

A Tale of Two Crises: What the Global Financial Crisis Means for the Global Environmental Crisis

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ABSTRACT

Humanity is currently faced with two global crises, one financial and one environmental. Although ostensibly distinct, these crises are in fact interlinked. Unsustainable consumption, at the heart of the environmental crisis, is driven to a large extent by unsustainable debt, which creates financial instability. If these underlying issues are tackled, and investment is directed into environmental initiatives through a 'green new deal', then the ultimate outcome of the financial crisis could be the mitigation of the environmental crisis. If, conversely, economic hardship is used as a justification for delaying action on critical environmental issues and economic growth remains at the centre of government policy, then the ultimate outcome of the financial crisis could be the deepening of the environmental crisis. The relationship between the two crises therefore provides both opportunities and threats to achieving long-term economic and ecological sustainability. Copyright © 2010 John Wiley & Sons, Ltd and ERP Environment.

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Introduction

WHAT HAS BECOME KNOWN AS THE GLOBAL FINANCIAL CRISIS BEGAN AS THE US SUBPRIME MORTGAGE crisis in August 2007. The initial crisis appeared relatively contained, affecting only countries that were exposed to the subprime market. However, in the last quarter of 2008 the crisis became full-blown, epitomized most strikingly by the collapse of Lehman Brothers (a major US investment bank) and the bailout of American International Group, the largest US insurance company. On the heels of these events came similar collapses and rescues of financial institutions in other advanced economies. As the knock-on effects of the credit crunch sunk in, emerging economies also began to suffer. What started as a crisis in one sector in one country eventually became 'the world's first truly *global* financial crisis' (Omarova 2009, p. 157, emphasis added).

Most advanced economies suffered deep recessions as a result of the crisis. Global trade in manufactured goods fell sharply, with repercussions for East Asian economies in particular. At the same time, plummeting commodity prices severely affected countries in Africa, Latin America and the Middle East. The International Monetary Fund (IMF) reported a 0.8 per cent decline in global economic output in 2009 (IMF 2010). The International Labour Organization (ILO) estimates that 212 million people were unemployed in 2009, an increase of almost 34 million over the number unemployed in 2007 (ILO 2010: 9). There is overwhelming agreement that the crisis resulted in the most severe

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economic contraction since The Great Depression. While there is optimism in some quarters that the recovery has begun (see, e.g., G20 2009b), leading economists remain concerned about the potential for a 'double dip' recession.¹

At the same time that the world is experiencing the worst financial crisis in a generation, it is faced with the worst environmental crisis of *any* generation. Over the course of 2008 and 2009, research findings from a number of studies were released which indicated that climate change is occurring far more rapidly than previously anticipated. In particular, arctic sea ice was shown to be disappearing much faster than scientists had predicted it would (UNEP 2009b, p. 22). Although the public, the media and politicians have been understandably preoccupied with the disastrous implications of climate change, trends in other areas are equally alarming. In late 2008, the World Wildlife Fund (WWF) released its *Living Planet Report*, which showed that biodiversity has declined by 30 per cent over the last 35 years (WWF 2008, p. 2). In the last few decades of the twentieth century approximately 20 per cent of the world's coral reefs and 35 per cent of mangrove forests were lost (Millennium Ecosystem Assessment 2005, p. 2). In a business-as-usual scenario, the world's fisheries are projected to decline by more than 90 per cent by 2050 (WWF 2008, p. 22). And if present trends continue, 1.8 billion people will be living in countries or regions with absolute water scarcity by 2025, and two-thirds of the world population could be subject to water stress (UNEP 2007, p. 116).

These startling figures are only a few of the many that could be catalogued here, but perhaps the most effective way of conveying the gravity of the current situation is through a more cumulative assessment. According to recent calculations of the world's total 'ecological footprint', human demands on natural resources and waste sinks currently exceed the Earth's capacity by at least 30 per cent. It is anticipated that if current trends continue, and no ecological 'tipping points' are reached in the meantime, this overshoot will reach 100 per cent in the 2030s (meaning we would need two planet Earths to sustain our population and consumption levels) (WWF 2008, p. 22).

The global financial crisis and the global environmental crisis differ in many respects, most notably in the severity of their respective consequences for humanity, but they also have some striking commonalities. Risk and uncertainty seem to be pervasive in both ecological and economic systems (Haines 2009) and in both cases the crises disproportionately affect the poor even though they are largely caused by the rich (UNEP 2009a, p. 5). This article examines some of the root causes of the two crises and explores whether there is any potential to tackle them simultaneously. In doing so, it focuses on broad issues of debt, consumption and economic growth as well as the 'green' aspects of fiscal stimulus packages released by governments in 2008 and early 2009. The article does not aim to discuss or provide any recommendations for stricter regulation of the financial sector. It should also be noted that although some references are made to developing countries, the overall focus of the article is on advanced economies and its arguments should be viewed in this light. It goes without saying that further economic growth means something quite different in a society that has already achieved a high level of per-capita income than it does in one in which the majority of the population lives on less than \$2 a day.

