

Cap and Trade v Taxes

Cap and trade and a carbon tax are two distinct policies aimed at reducing greenhouse gas (GHG) emissions. Each approach has its vocal supporters. Those in favor of cap and trade argue that it is the only approach that can guarantee that an environmental objective will be achieved, has been shown to effectively work to protect the environment at lower than expected costs, and is politically more attractive. Those supporting a carbon tax argue that it is a better approach because it is transparent, minimizes the involvement of government, and avoids the creation of new markets subject to manipulation. This note explores both the fundamental similarities between cap and trade and tax regimes, but also the important differences between them.

Important Similarities Between Cap and Trade and Taxes

Both correct a market failure. Both cap and trade and a tax have as their objective the correction of an existing market failure. Currently, sources responsible for GHG emissions do not have to pay for the damages they impose on society as a whole. The failure to internalize these costs leads to greater levels of emissions than would be socially optimal.

Both put a price on carbon. By placing a price on carbon, and thus correcting the market failure, both approaches create an incentive to develop and invest in energy-saving technologies. This will encourage the shift to a lower carbon economy.

Both take advantage of market efficiencies. Unlike direct regulations, both harness market forces to achieve the lowest cost reductions in GHG emissions.

Both can generate revenue. A tax by definition is designed to raise revenue, but a cap-and-trade system, to the extent that allowances are auctioned, can also raise similar amounts of revenue. How such revenues are used becomes an important issue in both systems. Some proposals rebate the revenue directly back to consumers, some use part of the revenues to ease the transition to a low carbon economy (e.g. for consumers, energy-intensive manufacturers, research development and deployments, etc.) and some combine both approaches.

Both impose a compliance obligation on a limited number of firms. Depending on who pays the tax or is responsible for holding allowances, the number of firms directly impacted by these systems can be large or small. Most proposals focus on a limited number of firms with the goal of maximizing emissions coverage and reducing administrative costs.

Both necessitate special provisions to minimize adverse impacts. By putting a price on carbon, both systems raise concerns about adverse impacts on energy-intensive firms and manufacturing states, and on workers and communities that historically have been dependent on fossil fuels. For example, both could result in large wealth transfers from coal and manufacturing states to other parts of the country. However, through special tax provisions or the use of allowance value, either can be designed in a way to mitigate adverse impacts on disadvantaged groups. Similarly, both systems would require special provisions to avoid imposing requirements on GHGs that are consumed as feedstocks or to provide credit for reductions that result from capturing and storing carbon or expanding carbon sinks.

Both require monitoring, reporting and verification. Both systems require similar data on emissions, reporting and verification of that data, and enforcement in the event of noncompliance.



Important Differences

Cost certainty v. environmental certainty. By setting a cap and issuing a corresponding number of allowances, a cap-and-trade system achieves a set environmental goal, but the cost of reaching that goal is determined by market forces. In contrast, a tax provides certainty about the costs of compliance, but the resulting reductions in GHG emissions are not predetermined and would result from market forces.

Compliance flexibility for firms. A tax requires a firm each year to decide how much to reduce its emissions and how much tax to pay. Under a cap-and-trade system, borrowing, banking and extended compliance periods allow firms the flexibility to make compliance planning decisions on a multi-year basis.

Impact of economic conditions. Changes in economic activity impact a firm's behavior under either system. Under a cap-and-trade system, reduced economic growth would lower allowance prices. Under a tax, government action to lower the amount of the tax, not market forces, would be required to reduce the carbon price seen by firms. In times of economic expansion, the opposite would be true – under cap and trade, allowance prices would rise based on market forces, but taxes would remain the same unless adjusted through government action. In this sense, cap and trade can be seen as providing a self-adjusting price, high when the economy is doing well and low when the economy is in a downturn. A tax in contrast is not self-adjusting.

Linkage to other systems. Ideally, a global price for carbon would develop and allow cost efficiencies to be realized across borders. While we are a long way from a global system, several trading regimes are already operating, expanding, or are planned which could allow international linkages across systems in the future. Far fewer jurisdictions have either instituted or are considering carbon taxes and the notion of an international carbon tax has been considered but generally rejected as not realistic.

Experiences to date: Cap and trade has become the cornerstone of successful efforts to achieve low-cost reductions in sulfur dioxide emissions in the United States. For GHGs, this same approach is also being relied upon in the European Union (EU). The EU has implemented a GHG cap-and-trade program covering thousands of sources and has created a market with millions of transactions producing a market price for carbon determined through supply and demand. Following a trial period, during which a number of start-up challenges were encountered (e.g., lack of data, different approaches across Member States), the EU has succeeded in establishing the building blocks for a successful trading regime. Cap and trade is also being used in three regional trading programs in the United States and Canada. The use of taxes aimed at reducing GHG emissions has initially been used in several countries, including Norway, Sweden and Germany that are now relying increasingly on emissions trading. Carbon taxes have also been used in a few local governments in the United States and Canada. A carbon tax was considered by the Clinton Administration in 1992, but quickly became loaded down with special exemptions, was redirected away from carbon to be a BTU tax to avoid burdening coal, and was ultimately enacted as a few pennies tax on gasoline.

This review of cap and trade and taxes suggests that many of the longstanding myths about these approaches fail to recognize advances in design options aimed at addressing earlier concerns. While a tax regime sounds simpler in theory, history suggests that special provisions would be added, for example, to avoid adversely impacting specific regions, to exempt feedstocks and to mitigate competitiveness concerns. While a cap-and-trade regime doesn't directly provide price certainty, recent proposals include temporal flexibility (e.g., banking, borrowing, and multi-year compliance periods) as well as floor prices and offset provisions that would dampen price volatility. In the end, history suggests that it is unlikely that a tax would result in a simpler system. The greater flexibility for firms and greater certainty that environmental objectives will be met appear to be the greatest strengths of a cap-and-trade policy.