

REVISITING MARGINALIST CONTROVERSY IN ECONOMICS: A GENERAL OVERVIEW

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ABSTRACT

From the late nineteenth century, there occurred a gradual evolution of classical saga in economics into neoclassical approach. One of the major debates undercurrent in this evolution was regarding ‘What determines price of a commodity?’ .The neoclassicals argued that price of a commodity is dependent on the marginal utility of a commodity measured cardinally. Though this approach seemed simple on first hand, it changed the very outlook of how economists perceive market reactions paving the way for mathematisation of economics. Marginalist revolution eventually led to marginalist controversy in the post-world war era when economists across the world took opposite views regarding the theoretical compatibility of full cost pricing and marginalism in a series of articles published in American Economic Review. In this paper, an attempt was made to have a general overview on marginalist discourse in economic literature by tracing out the history of the debate and analyzing the various viewpoints shared by economists across the world during the discourse, along with the implications of such a controversy in modern day economics.

Keywords: Marginalism, Neoclassical economists, labour theory of value, full cost pricing, marginalist controversy, utility.

1. INTRODUCTION

Earlier beginnings of the term “marginal” can be found in “The Isolated State” (1826) by Johann H. von Thünen. However decades later in 1871, Carl Menger, the proponent of Austrian school in his work ‘Grundsätze’ sowed the seeds of what came to be known as marginalist revolution in later years. It was a revolution in many dimensions. On the first hand, it toppled the conservative classical outlook of price determination which relied on labour theory of value. In other words, while classicists relied on manpower used in the production of a commodity in price determination, marginalists relied on subjective evaluation of utility derived from a commodity demolishing the previously held classical view of value theory. Although the origin of marginalist approach can be traced back to Daniel Bernoulli and his famous “St. Petersburg Paradox”, central tenet of marginalist revolution can be found in the works of three economists-

W. S. Jevons, Carl Menger and M.-E.-Léon Walras. Even though these economists worked individually, they shared some common ideas which eventually led to the beginning of utility theory. Their ideas regarding utility can be briefed as follows.

-utility was measurable cardinally and they can be expressed in monetary terms

-Utility is additive and separable;

-they all use the Gossen' laws.

First impact of marginalist revolution manifested in theory of demand itself- the basic pillar of modern economics. Later this spread to other areas like cost, production, revenue, distribution etc...For example, "Marginal Productivity Theory" (MPT) envisages firms will pay their productive agents according to their contribution to the total earnings of the firm. In other words, factors of production will be rewarded according to their factor contributions. MPT is particularly relevant in the case of labor market i.e. wage tend to equal marginal productivity of labor. Theorem holds that it is unprofitable to buy for example, a man-hour of labor if it costs more than its contribution. Perhaps the biggest contribution of marginalism was the popularization of mathematical applications in economics apart from relying on deductive reasoning and empirical analysis on an unprecedented scale.

Though ideas were contributed by W. F. Lloyd and H. H. Gossen were not well received in the initial stages, marginalism eventually gained currency through the writings of Leon Walras, W. S. Jevons, Carl Menger, J. B. Clark, J. M. Clarke etc...In the next section, we can examine some of the views shared by these economists.

2. VIEWS OF CLARKE, SCHULTZ AND JOAN ROBINSON

John Bates Clark was a leading economic theorist at the beginning of twentieth century. He was the pioneer of Marginalist concept and often compared to Alfred Marshall for his intellectual contributions. According to Clark, capitalist possess a sense of value. This sense of value can be anything, for example it can be money. When he gave this money to employer this would become concrete. By loaning funds, he can earn interest. Clark is of the view that it is through the hands of initiator or employer that the efforts and the use of productive agents will take a concrete form. In his renowned work, "Law of Interest and wage" he elaborates that interest problem is mainly a question of determining the gains of capital; the wage problem is basically a question of what fixes the return of pure social energy. (Clark, 1890)

Clark says that this wage fund is transient just like labor. Due to diminishing returns, its value can decrease over a period of time. So production takes place on the basis of last new increment

that adds to total production. Clark concludes that a true mans' wage is true product of his own labor.

