

# 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.*

习近平：新时代要有新气象 更要有新作为

中国青年报

人民日报  
RENMIN RIBAO

习近平应约同美国总统特朗普通电话  
特别赞赏中共十九大胜利闭幕，祝贺习近平再次当选中共中央总书记



习近平同志主持会议并作重要讲话  
习近平任中共中央总书记  
党的十九届一中全会产生中央领导机构



会议并作重要讲话  
中央政治局常委主席



证券时报

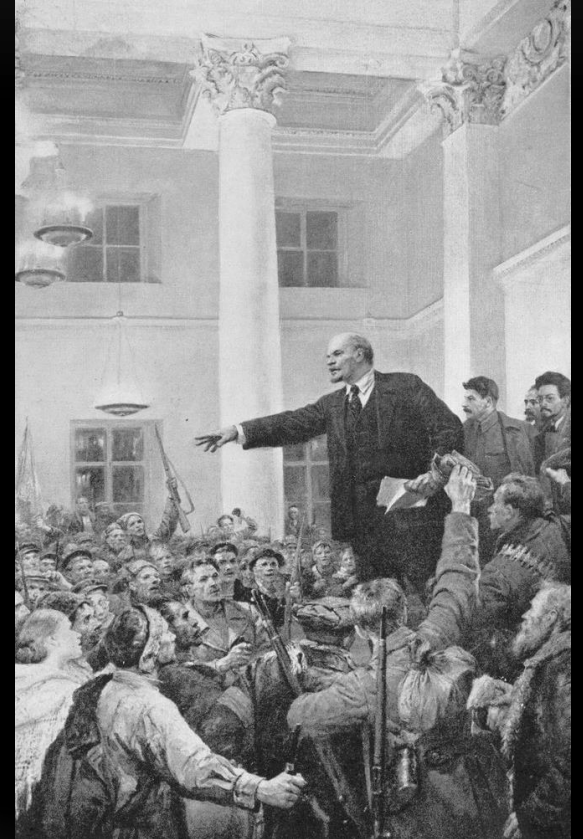
中国共产党第十九

# State-run media tell us a lot — about the state!

- Example: the *People's Daily*  $\approx$  the *Pravda* of China.
- Primary mission: *not* to report news,...  
... but to propagandize viewpoints and promote policies.

# Source of predictive power

“[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.

