# "Financial planning and improving of its methods"

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## Financial planning and improving of its methods

#### **Abstract**

The paper investigates issues, concerning financial planning at the enterprise. Methods and models of financial forecasting are analyzed and their unification is proposed. The main problems of financial instruments using (such as financial planning) are described. Planning is important element of management, which ensures achievement of strategic priorities. Effective financial planning is essential tool of achieving of the main goals of the enterprise – profit maximization and cost of the enterprise. As market conditions in Ukrainian market of goods and services have its own specificity, which is defined, on the one hand, by means of analysis, formation and allocation of financial resources, and, on the other hand, the sources of reserves increasing, in order to implement the operating and investment activities to ensure their sustainable financial development. It should be noted that the formation of these processes has a significant impact on both objective and subjective factors, such as instability of tax policy and regulatory legislation for national currency, the impact of the global economic crisis, reducing the resources and available current assets etc.

Thus, the increasing volatility of external environment requires managerial entities to speed decision-making and direct financial planning and forecasting, in order to reduce the impact of exogenous and endogenous factors on the financial activities of enterprises.

**Keywords:** financial planning, micro-analysis, specific principles, system analysis, long-, medium- and short-term plans, market conjuncture, the intensification of production.

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#### Introduction

Financial planning is the most important component of company's financial system mechanism and important function of its' management.

Financial planning is a key part of the whole planning process, making it possible to implement the strategic plans of the company through the development of specific action plans for the planned period — to accurately calculate the efficiency of available resources, the ultimate economic and financial results. Using the mechanisms of financial planning enables the company to achieve long-term positive results, contributing to strengthening the financial condition of the company and the stability of its position on the market.

Planning is the process of transforming the goals of the company into forecasts and plans, the process of setting priorities, means and methods to achieve them. Financial planning in theoretical aspect is considered as the most substantial and integral part of the overall planning of the company. As the company almost always affects the instability of the environment, uncertain economic conditions, the performance of the company depends largely on the state of financial planning in the company. A higher level of uncertainty, the more important planning, and correctness and accuracy of the forecast depend on the success or failure of business activity.

So, summing up, we can determine financial planning as a purposeful process of system development plans and financial planning (regulatory) parameters to ensure the development of the company the necessary financial resources to improve its economic and financial performance in the current and strategic perspective. Financial planning, financial analysis and controlling system are essential parts of effective implementation of company's financial strategy.

### 1. Key research findings

At this stage, the transformation of economic development of our country, functioning and business should pay greater attention to such a process as financial planning. Nowadays, the majority of enterprises do not pay appropriate attention to financial planning, without which it's impossible to achieve the appropriate level of management that provides company with a success in the market, continuous improvement of material resources and social development of the employees.

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The fundamental regulatory document for state-owned enterprises is the Commercial Code of Ukraine (GCU). Art. 75 of the Commercial Code stipulates that the financial plan for the state commercial enterprise is the main planning document. This is done to enhance the accountability of officials of public business, including administration, and to improve financial discipline of enterprises.

The main goal of financial planning is to improve the efficient use of current and long-term financial capital. In the planning process the measures are developed to improve return on equity, stability, to minimize risk etc.

The process of financial planning at the enterprise involves several stages (Figure 1).

Stage 1. Analysis of current financial situation

- Analysis of company's performance for the prior period. The focus is on indicators such as income, costs, profit.
- Stage 2. Development of company's general financial strategy
- •Development of financial strategy and financial policy of the company, elaboration of long-term financial plans
- Stage 3. Elaboration of current financial plan
- •Clarifying and specifying of key indicators in current financial plans

Stage 4.
Adjustment, coordination and specification of financial plan

•Coordination of company's financial plan with industrial, commercial, investment and other plans and programs

Stage 5. Development of short-term financial plans

•Elaboration of short-term financial plans, which determine the current industrial, commercial and financial development of the company and influence the final financial results

Stage 6. Analysis and monitoring of financial plans execution

•Determining of actual financial results, comparing them with the planned indicators, identifying the causes of deviations in order to eliminate the negative effects

Fig. 1. The stages of financial planning at the enterprise

The initial conditions of the financial planning have specific strategic goals and objectives on a planned period; the results of the monitoring of economic and financial activity, its opportunities and problems; study of the external environment of the company (the state competition, factor markets) and the prediction of its possible changes. A synthesis of this information is the plan of the company for the future.

