THE METHODS FOR DETERMINING THE PRICE OF LAND

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Abstract:
In the economic theory and practice, two methods for determining the price of land are known, depending on the way it is exploited: on the basis of a ground rent, when the owner grants his land on lease; on the basis of profit, when the owner exploits his land.

Key words: pret, profit, renta, venit mediu; price, profit, rent, average income

INTRODUCTION

Due to the fact that prices mediate trading on the market and taking into account the numerous exchanges going on daily, price is ubiquitous in our lives. The price at a given time reflects the economic situation and provides information regarding the demand/supply ratio. Through its mobility and vitality, price facilitates the balancing of the ratio between the two components of the market, demand and supply, thus securing itself a fundamental role in the economic life.

The price
Price is defined as the exchange value for goods and services on the market (Dictionaire d’économie – C.D. Echaudemaison). The general acceptance of the word is that price refers to the amount of money that a person pays or receives for buying and respectively for selling a good. If we refer to services, the tariff is similar to the price: it represents the amount paid or collected in order to beneficiate of or provide a service. Price constitutes the monetary expression of the
value of goods and services, and as far as the economic category of the price is concerned, it appeared at the same time with the introduction of money as an element mediating trade and treasuring values.

Nowadays, the price notion is no longer restricted to goods and services, but it has extended its sphere of applicability to the price of capital (usually the interest on the capital borrowed but also the dividends for the capital in the form of shares), the price for labor force (the viva voce salary), the price of concessions, the price of shares or bonds, etc.

The price is set in tight correlation to the standard by which it is measured, to the currency and, respectively, to the value of the goods it refers to. The relation between currency and price is in inverse ratio: the smaller the value of the currency is (the exchange rate is lower in comparison with other currencies or its coverage in precious metals is lower), the higher the price is. Irrespective of the currency, the general tendency of prices is to a rise over a medium and long term, and the growth pace is slower or faster, being in tight connection to the inflation the respective currency is registering. The employment of a monetary policy with a currency whose rate is floating is convenient only for the economically developed states, with a stable economy and/or gold reserves. The states whose economy is in transition or which are in the middle of economic crisis have to adopt an inflationary monetary policy, which has as a principal effect a continuous rise in prices.

As compared to the relationship between price and currency, the relationship between price and value is directly proportional: the higher the value of the goods is, the higher the price is and vice-versa. In order to set the value, numerous streams of thought in the economic theory have been elaborated and developed over time.

Thus, William Petty, Adam Smith, and David Ricardo have elaborated the labor theory of value according to which the utility of the goods is essential for the realization of the trade and the value of the goods has two sources of provenience: its rarity and the quantity of labor put into its realization. The labor theory of value was developed by Karl Marx, who considered that the value of the goods does not contain anything except for human labor recognized on a social level; therefore, in his theory, Karl Marx totally ignores the rarity and the utility of goods. The actual value of the goods is given by the time of work necessary for its realization from a social perspective / socially. Through this approach, he absolutizes the part played by labor, especially by the physical one, the utility of the goods being reduced to a simple premise. The only real measure of value is considered to be labor, this also constituting the real price and the amount of money represents the nominal price of the goods.

The contemporary economics school favors the marginal utility theory. According to this theory, the value of the goods is given exclusively by its marginal utility and rarity. The setting of the price is submitted to the action of the
law of demand and supply: demand is a utility function whereas supply is a rarity function. This theory states that utility is the main factor of determination of the value of goods and that production has to be subordinated to the objective of satisfying human needs. The part played by labor in determining the value of goods is equal to that of the other production factors (capital, knowledge, experience, natural resources, etc.). The value of the goods is proportional with its marginal utility: the greater the utility, the greater the value.

Other economists speak about the objective and the subjective theories in determining the value of goods. From the objective theory’s angle, the value is given by the work incorporated into the goods and also by the utility of the goods. The amount of labor incorporated into the goods refers to the work socially recognized and not to the quantity of work effectively put into it. The utility refers to the satisfaction the consumer gets depending on the characteristics of the product, its quantity and qualities, and also on the consumer’s actual needs, as well as on his desires which are, in their turn, determined by traditions, education, fashion, social status, etc. Utility is the necessary condition for the recognition of value, but it doesn’t represent its measure.

In the exchange process, the exchange value of the goods intervenes, which is given both by the labor put into it and by its performances (characteristics), by its importance and rarity.

According to the objective theory, labor is the only real measure which serves to appreciate and compare the value of merchandise. Labor represents the natural price of merchandise. The amount of money, of currency measuring it at a certain given time, stands for the nominal price of the merchandise. This theory picks up on the concepts of the labor theory of value.

