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Editorial

The green growth narrative: Paradigm shift or just spin?

1. Introduction

Green growth has become a buzz word in both policy and academic circles. A clear definition is still lacking, but most analysts would associate the term with environmentally sustainable, biodiverse, low-carbon and climate-resilient growth in human prosperity. That is, green growth is much more than just low-carbon growth of conventional GDP, although the focus often is on climate change mitigation and GDP-based measures of costs and benefits.

The attraction of the green growth narrative is both strategic and analytical. From a strategic point of view, green growth allows environmental protection to be cast as a question of opportunity and reward, rather than costly restraint.

Authors such as Barrett (2003, 2007) have long argued that a key barrier to reaching an international agreement on climate change is the burden-sharing focus of the UN Framework Convention on Climate Change. The UNFCCC and the Kyoto Protocol are structured around obligations, targets, penalties and costs. As such, they are not very attractive agreements to join or to defend in addressing electorates. A structure that rewards environmental behaviour, for example, by offering market opportunities for clean energy, would be much easier to agree. The green growth narrative responds to this observation and aims to reposition both the international and national debates on climate change and the environment.

The analytical argument is perhaps more fundamental, and mostly relates to the economics of climate change. For years the economic debate on greenhouse gas mitigation has been about marginal abatement costs. Economists and engineers have argued at length about the merits of various cost estimates, the difference between top-down and bottom-up modelling, the existence of an energy efficiency gap and much else (see, for example, Kuik et al., 2009; Edenhofer et al., 2010, for recent discussions). But their analysis is usually divorced from broader economic and environmental concerns, such as the co-benefits of mitigation.

The 'green growth' agenda abandons this narrow focus, throwing the debate wide open and bringing broader, more nuanced and richer strands of economics to bear. In doing so the emerging green growth literature can draw on many long traditions of economic thinking that encompass the work of, among others, John Maynard Keynes, Arthur Cecil Pigou, Joseph Schumpeter, and Henry George. The agenda also opens up important new research questions which policy-makers will need answered.

2. The Keynesian perspective

Considering first short-term horizons – which seem to be of most importance in politics – the 'green growth' agenda reconnects the issue of long-term sustainability with the concerns of economists and politicians about short-term macroeconomic fluctuations, unemployment, fiscal sustainability and global saving-investment imbalances. As the economic crisis has shown, John Maynard Keynes (1883–1946) remains one of the most influential thinkers on these issues.

An early manifestation of Keynesian views on green growth was the call for a green fiscal stimulus that started at the height of the economic crisis (e.g. Pollin et al., 2008; Bowen et al., 2009; Edenhofer et al., 2009; Houser et al., 2009). The view still has traction because of the fear of future downturns and the continuing excess of planned saving over planned investment globally (Zenghelis, 2011).

The key insight is that if there are spare resources available in the economy, stimulating investment could increase GDP (and hence, in the short run, GDP growth) through a Keynesian multiplier effect. Governments can make the best of a bad situation by opportunistically increasing their spending on social and environmental capital at such times (Bowen and Stern, 2010). The composition of a fiscal stimulus matters.

A secondary insight is that one should not simply 'look through' or abstract from macroeconomic fluctuations when investigating long-term phenomena such as cumulative greenhouse gas emissions. 'Boom and bust' do not follow a regular or predictable cycle. Recessions – particularly those involving financial crises – are likely to lower permanently the trajectory of GDP, carbon emissions and other pollutants linked to economic activity. Major global recessions warrant both a lower carbon price trajectory and a lower ultimate target for greenhouse gas concentrations in the atmosphere.

The relevance of the Keynesian perspective needs to be investigated further. Is it more relevant for developed market economies than low-income countries? How should environmental policy tools be adjusted in the face of macroeconomic shocks? What does the debate about the size of fiscal multipliers in different settings imply for environmental policies? Should investment in social capital benefiting generations as yet unborn be insulated from fluctuations in market interest rates?

3. The Pigouvian perspective

The 'green growth' agenda also pays close attention to the microeconomic context, recognising existing regulatory frameworks and the various market imperfections (externalities) and policy failures that prevail. The basic theory of externalities, their effect on welfare and ways to correct them through dedicated (Pigouvian) taxes goes back to British economist Arthur Cecil Pigou (1877–1959).

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Knowledge about multiple environmental externalities is not new (see, for example, Pearce, 1992), but the green growth agenda promises to espouse a much wider and systematic view of market failures, including network externalities, information failures and asymmetries and constraints to innovation as well as environmental externalities. It also considers broader definitions of prosperity than just GDP.

The promise is held out of large welfare gains from well-designed Pigouvian taxes and subsidies and, in some cases, from direct assaults on the sources of market failure (e.g. by improving information flows, setting up niche public sector investment banks and refining intellectual property rights regimes). Pigouvian measures in principle can lead to a step improvement in wellbeing, some – but not all – of which will be reflected in conventional measures of GDP. Thus a short-run fillip to growth can be generated. However, if ill-thought-out, adding green growth measures to the existing policy mix can also dent the overall effectiveness of policies (Fankhauser et al., 2010; Fischer and Preonas, 2010).