While choosing a method of planning, it should be carried out in accordance with certain requirements. Planning methods should:

- be adequate to the external economic conditions, peculiarities of different stages of formation and development of market relations;
- take into account the profile of facility planning and diversity in the media and by achieving core business objectives – profit increasing;
- vary, depending on the type of the developed plan.

The choice of a method of financial planning is affected by many factors, such as aims and objectives of the plan, the duration of the planning period, output information etc. Thus, the most effective results can be achieved by using of complex methods. Neglecting any of them would negatively affect the overall efficiency of company's planning process.

As the sample for financial planning process JSC "Kharkiv Tile Factory" was chosen. Let us consider the technical and economic performance of the enterprise in 2013-2015 and conduct comparative analysis (Table 1).

So, in 2014 comparatively with 2013, there was an increase of income by 164 231 thousand UAH or by 24.47% and, in 2015, income increased by 138 898 thousand UAH or by 16.62%. The value of fixed assets increased by 2.01% in 2014 and decreased by 2.89% in 2015. This led to an increase in capital productivity in 2014 by 22.02% and a further 20.09% in 2015.

| Indicator                             | 2013   | 2014   | 2015    | The absolute | deviation, (+/-) | The relative | deviation, % |
|---------------------------------------|--------|--------|---------|--------------|------------------|--------------|--------------|
| muicator                              | 2013   | 2014   | 2015    | 2014 to 2013 | 2015 to 2014     | 2014 to 2013 | 2015 to 2014 |
| Income, ths. UAH                      | 671287 | 835518 | 974416  | 164231       | 138898           | 24.47        | 16.62        |
| Value of fixed assets, ths. UAH       | 276098 | 281635 | 273499  | 5537         | -8136            | 2.01         | -2.89        |
| Capital productivity                  | 2.43   | 2.97   | 3.56    | 0.54         | 0.60             | 22.02        | 20.09        |
| The average number of staff, annually | 1124   | 1211   | 1163    | 87           | -48              | 7.74         | -3.96        |
| Wage fund, ths. UAH                   | 56640  | 70558  | 83360   | 13918        | 12802            | 24.57        | 18.14        |
| Annual average wage, ths. UAH         | 50.39  | 58.26  | 71.68   | 7.87         | 13.41            | 15.62        | 23.02        |
| Labor productivity, ths. UAH / person | 597.23 | 689.94 | 837.85  | 92.71        | 147.91           | 15.52        | 21.44        |
| Production costs, ths. UAH            | 413945 | 487991 | 618317  | 74046        | 130326           | 17.89        | 26.71        |
| Gross profit, ths. UAH                | 257342 | 347527 | 356099  | 90185        | 8572             | 35.04        | 2.47         |
| Profit tax, ths. UAH.                 | 29294  | 17567  | 29016   | -11727       | 11449            | -40.03       | 65.17        |
| Net profit, ths. UAH.                 | 116564 | 80523  | 129536  | -36041       | 49013            | -30.92       | 60.87        |
| Assets, ths. UAH                      | 638322 | 800817 | 1043246 | 162495       | 242429           | 25.46        | 30.27        |
| Equity capital, ths. UAH              | 382800 | 461323 | 570859  | 78523        | 109536           | 20.51        | 23.74        |
| Unappropriated balance, ths. UAH      | 362800 | 441323 | 550859  | 78523        | 109536           | 21.64        | 24.82        |
| Current liabilities, ths. UAH         | 148033 | 166097 | 188374  | 18064        | 22277            | 12.20        | 13.41        |
| Return on assets, %                   | 18.26  | 10.06  | 12.42   | -8.21        | 2.36             | -            | -            |
| Return on equity, %                   | 30.45  | 17.45  | 22.69   | -13.00       | 5.24             | _            | -            |

Table 1. The analysis of the technical, economic and financial performance of JSC "Kharkiv Tile Factory" in 2013-2015 years

The annual average number of staff increased by 87 persons or by 7.74% in 2014 and decreased by 48 persons or 3.96% in 2015. This led to an increase of labor productivity.

