


# Bsc in International Business and Politics

Course:  
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**Exam Question:**  
**To what extent did the so-called marginalist  
revolution influence the development of economic  
thought?**

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## **To what extent did the so-called marginalist revolution influence the development of economic thought?**

Since the first market activities, sellers and buyers found a price level that made transactions attractive for both parties. The mechanisms involved have not changed but the ability to explain how such price levels are found has evolved significantly.

During the course of 1871 to 1874, three different professors Carl Menger (1840–1921) of the Austrian school, William Stanley Jevons (1835–1882) of the British school and Léon Walras (1834–1910) of the French (Lausanne) school broke with the consensus on basic economic theory that existed at that time. Remarkably, all three authors independently, by different approaches, came to a resembling conclusion at the course of only three years. In the history of economic thought, this period, when the idea of ‘diminishing marginal utility’ was first introduced, marks the birth of neoclassical economics.

This paper will explore the extent to which the marginalist revolution has changed the history of economic thought. Not only will it highlight how the perception of economics changed after the so-called revolution, but also what features can be attributed to the change from classical economics to neoclassical economics. In order to fully understand the change of how economic thought was perceived, a brief presentation of the views prior to the change is necessary. Namely, what state of economic thought was apparent before the marginal revolution, and who their predominant thinkers were at that time. For this, I will focus on the economic picture drawn by Adam Smith and later on by David Ricardo, which was the predominant notion of economic thought up to the end of the 19<sup>th</sup> century.

After providing the historical context in which the "revolutionists" (Walras, Jevons, and Menger) operated, I will then analyse their main works in detail. I will explore how their ideas differ from each other and how they diverged from classical economics. This analysis will consider not only the revolutionists' specific critiques about classical theory, but also their differing methodological approaches. In conclusion, my analysis will focus on the extent to which these differences, of methodological and theoretical nature, have been adopted in economic thought.

## Classical Economics up to 1870ies

The classical school of economics, which emerged in the 18th century, mainly focused on promoting national wealth through economic growth. It is characterized by an emphasis on the analysis of the conditions that ensure the smooth functioning of an economic system based on the division of labor and a free market, as originated by Adam Smith in his influential work, "*An Inquiry into the Nature and Causes of the Wealth of Nations*," first published in 1776 (Smith, 1776/2007). Under this perspective, the primary objective of economics is to understand how production, distribution, accumulation, and circulation of goods and services are interconnected and how they influence one another. The classical economists believed that by analyzing these conditions, they could develop a framework for understanding the operation of the economy as a whole and identify the key drivers of economic growth and development (Martins, 2015). Predominantly Adam Smith and later David Ricardo focused on the study of how to increase the productivity of the society by creating market conditions that support a division of labor, specialisation and economies of scale (Smith, 1776/2007; Ricardo, 1817/2015). This in turn was expected to increase the overall wealth and prosperity of the society as a whole.

For this paper, a particularly important key concepts associated with classical economics is the objective approach to determining value, which is represented by theories such as the labor theory of value and the cost of production theory. The theories hold that the price of goods and services is objectively determined by factors such as labor and the cost of production, and that value is not a function of subjective judgment (Smith, 1776/2007). Adam Smith as one of the most well-known proponents of this theory developed the Water-Diamond Paradox, which illustrates that the value of goods can diverge from their usefulness (Smith, 1776/2007). The paradox states that although water is essential for human survival and has great utility, it is relatively inexpensive, while diamonds, which have little practical use, are very expensive. This paradox is used to show that, according to Smith, the value of a good is not necessarily determined by its usefulness, but by “the toil and trouble of acquiring it” (Smith 1776/2007, p. 47). Hence Smith argues that the value of a good is not based on

how much people want or need a good and denies a relation between price and utility. Similarly, around a decade later Karl Marx in 1867 based his theory of exploitation on the labor theory of value (Falkinger & Laski, 1983). Marx posits that the value of a good or service is determined by the amount of socially necessary labor time required to produce it. He argued that capitalists exploit workers by paying them less than the value of the goods or services they produce, and that this is the source of the capitalists' profits (Falkinger & Laski, 1983). This theory is central to his critique of capitalist societies and his vision of a socialist economy.

