LBJ Lyndon B. Johnson School of Public Affairs

Economic growth and the environment: what are the tradeoffs?

Sheila Olmstead

Energy Week, UT Austin

January 30, 2018

RESOURCES FOR THE FUTURE

PERC Property and Environment Research Center

Do regulations reduce growth &"kill jobs"?

- "Mr. Obama's alleged 'Clean Power Plan' would've done virtually zero to protect the environment while at the same time destroying thousands of jobs and costing families billions of dollars for decades to come."
  - Ohio Coal Association, quoted in an EPA press release, 3/30/2017

- The Clean Air Act would "cut off automobile production in 1975, lead to huge price increases for cars even if production were not stopped, do 'irreparable damage' to the American economy--and still lead to only small improvements in the quality of the air."
  - Tom Zeller, *Bloomberg View* 06/01/2014, citing a quote from the *Van Nuys Valley News* 9/10/1970.

Do regulations drive growth & create jobs?

- "…there is very clear evidence that investing in the transition to a low-carbon economy will not only allow the world to avoid the worst risks of climate change, but could also drive decades of economic growth."
  - Trenberth et al., Wall Street Journal, 2/1/2012

- "Millions of U.S. workers—across a wide range of familiar occupations, states, and income and skill levels—will all benefit from the project of defeating global warming and transforming the United States into a green economy."
  - Pollin and Wicks-Lim, Political Economy Research Institute, June 2008

Let's take the "jobs" claim first.

- Overall employment in the economy is determined by macroeconomic factors such as investment, labor supply, and technological progress.
- The U.S. economy is remarkably dynamic. As much as one-fifth of jobs in the U.S. manufacturing sector are gained or lost each year.
- Under normal conditions, a job "lost" in one part of the national labor market is "gained" elsewhere.
- And the local and regional impacts of many government interventions--from environmental regulation to highway construction—tend to be temporary.
  - A burst in highway construction may create jobs only for a short period of time. Jobs lost when a factory closes may be made up when another moves to town.

The bottom line on regulation and jobs

- Regulations can cause concentrated job losses in negatively affected industries.
  - Examples: workers in manufacturing industries newly regulated under the CAA Amendments of 1990 experienced > $5 billion in forgone earnings in subsequent years, because of temporary unemployment and lower wages in later jobs (Walker 2013).

- They can also cause concentrated gains in positively affected industries.
  - Example: Ontario's 2009 feed-in tariff policy for renewable electricity generated >12,000 jobs in renewable energy generation and manufacturing (Bohringer et al. 2012)

- **But empirical studies suggest that regulation has little or no long-run impact (positive or negative) on employment**.
  - Consistent with standard economic models of how well-functioning labor markets work.