If properly understood, Clark's theorem is a rebuttal to Marx's charge that competitive capitalism systematically robs or unjustifiably expropriates the surplus value. Clark on the contrary maintained that payment to capital is determined by its marginal productivity and there's no such surplus value as argued by Marx. Clark says that whatever amount of labor is employed, capital so shapes itself that each unit of equivalent labor is working with same amount of capital. (Clark, 1901)

The "Lausanne School", a neoclassical school of economic thought consisting of Vilfredo Pareto and Léon Walras marked the next stage in Marginalism. The core of Lausanne thought was its development of general equilibrium theory- heavily indebted to Léon Walras, which enhanced the applicability of the neoclassical approach to economics. Walras, one of the leaders of the Marginalist Revolution of the 1870s who taught at the Academy of Lausanne based on his market demand and supply equations derived general equilibrium theory, while Pareto and his followers mainly focused on micro foundations of this walrasian equilibrium.

Henry Schultz tried to workout empirical implications of this theorem. Schultz in his analysis points out that marginal degree of productivity of each service should be equal to the ratio of price per unit of the service to the price per unit of the commodity. (Schultz, 1929) Thus production should be carried to a point where value of product imputed to final increment of each service is just equal to the price increment of the service. At this point marginal productivity would exhaust the total production of the commodity. One of the main features that distinguishes Schultz' analysis from the Clarke is that he regarded marginal productivity as only one of the conditions in factor pricing. Moreover he pointed out that the whole walrasian analysis is based on the assumption of constant returns to scale. If that condition is violated, the whole system will collapse.

Even though both Schultz and Walras belonged to the broad Lusanne stream, Schultz was basically a Paretian economist and attacks Walrasian general pricing on the basis of certain assumptions of MPT upon which walras built his system, especially the condition of a homogenous production function. Pareto argues that even in the case of a homogenous production function, it is not necessary for the total product to increase with an increase in the factors of production. For example, even if we double the labor used, total iron produced may not increase. for that there should be an increase in the iron ore(classic example given by vilfredo pareto). Pareto says that there should be emphasis on the concept of coefficient of production and he redefined it as a marginal concept from an average concept of Leon walras. According to Schultz, walrasian reply to paretos' criticism that productive services must not be treated as

independent variables is that the production function is always determined in a specific manner, constituting a given element in the problem is not convincing. Because either all coefficients are compensatory and are connected by only one functional relationship or they are not. In first case the productive services may vary independently of one another, and MPT holds. In the later case, theory fails.

Joan Robinson on the other hand, presented a much more realistic picture of the theorem. Robinson began his analysis by uprooting the very assumptions of the theorem. Firstly, she attacks the condition of perfect competition, which infact is an unrealistic one. In real world, as she pointed out, we have an imperfect competition where equilibrium price is determined by prime costs plus a mark-up and not by the marginal costs. Secondly we actually have a wage bargain. In the modern world, even in capitalistic world, trade unions and bargaining have a considerable effect on determining labor contracts. Only in a perfect world, without any interest on working capital and wear and tear of plants would the system work. (Robinson, 1967)

Moreover, greater the volume of expenditure from unearned income, greater the profit margin and lower will be real wage rate. But if profit goes on increasing, theres' no rationale for workers agreeing to keep wage constant. Another contradiction of MPT, which is rightly pointed out by Joan Robinson is that the whole theory is based on the assumption that employers have correct foresight regarding the future prices and wages. But common logic suggests that there's' nothing like perfect foresight. Robinsons' article thus threw light on the underlying contradictions of Marginal Productivity theorem.

