

CLIMATE CHANGE POSES HIGHLY UNCERTAIN BUT POTENTIALLY DESTABILISING COSTS ON SOCIETY

FIVE YEARS AFTER the financial crisis, one of the most important challenges for the global economy is the need to remain within ecological limits. The rising threat of climate change, alarming losses in biodiversity and emerging scarcities in essential natural resources all represent a significant threat to the integrity of ecological systems. They also threaten economic stability.

One factor that led to the 2008 financial crisis was a sharp rise in commodity prices. Oil peaked at US\$147 a barrel in July 2008. Rising food prices led to riots. Although prices fell at the end of 2008, they had already started to rise again by the beginning of 2009, and have maintained an upward trend. Climate change poses highly uncertain but potentially destabilising costs on society. The cost of not acting against it could be equivalent to losing 5-20 per cent of GDP each year, indefinitely, according to the influential Stern Review. But the costs of addressing climate change are not inconsequential either. The International Energy Agency estimates that the transition away from fossil fuels will require additional investment of at least US\$11 trillion between now and 2030. Meeting climate change targets could render existing fossil fuel investments 'stranded assets' – worthless in financial terms. Some fund managers are already beginning to exclude such holdings from portfolios.

SMOOTHING THE WAY

Reacting to the dilemma has oft been construed as a microeconomic task, addressed with conventional fiscal instruments of tax and subsidy. The 'external' costs associated with environmental and social factors should be 'internalised' in market prices, according to familiar axioms. Using 'shadow prices' for environmental goods will send clear signals about the ecological costs of conventional consumption, and incentivise investment in alternatives. But this has been hard to implement. Even before the crisis, it was hard to forge agreement on fiscal measures or to stimulate private investment in alternative technologies. The crisis made both tasks harder. Despite an early focus on 'green stimulus' to invigorate the global economy, subsequent responses have failed to address ecological challenges.

Fears of damaging economic growth have led politicians to shy away from ecological taxation and green investment. In fact, fragile private and public sector balance sheets have slowed down real investment generally, let alone the additional investment needed to make the move to a green economy. Governments have focused on cutting public spending and stimulating demand as the basis for recovery. But these responses ignore the structural problems of the conventional model and

OPINION

MOVING TO A GREEN ECONOMY

*By Professor
Tim Jackson*

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delay the investment needed for a green economy. The scale of this dilemma suggests that ecological challenges require macroeconomic as well as microeconomic responses. In short, we need to develop a fully consistent 'ecological macroeconomics' in which it is possible to maintain economic and monetary stability, ensure full employment *and* remain within the limits of a finite planet. Three years ago, ecological economist Peter Victor and I set out to put this vision into practice. Our Green Economy Macroeconomic Model and Accounts (GEMMA) framework is built around three principles.

First, the model is designed to reflect the basic structure of the real economy – to provide an account of incomes, spending, investment, employment, taxation, and the structure of industry consistent with the UN System of National Accounts for any given country. Second, we wanted to make a full and proper account of the ecological and resource constraints on the global economy – as they applied at the scale of the national economy. Finally, we aimed to incorporate a consistent description of the financial economy, including the supply of money from and to economic actors and the effect of the money supply on aggregate demand. An ecological macroeconomics must demonstrate, particularly in the wake of the crisis, not only how much investment is needed to reach ecological goals, but also how that investment is to be financed.

We hope that GEMMA will eventually offer policymakers a sophisticated tool for exploring the economic, financial and ecological implications of the transition to a green economy. ■

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