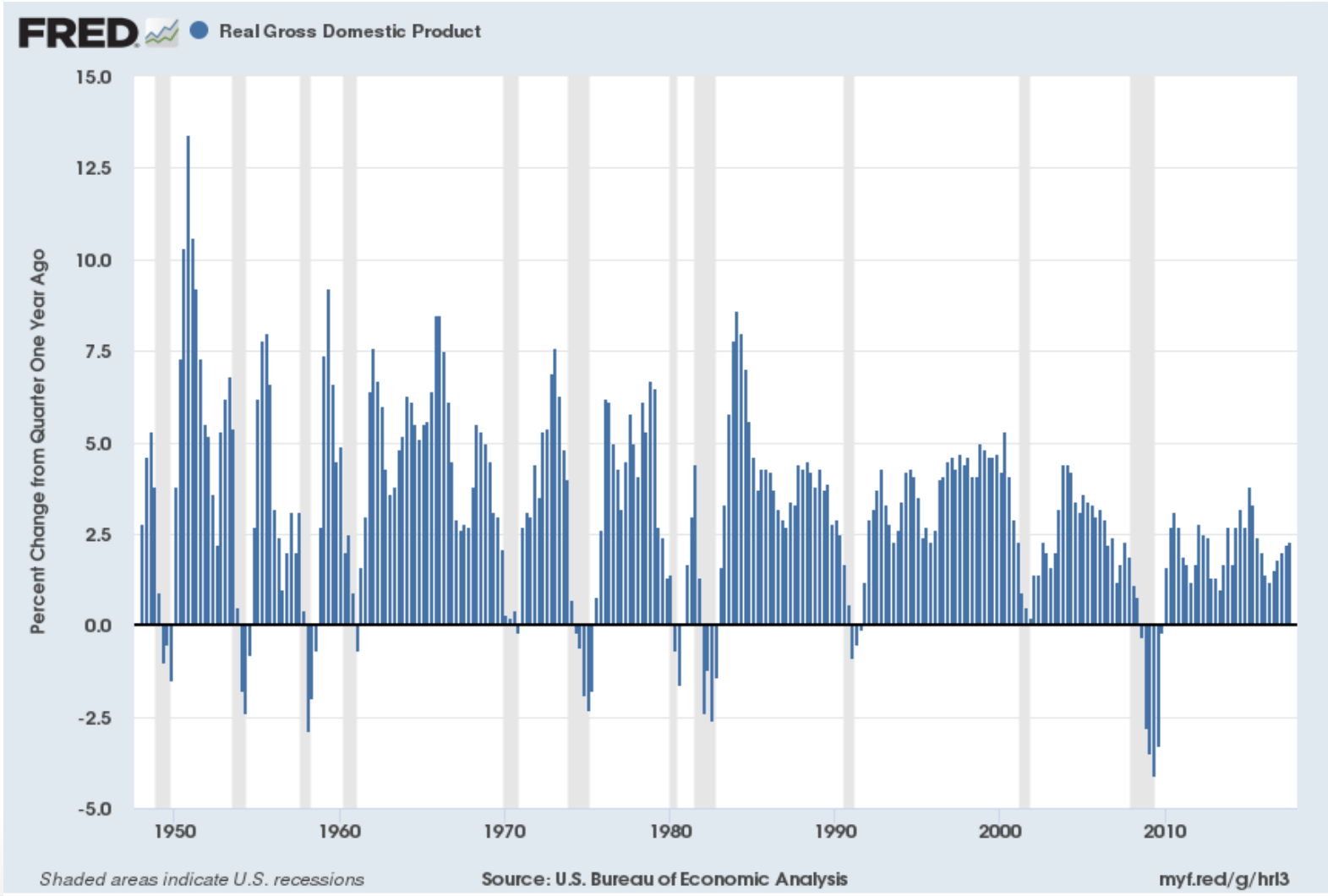
What about impacts of regulation on economic growth?

- An increase in pollution abatement or other regulatory compliance costs may cause some firms/industries to become less competitive, as resources shift from producing polluting goods to controlling pollution.

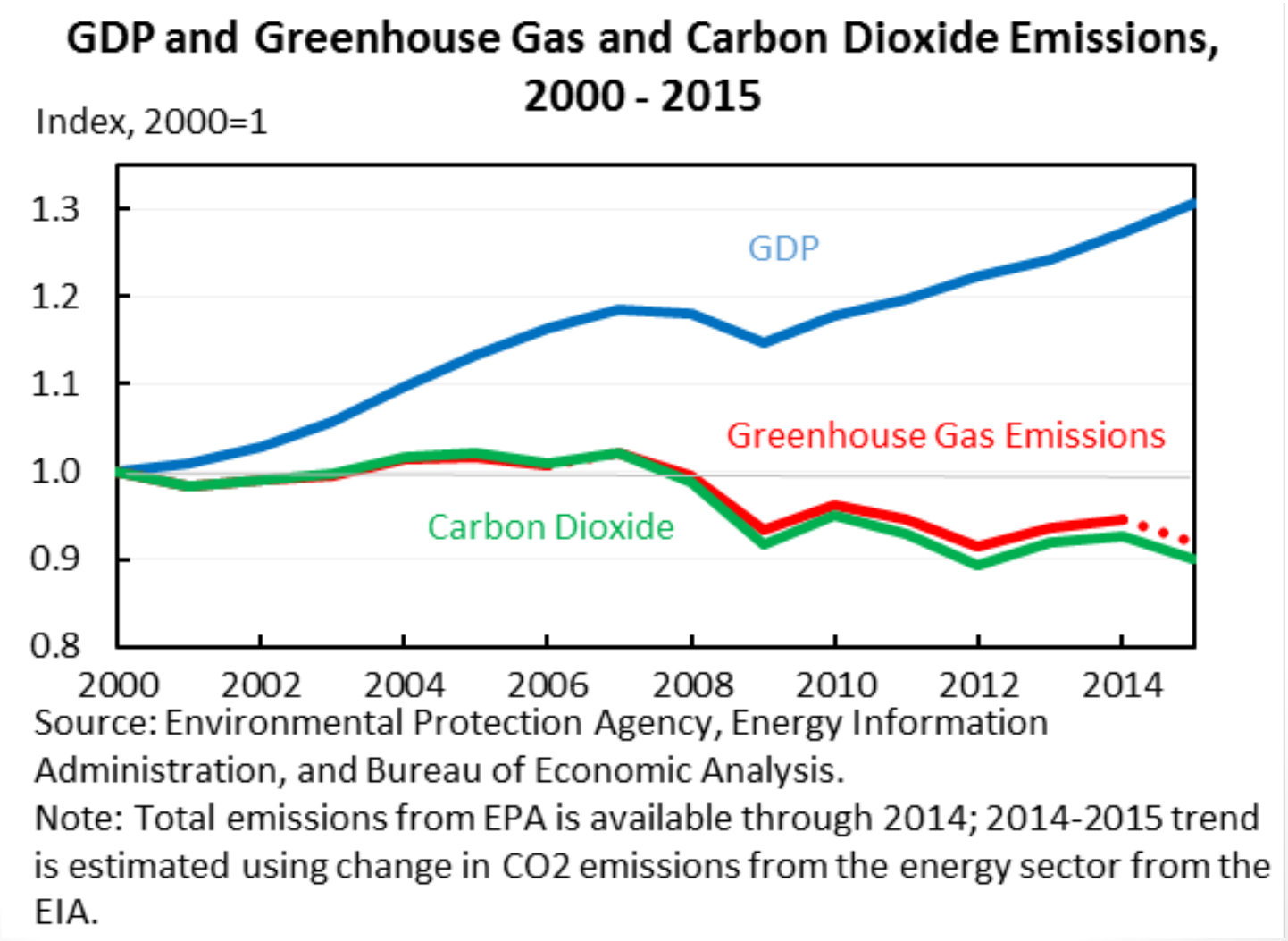
- In the long run, in theory, a regulating country's exports can become less competitive, causing an outflow of investment in regulated sectors to countries with less stringent regulations ("pollution havens").

