Labor Stimulation Construction Scale on the Modern Production Enterprise

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Abstract. Comparative analysis of approaches to the problem of staff material stimulation at an enterprise has been carried out. The necessity of workers’ material stimulation for more efficient utilization of enterprise current assets has been argued. The idea that efficient stimulation comes to selection of proper stimulation indicators according to enterprise specifics has been founded. The article studies theoretical grounds of the content and regulation of motivation and financial incentives in the world of work. The connection between ratios of current assets turnover and final results of enterprise activities has been determined. A model scale of financial stimulation for acceleration of current assets turnover has been constructed.

1. Introduction
Intensification of production and raising manufacturing efficiency is a topical issue for most domestic and foreign enterprises. The period of extensive economic growth, when labour remuneration was aimed at stimulating high tempo of manufacturing capacity expansion, seems to have come to its end [1]. The system of forming labour compensation funds used to focus on quantitative outcome of production and had little impact on employees’ proficiency and their willingness to upgrade it [2]. Incentive payments were given upon fulfillment and over fulfillment of pre-planned figures of output.

2. Relevance
Studying the evolution of theoretical knowledge concerning the content of motivation and motivation management in the domain of labour relations, one can see that with social and economic development of society trends in labour motivation have been changing. Originally work motivation was focused on labour productivity growth, then gradually it became intended for a quality of labour, active creativity, keeping workers from leaving an enterprise they are working for. This new focus of employers and managers on qualitative indicators in regard to labour stimulation is justified. In a highly competitive world, where the market is saturated with competing products and services, pursuing quantity by all means doesn’t make sense, therefore, labour is aimed at improving qualitative parameters of production such as efficient utilization of equipment, fixed assets, and workforce, product renewal, expanding product range, improving their environmental characteristics, raising staff proficiency. Naturally, modern mechanisms of labour motivation are supposed to take all above mentioned into account [3].
3. Statement of the problem
Given the required production pace and labour intensity are ensured by relevant equipment, technology and facility management, a worker doesn’t have to be encouraged to reach or exceed target figures. In this case fulfillment of plans is ensured by an enterprise management and its structure, and there’s no need in over fulfillment. Consequently, modern labour motivation emphasizes rewarding proficiency, exploiting workers’ intellectual potential, initiative and creativity. There is a way to enhance efficiency of economic management by implementing economically sound system of stimulating remuneration at an enterprise, adjusted for its specifics which consist in an enterprise’s capital structure, the level of capital utilization, factors influencing building up net profit and proportions of net profit expenditure. The influence of economic and financial incentives lies in their regulative impact on performance of an enterprise and its branches. The objective of financial incentives for an enterprise is achieving its target figures and a state of financial stability, such kind of economic management that assures maintaining financial performance of the enterprise [4].Provision of incentives for production and its significant part – material incentives for employees – is one of the key functions of enterprise management. Looking into mechanisms of economic management in different periods of human history, one may come to the conclusion that it has always been related to measures of labour, but this relation wasn’t always direct, which becomes apparent in the incentives system of a particular period [5].

The task of working out efficient and economically feasible incentives comes to selection of objective indicators of labour stimulation aimed at achieving beneficial effect on the performance of an employee, personnel, and an enterprise as a whole.

4. Theoretical value
Incentives are most efficient when all components of labour motivation are taken into consideration, e.g. progress is encouraged, faulty acts or oversight entail liability. Rewarding results achieved in economizing productive resources fuels commitment to minimize waste and loss. As material costs make up a substantial part of cost value in industrial production, the task to scale up employees’ responsibility for reasonable consumption of material resources can be fulfilled by improving the system of incentives, and special attention should be paid to minimizing production costs as means of enhancing enterprise performance [6].

Stimulating profit boost and, as a result, raising profitability of an enterprise is connected with reduction of production costs. Getting bigger output along with spending fewer resources is an ultimate requirement for economic growth of an enterprise. Selecting objectives of material stimulation and efficient mechanisms of personnel management should be based on stimulating resource-saving. Saving direct labour inputs and using past labour inputs efficiently are objectives of material stimulation, they are achieved by stimulating reduction of production costs and raising manufacturing efficiency [7].

Established standards of economic and financial stimulation represent absolute or relative indexes of distribution of certain proportions of money between branches and departments of an enterprise with the aim of economic stimulation and material reward for employees’ performance. Economic stimulation as a concept is broader than material (financial) stimulation, giving bonuses or financial incentives [8].

