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Economics



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Energy subsidies

Explaining a shocking stat

Jan 23rd 2015, 11:40 BY C.W. | LONDON



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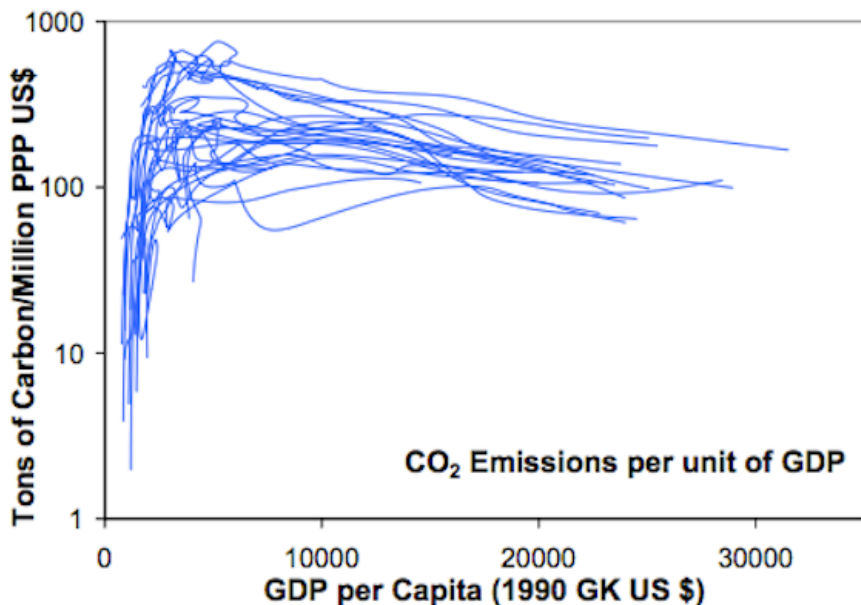
SINCE publishing our package on energy subsidies last week, a few people have asked us about one particular factoid. [In the leader](#) we say:

“ By one count, such handouts [energy subsidies] led to extra consumption that was responsible for 36% of global carbon emissions in 1980-2010. ”

We repeat the figure [elsewhere](#) in the issue. It is taken from a [recent working paper](#) (see accompanying VOX article) by Radoslaw Stefanski, now at the University of St Andrews. How does Mr Stefanski reach such an alarming figure?

Historically, CO2 emissions for a given country have followed a hump-shaped pattern alongside income. Britain is the prime example of this. When an economy first gets going, it does not emit very much CO2, given that it has no factories or cars. But as it starts to industrialise, it can only use the cheapest, most inefficient types of technology, which belch out a horrible amount of pollution. But as people get richer, and start to put solar panels on their roofs, emissions fall. (Some people refer to this phenomenon as the “environmental Kuznets curve”).

The figure below looks at total CO2 emissions per dollar for 26 OECD countries, plotted with each country’s per-capita GDP, over the past 150 years. The graph does indeed suggest that middle-income countries produce dirtier output than rich or poor countries.



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
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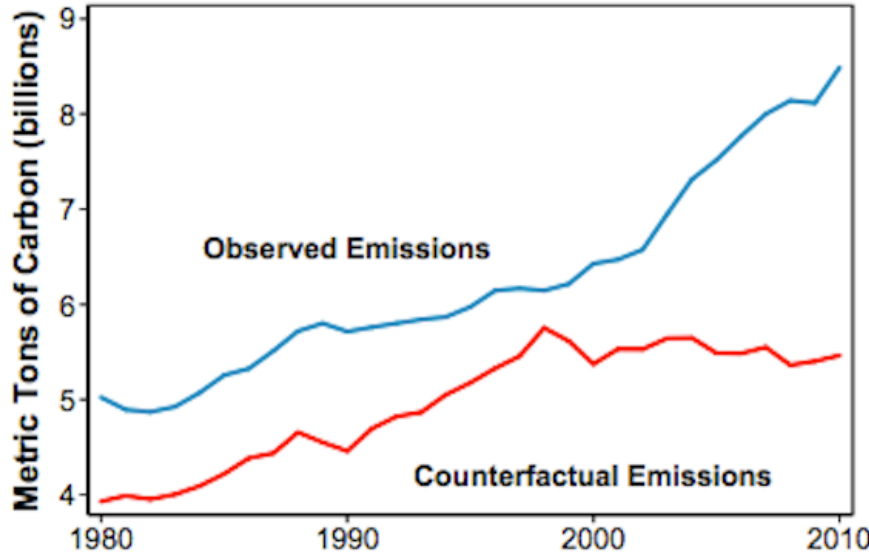
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Mr Stefanski reasons that if a country deviates from this pattern, then there must be some kind of distortion. One such distortion could be subsidies on fossil fuels, which encourage overconsumption. (There are others, such as government policies that favour certain industries, but Mr Stefanski's model tries to isolate energy subsidies).

From the calculations, Mr Stefanski can show the difference between carbon emissions with subsidies (the "observed emissions"), and then carbon emissions without (the "counterfactual emissions").



From that chart, Mr Stefanski calculates that 36% of global carbon emissions between 1980 and 2010 were driven by subsidies.

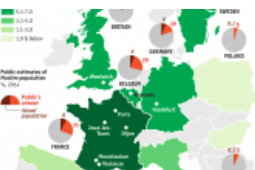
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