

Rational Expectations and the Design of a Central Bank

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Many coffee room conversations in academic circles that follow the Indian economy have veered inevitably, these past few weeks, towards the headlines dominating India's financial press: RBI's independence, or the lack of it. For academics in the US, the situation is not completely unfamiliar: the Federal Reserve in the US, too, faces increasing pressure from the president. In fact, many other nations in the recent past – Japan for instance – have had their trysts with similar situations. On the bright side of things (at least for researchers who work on the topic), there seems to be a sudden spike in interest in understanding the foundations of Central bank independence among audiences – after a lull of many years.

1. Rational Expectations

The roots of the movement towards Central bank independence lie in a school of economic thought called rational expectations. In a pioneering paper in 1961, John Muth, then at Carnegie Mellon University, proposed the idea that rational economic agents' prognosis about the future should be consistent with the economic models used to predict the future. Sitting today, if an agent posited a model of the future that included the agent himself, he had to behave according to the model's prediction when the future actually unfolded. This is a matter of basic consistency, and it represents the crux of rational expectations. Muth was a microeconomist, but very soon this revolutionary idea spread to the world of macroeconomics. The most influential adherents were based at the University of Chicago, and led by Robert Lucas, these macroeconomists fundamentally altered the way we think about the modern economy.

The 1960s and 70s were a period of great churning in central bank policy-making. The US had been facing runaway high inflation for many years and economists were at a loss on how to bring the situation under control. High inflation was destroying the livelihoods of people across the board and the repercussions were getting graver by the day. It was in this climate that two young macroeconomists, Finn Kydland and Edward Prescott, decided to attack the problem of inflation using the tools of rational expectations theory. Their main argument was intuitively easy. If politicians were in charge of monetary policy in democracies, there would be the perennial temptation to print more money. This is because an increased money supply provides a short-term boost to economic activity as well as reduces government debt in real terms. In a certain sense, it is like eating a chocolate ice-cream; in the short term things feel good. However, economic agents are rational, thus they would see through the politicians' game. Rational agents would expect the inflation to spike as a result of the increased money in the system, and this

would make them cut back on their economic activity. To cope with this, politicians would print even more money, and this would spook rational agents even more, and very soon the spiral would go out of control, destroying the economy.

This was what was happening in the US economy, these macroeconomists argued, and the way out was to entrust monetary policy to an independent authority that could rise above the temptations of ordinary self-interested politics. It was under this framework that President Jimmy Carter appointed Paul Volcker as Chairman of the Federal Reserve. Volcker's epic battles with inflation are legendary in Central banking circles, but part of the reason he succeeded in the end was the bi-partisan he got support from politicians of the day. Volcker was appointed by a Democratic president, but many of his battles were under fought under the Republican regime of Ronald Reagan.

The success of Volcker's term firmly established the rational expectations approach as the dominant paradigm of monetary policy. Many of the prominent academics in the rational expectations macroeconomic school – Lucas, Kydland and Prescott, among others – went on to win the Nobel memorial prize. Similar models of Central bank independence were operationalized in many countries around the world, and gradually, what was at the start a radical approach to monetary policy, became the prevalent orthodoxy taught in graduate school economics.

2. Its Just a Theory After All

Unlike Physics, most theories in Economics are not immutable laws of nature. More often than not, economic paradigms are just a mix of astute observations and clever reasoning that provide acceptable explanations for puzzles of the day. Since economics deals with human reasoning, the theories evolve as our understanding of human decision-making process gets refined. This fluid nature of the field is a fundamental characteristic of the subject, and most academics readily acknowledge it. The key to success with economic theories in the real world, therefore, comes down to understanding the limitations of the theory, especially in the real world of policy-making.

At the heart of the rational expectations approach to high inflation lies a paradox. Recall the reason a government wants a monetary easing – it is to provide a fillip to the economy, which in fact shows that the government cares for the welfare of its people. The process of democracy institutionalizes this responsibility in the government. However, left to itself, the government trips up on this responsibility in the monetary domain much like how most of us have a hard time resisting a chocolate ice-cream. The rational expectations solution is to move the chocolate ice-cream away from our reach; in other words, move monetary policy-making away from the regular democratic orbit. Since the Central bank manages expectations for the long-term, it needs to be shielded from the short-term pulls and pressures of the democratic system. Presented in this light, rational expectations suggests a rather bleak choice: sacrifice of (short-term) democracy, or the pernicious effects of a binge of chocolate ice-cream! Observe that the problem would not

arise (at least not in this form) in non-democratic governing systems. If a ruler were assured of a 50 year rule, short-termism in expectations would disappear. So in some sense the rational expectations approach says that in a healthy, functioning democracy, certain institutions need to be kept away from the rumpus of democracy. A paradox indeed!

Most problems with the modern central banking structure can be traced back to this basic paradox. In India, the problems we are witnessing are a common flavor of this paradox. Many other countries have faced similar tugs and pulls – some have chosen wisely, others have faltered. In large parts of the rich world, Central banks face a slightly different flavor of the paradox. Given many years of chronically low inflation, the Central banks now want to rev up the inflation engine. However, given that the very structure of modern central banking – independence etc. – was created to cool inflationary fears, markets have a hard time reconciling to this new stance.

3. Look Around and the Paradox is Everywhere

The basic paradox between short-term incentives and long term expectations is not unique to banking. Corporate finance has been grappling with a similar issue for many years. Stock markets are a good check and balance on a firm, yet quarterly announcements and reports create an inevitable bias towards short term brouhaha that stymies longer term projects. Or, for that matter, employee stock options which provide short term incentives even though the job expectations might be long term. Scratch the surface, and you will find these kinds of issues in many different contractual situations.

In many ways, monetary policy is also a contract – this time a social one between citizenry and the monetary authority. The government becomes a necessary intermediary in this contract because they supposedly represent the will of the people. Yet, come to think of it, the meaning of “will of the people” is very fuzzy. When voting, do people take into account the myriad contracts that a government might execute on their behalf? Do people understand that the effects of many of these contracts far outstrip the term of the government they are electing?

The design of a robust central banking system thus links to a number of open questions in the field. When the time horizons of principals and agents do not match, how must one structure good contracts? Is there an optimal mechanism to collect opinions when a bundle of contracts need to be decided by a group? How rational are people when thinking through the long term implications of actions? We may not immediately realize it, but all these deep and open questions have a bearing on the optimal RBI-government equation. Rational expectations might provide a reasonable solution for now, but the final word on the topic is still to be written.