- Positive effects on other industries (e.g., producers of pollution control technologies) can partially make up for this.

Why the concern about economic growth?



Some evidence that economies can grow while emissions fall



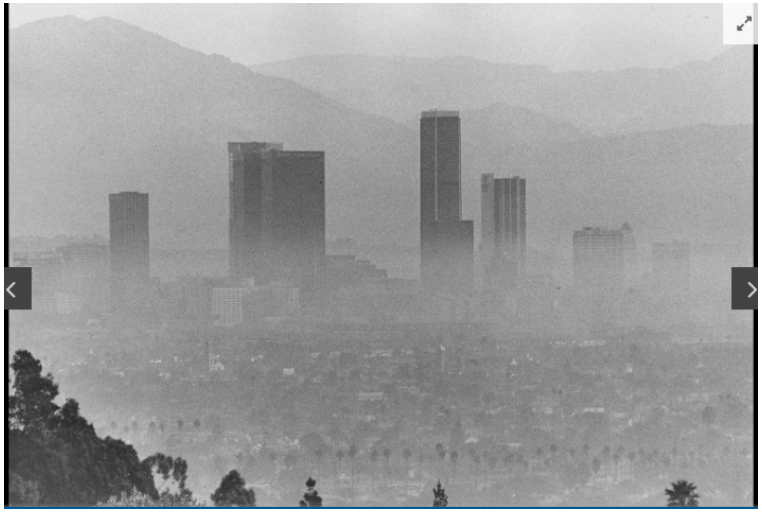
But do regulations slow growth?

- Since the 1970s, significant resources in the U.S. economy have shifted from other productive activities to controlling pollution.

- Best available macroeconomic estimates suggest small negative impacts.
  - Jorgenson and Wilcoxen (1990) estimate that the costs of complying with motor vehicle emissions standards and industrial pollution control standards reduced growth by about 0.2%/year, 1974-1985.

- These “best estimates” are old, and things have changed in the economy and the regulatory regime – more analysis is needed.

But regulation also has economic benefits.



Los Angeles smog, October 1973. *Los Angeles Times*.