The remainder of the article is divided into two main sections followed by some conclusions and recommendations. The first section examines the relationship between the causes of the two crises and explores the opportunity that the financial crisis presents for responding to the environmental crisis. The second section takes a more critical look at plans to devise a 'green recovery' from the financial crisis and also explores some of the potential stumbling blocks to environmental progress that may result from the onset of a global recession. This section also addresses a fundamental problem that has been consistently avoided by most proponents of a green recovery although it has been recognized as a core, albeit controversial, environmental concern for nearly 40 years: the limits to growth. The article concludes with somewhat of a compromise between the optimism and pessimism of the two main sections. It is argued that regulation and green investment can certainly help to mitigate the impacts of the global environmental crisis. Nevertheless, if the aim is not simply to lessen the severity of the crisis, but to actually resolve it, then it is necessary for a new metric of (economic) well-being to be devised; perpetual growth is neither sustainable nor desirable.

It Was the Best of Times

It is a well-worn saying that every crisis is also an opportunity. It appears that for many, this cliché has resonance in the current economic (and ecological) climate. For example, Klaus Schwab, the founder and executive chairman of the World Economic Forum, recently noted: 'Clearly, moments of crisis create moments of opportunity to

¹ 'World at risk of "double dip" recession', *ABC News*, 7 August 2009.

introduce better ideas and to inject positive change, drawing on the engagement of all stakeholders of global society'.² With even greater ebullience the United Nations Environment Programme (UNEP) has described the financial crisis as a 'unique historical opportunity' and has asserted that '[w]e must not miss this chance to fundamentally shift the trajectory of human civilization' (UNEP 2009a, p. 4).

The optimism amongst environmentalists about the opportunity presented by the financial crisis is derived from two main streams of thought. The first is focused on the underlying causes of the two crises and how they are connected. As a UNEP (2009a, p. 3) report notes: 'Although the causes of these crises vary, at a fundamental level, they share a common feature: the gross misallocation of capital.' Here the optimist assumes that if the underlying causes of one crisis (the financial one) are recognized and addressed there will automatically be knock-on effects for the other crisis (the environmental one). The second stream is focused on one particular response to the financial crisis: the use of fiscal stimulus. Here the optimist sees an unprecedented opportunity to direct funds that would otherwise be unavailable towards crucial environmental initiatives. This section more fully explores these two streams of thought about the opportunity presented by the financial crisis.

Underlying Causes: Unsustainable Debt and Unsustainable Consumption

One of the major results of deregulation of the financial sector was the creation of a credit boom. In recent times easy credit has fuelled consumption as well as debt creation. As Foster and Magdoff (2009, p. 28) point out, household incomes have been stagnant or declining for decades, and yet consumption has continued to climb. In 2007 consumption made up 70 per cent of US gross domestic product (GDP) (Green New Deal Group 2009, p. 11). Consumption, in turn, is a key driver for environmental degradation (Dauvergne 2005, 2008; Jackson 2009). In other words, easy credit encourages and enables individuals not only to live beyond their own means, but also beyond the means of the global environment.

Consider, by way of illustration, the case of the housing market. As is well known, the US housing market played an important role in the eruption of the financial crisis, which has been described extensively elsewhere (Bernake 2009; Foster and Magdoff 2009; Gokhale 2009; IMF 2009). For the purposes of this article, it is sufficient to provide only a few key details. First, during the Clinton administration, policy-makers in the US weakened regulations governing mortgage loan eligibility in order to promote home ownership amongst first-time, lower income and minority buyers (Gokhale 2009, p. 3). Second, in the same period the US began receiving a large inflow of foreign savings. This created a surplus of available funds that drove financial institutions to compete more aggressively for borrowers. Eventually lenders moved into the risky area of subprime mortgages (Bernanke 2009). Loans were increasingly provided with 'little or no money down, zero closing costs, and/or sparse documentation of borrowers' ability to pay' (Gokhale 2009, pp. 3–4). To reduce investor exposure to risk these loans were carved up and repackaged as complex securities. Third, demand for houses, and therefore housing prices, soared. Demand was driven to a large extent by lenders and developers who convinced unsophisticated buyers that they could afford mortgages that were actually beyond their means (Schnoor 2008, p. 8615). It was also fed by the 'boom euphoria' that led many to believe that the value of their home would continue to rise indefinitely (Foster and Magdoff 2009, p. 96). Of course prices did not rise indefinitely, and the housing bubble burst in 2006. As the values of houses began to decline refinancing became more difficult causing delinquencies and defaults to soar and subprime mortgage-backed securities to lose most of their value. This precipitated the collapse of several major financial institutions and a general reduction of the availability of credit.

