

NBER

NATIONAL BUREAU OF ECONOMIC RESEARCH

Yihui Xie's video: 4:08, 5:08

\$10 if you can't learn RMD in 10min

keep tex source, change theme

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Borag, Acemoglu, Aghion and Hémous (2019)

- 3 channels
1. $CO_2 \downarrow$ short run because switch from coal to gas
 2. $CO_2 \uparrow$ short run because \uparrow aggregate production
 3. $CO_2 \uparrow$ long run because reduced green innovation

Patent Data (PATSPAT) \rightarrow includes China

International Patent Classification (IPC)

Lanzi, Verdolini, and Hascic (2011) \rightarrow identify patents relevant to generation of electricity using fossil fuels

CPC classification \rightarrow identify green innovations

geothermal, hydro, tidal, solar thermal, photovoltaic, wind, nuclear, biofuels and fuel from waste

* Model: short and long-term effects of shale gas boom.

✓ production technology

✓ Innovation

✓ short run: static equilibrium + shale gas revolution

✓ innovation effect: solve for allocation of innovation affected by shale gas boom

✓ long run equilibrium with fast progress in extraction technology
with no progress in extraction technology.

* Quantitative Model