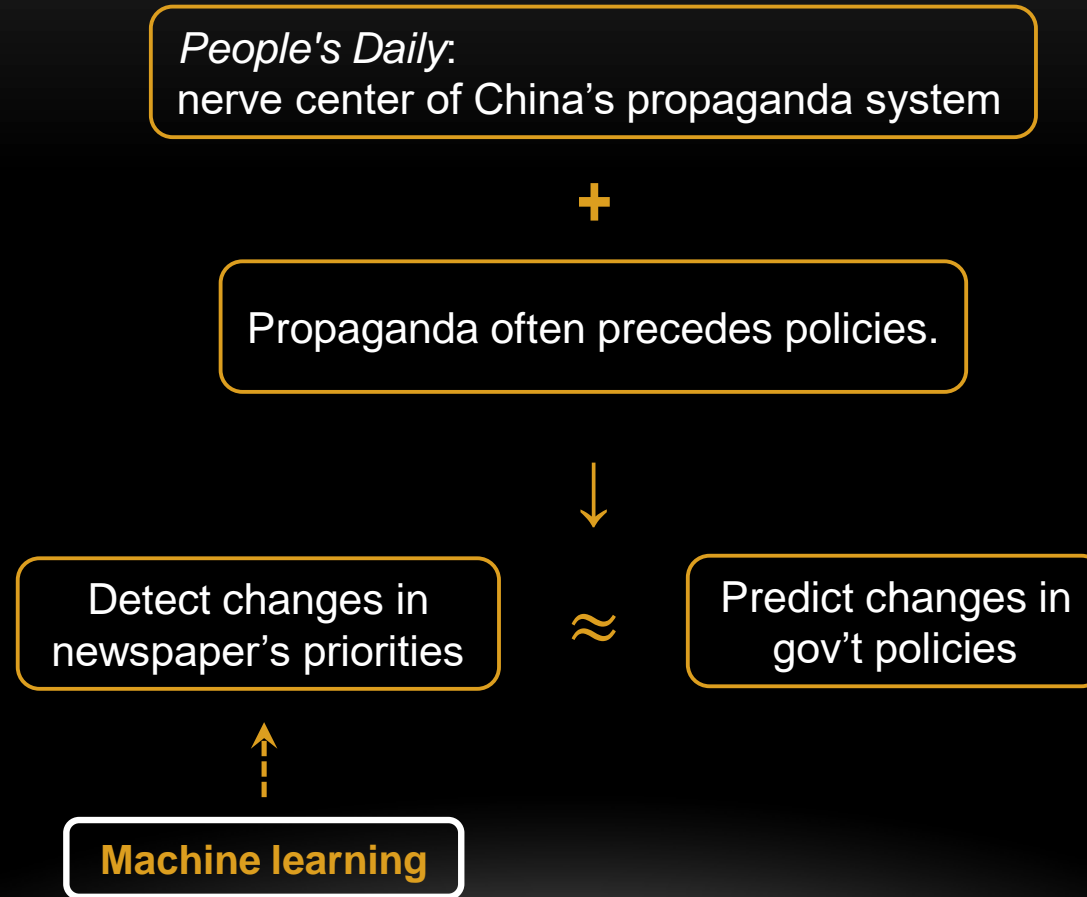


Detect changes in  
newspaper's priorities

≈

Predict changes in  
gov't policies

# Source of predictive power



# **Policy Change Index (PCI)**

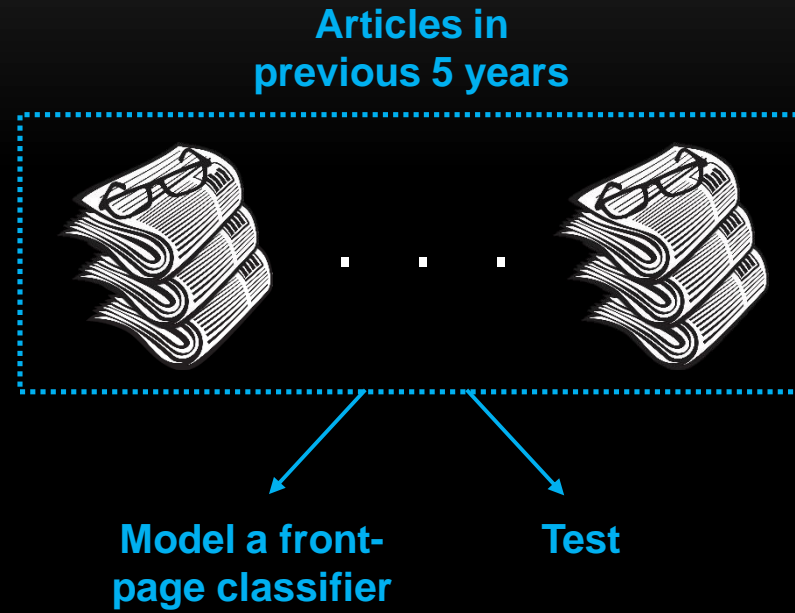
# The framework

- A seemingly trivial problem:

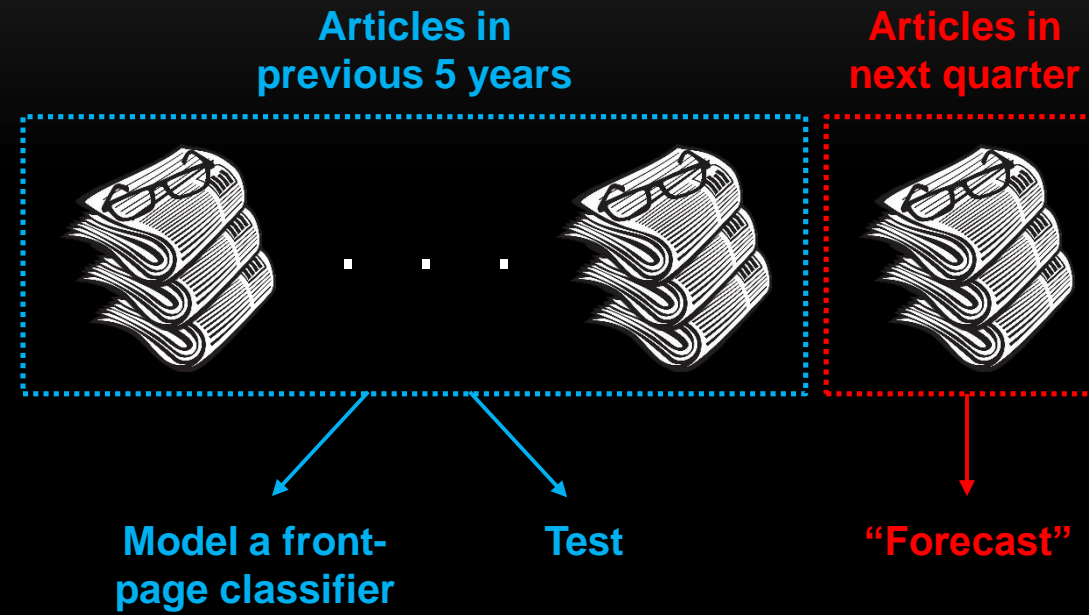
Build an algorithm that classifies **front-page** articles  
("reverse-engineering" the editor's mind).