Stimulating resource-saving, reasonable and efficient use of materials has to be carried out in compliance with quality requirements and standards, with regard of target production figures. However, the most appropriate evaluation method – is integrated assessment of utilization of current assets, which was understated in planned (administrative) economy. Established in the preceding period system of rates and levels of current (working) assets didn’t stimulate procuring of internal resources for the purpose of accelerating current assets turnover and their more efficient utilization. Enterprises used to be more oriented on getting a bigger amount of current (working) assets from organizations of a higher rank as increase in current assets was not an indicator that counted when an enterprise performance of a certain period was assessed [9].Unlike inventories, current assets are an
economic category. Enterprises use current assets to form necessary reserves of inventories for future expenditure and to settle accounts payable within the time limit [10]. Having sufficient amount of current assets enables an enterprise to ensure uninterrupted constant supply of materials, production and distribution of ready-made goods. In the conditions of economic autonomy of an enterprise in market economy it is advisable to have all components of an enterprise’s current assets standardized. [11]. It allows to keep under regular control its current assets turnover and have its spare current assets and capital invested in inventories, materials in-process in proportion. Accelerating current assets turnover leads to higher production output per each hryvnia of current costs, it also makes it possible to release a certain amount of funds and build up additional reserves to expand production, which results in a better performance of an enterprise (higher profitability, and, as a result, boost of bonus funds) [12].

5. Practical value
To validate the stated above let us consider the following example. Enterprise current assets amount to: working capital (WC) is 200 thousand standard units; volume of realization during the reference period Q_1 = 600 thousand standard units, assuming the realization volume has gone up by 20 % for the estimated period, so amounted to Q_2 = 720 thousand standard units. Correlation between realization volume and the increase in the number of current assets turnovers can now be calculated, given the amount of current assets is constant. The number of current assets turnovers in the estimated period:

\[ n_1 = Q_1/WC = 600/200 = 3 \text{ items/year} \]  

The number of turnovers after the increase of realization volume:

\[ n_2 = Q_2/WC = 720/200 = 3.6 \text{ items/year} \]  

The calculation results demonstrate that the number of turnovers has gone up by \( \Delta n = 0.6 \text{ items/year} \), which amounts to 20% \( \Delta n \% = (n_2/n_1) \cdot 100 \% = 60/3 = 20 \% \). It shows that in case of constant current assets the percentage of realization volume increase and amplification of turnover numbers is the same \( \Delta Q \% = \Delta n \% = 20 \). The length of current assets turnover period \( Pt \) is inversely proportional to the number of turnovers:

\[ Pt = WC/Q \]  

In the example we have been looking into reduction of a turnover period amounts to:

\[ \Delta Pt = (360 \cdot WC/Q_1) - (360 \cdot WC/Q_2) = 20 \text{ days} \]  

Thus the cycle of current assets turnover reduced by 20 days, which in relative expression totals:

\[ \Delta Tt \% = (\Delta Tt/Tt_1) \cdot 100 \% = 16.67 \% \]  

20% growth of realization volume and the same increase in the number of turnovers correspond to reduction of a turnover period length by 16.67%, in other words the indicators demonstrate inverse dependence. The correspondence between the increase of realization volume (or the number of turnovers) and an enterprise’s net profit as an ultimate indicator of its performance can now be established. Growth of current assets turnover rate by 20 %, which equals to additional \( \Delta n_i = 0.6 \) turnover per year, will entail net profit boost for the corresponding period:

\[ \Delta NPr = Pr \cdot (1 - i_{taxrate}/100) \Delta n_i = Pr \cdot k_{tax} \Delta n_i \]  

where \( i_{taxrate} \) – income tax rate, \( k_{tax} \) – a coefficient, with regard of income tax rate, \( Pr \) – profit coming from sales [13].

To calculate net profit growth (acceleration) in a cycle of current assets turnover, let’s assume that target profit on each item \( (Pr_i) \) and amount of sales of each item in a cycle of current assets turnover \( (N_i) \) equal: item “A” – 170 standard units per item, output – 450 items; item “B” – 190 standard units per item, output – 290 items; item “C” – 160 standard units per item, output – 377 items. Income tax rate – 25%; salary tax rate – 37%, planned payroll fund \( (ФЗП) = 40.0 \text{ thousand standard units} \). Net profit share directed to giving bonuses \( (dnpem) = 0.27 \). Then profit gained from sales can be calculated as follows:

\[ Pr_i = \Sigma N_i = 170*450+190*290+160*377 = 191920 \]  

Net profit as consistent with the formula (1): \( NPr = 143940 \) standard units per cycle.

