



THE APPALLINGLY BAD NEOCLASSICAL ECONOMICS OF CLIMATE CHANGE

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SUMMARY

A remarkable number of neoclassical economists have downplayed the severity of global warming, suggesting that levels of warming which any climate scientist would call disastrous, would be nothing more than a blip on our collective journey towards ever higher GDP (Gross Domestic Product). They make these absurd forecasts using a few simplifying assumptions, including: that economic activities taking place under a roof will be protected from climate change, the weak correlation between temperature and GDP can be extrapolated to predict the impact of global warming writ large, and climate impacts can be modeled using only temperature.

The central assumption in many of their models is that damage functions can be modeled using a quadratic equation. Steve disproves this by taking data points from NOAA's billion dollar disaster database and fitting linear, exponential, and logarithmic lines to it – the results of which are indistinguishable for the observed period. Projecting those functions towards the remainder of the century, however, the choice of function yields vastly different results, with negligible impacts from the quadratic function, a logarithmic function suggesting that the economy will completely collapse by 2080, and the exponential function suggesting it will collapse by 2060. Other economists have pointed out that there is no defensible rationale for the usage of this in economic models, and that it is made up out of thin air.



SUMMARY CONT'D

Steve's positive contribution to economic science has been the centrality of energy to the economy – not as a third, independent factor of production, alongside labor and capital, but rather as an input upon which both labor and capital depend. He then takes the audience through a tour of the mathematical derivations of this formulation, ultimately demonstrating a result which is able to depict a stronger relationship between a sudden loss in energy and a concomitant drop in GDP: a result which empirical data (and common sense) suggests is overwhelmingly likely to occur. His analysis is quite detailed and is not the province for a short summary. That said, his critique of the Cobb Douglas equation, upon which all calculations for GDP are made, was quite biting, as he pointed out that the reason it so closely correlates to economic data is because it is in fact indistinguishable from the data, since the equation is simply a nonlinear reformulation of the summation of wages and profits.

Finally, Steve discusses some of what is needed to reform economics. He suggests that modern monetary theory is absolutely essential so that we can ensure that adequate investment in mitigation activities takes place regardless of the macroeconomic environment. Furthermore, he proposes a policy to create tradable carbon credits and create a central bank digital currency to create an account for every citizen. Then, every good could have two prices: one in a national currency and the other in Universal Carbon Credits (UCC). The richest 5% of the population would quickly exhaust their UCCs due to the sheer quantity of their pollution. They would then have to buy UCCs from the poorest 95% of the population, helping redistribute income from rich to poor.

He suggests that degrowth will be absolutely essential, and that the government will be needed to stabilize the economy and ensure proper levels of climate investment are made. After all, if the global economy sours and output writ large starts to decrease, very few companies will be making money, and hence will be unlikely to make the necessary investments themselves. He ends the talk by reminding us that a stable climate was absolutely necessary for industrial civilization to come about, and the if we are able to negotiate the looming catastrophes ahead, we should consider ourselves guardians of life on this planet, and treat capitalism and economic growth as subordinate to that overarching purpose.



MEER COMMUNITY QUESTIONS



- How do you feel about reframing emphasis on mitigation to focus on radiative forcing?
 - A: He is supportive and thinks that cooling technologies will need to be rolled out in a panic. He also cautions that we cannot allow fossil fuel companies to convince the public that they can go ahead polluting, so long as there are more mirrors available.
- Why does neoclassical economics lack so much sense?
 - A: He quotes a saying that to every human problem there is a neat, plausible, and wrong solution: this is essentially what neoclassical economics is.
- Do you think neoclassical economists will change their tune?
 - A: No, he thinks that they will go deeper and deeper into craziness and not admit they were wrong. Furthermore, they will also likely just say that they warned us about this and it could have been avoided if only we had implemented a carbon tax.
- Should we work with the fossil fuel industry to increase planetary albedo?
 - A: Fossil fuel companies are not allies and must be politically dominated. To the extent that they can provide any help, and that is a big question, it will be that they can be compelled to provide their machinery, staff, and resources.





LIVE AUDIENCE QUESTIONS

- Is there a sizable group of economists that stand up to these mainstream ideas, with which members of the public could align themselves?
 - A: The results from a French survey suggest that about 1 in 6 economists are non neoclassical, so there is a group out there that doesn't adhere to the neoclassical dogma.
- Why do we have a high discount rate?
 - A: The assumption is that society will become wealthy enough in the future to pay itself back for any damages incurred. Economists invoking high discount rates have over extrapolated micro scale use cases for a discount rate to climate change. This was done not because of intergenerational considerations, but rather to make sure that the damages in 2 or 3 hundred years hence don't overwhelm the damages in the nearer term. Finally, a discount rate is something that you should apply to benefits. When you apply it to damages, your discount rate should be negative, which means that there should be no discount rate at all.
- Do neoclassicals include the true cost of energy use (public health, etc.)?
 - A: No, they don't include energy at all.
- How do we radically shift away?
 - A: We should get the engineers and physicists to take over teaching economics.
- How can we persuade fossil fuel companies that refreezing the arctic will be in their best interest?
 - A: Steve thinks that we won't do anything until we get to absolutely catastrophic damages.
- Could it be interesting to establish economic incentives for people to use solar and wind in their own environment?
 - A: Yes, but he cautions that we need to avoid putting too much of the onus on individuals as there is little that any one person can do about a production system inside which they are locked.
- Do you think MEER should accept funding from billionaires?
 - A: As long as it is unconditional, yes. MEER should be getting money from governments, however.

