ILLUSTRATION: BINAY SINHA

Central banks must stop pussyfooting on climate

Ignoring climate risks will complicate macroeconomic management, just as overlooking financial risks eventually led to the global financial crisis

After a drop in 2020 due to the great lockdown, global greenhouse gas (GHG) emissions will grow this year and, again, in 2022. It gets worse. According to the International Energy Agency, 2023 is projected to be the year with the "greatest levels of carbon dioxide output in human history". The Intergovernmental Panel on Climate Change's Sixth Assessment Report has spelt out in detail that irreversible changes in climate due to human influence are witnessed across the globe.

Economic activity, of practically any and every kind, is strongly cointegrated with emissions that contribute to climate change, hence the sizeable drop in carbon emissions last year and strong snapbacks thereafter as output recovers to baseline. Output and GHGs go hand in hand, and will continue to do so.

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Central bank regulations have been incorporating, within the transaction-based frameworks, granulated climate-related risks from the standpoint of financial intermediation and, concomitantly, financial stability. At its most basic, these regulations make intermediaries recognise the possibility of climate risk drivers that alter (reduce) borrowers' ability to repay and service debt. This includes the likelihood that, in somewhat extreme circumstances, the recovery of a loan could be impaired — an event of default. By and large, the recognition translates into apposite (usually higher) pricing of risk for the borrower and setting aside of additional bank capital by the intermediary.

What about monetary policy? Remarkably, decades after climate change became important in public discourse, the build-up of climate change-induced considerations seem to be ignored in monetary policy "reaction functions" of central banks. The canonical workhorse relationship that guides changes in central bank policy rates have, for the most part, incorporated utilisation of factors of production and inflation developments with reference to output. The Phillips curve, as an empirical observation, has evolved into the practical or implementable Taylor Rule, viz., the policy rate is predominantly determined by divergence of actual inflation from the target (latter is usually 2-4 per cent for inflation-targeting central banks) and deviation of actual output from "potential" output, called the output "gap".

The rule encompasses both inflation control and moderation of output fluctuations objectives of monetary policy, with interest rate as the policy instrument. The basic idea is that, all else equal, inflation tends to rise (fall) when output is above (below) potential. High inflation is the proximate symptom of macroeconomic unsustainability. The theoretical and empirical link between conventionally defined output gap and inflation has been so strong historically that hardly anyone doubts this depiction. In recent years, after, and in response to, the great financial crisis (GFC) in 2008, the concept of the finance-neutral output gap for determining the policy rate belatedly gained currency. This came about when the financial risk accretion that started in 2004 was discounted by global central banks as inflation continued to be at (or below) target and monetary policy was kept accommodative (which added to the risk that eventually materialised spectacularly) because of large negative conventional output gaps. It is accepted that in some countries the GFC and its aftermath contributed to long-term social and political contracts between voters and elected politicians coming under stress, so the costs of disregarding obvious hazards can be large, multi-dimensional and durable.

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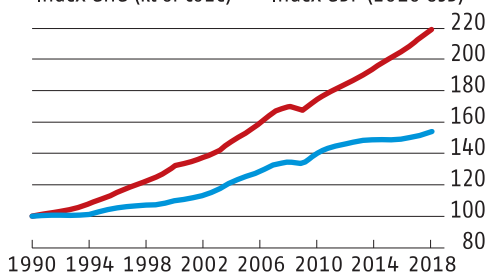
Index of real world GDP (USD, 2010) and total world GHG emissions (kt of C02e) Index (1990=100)



Source: World Development Indicators, World Bank Database, 2021

Given the tight *causal* relationship between economic activity and emissions, it is perhaps time for central banks to explicitly internalise those aspects of climate change (and variability) that affect the output gap "block" in the suite of models that underlie the reaction function metric.

There are five, not wholly independent, dimensions to take into account: (i) Effect of rising temperature and climate variability on short-term economic activity stemming from, say, disruptions due to extreme floods; (ii) Regulatory restraint: National commitments made in Paris are akin to an additional constraint to maximising national output consistent with climate-neutral (or, "matters don't worsen") real-economy outcomes; (iii) Feedback loop from economic growth to higher GHGs; (iii) Implications of rising temperatures, in the absence of requisite adaptation, on long-term economic capacity as emissions thresholds are breached, with resultant consequences for labour productivity, degradation of capital stock, and, indeed, even vitiate capability of the atmosphere to repair itself; and (v) Expected changes in carbon-related tax and subsidy arrangements.

Much like overlooking the amplification of financial risk during the 2000s, the price will be heavy in terms of social and economic dislocation if output gaps are not redefined as climate-change augmented (neutral) output gaps, or, some other definition and associated terminology. If sustainability is a defining characteristic of potential output, then it has to incorporate climate considerations. In other words, high inflation can no longer be the only symptom of macroeconomic infirmity if central banks are serious about the subject. Integrated assessment models have to be explicitly incorporated in central bank work that informs monetary policy.

While no single country may have an appreciable impact on total global emissions, climate change is a damaging permanent shock to potential output. All things considered, output gaps corrected for climate considerations will be smaller (less negative), hence not adjusting for this aspect in central bank reaction functions will lead to suboptimal policy choices; this may imply that the current stance of monetary policy is, conceivably, looser than it should be. No one would claim the analogy to be precise and complete, but ignoring climate risks will complicate macroeconomic management, just as overlooking financial risks eventually led to the GFC. Therefore, monetary policy will have to adjust, otherwise "conduct as usual" by central banks can undermine climate goals.

The writer is chairman, National Institute of Public Finance and Policy and former Governor, Reserve Bank of India