

Models of rational expectations in economics



**ASSIGN
BUSTER**

Rational expectations happen to be a basic tool for modern mainstream economics, New Classicals and New Keynesians alike. Critically analyse the basis of this assumption.

The hypothesis of rational expectations ascertains that the economic agents are unaware of the future events due to the uncertainty and due to this their decisions are based on their future expectations. By using all information which is available with economic agents, they make rational expectations of the future so that best possible forecasts can be made. Focus of the rational expectations approach is that it is a possibility that forecasts by economic agents may not always be accurate but while forming expectations agents do not make systematic errors.

Also rational expectations model deals with the equilibrium state in which markets immediately clear. This asserts that agents don't have faith in money wage stickiness as well as price stickiness. If firms fix prices and wages on the rational expectations basis then price and wages will be set at those levels where both products as well as labour markets will be in a state of equilibrium.

The model of rational expectations was developed against the prevalence of both high inflation and employment in the US economy. But the coexistence of high inflation rate and high unemployment rate contradicted the Keynesian theory. The model of rational expectations is also called neo classical economics as it reestablishes many of the classical concepts as well as policy prescriptions. Rational expectations model comprises of some aspects of classical economics and reaches to the concluding remark of non

interventionist policy by the government to keep a check on the fine tuning of the economy such that macroeconomic stabilization can be achieved.

The model of rational expectations is basically a critique of Keynesian theory as the new classical economics ascertained the Keynesian system as fundamentally flawed. They gave the policy ineffectiveness postulate as they questioned that whether the government's monetary and fiscal policies are useful in achieving macroeconomic stability in the real sense or not. They show that the policies which are demand managing don't affect economies real variables like output and employment.

Better way to regard rational expectations as an omnipresent modeling techniques which is widely used towards economics rather than thinking rational expectations as a school of economic thought. John F. Muth of Indiana University first proposed the theory of rational expectations in the early period of 1960s. The term rational expectation is used to portray the economic situations under which the result depends partly on the economic conditions and partly on the expectations on the people. For example, the agricultural commodity prices depend on the quantity of the crops planted. The decision on how much to plant depends in turn on the expectations by farmers of how much price to realize from the sale of harvested crops. Another example can be the stock prices, which partly depends on the buyers' as well as on the sellers' expectations in the future.

The theory of rational expectations asseverates that the final outcomes don't differ predictably from people's expectations. The standard economic assumption which lies behind the belief of rational expectations is that the

people behave in a manner such that their utility is maximized. Concept of rational expectations is used basically to understand the different situation where crucial factor to ascertain the present situation is speculating about the future. Various theories like life cycle theories of consumption, random walk theory of security prices etc have rational expectations as their building block.

Generally the economy does not waste information. Also the expectations depend on the entire system structure explicitly. The expectations of economic variable has been considered as a vital element of most of the explanations for changes in the business activity levels despite of the fact that expectations are subjected to errors. It is necessary to make predictions of the way of expectations changing sensibly whenever the amount of information available or the system structure changes.

Of course expectations can be assumed as rational about an economic variable, but the striking feature of the result presented by John Muth is that the whole concept of rational expectations is based on the postulate that the state of the economies expectations are rational. This postulate implies that the agents of the economy possess the perfect foresight for the events happening in the future. The emergence of the theory of rational expectations is associated with the defending of the free market system as well as the development of a powerful state intervention critique. By assuming rational expectations about the economy's state, even of a temporary kind involuntary unemployment due to demand deficiency is absolutely denied. This, in a way insists that all macroeconomics is simply an aggregation of phenomena which arise from rational as well as optimizing

<https://assignbuster.com/models-of-rational-expectations-in-economics/>

behavior at a micro level. The denial of involuntary unemployment underlies the rational expectations assumption.

Since the reason behind the happening of the involuntary employment is the market failure denying the possibilities of happening of such kind of unemployment in a way defends the system of free market.

