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# On Economic Theory and Methods

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Against the backdrop of demands to reduce the theory courses and increase the number of 'applied' courses, in 2009, I wrote an essay titled 'On Economic Theory and Economic Policy' in *The Student Economist*, a JNU student publication. I had argued for pluralism in the teaching of economics because the dominant paradigm – marginalist economic theory – runs into logical problems and is incapable of offering useful policy suggestions as far as the Indian economy is concerned whereas the heterodox approach drawing from Smith, Ricardo, Marx, and Keynes offer a better alternative.

It must be noted that the MA Economics curriculum at the University of Hyderabad (UoH) was (and is, and hopefully continues to remain) pluralistic, with compulsory courses in Classical Political Economy, General Equilibrium Theory, and Political Economy of Development (which was mostly Marxian economics), besides the standard courses in Microeconomics, Macroeconomics, and Econometrics. In addition, elective courses as diverse as Capital Theory, Environmental Economics, Financial Economics, Game Theory, Labour Economics, Law and Economics, New Institutional Economics, and so on were offered. Some of us who did our MA in Economics at UoH published a letter ('Heterodox Economics') attesting to this fact in the *Economic & Political Weekly* in 2012.

While the present essay takes the significance of pluralism in economics teaching as a given, it makes a strong case for a *deep* understanding of economic theories and methods. There are different paradigms in economics, with each possessing a unique set of concepts. Austrian economics, classical economics, marginalist economics (often labelled neoclassical economics), Marxian economics and Post-Keynesian economics are the major contending economic frameworks. However, there are overlaps

between classical and Post-Keynesian economics and between Austrian and marginalist economics. Since the dominant paradigm in economics is the marginalist one, this essay begins by critically assessing two of its core theories.

### Marginalist economics and its theoretical problems

Marginalist economics uses the supply and demand approach to understand all markets, including that of labour. Therefore, in a general equilibrium situation, all commodity prices and quantities as well as the wage and quantity of employment are fully determined. The key nature of the equilibrium is that both commodity prices and the wage are market clearing. In other words, under competitive conditions, marginalist economics concludes that there is a tendency towards the full employment of labour.

In his 1936 classic, *The General Theory of Employment, Interest, and Money*, Keynes demonstrated that the marginalist conclusion regarding the tendency to the full employment of resources, notably of labour, is a special case, and more so, a fluke. He argued that aggregate activity levels are determined by aggregate demand and that therefore there is no reason for aggregate demand to be at a level that ensures the full employment of labour. Keynes pointed out that, under competitive conditions, the general tendency is always towards a less-than-full employment equilibrium. It is this character of liberal capitalism which warrants government intervention presuming that the attainment of full employment of labour is seen as an important policy objective.

According to marginalist economics, under competitive conditions, income distribution is determined by the marginal productivity theory.

Workers get as much as their marginal contribution ( $W=MP_L$ ) and profit equals the marginal product of capital. This theory presupposes that capital can be measured without recourse to prices. While the quantity of labour has a natural unit of measurement (number of hours worked), the quantity of capital, being a heterogeneous bundle of commodities, requires the knowledge of prices for its measurement. However, to arrive at the prices of capital goods, the rate of profit must be known and the knowledge of the rate of profit presupposes the knowledge of prices. That is, the determination of the rate of profit and prices must be simultaneous (given the wage rate). Hence, the existence of the marginalist 'quantity of capital' schedule is a logical impossibility in an economy with heterogeneous capital goods, and therefore we see a proliferation of single-commodity models (e.g., Solow's growth model). By the end of the capital theory debate in the 1960s, Samuelson admitted that the criticisms levelled at the marginalist production function were valid.

Both the above problems with marginalist economics, the reader would note, are conceptual ones that do not require any empirical validation. Indeed, Piero Sraffa's revolutionary opus *Production of Commodities by Means of Commodities* (1960) served as a prelude to a critique of marginalist economics and revived the classical standpoint of Smith and Ricardo. It is pertinent to present below the comments made by Sraffa in a conference organised by the International Economic Association on the theory of capital held on the Island of Corfu from September 4-11, 1958. Sraffa's comments were recorded by the rapporteur and published in *The Theory of Capital* (1963) edited by F. A. Lutz and D. C. Hague.