Although subprime lending is by and large an American phenomenon, high mortgage debt is not. In the majority of advanced economies mortgages make up a significant percentage of household debt. For example, as of May 2009, residents of Canada owed \$1.3 trillion (CDN), \$900 million of which was mortgage debt. Although there are a number of factors that contribute to the high level of mortgage debt, a major one is the desire amongst buyers for larger and larger homes. In most developed countries the trend over recent decades has been for houses to get bigger, even as the number of people making up the average household declines. In Canada, for example, 38 per cent of families lived in a dwelling with at least seven rooms in 1997. By 2005, that proportion had risen to 41 per cent.³ In the US the average size of new homes more than doubled between 1950 and 2005, and as in Canada

²'Global crisis an opportunity', *The Australian*, 25 January 2010.

³See the Statistics Canada website: http://www41.statcan.ca/2007/40000/ceb40000_000_e.htm.

this was as family size shrunk (Wilson and Boehland 2005, p. 278). Wilson and Boehland suggest that 'the notion that bigger is better has been a leading driver of the real estate industry' (Wilson and Boehland 2005, p. 280).

But is bigger better? From an ecological standpoint, the answer is an unqualified 'no'. In addition to the fact that larger homes take up more land (leaving less for 'nature'), there is a clear relationship between house size and resource and energy consumption in both the construction and the operation (i.e. when people are living in it) phases. According to UNEP (2009a, p. 6), buildings, in general, are responsible for 30–40 per cent of all energy use, greenhouse gas emissions and waste generation. In a larger home there is greater surface area over which heat loss (or unwanted heat gain) can occur. Additionally, air ducts and hot water pipes have to traverse greater distances, which can greatly increase heat losses (Wilson and Boehland 2005, p. 280). Moreover, most construction of new detached (large) homes in major metropolitan areas takes place in the suburbs. Thus, when considering the footprint of a large home, one should factor in the ecological consequences of its occupants having to commute long distances to their place of employment. Finally, there is an important connection between house size and other avenues of conspicuous consumption. Generally speaking, the more space that is available, the more 'stuff' that will be purchased to fill that space. That 'stuff' requires the input of natural resources and energy and leads to waste generation. This issue is also connected to debt and subprime mortgages in particular. During the subprime era many homeowners took advantage of low interest rates to refinance their mortgages and withdraw cash value from their homes, often in order to purchase furnishings and electronic goods. This type of mortgage borrowing is 'a way to maintain or increase consumption levels despite stagnant wages for most workers' (Foster and Magdoff 2009, p. 97).

Have institutions and individuals learned from the subprime fiasco and subsequent financial crisis that the debt–consumption cycle is unsustainable (both economically and ecologically)? If they have then this would arguably decrease environmental stresses. At the peak of the crisis, consumption did decline in advanced economies. For example, in the US, the personal savings rate reached 5.7 per cent in April 2009, the highest it had been since February 1995.⁴ However, by February 2010 it had dropped back down to 3.1 per cent, suggesting that the crisis has not had a lasting impact on consumer behaviour.⁵ In addition to overall consumption, the average size of new homes built in the US also fell in the 2008–09 period, for the first time in almost 15 years.⁶ It is not clear if this trend will be maintained, although it is notable that in Australia, where the economy has fared better than most, homes have continued to grow; that country now has the dubious honour of having the largest houses in the world.⁷

A Collective Response: A Green New Deal

In the early to mid 1930s President Franklin D. Roosevelt, seeking to pull the US economy out of The Great Depression, introduced a series of economic programmes which are collectively referred to as The New Deal. The New Deal focused heavily on fiscal stimulus in order to help the economy escape what John Maynard Keynes called the 'paradox of thrift'. In this paradox, savings made by one sector of the economy lead to a reduction of income in another sector, which eventually comes back to undermine the income of the original savers provoking them to spend even less and save more, creating a self-reinforcing cycle of economic contraction (Cooper 2008, p. 119). Keynes argued that in order to reverse this cycle the government would have to inject money into the economy.

