Reading China: Predicting Policy Change with Machine Learning

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The views expressed here are the authors’ and do not represent the views of Bates White, the Mercatus Center, or their other employees.
State-run media tell us a lot — about the state!

- Example: the *People’s Daily* ≈ the *Pravda* of China.

- Primary mission: *not* to report news,…
  … but to propagandize viewpoints and promote policies.
“[T]he whole task of the Communists is to be able to convince the backward elements.” --- Lenin (1920)
Source of predictive power

*People’s Daily:* nerve center of China’s propaganda system

Propaganda often precedes policies.

Detect changes in newspaper’s priorities

≈

Predict changes in gov’t policies
Source of predictive power

People’s Daily: nerve center of China’s propaganda system

Propaganda often precedes policies.

Detect changes in newspaper’s priorities ≈ Predict changes in gov’t policies

Machine learning
Policy Change Index (PCI)
The framework

• A seemingly trivial problem:

Build an algorithm that classifies front-page articles
(“reverse-engineering” the editor’s mind).
The framework

Articles in previous 5 years

Model a front-page classifier

Test
The framework

- Articles in previous 5 years
- Articles in next quarter

Model a front-page classifier

Test

"Forecast"
The framework

Model a front-page classifier → Test → Articles in previous 5 years

Articles in next quarter

Test performance

Policy Change Index = Test performance - “Forecast” performance
The framework

Policy Change Index = Test performance - “Forecast” performance

PCI \gg 0 \Rightarrow \text{Change in the newspaper’s priorities}
The result

- Input: full text of the *People’s Daily*, 1946-present.
- Output: PCI for China, 1951-present, quarterly index.
PCI for China — with ground truth
PCI for China — going forward
Understanding change

Content of *mis*-classified articles has policy substance.
Takeaways: many applications
Other applications

• PCIs for other (ex-)Communist regimes (work in progress).

• PCIs for politicians?

• Other applications, beyond policy changes (see our research paper)
Interested in DIY?

• Website: policychangeindex.org

• Newsletter: mercatus.org/pcinewsletter

• Repository: github.com/PSLmodels/PCI

• A simulated example to show how the PCI works.
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Questions?