### **The so-called revolutionists**

The notion of economics began to change by the introduction of the marginalist approach, which viewed the economic problem as the optimal use of scarce resources to meet the needs and wants of economic actors (Roncaglia, 2017). That strongly opposed the classical approach, where the economic problem focused on understanding the conditions that allow an economic system to function smoothly, including the study of production, distribution, accumulation, and circulation of goods (Roncaglia, 2017). Furthermore, during the 1870s, economists began to extensively incorporate mathematical analysis, taking inspiration from the field of physics (Backhouse, 2002, p. 320). This shift brought various changes, including an increased focus on individual behavior and a shift in the field's focus from long-term development to more specific problems (Backhouse, 2002, p. 320). Pioneers in driving this development in Britain were William Stanley Jevons and in Lausanne, French economist Leon Walras.

Jevons was a chemist and meteorologist and is best known for his development of the concept of marginal utility, which contributed to the development of the neoclassical economics theory. He published several important books, his most famous being "The Theory of Political Economy" in 1871. His subjective theory of value was in stark contrast with Ricardo's and Smith's objective theory of value. Jevons argued that value is solely determined by utility (Jevons, 1871). Specifically, he argued that value is determined by the benefit that a consumer receives from the last unit consumed, referred to as marginal utility

or, as Jevons put it, "final degree of utility" (p. 52). He acknowledged a connection between value and cost of production, but argued that it is only an indirect relationship, coming to the conclusion that: "Cost of production determines supply; Supply determines final degree of utility; Final degree of utility determines value" (Jevons, 1871, p. 165). Jevons did not believe that wages should be considered independently, and instead argued that, unlike Classical theory, the value of labour "is determined by the value of the produce, not the value of the produce by that of the labour" (Jevons, 1871, p. 166). Jevons ideas on utility originated from the theory of utility proposed by Bentham, which defines utility as the capacity to enhance pleasure and decrease pain (Backhouse, 2002, p. 320). However Jevons, further than Bentham, argued that while emotions and intentions can not be measured directly, they can be measured in comparison to each other. He believed that individuals' decisions to buy or sell goods are based on a comparison of the pleasure they expect to derive from different items, and that these comparative pleasures can be determined by observing how people behave in the marketplace (Backhouse, 2002). In order to analyze the results, Jevons believed that political economy should be viewed as a hard science, similar to physics or mathematics, rather than as a moral science like history or politics (Backhouse, 2002). He believed that this shift would lead to the discovery of necessary quantitative connections, or laws.

Like Jevons, Walras aimed to make economics a scientific discipline by using mathematical methods (Backhouse, 2002). From a different starting point, Walras arrived at similar conclusions regarding consumer behavior and the determination of prices in competitive markets. Walras did not base his work on the idea of utility, instead, he viewed value as a function of scarcity or in his words "rarite" (Backhouse, 2002). In 1874, Walras, in his major work "Elements of Pure Economics", first realized that "scarcity is personal or subjective" and thereby referring to marginal utility (Walras & Jaffé, 1874/2003, p. 146). Walras went further than Jevons and developed the idea of a general economic equilibrium, which involves incorporating the mechanism of supply and demand within the context of interdependencies between production and consumption (Backhouse, 2002). He introduced a mathematical model of the economy in which all goods and services are produced, consumed, and exchanged in a general equilibrium. Walras also demonstrated an adjustment

process, known as "tâtonnement," which he proposed as an idealised representation in which prices adjust until the market reaches equilibrium, at which point supply equals demand for all goods and services (Backhouse, 2002). Generally, Walras's work on general equilibrium theory was his most significant contribution to the development of neoclassical economics, which emphasizes the use of mathematical and statistical tools to study economic behavior.

Carl Menger had a different approach to economic theory than his contemporaries Jevons and Walras, who both aimed to develop economic theory as a quantitative science using mathematical formulas. Menger avoided the use of math in his work and instead focused on constructing a theory that went beyond just describing economic phenomena, but still retained ties to real-world observations (Backhouse, 2002). Additionally, Menger's subjectivity in the field of value theory did not rely on utilitarian concepts like Jevons did. Despite Menger's different approach, he too came to the conclusion that value is determined by the usefulness of the last unit of a good or service (Backhouse, 2002). In his book "Principles of Economics", published in 1871, he explained the theory of marginal utility in by referring to it as the diminishing importance "according to the degree of satisfaction already attained " (p.127). And subsequently coming to the subjective theory of value by concluding that "value is therefore nothing inherent in goods, no property of them, but merely the importance we attribute to the satisfaction of our needs, that is, to our lives and well-being," (Menger, 1871/2007, p.116). By that Menger argues that "true prices" do not exist as they are constantly changing based on the individual consumer perception. This again is in stark contrast to the theory of Ricardo and Smith.