Net profit growth: \( \Delta NPr = NPr \Delta n_i = 143940 \cdot 0.6 = 86364 \text{ standard units per cycle} \).
Bonuses have to be earned and depend on net profit margin or its growth. Bonuses are set by an enterprise independently, on the basis of the strategy adopted and its tactics as to distribution of profit at the command of an enterprise:

\[ F_b = NPr - F_r - F_d - Ts, \]  

where \( F_b \) – bonus fund; \( NPr \) – net profit; \( F_r \) – reserve fund; \( F_d \) – production development fund; \( Ts \) – salary tax (assignments on social needs). Formula (2) can be presented as follows:

\[ F_b = NPr d_b k_{st}, \]

where \( d_b \) – net profit share directed to giving bonuses; \( k_{st} \) – coefficient, salary tax deducted (\( k_{st} = 1 - 0.37 = 0.63 \)).

Bonus fund growth with given bonus ratio can be calculated by the formula (3): \( \Delta F_b = \Delta NPr d_b k_{st} = 86364 \cdot 0.27 \cdot 0.63 = 14690.51 \) conventional units / year. Bonus fund growth relating to payroll fund \( (F_{salary}) \):

\[ Prb = 100 \cdot \Delta F_b / F_{salary}, \]

In the example bonus fund growth relating to payroll fund amounts to 36.73% [14].

The calculation results prove that for each percent of increase in the number of current assets turnover an enterprise has to pay 1.84% of planned payroll fund (labour compensation fund), this amount has to be taken from a bonus fund generated from an enterprise’s net profit. The scale of employees’ remuneration (material stimulation) for accelerating current assets turnover (in other words, for increase in the number of turnovers) can be constructed [15]. The specifics of most scales and bonus ratios are that such developments have to made and calculated for some particular production conditions, whereas in planned administratively governed economy they were issued as standards for all industrial enterprises, that is, being individual by nature they were considered collective, branch-wide or industry-wide. therefore, they were not economically feasible[16].

From the standpoint of modern controlling all departments of an enterprise can be reduced to two principal groups depending on indicators they affect: centres of expenditure and centers of profit [17]. According to this classification, centres of expenditure should be provided by authorities and have to use as their instruments bonus ratios and scales of financial stimulation (incentive scales) for economizing particular resources and total costs, based on a reliable record of departments’ performance; while centers of profit are supposed to get and use bonus ratios and scales of financial stimulation for fulfillment and over fulfillment of planned profit figures. The scale of material stimulation establishes interrelationship between labour results and the increase of material reward. The incentive scale explicates what benefits an enterprise receives and what bonus is given to employees. The scale of financial stimulation for the increase in the number of current assets turnovers, which has a linear character, is presented in table 1 [18]. The change of quantitative indexes of an enterprise performance, such as, net profit, bonus fund, etc. is analogous to the change of amount of sales and, consequently, to the number of current assets turnovers[19].

**Table 1.** A fragment of the scale of financial stimulation for the increase in the number of current assets turnovers.

| Increase the number of current assets turnovers, \( \Delta nt \),% | Percentage of bonus relative to payroll fund, \( % \) |
|---------------------------------------------------------------|--------------------------------------------------|
| 1                                                             | 1.84                                            |
| 2                                                             | 3.68                                            |
| 5                                                             | 9.18                                            |
| 10                                                            | 18.36                                           |
| 15                                                            | 27.55                                           |
| 20                                                            | 36.73                                           |
6. Conclusion
An economic feasibility study of standards and equidistant scales of collective financial stimulation has been carried out. Progressive scales and corresponding variable norms and standards are to be based on the use of mathematical functions describing bonuses distribution in dynamics [20]. Thus, growth acceleration can be described with the exponential function, which is a reasonable choice if you want to enhance financial interest of employees in growth acceleration of their output. The calculation conducted and the scale of material stimulation constructed prove direct dependence of current assets turnover acceleration at an enterprise and quantitative result of its activities, such as, profit, cost-effectiveness, etc. Thus, higher current assets utilization level entails net profit increase, which allows boosting financial stimulation fund of an enterprise. All above said certifies that further study of this complicated issue, building up a criteria system, selecting reliable indicators to reflect efficiency of financial stimulation, which will increase efficiency of motivation management at an enterprise in general, is topical and sure to be of practical value.

7. References
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