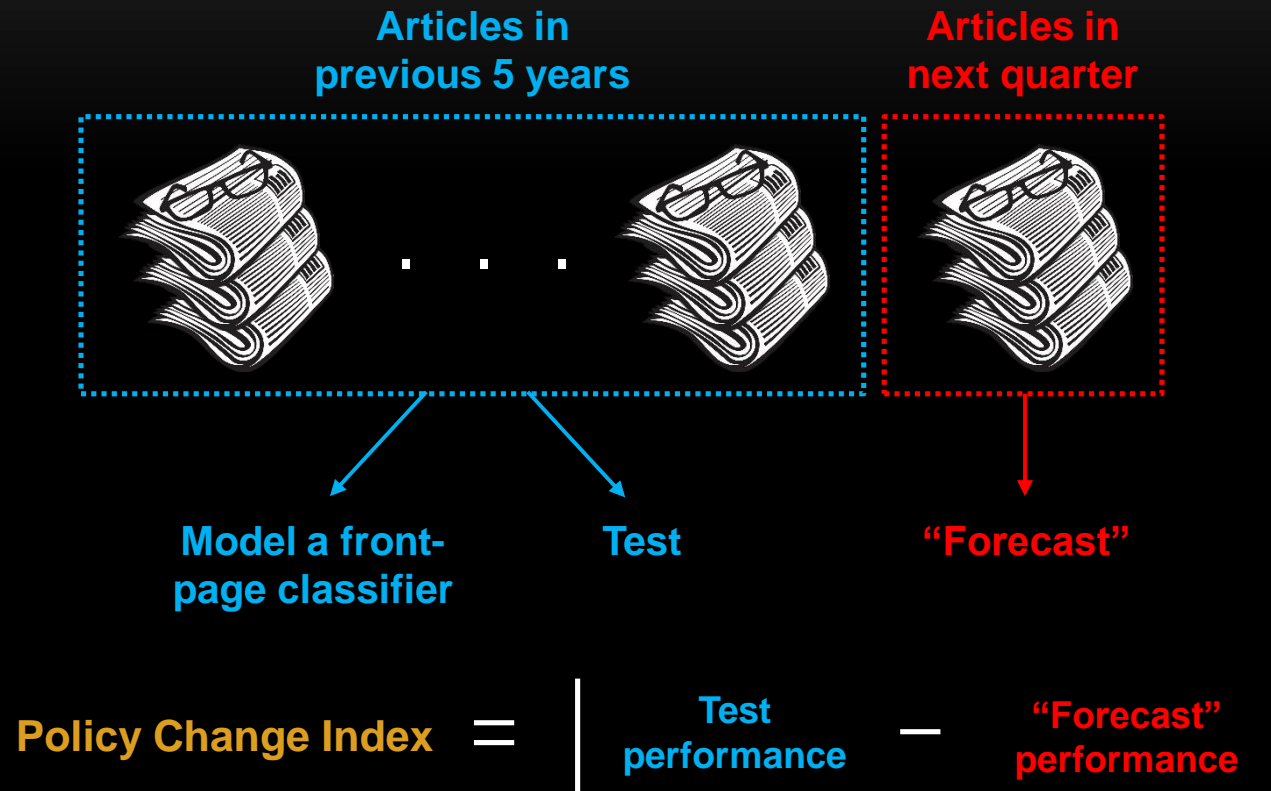
# The framework



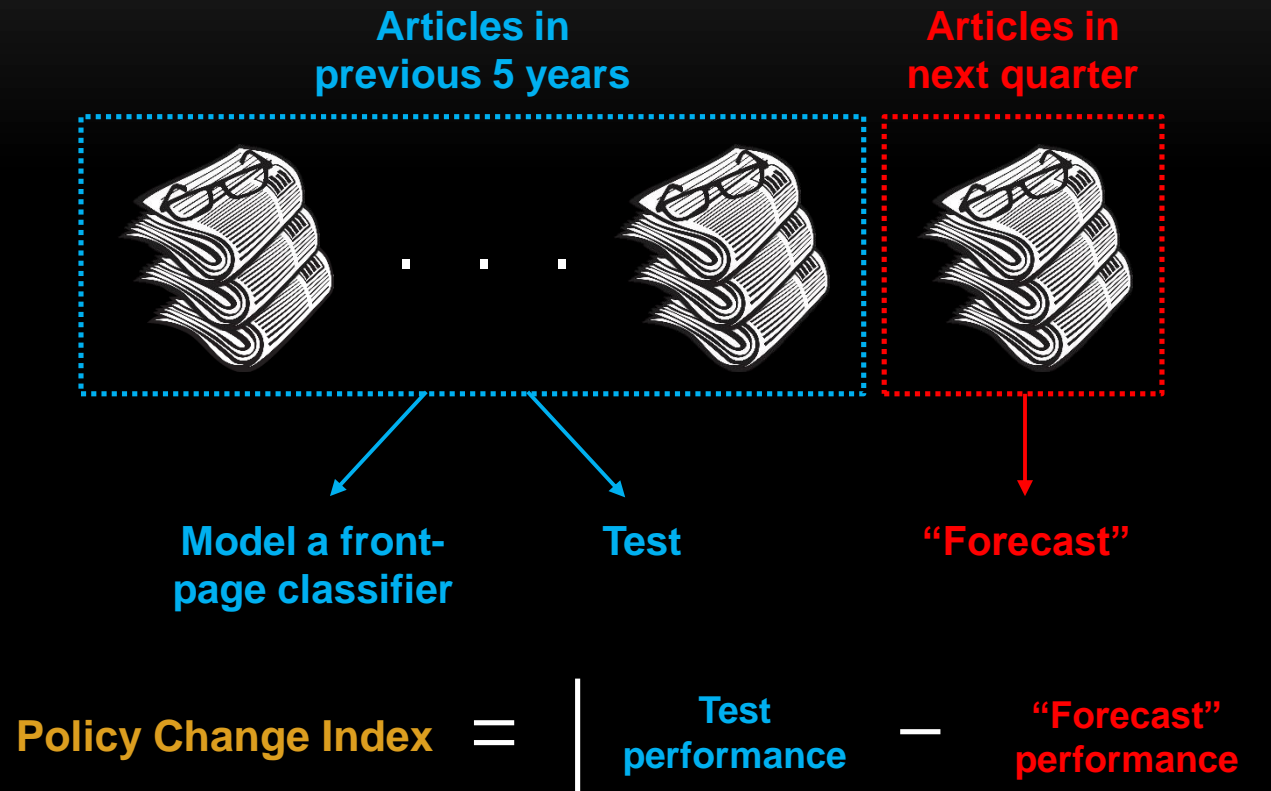
