PANOECONOMICUS, 2012, 3, pp. 387-392
Received: 23 May 2012.

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Mikroekonomska analiza

(Microeconomic Analysis)

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I.

It is quite obvious that there is no successful educational process without the availablity of quality textbooks. Of course, this holds true even when it involves the teaching of economics. The teaching of economic theory and analysis is a very demanding undertaking, specifically how students can achieve successful adoption of the basic principles of economics in order to later apply them independently in different areas. The particularly delicate question in this context is how to teach microeconomics. Many experienced teachers emphasize the difficulties that arise in the process. For example, Robert Frank (Frank 2007) emphasizes that it is hard for students to master the basic economic principles when they are presented in the form of equations and graphs. Specifically, Frank refers to his own experience, demonstrating that when a problem is set to students (in a form that is not textbook) they often cannot identify the solution for which they are to apply the acquired theoretical knowledge. In short, the knowledge they acquired, has not become functional.

One of the important issues that needs to be overcome when it comes to teaching microeconomics is a necessity of gradualistic procedure. Namely, microeconomics is taught from basic to doctoral studies. How to arrange the topics, and assign analytical weight, at each level is a delicate issue. Each graduated level implies that the knowledge of the lower level has been acquired. Thus, it opens the need for quality books of microeconomic analysis that weight the subject matters they expose and the analytical level that are applied, between the basic course in microeconomics (such as for example presented in Hal Varian 2003) and doctoral studies (standard textbooks for this level are Andrew MasCollel, Michael Whinston, and Jerry Green 1995; Varian 1992). One such book is the book by Milić Milovanović that is being discussed on this occasion.

II.

The textbook *Microeconomic Analysis* consists of six chapters: Demand, Supply, Competitive Equilibrium, Imperfect Competition Equilibrium, Oligopoly, and Uncertainty. Milovanović's point of departure is his research of demand (i.e., an analysis of rational consumer behavior). Basically, the consumer governs the market process because by his choice he directs the production process. In this context, standard topics such as consumer preferences, cardinal and ordinal utility, indifference curves and their properties, and demand functions derived by constrained utility maximization have been presented. An unavoidable part of this topic is the concept of revealed preference. Firstly, it states the reasons of creation of this alternative concept of explanations of the rational choice, and then presents the weak and strong axiom of revealed preference, as well as the process of reconstruction of indifference curve based on the revealed preference. Based on the weak axiom of the revealed preference, two important microeconomic results are derived: downward-sloping demand curve (negative substitution effect), as well as homogeneity of degree zero of demand function in relation to prices and income.

Analysis of demand also implies comparative statistics; changes in demand due to changes in income and changes in demand due to price changes. It presents the decomposition of changes in demand on the income effect and substitution effect (The Slutsky equation), as well as compensating and equivalent variations in income. The author presents the problem of minimizing the expenditure for a given level of consumer utility. The solution to this dual problem is the compensated demand function. In this context Roy's identity and Shephard's lemma are presented. Finally, the consumer surplus has also been analyzed. In addition to standard elements of this analysis, the change of consumer surplus based on the Marshallian and Hicksian demand functions have been presented.

The second chapter deals with supply. In this context, the author first explains the theory of production by presenting the production function (i.e., rate of technical substitution, returns to scale, homogeneity, elasticity of substitution, and elasticity of scale). Then the author explains cost functions, particularly the relationship between the long-run costs and returns to scale, and the economic optimization. Optimization involves determining the minimum costs for a given production volume. The author also presents the Shephard's lemma in production. Part of this chapter is the analysis of technical progress, specifially neutral tehnological change and biased tehnological change. Thus, the ground has been prepared for the supply function of a competitive firm (profit maximization in the short and long term), as well as the market supply.

The third chapter deals with the competitive equilibrium. Analysis of equilibrium involves actually finding answers to the questions of existence, uniqueness and stability (local and global) of equilibrium. The author first explains partial equilibrium. This context presents the cobweb theorem. Milovanović analyzes the relationship of returns to scale and market equilibrium, as well as the impact of taxation on the equilibrium. The focus is then turned to the analysis of general equilibrium. He first presents the general equilibrium in terms of exchange, and then the equilibrium in production. In the context of the analysis of general equilibrium in the production transformation curve is explained, and serves as the basis for integrating production and consumption into a model of general equilibrium and determining the equilibrium conditions.

The fourth chapter presents an analysis of imperfect competition. In this context the author first presents an analysis of the monopoly (monopoly equilibrium, the shutdown of a monopolistic firm, the effects of monopolies on welfare, monopoly power expressed in terms of the Lerner Index, price discrimination, monopoly and general equilibrium). In particular, he analyzes the natural monopoly and its regulation. He singles out the regulation of the rate of return and the Averch-Johnson effect. The author then analyzes the monopsony in the labor market (equilibrium, monopsonistic market power and its impact on welfare, as well as the effect of minimum wages in the monopsony model). In the context of this topic, he also presents the monopolization of the labor market including the basic elements of economic analysis of the trade union behavior and equilibrium in terms of a bilateral monopoly in the labor market (the equilibrium is presented graphically and algebraically derived).

