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05. December 2008

Online at <http://mpra.ub.uni-muenchen.de/12945/>  
MPRA Paper No. 12945, posted 22. January 2009 / 17:18

# The Role of Economic Information in Determining the Intensity and Efficiency of Work – Theoretical Approach to the Elaboration of Management Strategies

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**Abstract:** Economic information, such as interpersonal relationships, and lead are usually placed at the basis of the facts and circumstances must always be based on a economic theory well argued. Relations between employees and managers should provide related information in terms of social issues, organization, classification, distribution in time and space in the labor force and should be well grounded considering the factors that influence these relations.

**Keywords:** *economic, labor efficiency, productivity, end product, profit, ability worker, the labor system regularly*

## INTRODUCTION

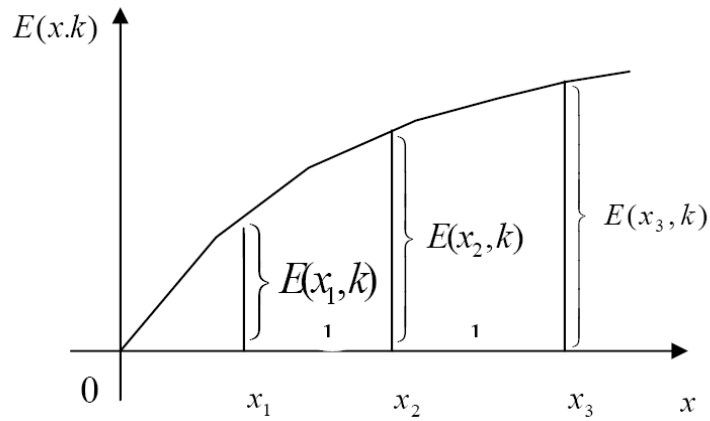
Switching to Romania a market economy based on economic interests of the developer (the employer), the employee who does not always coincide, which creates certain problems can be resolved only through an adequate information system, which should come with some provisions that should govern, both economic relations and social relations between them. These reports should provide related information in terms of social issues, organization, classification, distribution in time and space in the labor force, employment protection, capital and resulted nematerialized the investor, the relationship between trade unions and employees. Organization and discipline of work, wages, leave the rest, safety, social security may be determined by the rules of labor law but can serve the transmission of information to the two camps-employed managers.

Economic information, such as interpersonal relationships, and lead are usually placed at the basis of the facts and circumstances must always be based on a economic theory well argued. These two "camps" usually lead to different images of the intensity of labor.

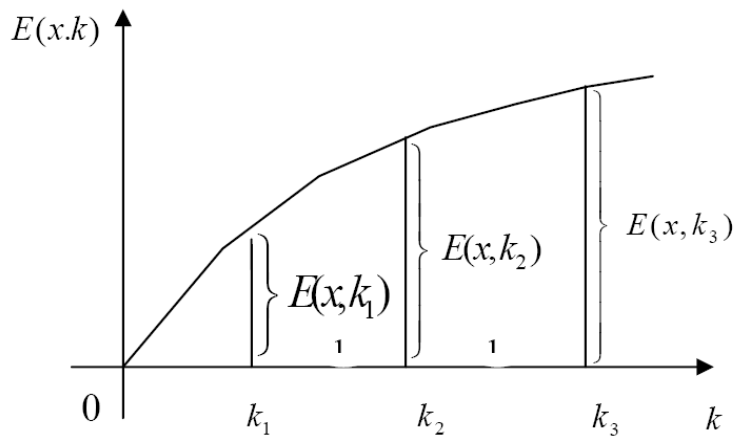
## STRUCTURE RESEARCH

The concept of "labor intensity" in the bibliography economic well determined [1] - [4]. Admit that the efficiency (productivity) of work, an employee (an employee), during which a period of time considered unit, described the function  $E(x, k)$ , where  $x$  - labor intensity;  $k$  - capacities worker grade level, age, work experience, etc.;  $x$  - is considered a variable with the regulatory functions undertaken by the worker, the  $E(x, k)$  is a regular system.