# The framework



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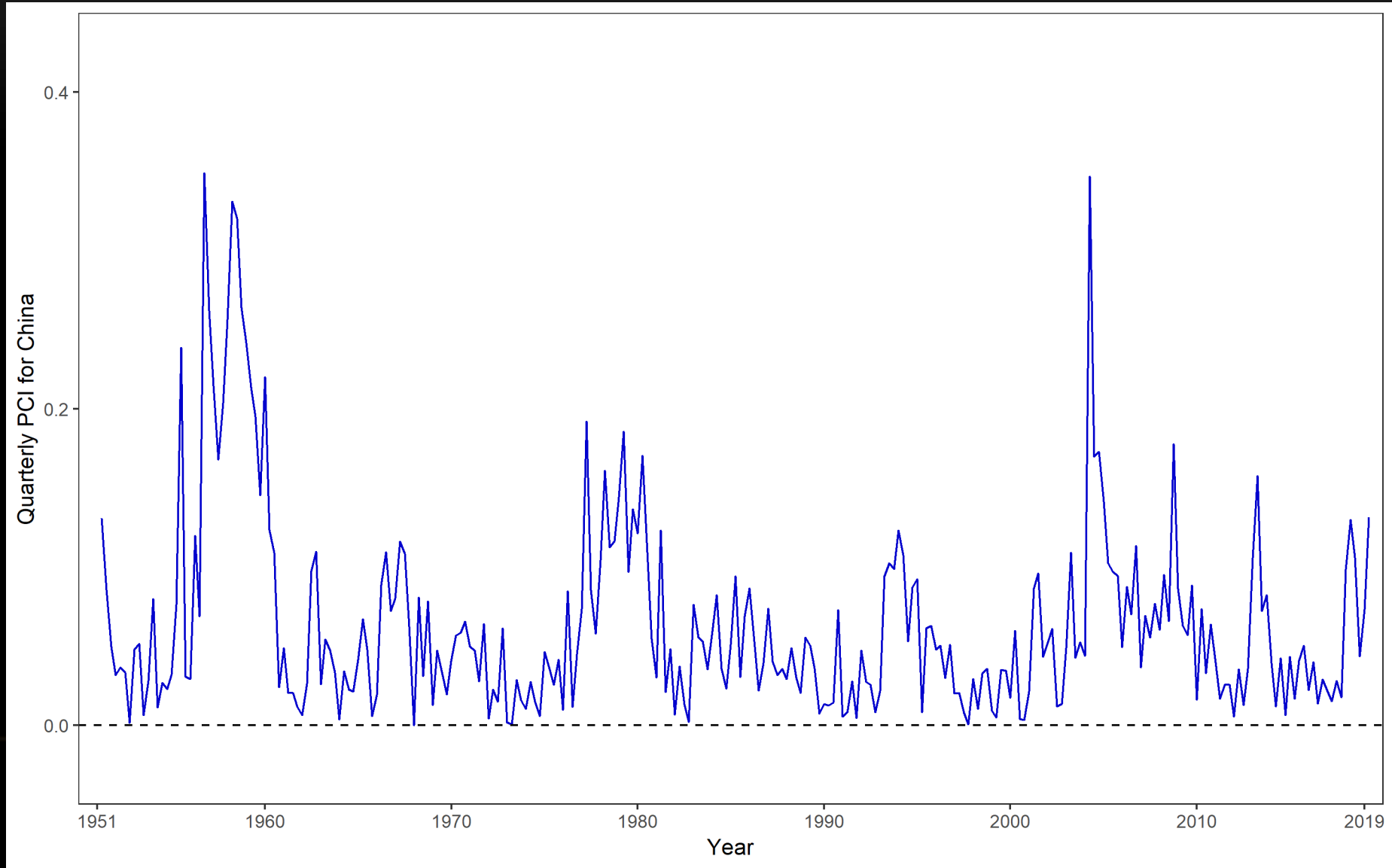