Wage fund is growing steadily – by 24.57% in 2014 and by 18.14% in 2015 and annual average wage shows similar trends. This demonstrates the effective personnel management organization as the labor costs are lower than the labor productivity.

Production costs increased in 2014 by 17.89% and by 26.71% in 2015. In 2014 gross profit increased by 35.04% in 2014. Next year gross it increased only by 2.47%. The amount of net profit was 116 564 thousand UAH in 2013. It decreased by 30.92% in 2014 and increased by 60.87% in 2015.

The assets value was increasing throughout the period. Thus in 2014 assets value increased by 162 495 thousand UAH or by 25.46% and in 2015 it increased by 30.27%. In general, for three years assets value increased by 63.44%.

Similar trends are observed for current liabilities, which increased by 12.20% in 2014 and by 13.41% in 2015.

The analysis of equity capital demonstrates its' increasing due to the growth of unappropriated balance.

The year 2014 was characterized by the reduction of profitability indicators. That is, the return on assets decreased by 8.21% and return on equity – by

13.0%. In 2015 these indicators grew: return on assets – by 2.36% and return on equity – by 5.24%.

Thus, the general conclusion is following: the company steadily develops increasing production volumes and total assets.

Considering the fact that activity of JSC "Kharkiv Tile Factory" is the subject to high uncertainty and inflationary economy, the company should use aggressive model of policy, which is characterized by the high ratio of current assets in total assets and the low speed of their turnover. As for current liabilities the company doesn't use the aggressive management policy: liabilities of the enterprise are characterized by the predominance of equity capital in total liabilities.

Modeling of the financial activities of the enterprise was carried out by means of standard econometric methods. However, this approach is not able to reproduce the vibrations of the Ukrainian economic environment.

The trend line in this case is almost comparable to the regression line. The availability of trend complicates the use of correlation and regression methods to analyze time series. So, if we examine the correlation rows without exception of general trend, the distress index will characterize the correlations not only between short-term fluctuations, but also between the trends. Otherwise, the distress index will demonstrate the correlation only between short-term fluctuations. As it was mentioned, the trend is based on the past, current

and future tendencies, if the changes, provoked by the influence of external and internal factors, are not expected. However, this trend does not always accurately reflect reality.

Regression and correlation analysis allows establishing and assessing the correlation between the investigated random variable Y and other variables X, and making predictions for parameter values of Y. So, Y is the dependent variable, X is called the independent variable. For example, X – cost of equity capital, Y – net profit volume. Let's make the following regression:

$$y_t = a_0 + a_1 t_r + \varepsilon_t$$

where  $t_r$ – trend;

 $a_0 a_1$  regression coefficients;

 $\varepsilon_t$  – perturbation model.

Let's make a mathematical model for predicting net income, using the data of company's performance in 2007-2015. The model will be as a linear trend.

To calculate the number of indicators such as average, variance and standard deviation, we made the auxiliary table (Table 2).

Let's calculate the average of time series:

$$\overline{y} = \frac{\sum y_i}{n} = \frac{5196342}{9} = 577371.3 \ ths. \ UAH$$

Average linear deviation:

$$\overline{d} = \frac{\sum d_i}{n} = \frac{1636530.7}{9} = 181836.76 \ ths. \ UAH$$

Thus, in average value of net income over the period deviates from the average value by 181836,76 ths. UAH.