Assumptions of rational expectations imply that in a free market system every economic agent has to solve thousands of equations in order to make rational expectations for a future time period. By solving these equations, every economic agent lands up predicting the accurate equilibrium outcome. But this is a completely opposite premise against the one on which the superiority of the free market used to be instituted. It states that the free market is good as no one has to solve an umpteen number of equations.

On imagining a situation where every economic agent is in a condition to correctly predict the current period equilibrium which is, in turn, based on the knowledge of every single agent's expectations about the future.

However, expectations of such kind are themselves divergent and hence, not rational. So, to attain the knowledge of economic agents' about the next period, expectations formation rule must be known, apart from knowing many other things. But it is very difficult to obtain the same as the behavior of the agents can't be accurately observed.

This implies that the only single situation where rational expectations could prevail is if the rational expectations are there itself for the future. This implies that the sphere of rational expectations can't be ruptured. Also,
<https://assignbuster.com/models-of-rational-expectations-in-economics/>

rational expectations must refer to the expectations which underlie the equilibrium along with the expectations about the equilibrium. It can't be concluded that when applied to the state of the economy, rational expectations are constrained with the notion of equilibrium path of a rational expectations.

John Muth puts in his hypothesis that the firms' expectations tend to be distributed about the theory prediction for the same information sent. But it has been witnessed that in certain situations, agents do not use the available information at any point of time in order to not to make persistent errors. REH theory is built on the theory of stochastic process. Families of random variables which depend upon parameter are termed as the stochastic processes. Also if the stochastic processes is ergodic. Then both the time and statistical averages coincide for an infinite realization. REH aims at providing a theory of forming expectations such that efficient and unbiased forecasts can be generated. This implies that if the stochastic process is ergodic then the average expectation of future outcomes will not be different from the time average of future outcomes. Due to this implicit assumption of ergodicity, Muth asserts that the averages of expectations are more accurate than the models which are naïve in an industry.

Therefore it is claimed by the REH proponents that economic agents can be expected correctly forecasts the time average though; there is a possibility of committing some errors. This implies that the applicability of REH is completely linked with the existence of economic processes which are ergodic. It is easy to show the presence of non ergodic cases in the meaningful economic phenomena. If the economy is a process moving

<https://assignbuster.com/models-of-rational-expectations-in-economics/>

through historical time, then the process is non stationary. This implies that if it is conceived that the stochastic process under consideration has distribution functions which are dependent on historical time, then the world is non ergodic, clearly.

Checking on the grounds of empirical evidence REH theory postulates that anticipated changes in monetary policy does not affect the real variable like output and unemployment. Also it states that only those money supply changes, which are un anticipated, affect output.

But no such evidence is found in empirical studies.

A study of US date growth of M2 on quarterly basis is conducted by Dornbusch, Fisher and Starts, for the time period 1960-1996. They found that there prevails a strong positive relation between anticipated growth of money and the growth of output. But this contradicts the postulates of REH models. Similar results were obtained in the likewise studies. Thus, despite of the fact REH models have an intellectual appeal but they don't have much of empirical support.

Also, the assumption that the economic agents require to know too much to know to much to form rational expectations is quite unrealistic. REH models require the agents to know the true models as well as about the working of the overall economy when monetary REH models require the agents to know the true models as well as about the working of the overall economy when monetary and fiscal policies change, which is impossible. REH models expect agents to be able to predict the money growth rate so that rational expectations can be made for the inflation in future time period but

predicting growth rate of money is a difficult job to do as the monetary policies of RBI are changing as per as the changing circumstances.

Furthermore it is pointed out by critics that economic policies do influence the working of the economy as well as these policies keep a check on stabilizing the economy. This is because there is a lot of inertia in the behavior of price and wage setting such that it is difficult to renegotiate the contracts after the announcement of the policy changes. It is impossible for agents to check how shocks will affect the variables owing to the massive complexity of the economy.