3. CONCEPTUAL PROBLEMS AND MARGINALIST CONTROVERSY

Although MPT sounds to be simple, there are certain conceptual problems that can arise.MPT implicitly assume that the whole product is created by labor alone. The very definition of the marginal productivity of labor states that change in total product due to a change in labor.MPT states that marginal man works unaided by other agent. For example if we have initially 1000 Rs. with us and employs 100 labor to produce 200 tons of wheat. Now we increase labor by 50 i.e. 150 and with that we produce 300 tons of wheat. Now the marginal productivity of labor is $100/50=2$. The problem here is we have an initial capital of 1000 rs. and all other labor units except last one works with this 1000 rs i.e. last one is unaided. So are we assuming what needs to be proven already? If every other unit shares alike the use of capital, then marginal product is not created by labor alone (Parker, 1907). In the real world, laborers need not adhere to marginal product to determine their price in the real world. As Mrs. Robinson rightly pointed out, they can limit their number or supply and their by demand more wages. Labor unions are very strong in many sectors. In the case of India, they are particular strong in plantation sector, banking, postal

and telecommunication etc...Thus the whole building bloc of marginalism collapsed which led to subsequent Marginalist controversy or marginalist debate.

Between 1946 and 1953, American Economic Review published a series of articles on the relevance of marginalism. The polarizing views shared by Lester and Machlup marked the beginning of marginalist controversy in its strict sense. (Mongin, 1997) On a broader dimension (which is mainly considered here) 'Marginalist Controversy' refers to closely related debates in various English and American journals and seminar for a period of nearly 16 years (from 1939 to around 1955). Price setting behavior of firms were the main subject matter of the economic debates in that era. While Economists like Joan Robinson through her tried to provide a factual basis to then prevailing theories of imperfect competition through her marginalist theory in *The Economics of Imperfect Competition* (1933), other economists were partly in the hope of clarifying macroeconomic and economic policy issues. The full-cost pricing (FCP) theorem of Hall and Hitch (1939) was the fulcrum around which entire discussion revolved. One of the leading developments of the era, FCP theorem was published along with other findings by Oxford economists and, as Harrod pointed out, shared an intriguing feature of conflicting the findings of prevailing study. Relying on the the questionnaire method by taking a sample of 38 firms, Hall and Hitch found that a high proportion of these firms set their prices in a full-cost way. Typically, the company would make an ex ante estimate of average cost, as determined by some notion of its normal output, and then add to it one or more percentage margins (the mark-up). This pricing mechanism based on 'rule of thumb' and Hall & Hitch opined that maximum profits can by accident only contradicting the view of Joan Robinson. Despite their unorthodox pronouncements or contradicting views, they were uncertain towards existing theory, and sketched an alternative theory of industrial pricing based on the kinked demand curve theory of Paul M. Sweezy. It ratifies price rigidity behavior of oligopoly markets giving a solution to the puzzle of the 30's - falling output instead of falling prices. Hall and Hitch retained profit maximization assumption of Joan Robinson maintaining the view that firms know nothing about demand. When Machlup (1946) attempted to answer in the same breath both Hall and Hitch, and Lester based on his study argued that after a minimum wage was established in southern United States of America, the employment has increased in some relevant industries compared to northern counterpart. Relying on empirical survey, Lester argued that unexploited profit possibilities exist before the relative cost change, shaking the foundations of marginalism. Machlup in his reply to Lester argued that underlying questionnaire samples used for Lester's study was unrepresentative and had been subjected to manipulation, leading to ambiguous conclusions. Machlup was more serious in his approach towards the work of Hall and Hitch than towards Lesters' criticism. Machlup tried to reconstruct the FCP in the context of cartels, hoping to determine demand elasticity in oligopolistic contexts. He also criticized Lesters' work to be

textbook model of short run profit maximization under perfect competition and marginalism can be reconciled.

At the height of marginalist controversy, a series of articles was published in the issues of American Economic Review from 1946 to 1948. Some of them attempted to settle the initial conflict. For example, Oliver observed that dissidents of Marginalism was able to demolish marginalist conception of a businessman in constant alert, always subject to any exogenous factors. The Lester-Machlup debate popularized the idea that company makes infrequent decisions that are dependent on the expectations of its competitors' policies. Perhaps one of the noticeable results in the economic literature regarding the marginalist controversy is that, these debates in American Economic Review have changed the outlook of American economists generally towards the early models of Robinson and Chamberlain as they have reached a stage of consensus that those models should be refined and profit maximization framework should be updated in the light of changing circumstances.