To achieve the same results and different, workers make different effort. Function  $E(x, k)$ , expressed the effectiveness of labor living is increasing growth in labor intensity ( $x$ ) the increasing level of professionalism ( $k$ ). The statement can be interpreted graphically (Fig.1, 2):



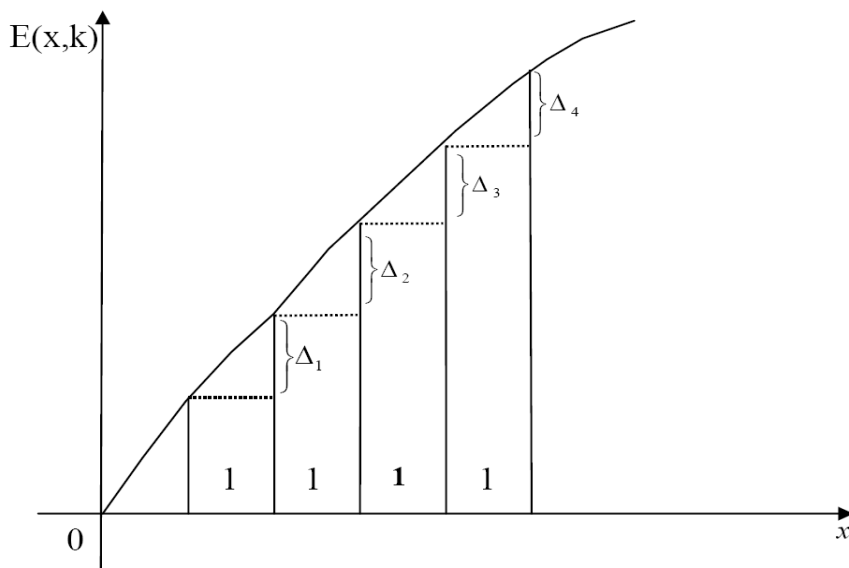
**Figure 1 - Increase the intensity of labor helps to increase efficiency**



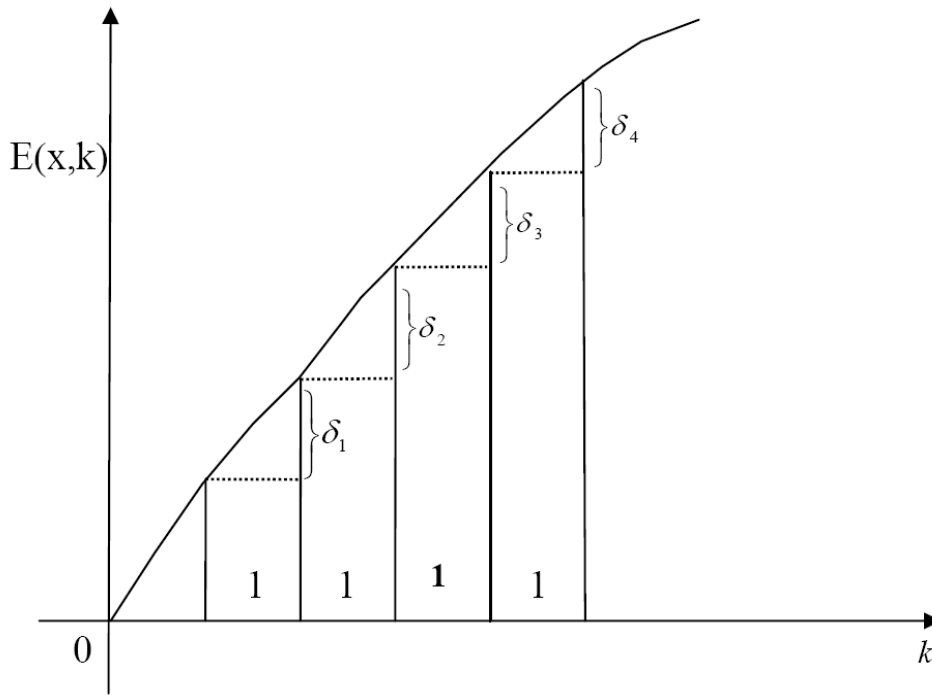
**Figure 2 - Increased capacity employees contribute to increased efficiency**

For intensity  $x_3 > x_2 > x_1$  efficiency  $E(x_3, k) > E(x_2, k) > E(x_1, k)$ ; capacity worker  $k_3 > k_2 > k_1$  efficiency  $E(x, k_3) > E(x, k_2) > E(x, k_1)$ . Increased intensity, the capacity to help increase worker efficiency work live.