Thereafter the author tackles the analysis of monopolistic competition. The author first explains what monopolistic competition specifically means, including what constitutes an element of monopoly and an element of competition. The crucial thing to keep in mind when analyzing this market structure is the fact that there is no general model, so that different market situations have to be analyzed (based on different assumptions). In this context, the author presents the cases when the number of firms in the industry changes, when the number of firms is given but the equilibrium is achieved through price competition, and finally in a combination of both cases (price competition with free entry into the branch).

The fifth chapter is devoted to analyzing duopoly. Milovanović first explains the specificity of the problem of optimization in the case of duopoly. The outcome in these circumstances depends not only on the choice of one party, but also on the choice made by the other, implying that one must take into account the so-called strategic behavior. This requires a completely different approach in determining the equilibrium, necessitating the application of the game theory logic. The author presents the Cournot duopoly (sequential harmonization, simultaneously establishing equilibrium by means of reaction curves of both companies, determining the conditions of equilibrium when there are more participants in the market, determining market power of the company in Cournot competition), Stackelberg duopoly (graphical and the algebraic solutions, returns to scale in the context of Stackelberg duopoly; an analysis of equilibrium in the duopoly where price competition game is played by the leader and satellites), the Bertrand duopoly (price competition) and cartel (the condition for cartel equilibrium and incentives that cause the cartel to be unstable). In addition to the initial models the author also presents important upgrades when additional assumptions are introduced into the basic model such as, when duopolists' costs differ; the Cournuot duopoly with differentiated products; the Stackelberg game with differentiated products; cartel when duopolists produce differentiated products, and Bertrand competition with differentiated products.

The last chapter deals with uncertainty, including the analysis of uncertainty in the context of rational choice. This is an extremely important microeconomic topic considering that a large number of market situations basically contains an element of uncertainty (analytical tools developed in this context have been implemented in many areas, financial markets in particular). How to describe rational behavior of market participants under conditions of uncertainty is therefore still an open question. In this chapter, Milovanović presents two key microeconomic approaches: the concept of expected utility (von Neumann-Morgenstern utility function) and the state-preference approach, which was introduced by Arrow and Debreu in the 1950's. First he explains the specificity of the process of rational decision-making under uncertainty, followed by a detailed presentation of axioms which must satisfy the expected utility function. This is the basis for an analysis of individual attitude toward risk (neutrality, preference and aversion to risk), as well as analysis of individual`s willingness to pay for the insurance or for a lottery ticket. The Jensen's inequality and the Arrow-Pratt measures of absolute and relative risk aversion are also presented.

State-preference approach integrates uncertainty into the standard model of individual decision making. This is accomplished by introducing a set of states of nature in which each commodity can be found (in each state contingent commodity has a different price), so basically the consumer maximizes expected utility with respect to the "budget constraint". It is shown that all the key results comparable to the theory of consumer choice in a state certainty are easily derived, that is, the equilibrium condition is derived for an individual who maximizes expected utility. The result obtained is a condition both for the maximization of expected utility, and also for the optimal allocation of risk (expected marginal utility per money unit must be equated across states and goods per the fundamental theorem of risk bearing). The analysis can be extended to a context of general equilibrium theory where individuals who have different preferences for risk, seek to allocate risk optimally (when both parties have aversion to risk, but also when one participant manifests risk aversion and the other risk neutrality). It should be noted that this is the first analysis of this issue in the presented form in a textbook in the Serbian language.

III.

As can be seen from the overview of the subject of analysis, some topics from basic microeconomics have been expanded and analytically deepened, while new ones have been added. Chapters are adjusted in size, so that there is no disproportion due to the exaggeration of some topics at the expense of others. At the end of each chapter the author gives a summary of new concepts (not just a list of concepts but also their precise explanation), as well as a list of references. Thereby the author has achieved not only easier textbook use, but has also facilitated navigation through analysis and repetition of what has been introduced. Milovanović has not burdened his analysis with excessive detail that would distract the reader from the basic topic. For some topics concrete numerical examples are provided where examples have been carefully selected in order to illustrate precisely what has been theoretically explained. It involves a very good pedagogical procedure, as students fully comprehend some of the microeconomic principles only when they see them in concrete application. The topics are presented systematically and comprehensively, so that the student does not need to consult additional literature in order to follow the analysis.

In the textbook *Microeconomic Analysis* the students get acquainted with the key issues of modern microeconomic analysis and thus acquire the necessary knowledge to follow it at higher levels. Analytically speaking, as we have already noted, the topics were discussed at a level above the intermediate level, but below the level of doctoral studies. It is just this type of book that we are particularly lacking in the market. The book will be a reliable guide through microeconomic analysis not only for students, but also for those who have the ambition to become familiar with these issues at a higher analytical level. It is necessary to add that the author has demonstrated remarkable skill of clear and precise presentation even in those subjects that are very complex and demanding. He has shown a refined sense of highlighting key ("sensitive") places, precisely those microeconomic topics that usually present difficulties to students. In short, the pages of this book demonstrate both the skill in a systematic, and precise, presentation that are reflective of a vast pedagogical experience.

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