Another interesting feature is that even among the economists upholding marginalist concepts there were polarizing views. For example, while Stigler maintained that average costs are constant on the basis of an empirical analysis, another marginalist Eiteman maintained the view that businessmen's typical perceived curve is declining throughout, i.e., up to the point of full capacity. From this finding and other assumptions Eiteman argued that profit-maximization can be refuted. Eiteman discussions also spawned another set of debates on the American Economic Review from 1947 to 1953. This was in agreement with the Lesters' view that reserve capacity and profit maximization concepts are contradicting concepts.

Machlup also put forwarded that economists are not only concerned about the probable effect of a change, but the direction of such a change. He stressed on what direction output, prices and employment are likely to be altered, rather than the probable effect of such a change. Since part of Lester's and Hall and Hitch's work was critically concerned with just that sort of predictions, Machlup's reasoning did not get much relevance. But his methodological procurement was highly influential in the later phase of economics. In 1955 Machlup reformulated his argument by adding that economics aims at deriving cognizable changes in prices and quantities from observable changes in exogenous variables. He opined that there are two kinds of theoretical assumptions in the marginalist thinking- fixed and fundamental (profit-maximization) assumption and others which can be modified as per situations. Machlup's arguments in 1955 exhibits a strong influence of Friedman's article in 1953. It suggests that the economist should empirically check neither his fundamental assumption nor even his auxiliary assumptions: the firm's competitive type is a matter for theoretical assessment rather than empirical study. Marginalist controversy eventually declined by the end of 1960s, when both sides eventually agreed upon the compatibility of full cost pricing and marginalism- ending a debate which is

more than three decades old, making it one of the most discussed controversy in the history of modern economics.

4. RESURGENCE AND POLICY IMPLICATIONS

Is marginalist controversy dead or more precisely is the very idea of marginalism in economics dead? Though marginalist debate seems to have ended by late 1960s, still economists periodically resurrect it to provide a theoretical explanation for varying economic problems of modern times. Okun, Bator, Peterson, Wachtek and Adelsheim periodically used the concepts of marginalism in their studies to explain various economic process. Theory has also contributed to the development of many later theories like Baumols' sales maximisation theorem, Marris managerial theory etc...Thus when we analyze the potential impact of the theorem in the later phases of the theorem and inability of many so-called antimarginalists like Hall & Hitch to disprove the marginalism or to even substantiate their own theorems, theorem must be lauded. Marginalism was also a key development in neoclassical school, providing theoretical basis for non-neoclassical price theory in later stages.

Perhaps most importantly marginalism provided theoretical basis which is behind neo liberal market principles that India embraced in 1991.As Arrow and Debreu (1954) remarked, marginalists advocated market expansion through the financialisation of untraded goods and services and argued for the creation of market for previously untraded goods and services like Carbon, mortgages, energy etc...Interestingly carbon credit, oil economics are often subject to discussions even today in academic circles. All these indicate that though marginalism is still implicit in many economic discussions and its relevance had not yet dead.

5. CONCLUDING REMARKS

Neoclassical economics that evolved at the beginning of 21st century analysed how price is determined in real world by rational decisional makers. One of the building blocks in their argument was the idea of Marginalism whose origin can be traced to the beginnings of 19th century. Marginalism demolished the classical theory of value and introduced marginal utility as the determinant of the price. Marginalism which was once regarded as a revolution, eventually became a 'controversy', when a series of debates regarding the real behavior of firms arose in academic circles. The controversy which centered on the full cost pricing began with debate between Lester and Machlup in a series of economic articles over American Economic Review spanning almost three decades in its strict sense. The debate was one of the longest academic controversies in the history of modern economics influencing the outlook of later economists to a greater extent. Even though the controversy eventually settled, its influence is still felt in academic literature and policy measures even today, indicating the importance of marginalist debates in the modern world.

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