In the wake of the 2008 financial crisis there have been a number of different government initiatives aimed at preventing a serious recession and speeding up economic recovery. Although bailouts of specific industries, most importantly banks and automotive producers, captured the headlines in the early days of the crisis, the focus has now turned to broader Keynesian fiscal stimulus packages.

What is interesting from an environmental perspective is that there have been numerous proposals for a green new deal from non-governmental organizations (NGOs), international organizations such as UNEP, and popular figures such as former US Vice-President Al Gore and economist/author Joseph Stiglitz. At first glance, the benefits of coupling environmental protection with economic recovery appear axiomatic. As UN Secretary General

⁴'Consumer spending dips; savings rate surges', *Associated Press*, 1 June 2009.

⁵'Consumer Spending Picks Up in February', Bureau of Economic Analysis, US Department of Commerce, 29 March 2010.

⁶'The incredible shrinking home' *CNNmoney.com*, 11 August 2009.

⁷'Home truths: Australia trumps US when it comes to McMansions', *Sydney Morning Herald*, 30 November 2009.

Ban Ki-moon and Al Gore wrote in an article in the *Financial Times*, ‘continuing to pour trillions of dollars into carbon-based infrastructure and fossil-fuel subsidies would be like investing in subprime real estate all over again’.⁸

The purported ‘win–win’ opportunities in a green-focused recovery are numerous. First, sectors such as renewable energy are more labour intensive than traditional fossil-fuel industries (CAP and PERI 2008, p. 11; HSBC 2009, p. 11). As Jones (2009, p. 9) remarks:

Solar panels do not install themselves. Wind turbines don’t manufacture themselves. Buildings do not weatherize and retrofit themselves. Urban trees, green roofs and community gardens do not plant themselves. All these activities require human labour. Recognizing this simple fact helps to undermine the myth that ecological restoration must always be at odds with economic performance.

Thus, investment that creates ‘green collar jobs’ can tackle the problems of unemployment and greenhouse gas emissions simultaneously. Second, as UNEP (2009a, p. 4) has pointed out, many green sectors have better returns on capital than traditional or ‘brown’ sectors. Therefore, even if one ignores all of the other benefits of investing in these sectors, the decision remains sound at the most rudimentary level. Third, investment in certain green sectors (e.g. building retrofitting, wind and solar power generation) will bring about considerable economic savings to individuals and businesses through lower fuel bills and reduced health costs (less air pollution) (PIIE and WRI 2009, p. 1). Similarly, measures to improve public transport can reduce congestion in cities, with benefits for the environment and the economy. Fourth, reducing the world’s reliance on scarce resources through a transition to a low-carbon economy would help to prevent future economic downturns. Although the price of oil has declined significantly since the onset of the financial crisis, this trend will inevitably reverse, with serious repercussions for the global economy. Edenhoffer and Stern suggest that if action is not taken to reduce reliance on fossil fuels ‘the next economic crisis is pre-programmed’ (Edenhoffer and Stern 2009, p. 6). Finally, because it is well accepted that the cost of taking action to deal with issues such as climate change are much lower now than they will be in the future, a green new deal implemented immediately would make environmental goals both more achievable and more affordable in the long term, thus contributing to future economic health (PIIE and WRI 2009, p. 2).

At least some of the exhortations about a green recovery appear to have been heard by governments. As of April 2009, government-funded recovery packages were in the order of \$3 trillion and most contained at least some claims of ‘greenness’. When the G20 met in London to discuss the financial crisis they agreed to pump an additional \$1.1 trillion into the global economy. In the statement issued from that meeting it was suggested that this spending would ‘accelerate the transition to a *green* economy’ (G20 2009a, emphasis added).

Some observers appear to be convinced that the call for a green new deal has been answered. Jeffrey Sachs, well-known economist and Director of Columbia University’s Earth Institute, has argued that ‘[o]ne of President Barack Obama’s historic contributions will be a grand act of policy jujitsu – turning the crushing economic crisis into the launch of a new age of sustainable development’.⁹ Sachs has applauded Obama for focusing on what he calls ‘two core truths of sustainable development’, namely ‘that technological overhaul lies at the core of the challenge, and that such an overhaul requires a public–private partnership for success’. He concludes exultantly that ‘[t]aking shape . . . is nothing less than a new 21st-century model of capitalism itself’.

It Was the Worst of Times

Not all observers share Sachs’ optimism about the prospects for real progress on environmental issues to be born out of the aftermath of the financial crisis, let alone for a new model of capitalism to emerge. There are four main reasons for pessimism in this regard. First, claims about the ‘greenness’ of various recovery plans have been critically examined to a very limited extent. The analysis that has been done shows a mixed picture. More often than not, ‘green’ spending is likely to be offset by more traditional investments in ‘brown’ sectors. Second, there are several adverse outcomes that can be expected in an economic downturn, such as an increased propensity for

⁸Green growth is essential to any stimulus’, *Financial Times*, 16 February 2009.