Let's calculate the variance:

$$\sigma^2 = \frac{\sum (y_i - y)^2}{n} = \frac{439344186484}{9} = 48816020720$$

Table 2. Auxiliary table for calculation of time series variation

| Year | <b>y</b> t | $y_i - \overline{y}$ | $(y_i - \overline{y})^2$ | $\left y_i - \overline{y}\right $ |
|------|------------|----------------------|--------------------------|-----------------------------------|
| 2007 | 218263     | -359108              | 128958795069             | 359108.3                          |

| 2008  | 390806  | -186565  | 34806623602  | 186565.3  |
|-------|---------|----------|--------------|-----------|
| 2009  | 410213  | -167158  | 27941908403  | 167158.3  |
| 2010  | 471938  | -105433  | 11116187778  | 105433.3  |
| 2011  | 589313  | 11941.,7 | 142603403    | 11941.7   |
| 2012  | 634588  | 57216.7  | 3273746944   | 57216.7   |
| 2013  | 671287  | 93915.7  | 8820152445   | 93915.7   |
| 2014  | 835518  | 258147   | 66639701511  | 258146.7  |
| 2015  | 974416  | 397045   | 157644467328 | 397044.7  |
| Total | 5196342 | -        | 439344186484 | 1636530.7 |

Standard deviation:

$$\sigma = \sqrt{\sigma^2} = \sqrt{48816020720} = 220943.5$$

The calculated indicator demonstrates that the average income fluctuates in average by 220 943.5 ths. UAH.

The coefficient of variation is:

$$v = \frac{\sigma}{v} \cdot 100\% = \frac{220943.5}{577371.3} \cdot 100\% = 38.27\%$$

Thus, the sample is quite homogeneous and the average is typical for the whole set.

The equation parameters are determined by the following method:

$$\begin{cases} na_0 + a_1 \sum t = \sum y \\ a_0 t + a_1 \sum t^2 = \sum ty \end{cases}$$

Solving the system of equations, we founded the parameters:

$$a_0 = \frac{\sum t^2 \sum y - \sum t \sum ty}{n \sum t^2 - \sum t \sum y};$$

$$a_1 = \frac{n\sum ty - \sum t\sum ty}{n\sum t^2 - \sum t\sum y}$$

Let's find the graph parameters (Table 3).

The resulting system of equations is following:

$$\begin{cases} 9a_0 + 45 = 5196342 \\ 45a_0 + 285a_1 = 215896316 \end{cases}$$

Table 3. Initial and defined data for the calculation of regression line of net income of JSC "Kharkiv Tile Factory"

| ti | Уi     | t/² | уг²          | t <sub>i</sub> ∙y <sub>i</sub> | Y(x)   | E        | E <sup>2</sup> |
|----|--------|-----|--------------|--------------------------------|--------|----------|----------------|
| 1  | 218263 | 1   | 47638737169  | 218263                         | 241135 | 22871.9  | 523125334.4    |
| 2  | 390806 | 4   | 152729329636 | 1563224                        | 325194 | -65612.0 | 4304930170     |
| 3  | 410213 | 9   | 168274705369 | 3691917                        | 409253 | -959.9   | 921344.0178    |
| 4  | 471938 | 16  | 222725475844 | 7551008                        | 493312 | 21374.2  | 456857850.6    |
| 5  | 589313 | 25  | 347289811969 | 14732825                       | 577371 | -11941.7 | 142603402.8    |
| 6  | 634588 | 36  | 402701929744 | 22845168                       | 661430 | 26842.4  | 720516227.3    |

Table 3 (cont.). Initial and defined data for the calculation of regression line of net income of JSC "Kharkiv Tile Factory"

|   | t <sub>i</sub> | <b>y</b> i | t/² | y/²           | t <sub>i</sub> ·y <sub>i</sub> | Y(x)    | E        | E <sup>2</sup> |
|---|----------------|------------|-----|---------------|--------------------------------|---------|----------|----------------|
|   | 7              | 671287     | 49  | 450626236369  | 32893063                       | 745490  | 74202.5  | 5506015953     |
| 1 | 3              | 835518     | 64  | 698090328324  | 53473152                       | 829549  | -5969.4  | 35633338.4     |
| , | 9              | 974416     | 81  | 949486541056  | 78927696                       | 913608  | -60808.3 | 3697645295     |
| Σ | 45             | 5196342    | 285 | 3439563095480 | 215896316                      | 5196342 | _        | 15388248915    |

Hence we find the solution:

$$a_0 = 157075.8$$

$$a_1 = 84059.1$$

And, finally, we get the regression equation:

$$y_t = 157075.8 + 84059.1t_r + \varepsilon_t$$

The economic meaning of the regression equation is following: regression coefficient shows that each new period the net income of the company is increased by an average of 84059 ths. UAH. The parameter  $a_0$ , as a free member of the equation, has only calculated value.