*Mr. Sraffa* thought one should emphasize the distinction between two types of measurement. First, there was the one in which the statisticians were mainly interested. Second there was measurement in theory. The statisticians' measures were only approximate and provided a suitable field for work in solving index number problems. The theoretical measures required absolute precision. Any imperfections in these theoretical measures were not merely upsetting, but knocked down the whole theoretical basis. (p. 305)

It is therefore disappointing when Thomas Piketty, whose empirical work is commendable, misunderstands the capital theory debate. In *Capital in the Twenty-First Century* (2014), he writes that the debate was sterile partly because the "participants on both sides lacked the historical data needed to clarify the terms of the debate" (p. 232). The capital theory debate was never about historical data or empirical measurement but about measurement in theory.

### **Empirical methods and its limits**

The demand that *all* economic theories be subject to empirical verification is ill founded because of the following reasons. First, most of the economic theories, whether classical or marginalist, assume competitive conditions – which is not a real world condition. The reason for initially examining equilibrium positions under competitive conditions is that it provides a basis for subsequently examining what happens to those equilibrium positions when the assumptions are modified. However, under competitive conditions, classical and marginalist economics provide very different conclusions. Marginalist economics argues that the economy will tend to a full employment position whereas there is no such tendency in classical economics. These theories themselves are powerful insofar as they are used and continue to be used to justify various economic policies. For example, by citing marginalist economic theory, one could argue that competition will eventually lead to a full employment situation. Second, a theory might require several rounds of modifications before it can be empirically tested. The modifications must take into account the historical and institutional context. Third, there are theoretical debates which has to be, and can only be, fought in the theoretical realm.

With the advent of powerful computing, as is to be expected, research based on econometric applications has exploded. This *per se* may not be a problem but has this diminished the interest in the development of economic theory? As Siddhartha Mukherjee writes in *The Laws of Medicine* (2015), a medical test "is not a predictor of perfect truths. ... It takes information in and puts information out. ... If we feed it garbage, then it will inevitably spit garbage out" (p. 33). Therefore, it is extremely important to possess a deep understanding of economic theories – the assumptions, the measurement of variables,

their limitations (or scope), and their degree of applicability to the real world.

Outliers often occupy an uneasy existence in econometric practice. Some economists also tend to ignore the fact that there might be outliers. The following statements by Mukherjee on the role of outliers in understanding medical illness appear relevant for economists too.

Every outlier represents an opportunity to refine one understanding of illness (p. 45).

But we have little understanding of what makes an individual lie outside the normal range. 'Inliers' allow us to create rules-but 'outliers' act as portals to understand the deeper laws (p. 51).

In economics, an outlier also might be suggestive of the limits to the *general* applicability of economic theories. After all, the past and the present matter significantly in economic outcomes. In other words, both history and the wider socio-political context matters.

In sum, the increase in sophisticated econometrics and big data need not necessarily lead to scientific

progress in economics. As Mukherjee writes, "Every science suffers from human biases. Even as we train massive machines to collect, store, and manipulate data for us, humans are the final observers, interpreters, and arbiters of that data" (p. 59). Moreover, "Big data is not the solution to the bias problem; it is merely a source of more subtle (or even bigger) biases" (p. 65).

#### Concluding observations

The ease of computing and the fetish for application must not lead to a dislike for economic theory. The only way to minimise biases and understand outliers is through a *deep* understanding of both economic theory *and* methods (behavioural experiments, econometrics, survey techniques, and randomised controlled trials). Since economics is a policy science, it is only a deep understanding of both economic theory and practice that will yield good policy suggestions. Otherwise, to rephrase Voltaire's famous statement about doctors, economists will end up prescribing policies of which they know little, to solve problems of which they know less, in economies they know nothing about.