In some cases, including importantly action on climate change, the benefits of intervention are likely to be generated in the long term while the costs have to be paid sooner. What should people in poor countries be expected to pay towards the preservation of environmental capital that predominantly benefits their own wealthier descendants (and future generations in the currently rich countries)? But a judicious mix of policies could make all generations better off, given that correcting market failures is a positive-sum activity. For example, if the current generation is persuaded by carbon pricing to leave future generations more natural capital and lower greenhouse gas concentrations, governments could offset the impact on the current generation's consumption by taxing non-climate-related investment and returning the proceeds to households to consume. Thus the current generation would not necessarily have to bear net costs. Similarly, mitigation by low-income countries could be accompanied by transfers from rich countries, as recognised in the negotiations of the UNFCCC.

4. The Schumpeterian perspective

The green growth agenda recognises that the economic changes required are deep, structural and systemic, rather than marginal, as much of the mitigation literature implicitly assumes. For Stern (2010) they are akin to a new industrial revolution.

Such revolutions can be caused by new inventions, social changes and economic developments. In the view of the Austrian-American economist Joseph Schumpeter (1883–1950), the process of "creative destruction" which innovations trigger is a central engine of long-term growth. It opens up huge opportunities for new firms and creative entrepreneurs, while challenging established ones committed to the old ways.

The nature and importance of such techno-economic paradigm shifts have been explored for example by Perez (2010), who draws on a neo-Schumpeterian perspective. The perspective also has something in common with the analysis of endogenous growth (e.g. Acemoglu et al., 2009). There may be increasing returns to human capital, knowledge accumulation and investment, particularly in infrastructure networks, partly because of the positive spill-over effects (externalities) that can be generated. Central is the notion that a non-marginal policy shift towards strong environmental policies could kick-start a prolonged period of higher growth, in both its conventional and green forms.

If there is to be a new green industrial revolution, it will be dependent to an unusual extent on new, credible, strong and persistent policies being implemented around the world. One can foresee a number of potential obstacles. The energy sector, which will have to be at the heart of any transformation, may not be big enough to have such transformative effects. The mechanism central to Schumpeter's own vision – intensified entrepreneurial competition leading to a plethora of competing novel products, stimulating both potential supply and demand, followed by failure of the unsuccessful innovators – may be difficult to get working in the sector, given that from the point of view of the end-user energy will still be supplied in traditional forms and often by monopolistic regulated utilities.

High-carbon innovation and lower fossil-fuel rents may discourage low-carbon deployment, just as in the nineteenth century the advent of steamships triggered a burst of innovation in the sailing fleet. The prospect of high carbon prices in the future could lead low-cost fossil-fuel producers to extract resources more rapidly in the near term, forsaking some of the rents embodied in the price of fossil fuels, thus driving down the relative price of fossil fuels and undermining the impact of carbon pricing.

Again, the Schumpeterian perspective to green growth raises a number of important new research questions.

5. The Georgian perspective

A final new perspective for the green growth agenda is the link to resource scarcity, and the recognition that substituting away from scarce resources such as fossil fuels might remove a constraint to long-term growth.

Concerns about running out of natural resources are long-standing and go back to at least Thomas Malthus, although the view is perhaps most prominently associated with the Club of Rome (Meadows et al., 1972). The Malthusian view has been challenged by thinkers who have emphasised the capacity of human ingenuity and good governance to allow humanity to escape from the Malthusian trap of population growth outstripping resources. One of the earliest was the American, writer, politician and political economist Henry George (1839–1897).

So far George's view has been borne out. Increasing efficiency of resource use in response to relative price increases, together with technical progress, has allowed continued growth despite physical limits on resource endowments – and the limits themselves have responded to economic stimuli. Economic systems, perhaps anticipating the problem, have so far managed to generate alternative products and production techniques before resource constraints began to bite. The challenge is for green growth policies to repeat this feat.

Renewable energy and manufactured capital can release a brake on growth from "peak oil" and other resource constraints in the long run. Global primary energy consumption is around 12,000 million tonnes of oil equivalent (mtoe) per year at the moment, whereas the technical potential for renewable energy has been estimated to be greater than 180,000 mtoe (Rogner, 2000).

6. Conclusions

The green growth concept has both strategic and analytical merit. It has strategic merit by turning a negative debate about a costly constraint (on emissions) into a narrative about potentially attractive opportunities. Authors like Barrett (2003, 2007) believe that this might change the dynamics of the international negotiations.

Analytically, green growth applies a new, richer and more diverse set of economic tools to a burning issue. This has implications on policy design. The 'green growth' narrative reinforces, rather than diminishes, the need for collective action. The economic opportunities that green growth may bring do depend on a joint understanding by a sufficiently large number of players that this is the way to go. This makes green growth a classic collective action problem.

Taking advantage of the opportunities also depends on policies being well-designed. The challenge is good regulation not just more regulation, as the debate on multiple climate policies shows (e.g. Fankhauser et al., 2010; Fischer and Preonas, 2010).

Although the emphasis is on wealth creation, green growth is not about unfettered market solutions. There is much emphasis on market failures and a recognition that markets do not always work. But there is also an appreciation that policies can be counter-productive, too. Public interventions need to take place within transparent, credible and ethically acceptable frameworks of governance and be monitored and assessed by citizens. The need for enlightened government intervention is clear.

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