The building block of the conception of rational expectations is that an individual is the representative of the society or in the other words a society constitutes n individuals. REH takes society as an aggregation of n individuals. But, on the other hand there are problems associated with such kind of aggregation. The Paretian notion of social improvement depends on the level of welfare of individuals. Under REH it is postulated that every individual resorts to the optimization exercise of Ramsey type and as every individual is similar so in a way every individual is practicing the same exercise, implicitly for the whole society. This implies that they are simply taking the individuals as microcosm of the society.

Hahn (1984), on the other hand criticizes this postulate and called it as something which is superimposed on the view of REH. Some of the REH theorists don't know the basic point of Ramsey type optimization that it can't occur for individuals but for the whole society. If an optimization exercise is self absorbed, then the logical prerequisite for it is the coincidence of its

subject and object. In the economic theory this condition is satisfied under either of the two assumptions firstly assuming an inclusive subject and secondly non interdependence between multiple subjects.

However, the rational expectations view of the Ramsey type optimization fails to satisfy this logical and basic pre requisite of optimization exercise. Here, the hosts of individuals do the Ramsey type exercise and as a result they achieve a Ramsey type social optimum in an overall sense. But such kind of optimization also requires capital accumulation decisions in each individual's part, also, the pace of accumulation of capital has an effect on the capital labour ratio and in turn the wage rate that agents get. All these aspects break the vital assumptions of non interdependence between the multiple subjects.

If this assumption breaks down, then every individual would consider the effect of his actions on others as well as the effect of others' actions on him. This will lead to the problems of the possibilities of multiple equilibrium, problems of free riding and also there will be a divergence between the social optimum and the individual optimization equilibrium.

Hahn perfectly asserts that it is a wrong that the aggregation of individual decision making results in a Ramsey type social optimum. Also, the view is criticized on the grounds that while the individuals have finite lives against the infinite life of the society.

As per the postulate of the REH theory, everybody should be on an optimal path of Ramsey type. If it is so, then each individual finds it beneficial by getting off the path and hence consuming more. As every individual behaves

<https://assignbuster.com/models-of-rational-expectations-in-economics/>

in this fashion no one would be on the optimal path to begin with. And if such a thing happens, REH equilibrium becomes invalid and the assumption of REH becomes senseless.

The bliss can be of two types. First, a case when the marginal product of capital is positive and the marginal utility from consumption is zero for every individual. This has been asserted by Ramsey. Second, a case when the marginal utility from consumption is positive and the marginal product of capital is zero. This case is shown by Schumpeter. Point where these conditions are met is called the capital saturation point. In both the cases, it is pointless to accumulate the capital further. In the second case, profit rate must be zero owing to the zero marginal product of the capital this implies that the wage rate would be equal to the per capita output. If every individual is a price taker everyone will think of getting the same wage rate as that of the amount of per capita output which is obtained by working with ones' own capital stock. Due to this, each individual would prefer to offer himself for wage labour and consume the capital stock. If everybody acts like this, it will be impossible to produce anything. But this kind of a problem would not arise in a centrally planned economy. This is due to the fact that individuals don't decide of disposing off the capital stock. Hence, it is a serious error to claim that a decentralized market economy can imitate the centrally planned economies' optimal path.

There are umpteen numbers of criticisms against REH models. REH can't be regarded as a general theory of forming expectations also, the analogy of REH as describing the vital decision making by economic agents is misleading. At the time of making crucial choices usually agents reject the

<https://assignbuster.com/models-of-rational-expectations-in-economics/>

information on the basis of today's' probability structure hence relying on REH, one can land up with persistent errors. REH theory focuses completely on unrealism. The widespread absence of ergodic processes implies a serious flaw on the performance of economists as against that of natural sciences. If it recognized that non ergodicity is a rife feature in the economic situations, then it is obvious to conclude that there is a need for policies to adapt to changes as per the changing circumstances over time. Government can play major role n improving the markets' economic performance. The aim of the government is, then to create economic institutions which are adaptable such that uncertainty can be reduced by controlling the economic environment.