Should climate change be addressed through taxation? If so, how should the price of carbon emissions be set?

- Intro – although taxation is one appropriate way to address climate change, it may be more effective to reduce emissions to the optimal level using a cap-and-trade scheme, because of political feasibility and uncertainty about the true marginal benefits of abatement.
- Why "should" climate change be addressed at all?
  - From an economic point of view, carbon emissions have -ve externalities → without intervention the market equilibrium outcome will not be Pareto efficient
  - So, appropriate interventions could make everybody better off, by the definition of Pareto efficiency
  - However, note that if we have a benevolent social planner, they may have a certain intertemporal social welfare function in mind that means they want to get to a particular point on the utility possibility frontier which does *not* Pareto-dominate our current position
    - Potential to briefly discuss Ramsey and correct rate of intergenerational discounting but probably leave out as too tangential to what the question cares about you knowing about
  - It is a global problem, prisoners' dilemma if only one/some countries put in place taxes but others defect. Illustrate with payoff matrix.
  - Temporal nature of the problem increases difficulty of making Pareto improvements, as it's difficult for people in the future to make transfers to us (though not impossible, we could e.g. do more borrowing[?])
- Why and how could taxation help?
  - Standard graph with $MB(h)$, $MC(h)$, $MSC(h)$ showing that pure market equilibrium has inefficient level of carbon emissions h
  - A Pigouvian per-unit tax t on emissions s.t. $MC(h^*) + t = MSC(h^*) = MB(h^*)$ would lead to the optimal outcome of h^* emissions
  - If you know MSC and have an estimate of MB of carbon emissions, then you can directly arrive at what the correct value of t is. However, this is informationally demanding and there's likely to be uncertainty in your estimates
- Why might cap-and-trade be better?
  - Explain tradeable permits, how it's different from fixed quotas.
  - Political considerations: explicit taxes are very unpopular. Cap-and-trade does not automatically raise funds for the government, but permits can be auctioned off rather than given away, which might also have desirable distributive consequences without undergoing the political costs of introducing a new tax
  - With perfect information, these approaches are economically identical. Demonstrate on same graph as above.
  - But, from Weitzman, with uncertainty about the true MB curve, you can minimise expected DWL by setting quantities rather than prices when the MSC is steeper than MB. Show this with a graph. For climate change, we could expect MSC to be relatively steeper because of the potential for sudden tipping points at certain thresholds of emissions, so this is an argument in favour of cap-and-trade.
- Other approaches

- Coasean bargaining can theoretically lead to efficient outcome but requires enforceable property rights. It's unclear how one would robustly enforce future people's rights to e.g. not live in an overheated world, or how we would credibly commit to honouring any contracts we "make" with them (see point earlier about borrowing)

Not sure this adds much.

Good, engaging.
Though I think your critical appraisal of cap&trade is a bit thin —
eg. internationally ... can't auction permits.
cap&trade introduces price volatility
etc.