Graph of trend line is shown on Figure 2.

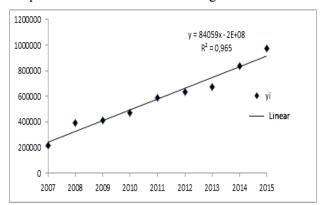


Fig. 2. Graph of correlation between time period and net income of JSC "Kharkiv Tile Factory" in 2007-2015, ths. UAH

The remaining variance is:

$$\sigma_{\xi}^{2} = \frac{\sum (Y_{i} - y_{i})^{2}}{n} = \frac{153882489 \,\text{B}}{9} = 1709805435$$

The factor variance is calculated on the basis of variance adding rule:

$$\sigma_{y}^{2} = 48816020720 - 1709805435 = 47106215285$$

To assess the influence degree we calculate the correlation index as the ratio of two variances:

$$n_{ty} = \sqrt{\frac{\sigma_y^2}{\sigma_3^2}} = \sqrt{\frac{47106215285}{48816020720}} = \sqrt{0.965} = 0.982$$

The correlation coefficient demonstrates that net income of JSC "Kharkiv Tile Factory" has direct and strong connection with a period of time.

The coefficient of determination equals:

$$R^2 = 0.965$$

(that is 96.5% of variation of net income depends on the period of time).

Note, that according to the model the net income of JSC "Kharkiv Tile Factory" in 2016-2017 is:

$$y_{2016} = 157075.8 + 84059.1 \cdot 10 = 997666.83$$
 ths. UAH

$$y_{2017} = 157075.8 + 84059.1 \cdot 11 = 1081725.9$$
 ths. UAH

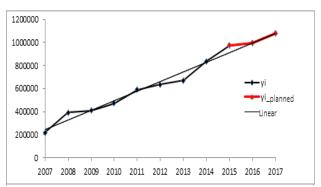


Fig. 3. Graphic representation of net income forecast of JSC "Kharkiv Tile Factory" in 2007-2017, ths. UAH

However, connecting the dynamics of income only with the time period is not right, because 3.5% of this index correlates with other factors.

The study revealed rather efficient organization of financial work in the company. According to employees of financial department assessments the effective financial work can be explained primarily due to the availability of skilled workers. At the same time financial managers of the company deal mostly with the analytical support of investment projects. So, there is not enough time for financial planning.

The purpose of financial planning at JSC "Kharkiv Tile Factory" is to provide relevant reproductive process of the volume and the structure of financial resources.

The process of tactical financial planning at JSC "Kharkiv Tile Factory" can be divided into four stages:

- determination of general directions of the company activities;
- making the plans by the planning centers;
- correction of financial plans according to the recommendations of management;
- approval of plans.

Tactical financial planning is necessary for JSC "Kharkiv Tile Factory" mostly to control the cash flows of the enterprise.

Financial planning and financial management at the enterprise are made in isolation from the supply and marketing. That makes impossible to determine funding needs of the company. Moreover, the price formation is based on total expenses and profitability norm, excluding market factors such as market demand, the prices of companies-competitors etc.

Therefore, the company should have a thoughtful system of financial planning that will enable the company to accelerate the turnover of working capital, to decrease its' demands and obligations and to increase the efficiency of the company.

For the forecasting of JSC "Kharkiv Tile Factory" activity we use the multiple correlation.

Let's determine the parameters of the linear model of correlation between net profit (Y), current liabilities (X1) and equity capital (X2) (Table 4).