Drawing back to the Water-Diamond Paradox, Menger proposed an answer. Unlike classical economists, who saw diamonds and water as aggregate categories, Menger, along with Jevons and Walras, understood that people interact with units. Therefore, instead of choosing between all of the diamonds or all of the water, people make decisions about specific units of water and specific units of diamonds. This focus on individual units of goods and services helps to explain why people might not recognize the greater importance of water in their purchases, as the value of each individual unit of water may be perceived as lower than the

value of a single diamond. It is not the overall usefulness (utility) of diamonds or water that determines their price, but rather the usefulness of each additional unit (marginal utility) of water or diamonds. This theory leads to the conclusion that while water is essential to life and its overall value is high, the marginal value of water is low due to its abundance in supply.

### **The gradual climb to success**

Having established the different approaches of Menger, Walras and Jevons, who all came to the same conclusion, the question of how their work truly changed the course of economic thought remains. Or formulated differently, to what extent their work can be credited for any shift in economic thought. To begin answering these questions, one has to look at the reactions towards the work of the “revolutionist” at that time.

Although the simultaneous publication of the works of Jevons, Menger, and Walras within a three-year span was a coincidence, the fact that it was a “multiple discovery” played a significant role in the acceptance of marginal utility economics (Blauge, 1997). However, despite the three founders being well-established and reputable economists who argued their case persuasively, the new economics still struggled to gain acceptance for at least a generation (Blauge, 1997). In 1874 Jevons for example bemoaned in a letter to M. d'Aulnis de Bourouill of the University of Leyden, "what I have written on the subject of mathematical economics has received little or no attention in England, and by those who have noticed it the theory has been generally rejected or even ridiculed." (Jevons as cited in Young, 1912, p. 578). Mark Blauge (1997) in his book “Economic theory in retrospect” makes the rise of Marxism in the 1880s and 1890s partly responsible for the increasing relevance of the subjective value theory as it provided social and political ammunition against these ideologies. Marx based his exploitation theory on the objective labor theory of value, similar to that of Smith and Ricardo.

Another important, if not the most important factor for the wider acceptance and application of the marginal utility approach was the contribution of Alfred Marshall in 1891. Marshall reconciled the ideas of marginal utility by showing they could be fitted together into a wider

context (Roncaglia A. , 1997). Marshall's conciliatory attitude towards the displaced Classical School made the Marginalist Revolution more acceptable to economists, and its wide adoption as a university textbook introduced Neoclassical theory to a wider audience (Roncaglia A. , 2017). The "demand-and-supply" diagram with reversed axes, which is now a standard feature of economics textbooks, was a centerpiece of Marshall's book. In "Principles of Economics," (1890) a book still used as a textbook until the 1950s, Marshall presented his findings through verbal explanations in the main text. He included diagrams only in the footnotes and deliberately placed algebraic equations in an appendix, with the goal of making the subject accessible to both businesses and professional economists (Backhouse, 2002). At the beginning of the 20th century, economics based on marginal utility and individual optimization, known as marginalist economics, had become well-established. The subject had moved away from political economy and was becoming increasingly dominated by a theoretical, abstract approach (Backhouse, 2002).

### **The change of thought in economics after the so-called revolution**

Three key aspects that were driven by the revolutionists were able to prevail. These aspects have already been touched on in my essay, but I will still examine them separately and place them in the historical context.

These changes were: Firstly a change in focus from the growth and development of the economy to allocative efficiency. The goal of classical economic analysis was to understand the impact of changes in the quantity and quality of the labor force on the rate of growth of aggregate output. Since the rate of growth of output was believed to be determined by the rate of profit on capital, the economic process was primarily concerned with trends in factor prices and distributive shares (Roncaglia A. , 2017). The emphasis was on capital accumulation and economic growth in the context of a private enterprise economy. In classical economics, free competition was seen as desirable because it led to an improvement in the division of labor and expansion of the market. Economic welfare was understood in terms of physical output, and was considered to be roughly proportional to the volume of goods and services produced (Roncaglia A. , 2017). However, after 1870, economists



commonly assumed a pre-determined supply of productive factors, which were determined by factors outside the scope of their analysis. The core of the economic problem was to determine the conditions under which the given productive resources were allocated in the most efficient manner among competing uses, with the goal of maximizing consumer satisfaction (Blauge, 1997).