To examine the work efficiency increased size come (Figure 3 and 4).



**Figure 3 - Increases the efficiency of the labor intensity of growth**



**Figure 4 - Increases efficiency of the capacity increase worker**

Economic efficiency, following employment additional factors of production (labor intensity, work capacity) increases, but these increases have efficiency, a unit are decreasing, ie:

$$\Delta_1 > \Delta_2 > \Delta_3 > \Delta_4 > \dots \text{ and } \delta_1 > \delta_2 > \delta_3 > \delta_4 \dots$$

Employer is convenient to work remuneration worker employed for the first hours of work, because in the following hours decreases productivity, worker's compensation as it agrees to do work on the arithmetic average efficiency of labor. Politics employers to reduce the number of hours of work, ostensibly to create jobs for more workers, at first glance but it is human, to a deeper analysis is to the detriment of employees.

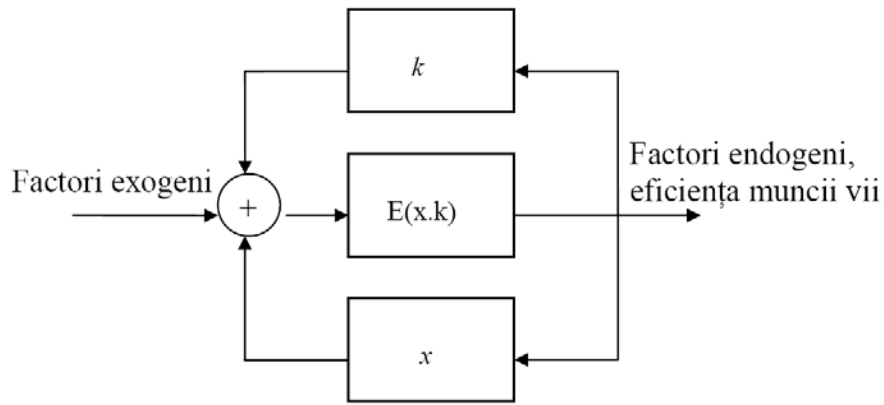
In mathematical language efficiency growth in hiring additional factors can be expressed:

$$\frac{\partial E(x, k)}{\partial x} > 0; \quad \frac{\partial E(x, k)}{\partial k} > 0; \quad (1)$$

Decrease the effectiveness of factors of production:

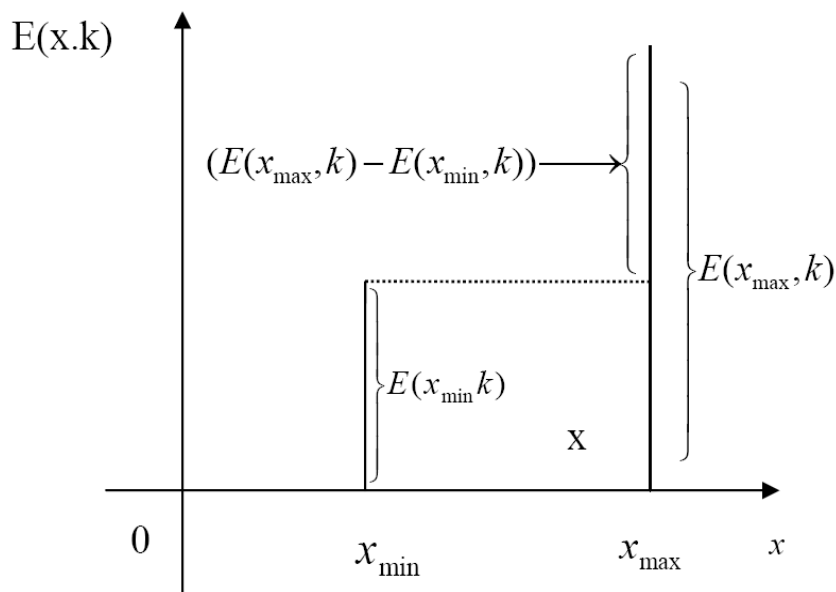
$$\frac{\partial^2 E(x, k)}{\partial x^2} < 0; \quad \frac{\partial^2 E(x, k)}{\partial k^2} < 0 \quad (2)$$

The cost of the final product consists of the cost of raw materials, a semi, energy, etc. depreciation and remuneration of labor. The price exceeds the cost of the final product (the size of profits, but work is only part of it). Assume that the unit price, then pay work in a unit of final product ( $m$ ) will be a size under unitary  $\mathbf{a} < \mathbf{m} < \mathbf{1}$ . Function living labor efficiency  $\mathbf{E}(\mathbf{x}, \mathbf{k})$ , the variables  $\mathbf{x}$  and  $\mathbf{k}$ , is a system of regulation (Fig. 5).