Table 4. Input data for the multiple correlation, ths. UAH

| Year  | Net profit | Current liabilities   | Equity capital |
|-------|------------|-----------------------|----------------|
| i eai | У          | <i>X</i> <sub>1</sub> | X <sub>2</sub> |
| 2007  | -25440     | 128557                | 135917         |
| 2008  | -86316     | 174113                | 49588          |
| 2009  | -1370      | 191752                | 48204          |
| 2010  | 71196      | 155419                | 119386         |
| 2011  | 110555     | 190414                | 219940         |
| 2012  | 94517      | 174339                | 270126         |
| 2013  | 116564     | 148033                | 382800         |
| 2014  | 80523      | 166097                | 461323         |
| 2015  | 129536     | 188374                | 570859         |
| Total | 489765     | 1517098               | 2258143        |

The model will be looked as

$$\hat{Y}_x = a_0 + a_1 X_1 + a_2 X_2$$

So, we received the following equation:

$$\hat{Y}_x = -93277.71 + 0.4362 X_1 + 0.2956 X_2$$

The parameters  $a_1$  and  $a_2$  show the proportion of influence of this factor on the result, at the same time other factors are fixed at the constant average level. The additional attraction of 1 ths. UAH of own funds will increase net profit of the company by an average of 436.2 UAH. 1 ths. UAH of borrowed funds increasing will raise net profit to 295.6 UAH.

Let's calculate the perturbation vector  $U_1$  (Table 5).

Table 5. Calculation of quality of constructed model of multiple regression

| Year  | <b>y</b> <sub>1</sub> | <i>X</i> <sub>1</sub> | X <sub>2</sub> | $\mathbf{y}_{i}$ | <b>y</b> <sub>i</sub> − <b>y</b> <sub>cp</sub> | ( <i>Y<sub>i</sub></i> - <i>Y<sub>cp</sub></i> ) <sup>2</sup> | $U_{i}$   | $U_i^{\ 2}$ |
|-------|-----------------------|-----------------------|----------------|------------------|--|---|-----------|-------------|
| 2007  | -25440                | 128557                | 135917         | 2974.15          | -79858.33                                      | 6377353403  | -28414.15 | 807363765.9 |
| 2008  | -86316                | 174113                | 49588          | -2677.93         | -140734.33                                     | 19806152579   | -83638.07 | 6995326207  |
| 2009  | -1370                 | 191752                | 48204          | 4606.23          | -55788.33                                      | 3112338136  | -5976.23  | 35715327.76 |
| 2010  | 71196                 | 155419                | 119386         | 9803.04          | 16777.67                                       | 281490098.8   | 61392.96  | 3769095665  |
| 2011  | 110555                | 190414                | 219940         | 54793.09         | 56136.67                                       | 3151325344  | 55761.91  | 3109390775  |
| 2012  | 94517                 | 174339                | 270126         | 62618.44         | 40098.67                                       | 1607903068  | 31898.56  | 1017518234  |
| 2013  | 116564                | 148033                | 382800         | 84454.87         | 62145.67                                       | 3862083885  | 32109.13  | 1030996260  |
| 2014  | 80523                 | 166097                | 461323         | 115547.36        | 26104.67                                       | 681453621.8   | -35024.36 | 1226705782  |
| 2015  | 129536                | 188374                | 570859         | 157645.76        | 75117.67                                       | 5642663845  | -28109.76 | 790158638.3 |
| Total | 489765                |                       |                | 489765.00        |  | 44522763982   |           | 18782270654 |

Let's forecast value of current liabilities (X<sub>1</sub>) for the next periods using the polynomial model (Figure 4).

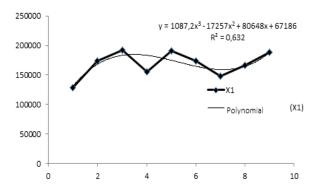


Fig. 4. Graph of polynomial model for current liabilities

Thus, the model has the form:

$$x_{1i} = 1087 \ x^3 - 17257 \ x^2 + 80647 \ x + 67186$$

The coefficient of determination of the model:

 $R^2 = 0.632$  (or 63.2% of total variation of current liabilities correspond to the model).