According to the subjective theory of value, the value of goods is appreciated, estimated by the individual in accordance with the goods’ and/or services’ ability to satisfy the needs of the consumer, their quality and rarity, the difficulties in procuring (the way of obtaining) them.

The supporters of the objective theory are in the position of the offerors, whereas the solicitants are the supporters of the subjective theory. In fact, every participant to an exchange on the market is both seller and buyer, at the same time. This statement is correct if the currency is considered merchandise. The offerors of goods or of private services are at the same time solicitants of currency. Analogically, the solicitants of a good or of a service are offerors of currency. Hence, from this point of view, the participants in the trade have identical statuses.

2. Methods for determining the price of land

In the economic theory and practice, two methods for determining the price of land are known, depending on the way it is exploited:

- on the basis of a ground rent, when the owner grants his land on lease;
- on the basis of profit, when the owner exploits his land.
Determining the price of land on the basis of rent. The evaluation of land on the basis of rent can be achieved by taking into account a base culture dominant in the area, or a structure of cultures, with the help of the equation:

\[ P = VQ \times R \times N \times K, \]

(1)

where

- \( P \) – the price of land – Romanian lei/ha;
- \( VQ \) – the value of the average production per hectare, in that respective area, under normal technological conditions;
- \( R \) – the share of the rent in the physical production - %;
- \( N \) – the period of operation of the capital assets, 25 to 35 years, determined from an economic perspective; it is considered to represent the average period of activity for a generation, the maximum possibility for predicting a phenomenon with an acceptable degree of certainty;
- \( K \) – the price adjustment coefficient

Considering a plot of land in an area where wheat is the dominant culture, we start from the knowledge of the following elements:

- the average production of 4000 kg/ha
- the average selling price = 0.35 lei/kg
- the rent charged – 20%;
- the period – 30 years
- the price adjustment coefficient – 1.7

A price amounting to the value of 14280 lei will result, set in the following way:

\[ P = 4000 \times 0.35 \times 0.20 \times 30 \times 1.7 = 14'280 \text{ lei} \]

When we take into account the structure of the cultures within the representative crop rotation, it is necessary to calculate the value of production per hectare, in the given structure.

Determining the price of land on the basis of profit. The first issue raised with respect to determining the price of land, per hectare of agricultural land, is that of determining the profit that can normally be made by cultivating that specific plot. The direct factors which influence the price of land are the profit obtainable per hectare through cultivation of the plot and the interest rate.

The profit being the difference between the gross value of production and the total expenditures, it results that the price of land will depend on the evolution of the elements which determine the profit, namely:

- the productivity per hectare as material expression of the soil’s degree of fertility;
- the evolution in the selling prices of agricultural goods;
• the evolution in the prices of the other production factors (farm tractors, agricultural machines, chemical fertilizers, other chemical substances, seeds, labor force, etc.);

• other production costs (interest, taxes).

According to this methodology in order to calculate the price of land, the following equation in used:

\[ P = PB \times C \times N \times K \]  
\[ PB = VQ - CP, \]  
where:
- \( PB \) – the gross profit
- \( VQ \) – the value of production
- \( C \) – the price adjustment coefficient for the share of the rural capital in the achievement of the gross profit

In the case when there is a dominant culture in the area, wheat, for example, and with a 130 lei profit per hectare, the price of a hectare of land will be calculated as follows:

\[ P = 130 \times 0.8 \times 30 \times 1.7 = 40800 \text{ lei/ha} \]

In the case of crop rotation, the structure of the cultures must be considered in order to determine the average profit per hectare.

The great number of factors that influence the price of land makes it very different around the world. For a general view, in table 1, the prices per hectare are presented, in U.S. dollars (to ensure comparability).

Table 1
International comparisons regarding the price of land

<table>
<thead>
<tr>
<th>Country</th>
<th>The price per hectare expressed in U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>14128-24374</td>
</tr>
<tr>
<td>Austria</td>
<td>5413-27067</td>
</tr>
<tr>
<td>Czechoslovakia</td>
<td>5268-15009</td>
</tr>
<tr>
<td>France</td>
<td>8098</td>
</tr>
<tr>
<td>Poland</td>
<td>6003</td>
</tr>
<tr>
<td>U. S. A.</td>
<td>2962-4938</td>
</tr>
<tr>
<td>Italy</td>
<td>2738</td>
</tr>
<tr>
<td>C.I. S.</td>
<td>2477-2917</td>
</tr>
<tr>
<td>Spain</td>
<td>1771-3507</td>
</tr>
<tr>
<td>Romania</td>
<td>1300-3200*</td>
</tr>
</tbody>
</table>

*) these are prices calculated in accordance with the methodology presented in this paper
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