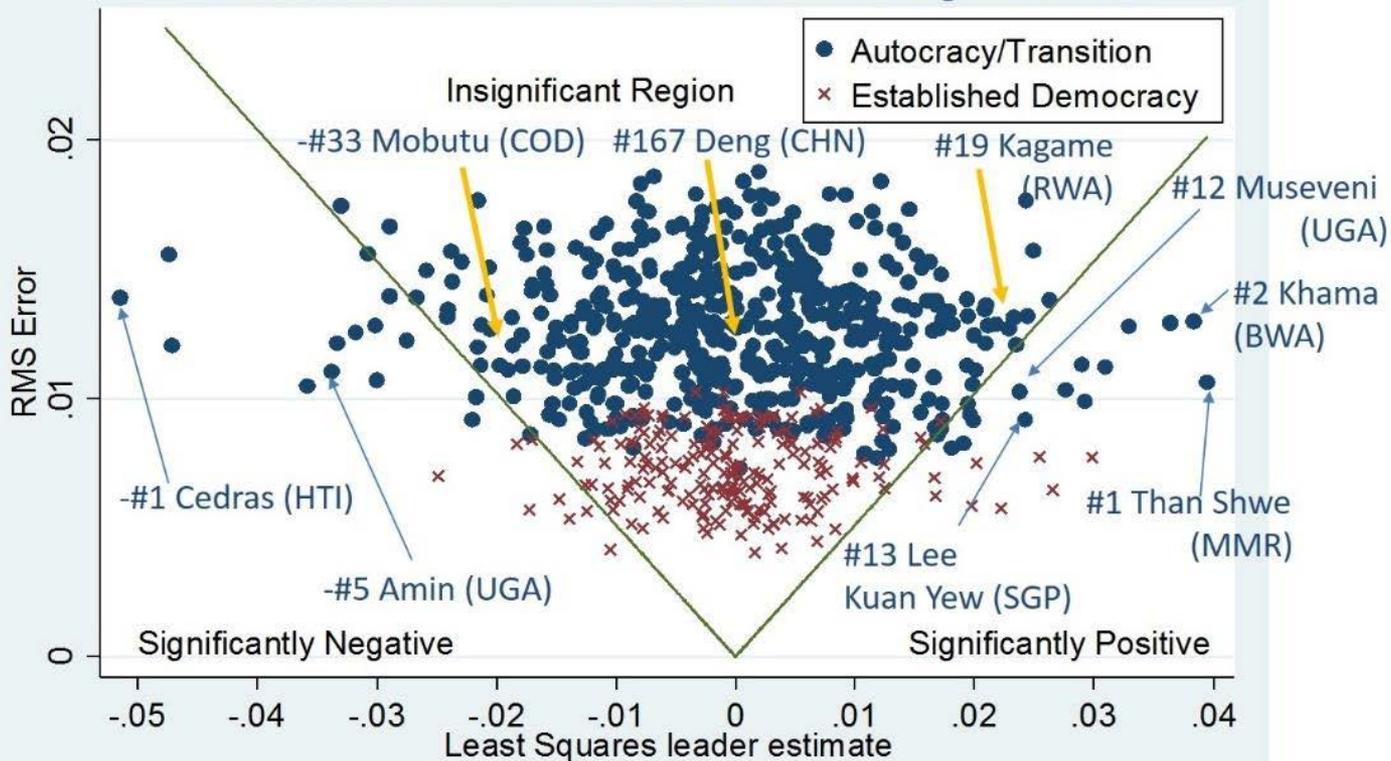
Least Squares Leader Effects & Significant Good and Bad leaders

Estimating the contribution of individual leaders ($\hat{\mu}_i$)

Results: Best & Worst Leaders

- PWT 9 GDP PC growth data 1951-2014
- True variation in leader quality larger than Jones & Olken
 $\sigma_{EP} = 1.7\% > \sigma_{JO}$ (including for autocrats)
 - *Leaders do matter for growth! (in general)*
- But only 47 out of 762 (6%) of leaders significant at 95%
 - *For vast majority of leaders can't stay whether they good/bad*
- Confirm some famous “benevolent autocrats” but miss others
 - Confirm: Khama, Lee Kuan Yew, Park Chung Hee, and Museveni
 - Miss: Deng Xiaoping and Paul Kagame
 - Many (including best and worst) are relatively unknown
- Because democracies have low noise can detect some leader effects: Berlusconi and Nixon significantly negative

LS leader estimates and statistical significance



Notes: Lines mark where $1.96 * RMSE = \text{abs}(\text{leadereffect})$. Tenure ≥ 3 yrs

Conclusions & Policy Implications

- Hard to know which leaders are good (or bad) for growth based only on their own growth performance
 - Confirm some famous good and bad leaders but not others -- and also confirmed some large effects of uncelebrated leaders
 - only 47 out of 762 (6%) of leader effects significantly different from zero
- Policymakers should be careful not to excessively attribute growth to “strong leaders” (and allocate aid on that basis)
- Is it worth defending repressive leaders as “good for growth autocrats” when the best (and most optimistic) estimate of their true contribution to growth is small and uncertain?