Secondly a shift from descriptive to mathematical reasoning with a strong emphasis on the principle of maximisation: The key role of the idea of substitution at the margin in the new economics led to the sudden use of mathematical reasoning. It was not utility theory, but rather the emphasis on marginalism that made mathematics a major part of economics after 1870 (Blauge, 1997). The Austrians with Carl Menger at the forefront, placed a strong emphasis on utility and did not use mathematical equations or geometric formulations in their work. They were clearly opposed to using mathematics as a tool for economic analysis. Menger, in a letter to Walras in 1884, argued that “the mathematical method is wrong” (Menger as cited in Kauder, p. 90) in understanding the qualitative aspects of economic phenomena such as value, rent, and profit. He believed that mathematical methods could not capture the essence of these concepts and were not needed for economic analysis (Kauder, 1965). Walras however believed “If the pure theory of economics or the theory of exchange and value in exchange, that is, the theory of social wealth considered by itself, is a physico-mathematical science like mechanics or hydrodynamics, then economists should not be afraid to use the methods and language of mathematics” (Walras & Jaffé, 1874/2003, p. 71). He thereby directly referred to the applied economics, which focuses on the practical application and usefulness of economic concepts. This is where the theories developed in pure economic theory are tested for their relevance and applicability in the real world (Walras & Jaffé, 1874/2003). This division of economic thinking into applied economics, economic theory, and social economics, as well as the essential use of mathematics, has been established until today.

Thirdly a resolution of the discrepancy between the theories of value and distribution in classical economics, through the use of a single principle - the scarcity of resources in

relation to consumer needs (Blauge, 1997). The new economics challenged the compartmentalized approach of classical economics by proposing that both industrial and agricultural goods should be explained by a single principle. This allowed for greater generality and a more streamlined argument. The neo-classical theory was able to encompass both reproducible and non-reproducible goods, as well as constant and varying costs, whereas the classical economics had to operate with two separate theories of value for industrial and agricultural goods. It held that the price of industrial goods was determined solely by supply conditions, while the price of agricultural goods was affected by both the scale of output and the pattern of demand (Blauge, 1997). In the 'new economics,' the theory of distribution was considered as a subset of the general theory of value (Blauge, 1997). Factors of production were rewarded for their contribution to the production of goods and services that are scarce relative to the demand of consumers.

### **Conclusion**

When referring to the marginal revolution, the focus is on the nearly simultaneous discovery of the principle of marginalist utility by the economists Jevons, Menger, and Walras. However it is important to note that the fruits of the so called “revolution” could not be harvested immediately. The introduction of marginal utility into common economics can not be seen as a sudden event but rather as a gradual process that took place over several decades. Despite this, there is little doubt that the revolutionary ideas of the marginalists in fact have fundamentally changed the history of economic thought. This essay examines the significant changes in economics that occurred following the marginalist revolution, both in terms of methodology and theory. To summarize, the revolution brought about a change in focus from economic growth and development to allocative efficiency, a shift from descriptive to mathematical reasoning with an emphasis on the principle of maximization, and resolution of the discrepancy between classical economic theories of value and distribution through the use of a single principle: the scarcity of resources in relation to consumer needs. Furthermore this essay has brought up the factors that finally led to the completed development of neoclassical economics in most parts of western Europe. These factors include (a) the simultaneous and independent discovery of Marginal utility which made the

theory more convincing and also simultaneously influenced different schools of economic thought, (b) the subjective theory of value serving as a counterpoint to Marxism, (c) Alfred Marshall's contextualization of marginal utility within a broader framework.

Economics – though mainly an ex-post science - allows market participants including policymakers to make informed decisions on how to allocate resources in any given situation. The development of the marginalist thought has greatly enhanced the understanding of price mechanisms and thus greatly increased the acceptance of economic science as such.

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