**PCI**  $\gg 0 \Rightarrow$  Change in the newspaper's priorities

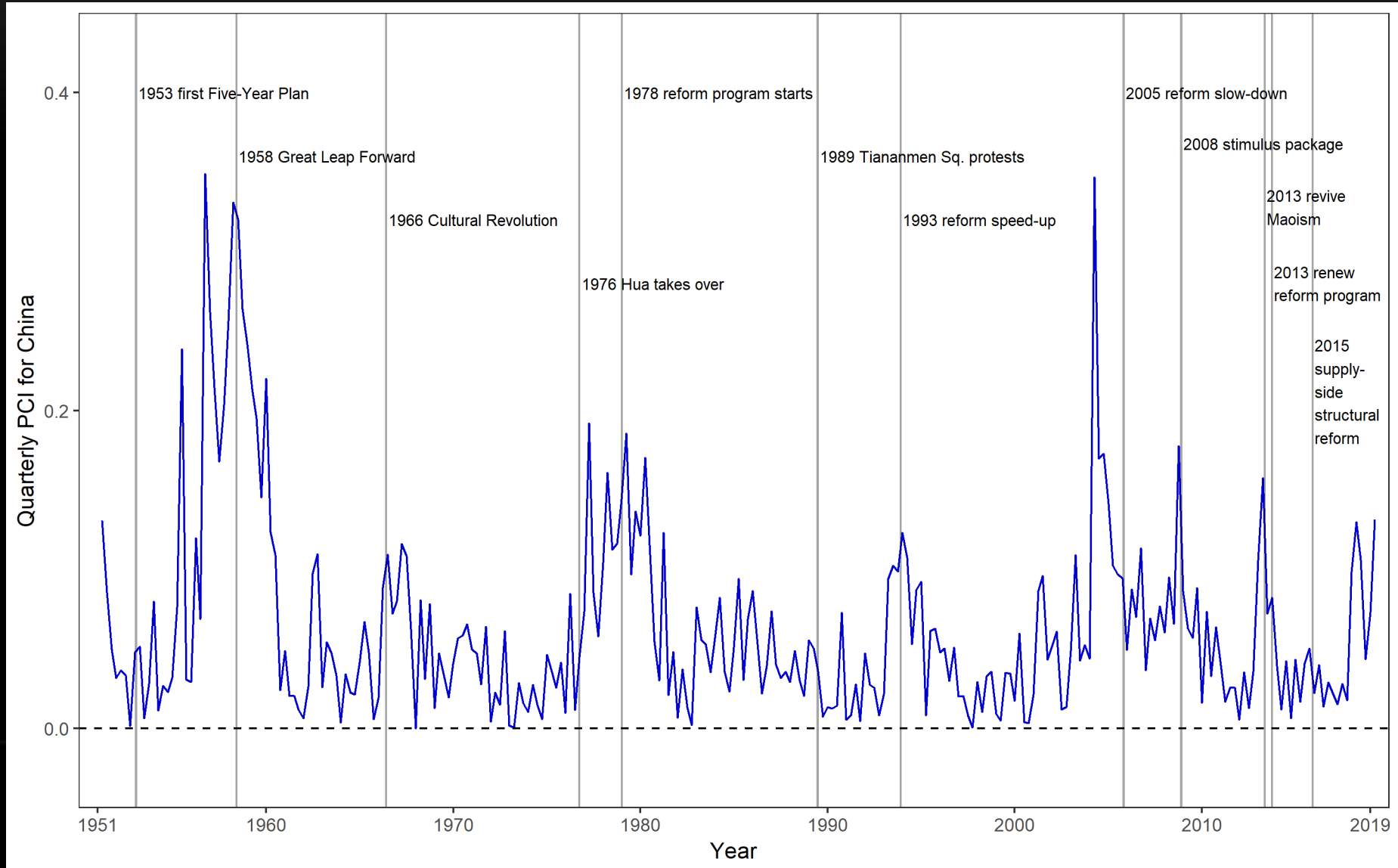
# The result

- Input: full text of the *People's Daily*, 1946-present.
- Output: PCI for China, 1951-present, quarterly index.