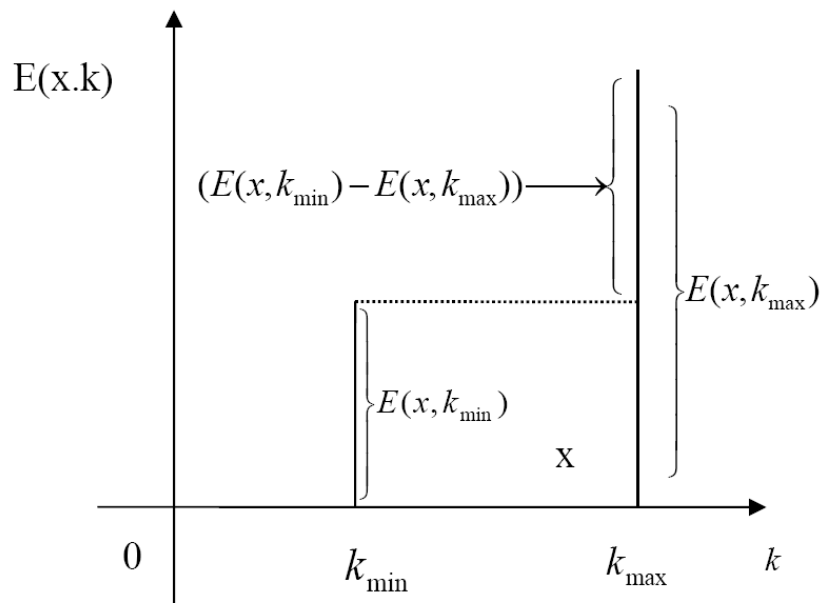


**Figure 5 - The adjustment of labor efficiency**

Each factor of production  $x$  and  $k$ , according to the regulator in his work on the effectiveness influence (Fig. 6, 7).



**Figure 6 - Interpretation of the impact on the intensity of labor efficiency**



**Figure 7 - Interpretation of the impact on the effectiveness of work ability**

Of relations:

$$\frac{x - x_{\min}}{x_{\max} - x_{\min}} = \frac{E(x, k) - E(x_{\min}, k)}{E(x_{\max}, k) - E(x_{\min}, k)}; \frac{k - k_{\min}}{k_{\max} - k_{\min}} = \frac{E(x, k) - E(x, k_{\min})}{E(x, k_{\max}) - E(x, k_{\min})}$$

determine:

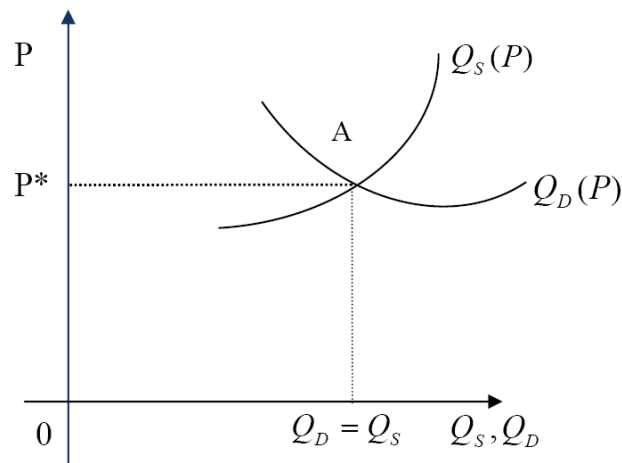
$$E_x(x, k) = \frac{x - x_{\min}}{x_{\max} - x_{\min}} \cdot (E(x_{\max}, k) - E(x_{\min}, k)) + E(x_{\min}, k) \quad (3)$$

$$E_k(x, k) = \frac{k - k_{\min}}{k_{\max} - k_{\min}} (E(x, k_{\max}) - E(x, k_{\min})) + E(x, k_{\min}) \quad (4)$$