Let's calculate predicted value for 2016-2017 years.

$$x_{1_{2016}} = 1087 \cdot 1000 - 17257 \cdot 100 + 80647 \cdot 10 + 67186 = 234966$$
  
 $x_{1_{2017}} = 1087 \cdot 1331 - 17257 \cdot 121 + 80647 \cdot 11 + 67186 = 313014$ 

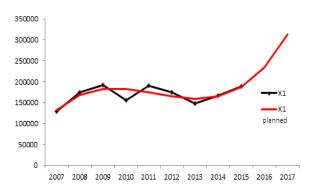


Fig. 5. Forecasting of current liabilities based on polynomial model

Let's forecast the value of equity capital (X2) for the next periods using exponential smoothing models (Figure 6).

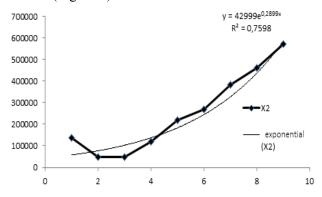


Fig. 6. Graph of exponential smoothing for equity capital The model will be looked as:

$$x_{2i} = 42999 \ e^{0.289 \ x}$$

The coefficient of determination of the model is:

 $R^2 = 0.759$  (or 75.9% of total variation of equity capital corresponds to the model).

Let's calculate predicted value for 2016-2017 years.

$$x_{2_{2016}} = 42999 \ e^{0.289 \cdot 10} = 773694 \ ths \ UAH$$

$$x_{2}$$
 2017 = 42999 $e^{0.289\cdot11}$  = 1032953 ths. UAH

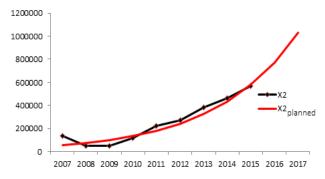


Fig. 7. Forecasting of equity capital on the basis of exponential smoothing model

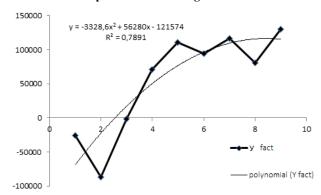


Fig. 8. Graph of polynomial model of net profit

The equation of polynomial model of net profit:

$$y_i = -3328 \ y^2 + 56280 \ _y - 121574$$

The coefficient of determination of the model:

 $R^2 = 0.789$  (or 78.9% of total variation of net profit corresponds to the model).

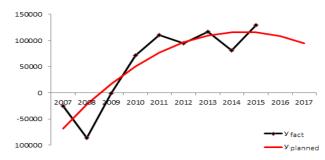


Fig. 9. Forecasting of net profit on the basis of polynomial model

Let's calculate the predicted value of net profit for 2016-2017 years.

$$y_{2016} = -3328 \cdot 100 + 56280 \cdot 10 - 121574 = 108426$$
 ths. UAH

$$y_{2017} = -3328 \cdot 121 + 56280 \cdot 11 - 121574 = 94818$$
 ths. UAH

Let's calculate the predictive value of net profit on the basis of multiple regression model:

$$y_{2016} = -93277.71 + 0.4362 \cdot 234966 + 0.2956 \cdot 773694 = 237931.38 \ ths. \ UAH$$

$$y_{2017} = -93277.71 + 0.4362 \cdot 313014 + 0.2956 \cdot 1032953 = 92536.98$$
 ths. UAH

We can observe some cyclicality in the values of net profit, which is not included in polynomial models of the second order that undoubtedly affects the quality of the model. Also, the model of multiple regression doesn't include all factors, which impact net income. Thus, we advise modern systems of net profit forecasting, which are based on imitation modeling.

Nowadays the company has a problem of ineffectiveness of planning and forecasting, which demonstrates the inability of these tools to cope with the tasks. Therefore, in order to avoid unsatisfactory results the management entities of JSC "Kharkiv Tile Factory" should draw more attention to the ways of improving of system of financial planning and forecasting of the company (Table 6).