# PCI for China

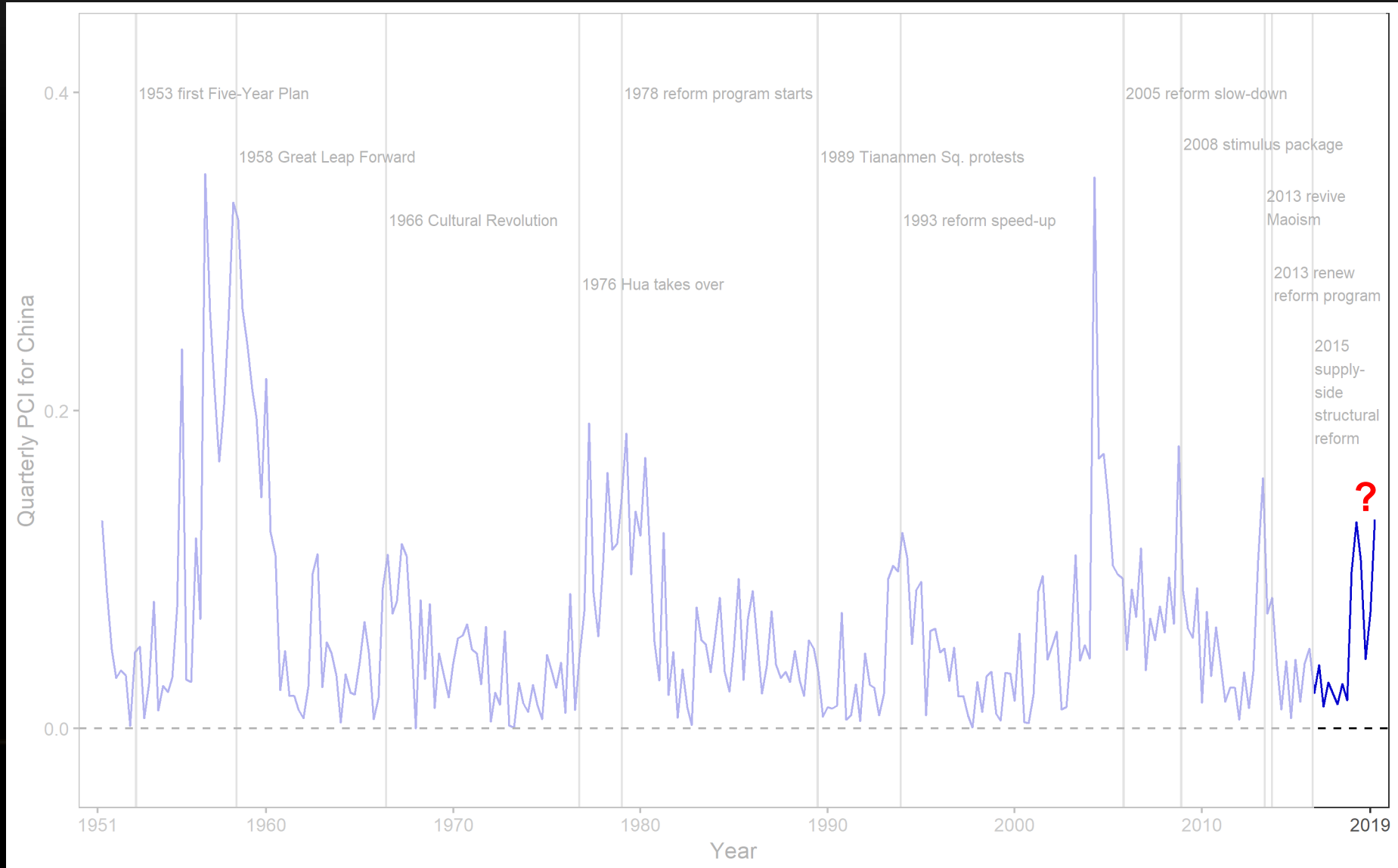


# PCI for China — with ground truth





# PCI for China — going forward



# Understanding change

|             |     | Classified on front page? |                        |
|-------------|-----|---------------------------|------------------------|
|             |     | No                        | Yes                    |
| Front page? | No  | ✓                         | <b>false positives</b> |
|             | Yes | <b>false negatives</b>    | ✓                      |

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](https://policychangeindex.org)
- Newsletter: [mercatus.org/pcinewsletter](https://mercatus.org/pcinewsletter)
- Repository: [github.com/PSLmodels/PCI](https://github.com/PSLmodels/PCI)
- A [simulated example](#) to show how the PCI works.

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**Questions?**

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