In the period considered, the labor remuneration (salary) employees, are:

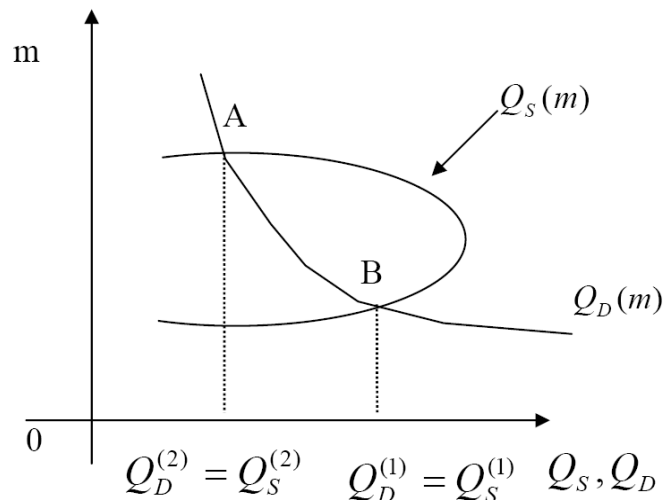
$$L = m \cdot E(x, k).$$

In most cases, request ( $Q_D(P)$ ) and supply ( $Q_S(P)$ ) are expressed by two lines, which cross at one point A (Fig. 8).



**Figure 8 - supply and demand leads to a single point of balance**

If supply line labor supply is another form (Fig. 9).



**Figure 9 - Demand and supply determine the two points of balance**

The situation expressed by the plot of figure 9 may be found in compartment offer of employment. Increasing labor correlates with the amount of salary  $m$ . With the considerable increase in salary, employees would prefer more free time and to meet other needs: rest, health, education, education, entertainment, sports, tourism etc. If  $m_{min}$  labor remuneration is sufficient to meet these needs when:  $x = x_{min}$  (worker filed a minimum effort to enhance labor);  $k = k_{min}$  (not submit worker retraining effort to increase capacity for work). In these circumstances the relations (3) and (4) will take the form:  $E_x(x,k) = E(x_{min},k)$ ;  $E_k(x,k) = E(x,k_{min})$   $E_x(x,k) = E(x_{min},k)$   $E_k(x,k) = E(x,k_{min})$ .

If wages are below  $m_{max}$  needs, then employees will make maximum effort,  $x = x_{max}$ ;  $k = k_{max}$  relations and (3) and (4) will take the form:  $E_x(x,k) = E(x_{max},k)$ ,  $E_k(x,k) = E(x,k_{max})$ .

The cases examined lead us to the conclusion: a considerable increase in quality of life by increasing the remuneration of labor supply reduction generates employment. The conclusion can be confirmed by the economic situation in the years 2000-2007 in developed countries where strong industrial work "in black" is carried out by immigrants. Note the can Possibility by  $P$ , and discomfort by  $N$ . Possibility  $P$  is a function of the ( $L$ ) of remuneration of labor,  $P = P(L)$ ; discomfort is depending on the level ( $x$ ) the intensity of labor,  $N = N(x)$ . Utility  $U(L, x)$  is:

$$U(L, x) = P(L) - N(x) = P(m \cdot E(x, k)) - N(x) .$$

Functions of preference, to satisfy the discomfort:

$$\frac{\partial P}{\partial x} > 0; \quad \frac{\partial N}{\partial x} > 0, \quad (5)$$

increase the intensity of its employees work and ensure an increase in demand, increased labor intensity generates discomfort. But the increases are in decline:

$$\frac{\partial^2 P}{\partial x^2} < 0; \quad \frac{\partial^2 N}{\partial x^2} < 0, \quad (6)$$

increases favorite of discomfort are decreasing.