Table 6. The propositions of improving of financial planning system of JSC "Kharkiv Tile Factory"

| pianning syst   | planning system of 35C. Kharkiv The Factory   |  |  |  |  |
|---|---|--|--|--|--|
| Methods   | Characteristics   |  |  |  |  |
| Reducing of time for<br>submission of<br>information and<br>decision-making | Company should implement monthly monitoring of deviations of planned and actual performance; quarterly adjust financial plans; implement separate accounting of management decisions and analyze their impact on its` performance in order to make necessary managerial decisions   |  |  |  |  |
| Transparency and accuracy of data   | To ensure the system of financial planning has improved, it's necessary to make all data true and to confirm them by relevant documents and calculations  |  |  |  |  |
| Implementation of information technologies                                  | Nowadays JSC "Kharkiv Tile Factory" uses the programs of accounting automation, however, these systems are unable to provide the company's management with the necessary information and, thus, the question is raised about the developing of its own information system to support financial planning that takes into account the profile of the company and its' information needs |  |  |  |  |
| Strategic planning  | Implementation of strategic plans, which will enable to plan and predict various phenomena and processes  |  |  |  |  |
| Accounting of risks   | Accounting of risks in the planning process is proposed to make by predicting of several scenarios with different degrees of risk, estimated by mathematical and empirical methods  |  |  |  |  |
| Organization of planning department   | The department should have interlinked departments: the department of business processes and the department of financial planning, which should be separated from other entities.   |  |  |  |  |

Any measures taken to improve the financial planning system of JSC "Kharkiv Tile Factory" are ultimately caused by certain cash transactions. Thus,

correct and rational organization of financial planning is one of the most important factors of effective economic policy, which contributes to its full adaptation to volatile market conditions. Let's formulate several tasks, which would promote the formation of effective financial planning system.

The financial planning system of the company consists of elements, which are necessary for its' formation, such as input, process, output, control and limitations. Adopting these elements to the financial flows system we consider the financial flow as the input (output) of the system, which is transformed into another financial flow and / or the flow of another resources (labor, material, technical, information). So, the system is in the state of constant transformation.

JSC "Kharkiv Tile Factory" as a complex and multilevel system is represented as a combination of various elements and interrelations. The variety of forms and aspects of company's performance is reflected in production volumes, resource structure, operations and interrelations with the external environment. It should be mentioned that the company can survive in a competitive environment when the rate of system development matches the external environment and when the system is quite dynamic and mobile. The movement of company's resources is quite natural for the developing system. As the movement of the resources is reflected in financial relations, the financial flows are direct or indirect reflection of all resources movement. Incoming financial flows come from the external environment, pass through appropriate management levels and are converted into the output flows, which enter the external environment. So, we can see correlations between the financial flows movement, resources movement and the performance management system. Such an approach realizes implemented production concept of simulation models.

#### Conclusion

So, the result of financial planning introduction is a system that increases the efficiency of JSC "Kharkiv Tile Factory" performance and allows:

- to predict the financial results of the enterprise;
- to improve the efficiency of exploitation of resources;
- to receive precise information for decisionmaking;
- to improve competitiveness of the company.

These measures would provide the managerial authorities of the company with the following preferences:

- effective and precise assessment of financial stability level, possibility to identify reserves, potential and real threats;
- making of strategic decisions in order to improve company's competitiveness;
- getting management reports on the activities of the company;

 providing of budgeting system effective functioning.

Thus, JSC "Kharkiv Tile Factory" must have effective and transparent system of financial planning.

The above mentioned measures will enable the company to accelerate the turnover of current assets, decrease payables and receivables, increase the efficiency of the company. The proposed mechanism of financial planning will allow achieving target (normative) indicators of solvency, liquidity and business activity.

Since the optimal size of financial resources at the enterprise is determined by various criteria and indicators, the authors prefer such indicators as profitability, regulatory solvency indicators, financial independence indices, indicators of stability and business activity.

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