

The Environment and the Economy: Working Together

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Urgent need to reduce carbon emissions and emissions of other greenhouse gases

- Tackling climate change is an urgent challenge.
- At COP21 in Paris in December 2015, nearly 200 countries agreed to hold *“the increase in the global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C”*.

Co-chair (with Lord Nicholas Stern) an international commission on Carbon Pricing as a critical instrument for achieving these goals

- Much of this talk is based on ongoing discussions related to the forthcoming preliminary report of the Commission, but are my own views

The goals reflect real threats to our planet

- Motivated by concerns over the immense potential scale of economic, social, and ecological damages that could result from the failure to curb carbon emissions
- Temperature targets require large-scale shifts in the energy systems that support economic activity, including dramatic shifts in power generation, industrial processes, transportation systems, and energy consumption

Importance of a carbon price

- To succeed, i.e. to deliver efficiently and realise the potential benefits in full measure, careful policy design is essential.
- A well-designed carbon price is an indispensable part of a strategy for reducing emissions in an efficient way.
- Most economists agree: creating a carbon price is the best way to curb emissions
- A low-carbon economy could be achieved through the imposition of a moderate carbon price, which would raise substantial revenue
 - Carbon tax could play an especially important role for Japan

Why a carbon price (carbon tax) is especially good instrument

- Promotes allocate efficiency at the same time that it can strengthen economic growth
 - Provides incentives for firms and households to reduce emissions
 - Provides incentives for innovation—which could be the basis of Japan’s economic growth in the future
 - Basic economic principle: better to tax bad things than good things
 - Carbon price helps address key market failure, i.e. the climate externality.
- Revenues could be used for multiple purposes
 - Reduce other taxes—and any distortions associated with them
 - Promote public investments—including in R & D for a green economy
 - Promote equality—including any adverse distributional impacts

Carbon tax and economic growth

- The central problem in Japan and much of the rest of the world is lack of (global) aggregate demand
- Carbon tax different from other taxes
 - Other taxes (like VAT or consumption taxes) reduce aggregate demand, worsening the core problem
 - And some worry that poorly designed taxes have adverse supply effects
- Carbon taxes induce investment, to retrofit the economy
 - Stimulus may thus generate even more revenues from other taxes

Carbon tax may be especially appropriate for Japan

- Slow growth for almost quarter of a century
 - Related to lack of aggregate demand
- Worries about high debt to GDP ratio
 - But other taxes have adverse effects on GDP
 - Weakening output is of concern for all countries, but especially for Japan: object of taxes is to reduce deficit; adverse GDP effects reduce revenues generated by tax
- Worries about deflation
 - Other countries worry about inflationary effects of carbon tax
 - For Japan, this is a positive—further macro-economic benefits

Design of carbon price policies

- Efficient carbon-price trajectories consistent with the Paris target begin with a strong price now.
- Need to have credible commitment to maintain long-term prices that are high enough to deliver the required change.
- Such carbon prices can efficiently incentivize the needed changes in investment, production, and consumption patterns toward lower-GHG economic activity and induce the technical progress and scale that may bring down future abatement costs.

Other market failures and other instruments

- Carbon pricing need to be supplemented with/accompanied by other well-designed policies to address other market failures or manage distributional outcomes.
 - Other relevant and important market failures can be associated with capital markets, information, R & D and other externalities.
- These could include efficiency standards, city design, land and forest management, and investment in finding new methods and technologies.
- Including other cost-effective policies can mean that a given emissions target could be achieved with lower carbon prices and lower total cost.

Need for finance

- There may be a need for finance to support these investments: sector rife with market failures
- Financial markets put no weight on broader social benefits
 - And typically are short-sighted—even underestimating long term private benefits
- Financial crisis showed weaknesses of financial markets
- Subsequent reforms focused on preventing financial markets from imposing harms on rest of society
 - Little effort to ensure that they actually do what they are supposed to do—provide finance for important investments like green investments
- Private financial markets have not done a good job at risk assessment
 - Adjustment of prices of assets in response to increasing carbon prices and climate change not taken adequately into account
 - Especially consequences of network interlinkages and interdependencies
 - Important area of theoretical and applied research

Important roles for government in finance

- Regulatory role for systemic stability
- Government may need to create a Green Fund
 - Especially for green investments of households and small- and medium-sized firms
 - And to finance long term investments—especially R & D

Growth discussion distorted by measurement problems

- GDP is not a good measure of economic performance
 - Does not reflect resource depletion and environmental degradation
 - Does not reflect sustainability (environment, social, or economic)
 - Does not reflect distribution of income
- Implication: In assessing “growth” one shouldn’t use GDP as conventionally measured, but a “Green GDP” measure
 - What one measures—and how one measures it—affects what one does
 - If one’s measurements are wrong, one will make the wrong decisions
 - Among central messages of the Commission on the Measurement of Economic Performance and Social Progress
- Makes case for carbon taxes and other environmental actions even more compelling

A few remarks on the broader global response

- Basic economic problem: the atmosphere is a global public good—everybody wants to receive benefits, nobody wants to pay costs
 - Key issue: how to share the burden
- Making matters worse: rich countries have contributed most of emissions in the past (and on a per capita basis continue to contribute more); but adverse consequences are likely to be felt in developing countries

Concluding Comments

- Creating a “green economy” is not only consistent with economic growth, it can promote economic growth—especially when there is a lack of aggregate demand
 - Even more so if we measure growth correctly
 - Carbon tax may be an effective instrument for creating a strong green economy, simultaneously increasing aggregate demand, improving the environment, promoting allocative efficiency, and providing revenues that can be used for a variety of socially desirable purposes