Maximum utility employees may be determined that:

$$\frac{\partial U}{\partial x} = 0 \quad \text{ie} \quad \frac{\partial P}{\partial L} \cdot \frac{\partial L}{\partial x} \cdot m = \frac{\partial N}{\partial x} .$$

I noted above by  $x$  - labor intensity,  $m$  - employee salary in the period considered. Assume  $x, m$  - variables. To determine how infinitely small changes to the remuneration of work, will change the intensity of labor. In this case  $x$  is a function of default. Determine derived implicit function  $x$  according to the argument  $m$  [5] .

$$\frac{\partial x}{\partial m} = \frac{P'(L)}{N''(x) - m^2 P''(L) \left( \frac{\partial E(x,k)}{\partial x} \right)^2 - m P'(L) \frac{\partial^2 E(x,k)}{\partial x^2}} \cdot \frac{\partial E(x,k)}{\partial x} \cdot \left( 1 + \frac{L \cdot P''(L)}{P'(L)} \right)$$

Sign of derivative  $\frac{\partial x}{\partial m}$  is determined exclusively by the sign brackets

$$\left(1 + \frac{L \cdot P''(L)}{P'(L)}\right) \text{ because:}$$

$$P'(L) > 0 \quad \text{under the condition} \quad (5)$$

$$P''(L) < 0 \quad \text{under the condition} \quad (6)$$

$$\frac{\partial^2 E(x, k)}{\partial x^2} < 0 \quad \text{under the condition} \quad (2)$$

$$\frac{\partial E(x, k)}{\partial x} > 0 \quad \text{under the condition} \quad (1)$$

and

$$N''(x) < m^2 P''(L) \cdot \left(\frac{\partial E(x, k)}{\partial x}\right)^2 - m P'(L) \frac{\partial^2 E(x, k)}{\partial x^2}$$

So, increases in labor intensity unit wage increase can be positive or negative sign depending on the expression:

$$\left(1 + \frac{L \cdot P''(L)}{P'(L)}\right); \text{ or}$$

$$\frac{\partial x}{\partial m} = \begin{cases} > 0, \text{ for } \frac{L \cdot P''(L)}{P'(L)} > -1 & \text{(a)} \\ = 0, \text{ for } \frac{L \cdot P''(L)}{P'(L)} = -1 & \text{(b)} \\ < 0, \text{ for } \frac{L \cdot P''(L)}{P'(L)} < -1 & \text{(c)} \end{cases}$$

Cases (a) and (b) the property (5) and (6) is inadmissible, the case (c) has an important interpretation activity employee who works with optimal intensity, it provides a wage worker, the insignificant changes I do pay per worker to react to reduce the remuneration of labor is necessary to intensify work, wage growth do you prefer an employee to work with an intensity of lower labor, increasing wages not covered by labor productivity growth is an increase unreasonable and contributes to rising unemployment.

Compensation is determined by the work function:  $L = mE(x, k)$

Increasing labor payment  $L$  can be made from the salary increase  $m$  per unit of time or the growth of labor efficiency  $E(x, k)$ . Increase the total remuneration of labor ( $\Delta L$ ) in both growth factors (the level of wage labor and efficiency of work):

$$\Delta L = \frac{\partial L}{\partial m} \Delta m + \frac{\partial L}{\partial E(x, k)} \Delta E$$