⁹‘Rewriting the rulebook for 21st-century capitalism’, *The Guardian*, 28 January 2009.

politicians to use economic hardship as an excuse to avoid or delay action on environmental issues. Third, and most critically, there has been insufficient attention (from politicians, international organizations and NGOs) to the underlying causes of the economic and environmental crises outlined above (debt and consumption) and this is unlikely to change. The principal response to the economic crisis has been to find ways to return individual economies and the global economy to a path of growth. As will be explained further below, this means that, ultimately, any recovery (no matter how 'green' on paper) will be at odds with long-term environmental sustainability. Finally, at the core of the optimistic outlook is a belief in technological solutions to environmental problems. This belief is based on the assumption that gains in efficiency can outstrip continual increases in the scale of economic activity, an assumption that experience has shown to be false in most instances.

Green Recovery or Greenwash?

There have been several analyses that have 'graded' the various stimulus packages that were introduced in late 2008 and early 2009. For example, the Global Research Department of HSBC put out a report in February 2009 that looked at more than 20 economic recovery plans and assessed what percentage of spending was being devoted to 'investment themes' in the HSBC Climate Change Index (energy efficiency, renewables, etc.). This report found that China and the US were leading the way in green stimulus and that overall about 15 per cent of stimulus worldwide (tabled before February) was aimed at 'investments consistent with stabilising and then cutting global emissions of greenhouse gases' (HSBC 2009, p. 1).

The majority of 'report card' publications, like the one produced by HSBC, have judged stimulus packages solely on the basis of how much investment has been put into so-called green sectors. As an E3G/WWF-commissioned report notes, '[t]his is useful but not adequate' (E3G and WWF 2009, p. 3). First, there is the problem that a dollar spent on wind energy has a much different impact on emissions reduction than a dollar spent on energy-efficient cars. According to the E3G/WWF report, the majority of stimulus money is being funneled into rail, transportation, grid expansion and improved building efficiency. Renewable energy projects have not received as much attention as was expected or hoped for by environmental groups. Additionally, it is worth noting that environmental issues other than climate change have been largely ignored in the majority of stimulus packages.

Second, there is the even larger problem that non-environmental (or 'brown') spending in stimulus packages could completely negate any benefits from the 'green' portion. If 30 per cent of a stimulus package goes to improving energy efficiency in buildings but 70 per cent goes to large infrastructure projects such as coal-fired power stations, is it really possible to call it 'green' stimulus? Or is this instead another example of 'greenwash'? In the US, for example, \$27 billion of stimulus money has been earmarked for the construction of roads. Another example is China's plan, which has been lauded for its high proportion of green programmes; here stimulus money has been used to boost car sales, which has helped China overtake the US as the world's biggest automobile market.¹⁰ There has also been a surge of spending on energy-intensive cement and steel infrastructure projects in China.¹¹

A related issue concerns stimulus measures aimed directly at boosting consumer spending through tax rebates and other forms of household-directed measures. For example, in early 2009 the Australian government introduced a plan to give 8.7 million residents who earned \$100,000 or less in the 2007/8 year a bonus payment of up to \$900 in the hope that they would re-inject that money in the economy through high street spending. Such efforts to promote conspicuous consumption are clearly a move in the opposite direction from a green economy. As Jackson (2009, p. 90) argues, governments need to get their messages straight:

Urging people to act on CO₂, to insulate their homes, turn down their thermostat, put on a jumper, drive a little less, walk a little more, holiday at home, buy locally produced goods (and so on) will either go unheard or be rejected as manipulation for as long as all the messages about high street consumption point in the opposite direction.

In summary, thus far, green stimulus has been skewed towards a small subset of 'green' sectors, it has the potential to be offset by brown spending and overall governments are not sending a clear message about what is

¹⁰ 'How China is battling the economic crisis', *San Francisco Sentinel*, 23 May 2009.

¹¹ 'China's emissions a wild card as G-20 weighs global stimulus', *The New York Times*, 12 March 2009.

needed for a transition to a sustainable economy. In the words of Ben Stewart, a spokesman for Greenpeace, 'a once in a lifetime opportunity . . . is being fumbled'.¹²

Obstacles to Environmental Progress

A missed opportunity is certainly something to be lamented. But are there also other consequences of the global financial crisis that could potentially put the planet in a situation that is worse than the status quo? It is perhaps too early to tell; however, there are reasons for apprehension.