Beijing smog, 2017. *CNN*

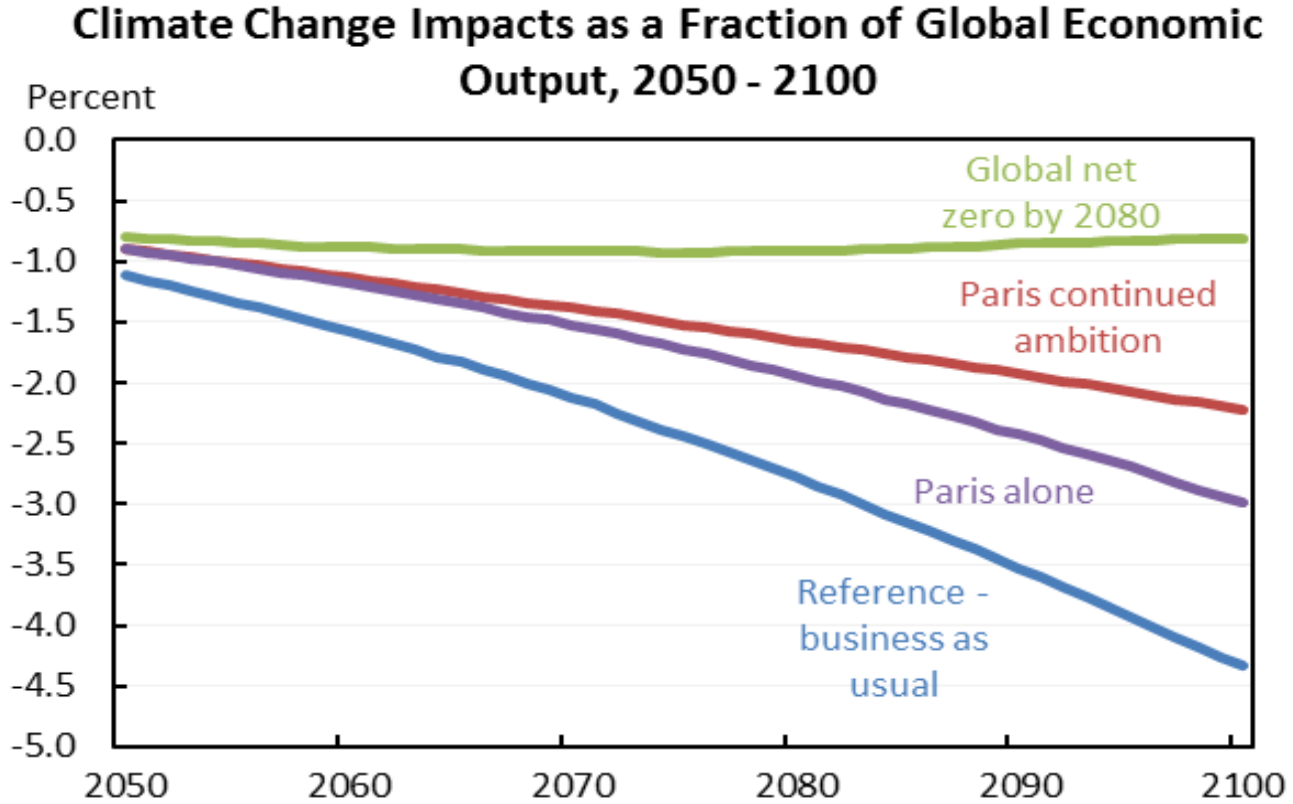
And demand for those benefits is high.

- Regulating air pollution reduces:
  - Infant mortality
  - Adult premature mortality, respiratory and cardiovascular illnesses
  - Incidence of premature births, low birth weight
  - Student school absences

- And regulating air pollution increases:
  - Student test scores
  - Short-run worker productivity (agriculture, construction)
  - Long-run earnings and labor force participation among adults exposed in infancy and early childhood.

- These impacts are well-demonstrated and most have been monetized. But few attempts to estimate *macro*economic benefits.

One example: climate change



Sources: Fawcett, A. A., et al. Can Paris pledges avert severe climate change? Science 350(6265): 1168-1169 (2015); The White House. United States Mid-Century Strategy for Deep Decarbonization (2016). https://www.whitehouse.gov/sites/default/files/docs/mid_century_strategy_report-final.pdf. Nordhaus, W. DICE-2013R Model, http://aida.wss.yale.edu/~nordhaus/homepage/DICEmodels09302016.htm; CEA, EPA and PNNL calculations.

Summing up the tradeoffs

- Claims regarding links between jobs and environmental regulation (positive and negative) are largely red herrings.
  - Local/regional impacts, even if transitory, can be socially and politically important.

- Tradeoffs between economic growth and the environmental regulation are real.
  - Regulation has significant benefits, as well as costs (there is no free lunch).
  - Best empirical estimates suggest small macroeconomic costs– need more work.
  - Benefit estimates are large, but with mostly unquantified macroeconomic impacts.