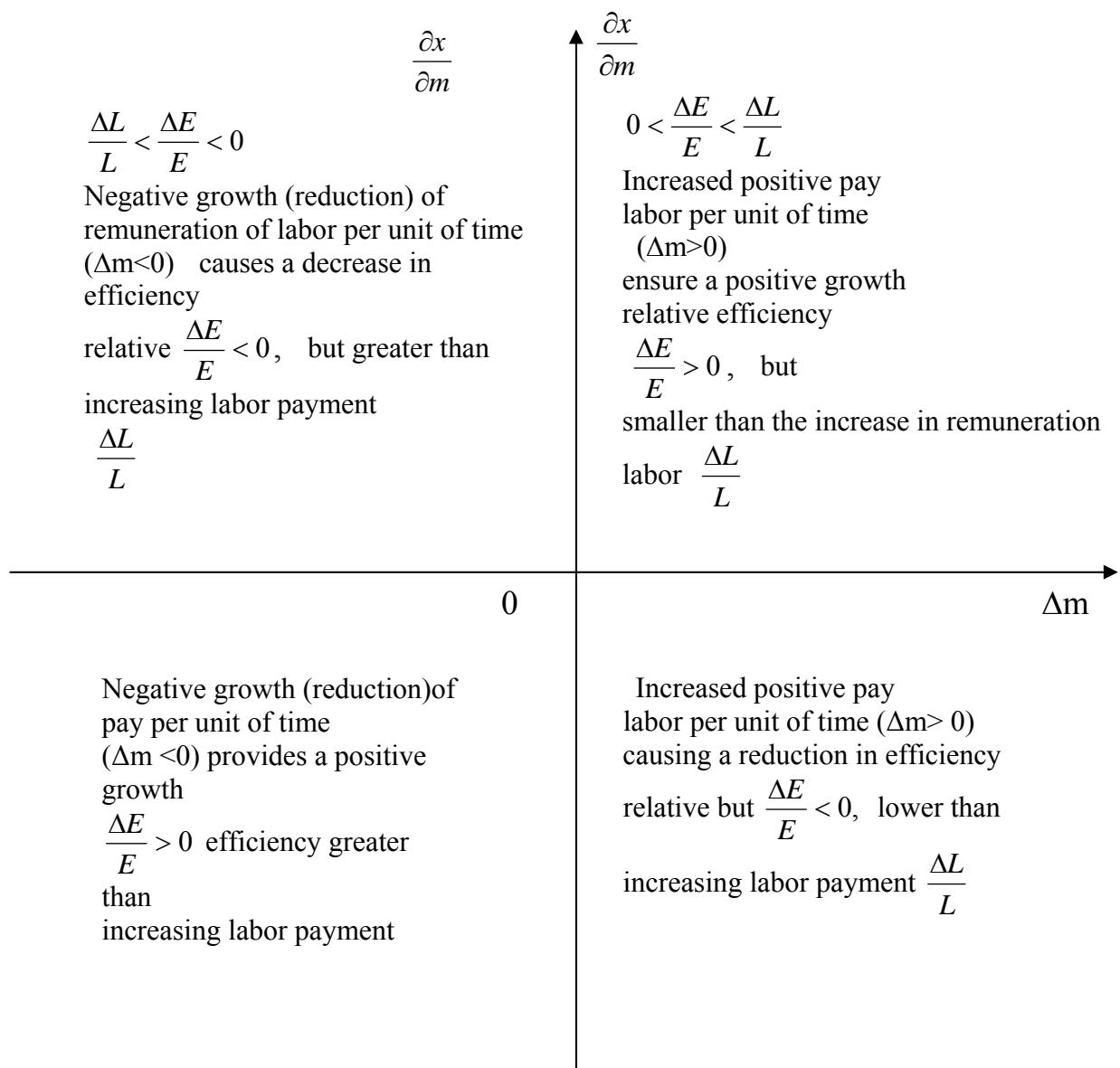
$$\Delta L = E(x, k) \cdot \Delta m + m \Delta E(x, k)$$

Increasing the relative

$$\frac{\Delta L}{L} = \frac{E(x, k) \Delta m}{m E(x, k)} + \frac{m \Delta E(x, k)}{m E(x, k)} = \frac{\Delta m}{m} + \frac{\Delta E(x, k)}{E(x, k)}$$

In other words, the percentage increase of the labor remuneration is composed of relative wage growth, relative growth of labor efficiency.

Possible cases arising from changes in labor compensation per unit of time ( $\Delta m$ ), and increases the relative efficiency of labor remuneration may be (fig. 10):



**Figure 10 - Results from the possible increase in the intensity of a unit increase in remuneration**

- ✓ Increasing the positive labor remuneration per unit of time provides a positive growth relative efficiency, but less than the pay increase employment;
- ✓ A negative growth of labor remuneration per unit of time causes a decrease in relative efficiency, which remains higher than the growth of labor remuneration;
- ✓ Increasing the negative work per pay period unit ensure a positive increase efficiency, which increases the higher growth than the remuneration of work (if it is plausible);
- ✓ Increasing the positive labor remuneration per unit of time causes a reduction in the relative efficiency, which remains less than the increase in remuneration of labor.

## CONCLUSIONS

Based on the above we can conclude: the legal right segment should regulate economic relationship between employer and employee, to defend the interests of both sides to create conditions for increasing the relative remuneration of work only in the context of increasing relative efficiency, reducing labor remuneration shall not unfavorable only employees, but also contribute to reducing the efficiency of work, so you and unfavorable to the employer; unduly increase the remuneration of labor helps to reduce efficiency, so it's expense and employee and employer, the remuneration of labor can serve as incentive growth of labor productivity, with only limited possibilities much, increasing work efficiency can be achieved only on the basis of technical progress - scientific, considerable increase (justified) the quality of life generates reduce labor supply

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