Although there have been many efforts to combat the notion that economic development and environmental protection are fundamentally at odds with one another, this is still a widely held view. As one UNEP (2009a, p. 5) report notes, '[t]his view is exacerbated at times of economic difficulty'. With jobs on the line, the argument that protecting the environment is an unaffordable luxury becomes more politically acceptable. Popular magazines such as *The Economist* still run bylines that read 'Saving the planet and creating jobs may be incompatible'.¹³

Thus far, politicians such as British Prime Minister Gordon Brown have argued against a trend in this direction, suggesting that 'rather than [the recession] pushing the environment into a lower order of priority, the environment is part of the solution'.¹⁴ However, Australian Prime Minister Kevin Rudd has acknowledged that the global recession was a major obstacle to his administration's proposed emissions trading scheme.¹⁵ At a Senate Hearing Meeting on the scheme, National Party Senator Ron Boswell accused the country's leading climate scientists of living in 'a Pollyanna world', arguing that deep cuts in greenhouse gas emissions was simply not practical given the financial crisis.¹⁶

Nicholas Stern has identified two further problems that could emerge as a result of the global recession: first, because 'people can only concentrate on a limited number of things at the same time' they may redirect concern for the environment to the economy; and second, people will be sensitive to cost increases (e.g. from environmental taxes).¹⁷ Others have hypothesized that individuals and corporations will be less likely to pay a premium for 'environmentally friendly' goods and will also donate less to non-profit organizations (including environmental NGOs).¹⁸

Public opinion polls appear to give credence to these concerns. A global survey conducted in October 2009 by The Nielsen Company and the Oxford University Institute of Climate Change found that public concern about climate change fell sharply in the 2008–09 period.¹⁹ The global recession was cited as the key explanation for the shift in attitudes. Similarly, a 2010 Gallup poll found historically low levels of public concern about environmental problems and support for the environmental movement in the US.²⁰ In the commentary accompanying the poll results it is noted that the state of the American economy is likely to have contributed to waning public interest in the environment.

Finally, in addition to the issues of public opinion and government priorities, there is the undeniable fact that financing is currently much more difficult to obtain than it has been in recent history. This inevitably affects companies in the green sector as well. A Deutsche Bank (2009, p. 26) report notes: 'Just as banks have been reluctant to lend to each other, they are also less likely to lend to renewable energy projects'. According to a report published by the World Economic Forum (WEF 2009, p. 23):

¹² 'Stimulus plans threaten green gains', *Financial Times*, 3 March 2009.

¹³ 'The grass is always greener: saving the planet and creating jobs may be incompatible', *The Economist*, 2 April 2009.

¹⁴ 'Tough lap for the marathon man', *The Observer*, 4 January 2009.

¹⁵ 'Global financial crisis to slow climate progress: Rudd', *The Australian*, 27 March 2009.

¹⁶ 'Climate scientists living in Pollyanna world: Senator', *Sydney Morning Herald*, 16 April 2009.

¹⁷ 'Financial crisis could promote clean energy', *The Guardian*, 7 October 2008.

¹⁸ 'Global financial crisis endangers conservation gains', *National Geographic News*, 8 October 2008.

¹⁹ 'Global survey: concern for climate change cools off', 6 December 2009, <http://blog.nielsen.com/nielsenwire/global/global-survey-concern-for-climate-change-cools-off/>

²⁰ 'At 40, environmental movement endures, with less consensus', 22 April 2010, www.gallup.com/poll/127487/Environmental-Movement-Endures-Less-Consensus.aspx#1

The global financial crisis of 2008, and the recession that is following in its wake, represents a serious threat to the clean energy sector. Short-term energy and carbon prices have fallen, making clean energy less competitive in immediate financial terms. At the same time risk has been re-priced, and finance is much harder to come by.

As mentioned above, there has not been a substantial focus on renewable energy in the fiscal stimulus packages tabled by early 2009. Consequently, cutbacks in public- and private-sector investment in wind farms, solar and wave power, which were already occurring in 2008, may continue.²¹

Addicted to Growth

There are, at present, many unknowns which make it difficult to predict the long-term environmental implications of the financial crisis. Analysts differ on what percentage of stimulus should be categorized as green and to what degree it will be offset by brown spending. It is also too early to tell whether the recession will result in anything more than a temporary retreat from popular and political support for environmental protection. However, there is one area where politicians and the vast majority of economists and even environmental NGOs appear to be in agreement: the aim of any efforts at recovery, whether green or brown, is to restore economic growth. Tacking on the words 'low-carbon', 'sustainable' or 'green' does not fundamentally alter this growth imperative.

