



Averting Systemic Collapse NAEC Group Conference, 17-18 September 2019

Policy and practical implications from the NAEC Group meeting

On 17-18 September the [NAEC](#) Group met to discuss [Averting Systemic Collapse](#). The meeting provided theoretical and methodological inputs in support of NAEC's efforts to shift policy analysis and policymaking away from the silo-based philosophy typical of traditional approaches, towards a more systemic approach that gives decision-makers a clearer understanding of the context and consequences of their proposals. The discussions reinforced the argument that the economy, society and the environment are not only complex systems in themselves, but that they form a "system of systems" that is best considered as a whole in trying to promote change that puts people at the centre.

A first policy consequence of this is to accept that attempts to optimise one part of a complex system may make the whole system unstable, and even damage the part that was supposed to be optimised. Promoting economic growth regardless of environmental damage and social inequality would be one example. There may therefore have to be trade-offs between optimisation, efficiency and resilience. (Speakers at previous NAEC events including Maurice Obstfeld and Dani Rodrik have framed this in terms of "trilemmas".)

A second policy consequence is that in dealing with non-linear, adaptive systems it is often not possible to simply go back and correct mistakes since the system is no longer the same. A "return to normal" is impossible and a new normal will have emerged. Ways to deal with possible negative consequences have to be incorporated into policy ex-ante.

The meeting stressed that the environment should be the crux of the systems-policy nexus and urged NAEC to devote more effort to this question. The goal should be to produce a narrative that incorporates growth as one part of human endeavours to create a better society, but not as an end in itself and not as defined in a narrowly traditional way by GDP and similarly inspired frameworks.

In short, deep challenges require profound reform – incremental changes to existing policies are not enough.

A policy context characterised by multidimensional interactions

The Chief of Staff recalled the economic, financial, social and environmental trends that interact on multiple levels to produce the issues policymakers have to deal with, notably the stresses and tensions that conflicting objectives can engender. Economic policy needs to accord equity and environmental sustainability the same importance as efficiency objectives. This requires upgrading the economic policy toolkit, moving away from linearity, equilibrium, assumptions about the rationality of agents to understanding the economy as a complex adaptive system, where agents interact, systemic properties emerge and the system continually evolves and reorganises itself in response to multidimensional stimuli at micro to macro levels.

The Conference highlighted that one consequence of this is that our societies are subject to highly-interconnected risks with complex causal structures and non-linear cause-effect relationships. The OECD through its Committees is working on these major systemic issues and upgrading its analytical capabilities to do so. Chairs from the Committees on Employment, Labour and Social Affairs (ELSAC), Economic and Development Review (EDRC), Statistics and Statistical Policy (CSSP), Industry, Innovation and Entrepreneurship (CIIE), Investment (INV), Digital Economy Policy (CDEP), and Development Assistance (DAC) contributed to the discussion and NAEC will pursue and expand its contacts with OECD Committees.

Beyond growth

The Secretary-General's Advisory Group on a New Narrative of growth presented a summary of its discussions in their report ***Beyond Growth: Towards a New Economic Approach***. *Beyond Growth* makes the case that the accelerating environmental crisis, rapid technological innovation, new patterns of globalisation, and demographic change, plus economies performing less well than in the past, have contributed to a decline in social cohesion, empowerment and trust in established politics. We need a new narrative because many conventional economic policies look insufficient to address these challenges.

Such a new narrative could be built on three pillars:

- a new conception of economic progress based on a deeper understanding of the relationship between growth, human wellbeing, a reduction in inequalities and environmental sustainability;
- new frameworks of economic theory and analysis exploiting a richer basis of understanding and evidence on how economies work, and new tools and techniques to help policymakers devise policy; and
- new approaches to economic policy that incorporated a wider set of policy and institutional reforms, based on the new frameworks and analysis, to achieve the new social and economic goals.

To go beyond growth, economic analysis and policy need to recognise the sociality of human life: people have multi-dimensional preferences and ethics and social and political institutions determine outcomes. We need to define a new role for an empowering and entrepreneurial state and a new social contract with citizens. Speaking at the Conference dinner, Noam Chomsky welcomed the emphasis in *Beyond Growth* on rethinking the economic orthodoxy of the past generation. But important as this is, considering time scales, he argued that the truly existential threats required more emphasis.

Systems and resilience

Policymakers are faced with a daunting task, given the fragility of the systems on which we depend, as many speakers pointed out. These contributions came from a range of sciences, in keeping with NAEC's policy of promoting multidisciplinary approaches. The discussions were enriched by contributions not only from economics, but from political science, engineering, physics, and biology. For example, Douglas Erwin, paleobiologist from the Smithsonian Museum of Natural History, warned of the different time-scales over which change takes place, with long periods of apparent stability ending in rapid collapse followed by slow recovery in which new things happen, as evidenced in previous episodes of climate

change, eco-system collapse and mass extinctions. Jean-Marc Jancovici from Carbone-4 was afraid that prevailing patterns of natural resource use make collapse of our economic system based on its current energy needs inevitable, a point echoed by Albert van Jaarsveld, the Director General of the International Institute for Applied Systems Analysis ([IIASA](#)), for whom unsustainable consumption and its effect on growth has been under-appreciated.

Two reports presented at the Conference supplied further scientific underpinnings for these positions. The OECD-IIASA report [Systemic Thinking for Policy Making - The Potential of Systems Analysis for Addressing Global Policy Challenges in the 21st Century](#) and the report conducted with researchers from the United States Army Corps of Engineers [Resilience Strategies and Approaches to Contain Systemic Threats](#) outlined an ambitious agenda for more radical systemic approaches to policy. A key argument is that in complex systems, there is a trade-off between efficiency and resilience. Barry Lynn, from the Open Markets Institute, gave an example of this in illustrating how concentration of power in a small number of global corporations may have improved efficiency in specific domains and circumstances, but over-reliance on a few actors has undermined the resilience of the economic system as a whole. Likewise, Mark Blyth of Brown University looked at how no system operates in isolation, and developments in one system have consequences elsewhere, as we see in the case of social challenges destabilising political party systems in several OECD countries.

Next steps

Most analyses of the socio-economic system are still based on what Samuelson called the “ergodic hypothesis”: tomorrow will be like today. Many interventions cited the difficulty this poses, and a common theme was that existing analytical and policy approaches have shortcomings in addressing the complex, interconnected and dynamic nature of the problems policymakers face. The Group encouraged NAEC to contribute to a stronger scientific basis for policy, based on a systems approach to better link the different dimensions of policy problems and provide better understanding of dynamics, feedback loops, tipping points, and system collapse. The Group called for a better understanding of and stronger connection between the “science” and “engineering” of economics (economics and economic policy), and the development of new analytical tools and techniques such as network models and agent-based modelling.

NAEC is following up on these recommendations along several dimensions – conceptual, theoretical, methodological, institutional, and practical – with partners inside and outside the OECD. The environment will be central to the work programme over the coming year, and a main theme will be how to bring new thinking to environmental issues as such and how to link thinking and acting on the environment to the other trends and influences that arise from the interaction of environmental with other systems.

Collaborations will range from individual contributions such as that of the *Financial Times*’s Martin Wolf on the global order, to continuing partnerships such as those with IIASA or the US Army Corps of Engineers or Rethinking Macro on the tools and techniques needed to build new approaches. Outputs will include research on agent-based modelling and other promising methodologies; [conferences](#) and [workshops](#) to advance innovative approaches and make the link with policy; and a new series of publications to help advocate for new thinking and practices in the policy community.