One should not be surprised with the focus on growth. As Hamilton (2004, p. 1) argues in *Growth Fetish*, '[n]othing more preoccupies the modern political process than economic growth'. This preoccupation stems from the fact that the modern capitalist system is structurally reliant on economic growth; with ever-increasing productivity, growth is considered essential to maintain full employment (Jackson 2009, p. 5). As a consequence, questioning the primacy of the growth imperative 'remains an economic heresy, punishable by excommunication from the company of the professional commentariat' (Green New Deal Group 2008, p. 32).

The global economy is currently almost five times the size that it was half a century ago and if growth returns to pre-crisis rates it will be an astonishing 80 times that size by 2100. Given these facts and the continuing push for economic growth, it seems pertinent to briefly examine the relationship that growth has with environmental degradation.

Here there is a long history of divergent views. The most famous of early reports on the issue was the Club of Rome commissioned study entitled *The Limits to Growth* (Meadows *et al.*, 1974). Using a computer model, a team from the Massachusetts Institute of Technology predicted future trends in population, food production, industrial production, pollution and consumption of non-renewable resources. It is a gross understatement to say that the findings of the group were controversial. According to Turner (2008, p. 397), there have been 'sustained false statements that attempt to discredit [*The Limits to Growth*]'. In particular, he argues that it is frequently claimed that the authors predicted resource depletion rates that would lead to complete collapse of the world system by the close of the twentieth century. Such claims make it easy to label Meadows *et al.* as doomsayers and their predictions as false. In actual fact, the group estimated that planetary limits would be exceeded at some point in the twenty-first century, which is consistent with present-day ecological footprint calculations.

At the opposite end of the spectrum is the so-called Environmental Kuznets Curve (EKC), first proposed by economists Grossman and Krueger (1993, 1995). According to this theory, there is an inverted-U relationship between pollution and economic growth. The typical explanation for the occurrence of the EKC is that in early stages of development people are occupied with basic concerns such as employment and income; environmental protection is therefore not a priority. However, as per-capita income rises, people come to value the environment more and therefore demand stricter regulation, and companies may also voluntarily improve performance through investment in cleaner technologies when they have the resources to do so. It is postulated that, as a result of these factors, at a certain level of per-capita income, the amount of pollution begins to stabilize and eventually tapers off, theoretically falling to pre-industrial levels in wealthy societies.

Given the concordance that this theory has with neoliberal ideas of economic progress, it is perhaps unsurprising that the EKC has been enthusiastically embraced by many authors both inside and outside of economics (for

²¹'Green new deal makes sense but unlikely', *Reuters*, 17 November 2008.

example, see Lomborg 2001). As recently as April 2009, *New York Times* columnist John Tierney, in an article entitled 'Use energy, get rich and save the planet', relied on the EKC to make the claim that:

No recession or depression will make a lasting change in consumers' passions to use energy, make money and buy new technology – and that, believe it or not, is good news, because . . . [t]he richer everyone gets, the greener the planet will be in the long run.²²

However, Stern (2004, p. 1419) has argued that 'EKC results have a very flimsy statistical foundation' and that policies based on these results will be misguided. Other scholars have pointed out additional problems, including: the focus of most studies on a limited number of pollutants (e.g. sulphur oxides, particulate matter) that have visible effects on the local environment; the failure of the theory to hold for pollutants arising from consumption (e.g. carbon dioxide and municipal solid waste), which commonly rise rather than fall with per-capita income; and the failure of EKC researchers to take account of trade and investment patterns that shift polluting activities to less developed countries (Rothman 1998; Cole 2004; Nahman and Antrobus 2005a,b).

Although the proponents of green stimulus packages do not seem to be supporting a position as extreme as that put forward by the most ardent EKC advocates (i.e. 'grow first, clean up later') they also do not appear to acknowledge that pursuing perpetual economic growth on a finite planet is a recipe for disaster. Indeed, any commentary on this fundamental issue is sparse, at least in the mainstream media. A notable exception is an op-ed piece that appeared in the *New York Times* in March 2009, penned by columnist and author Thomas L. Friedman.²³ He asked:

What if the crisis of 2008 represents something much more fundamental than a deep recession? What if it's telling us that *the whole growth model* we created over the last 50 years is *simply unsustainable* economically and ecologically and that 2008 was when we hit the wall – when Mother Nature and the market both said: 'No more.'

Surely this is the question that should be on everyone's mind. Unfortunately, rather than delving deeper into the heart of the matter, Friedman quickly reverts to optimism about stimulus packages leading to 'growth in smarter, more efficient, more responsible ways'.

Will Technology Save Us?

At the heart of the EKC and indeed of any defense of the sustainability of perpetual growth is the notion that technological developments can solve any environmental problem or resource limitation that humanity is confronted with. This belief in technological progress is also abundantly evident in discussions about a green recovery from the financial crisis. As an HSBC (2009, p. 6) report suggests:

There is growing acceptance that the next wave of productivity and innovation could well come from smart technologies that enable a growing world economy to thrive in the context of deepening carbon as well as other natural resource constraints, most notably water.

These hypothetical 'smart technologies' are based on the notion of 'decoupling', i.e. innovation that allows growth to continue with declining material throughput. However, as Jackson (2009, p. 8) points out, most commentators fail to distinguish between 'relative' and 'absolute' decoupling. With relative decoupling, resource use and environmental impact decline relative to GDP. If GDP rises, so too do these impacts, but not as quickly. Absolute decoupling would require that impacts decline with rising GDP.

A focus on relative decoupling ignores the undeniable fact that technological innovation and improvements in efficiency are continuously outstripped by increases in the scale of economic activity (Dauvergne 2008, p. 214; Foster 2003, p. 23). In fact, because efficiency brings down the costs of goods over time it can actually have the

²² 'Use energy, get rich and save the planet', *The New York Times*, 20 April 2009.

²³ 'The inflection is near?', *The New York Times*, 7 March 2009, emphasis added.

perverse effect of increasing production and consumption (Rees 1998). For example, although the efficiency of automobiles increases quite substantially on a regular basis, so too does the number of people who own a car and the amount that they drive. Thus, overall, greenhouse gas emissions from automobiles continue to rise rather than fall (Foster 2003, p. 95).

There are also other arguments against a complete preoccupation with technological solutions. One obvious one is that technologies developed to resolve one problem often end up creating myriad new, often unanticipated, problems. In recent years, there has been a resurgence of interest in nuclear power as a 'climate friendly' alternative to conventional fossil fuels. An Organisation for Economic Co-operation and Development document on 'green growth' additionally suggests that nano- and bio-technologies can 'contribute to improved environmental performance' (OECD 2009). And proposals to 'geoengineer' the climate (for example, by injecting sulphur particles into the atmosphere to mimic volcanic activity) are popping up with increasing frequency. All of these types of technology-focused 'fixes' are highly controversial, risky and bring with them the potential for serious environmental harm.

An overemphasis on technology also tends to displace solutions to problems that are simple, yet effective, and reinforces the belief that changes in lifestyle (or in ways of doing business) are not necessary in order to reduce humanity's impact on the planet. Discussions about 'green homes' are a prime example. Although much is made of technological solutions that range from switching to energy-efficient light bulbs to installing solar panels on roofs, it is rarely suggested that individuals and families should consider buying/building smaller homes.

Conclusions

While Keynes was preoccupied with the paradox of thrift, some commentators have suggested that in light of recent events perhaps there should be more attention given to the paradox of gluttony put forth by Hyman Minsky (Cooper 2008, p. 119). The paradox of gluttony occurs when 'higher borrowing produces higher profits, thereby ratifying the decision to borrow and spend more', leading to a self-reinforcing cycle of economic expansion through debt creation (Cooper 2008, p. 119). This cycle has serious consequences, not only for the global economy but also for the global environment.

Escaping from the paradox of gluttony will require a different strategy than that developed to respond to the paradox of thrift. Investment is certainly needed in certain key sectors such as renewable energy. However, fiscal stimulus packages such as those put forward in 2009 not only fall short of providing the level of investment needed in those sectors, they also inject significant amounts of stimulus money into projects that are likely to exacerbate the environmental crisis. These packages are, furthermore, likely to accomplish (at least in the short term) what they were intended to accomplish; a return to the path of economic growth. Economic development, full employment and general human well-being should not be considered at odds with environmental protection. However, the same cannot be said for indefinite economic growth; this concept must be untangled from our understanding of the notions of progress and prosperity if we are to have any chance of solving the global environmental crisis. One important outcome of the global financial crisis is that it has opened up a space (however small) for a dialogue on these issues to take place.

Although a fundamental change in the way we think about the economy is required to ensure a truly green recovery, in the meantime there is every reason to believe that regulation can have an important effect in mitigating environmental harm. Özler and Obach (2009) found that the level of regulation in a state had a significant impact on its per-capita ecological footprint. Given this, perhaps the most significant outcome of the financial crisis (from an environmental perspective) is that, as Schnoor (2008, p. 8615) puts it, "regulate" is no longer a dirty word'.

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