



The Theoretical Features of Budgeting in the Corporation

Elena Nikolaevna VYBOROVA *

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Abstract

Purpose: The forecasting is the likelihood scientifically proved judgment about the prospects, the possible conditions of this or that phenomenon in the future and (or) about the alternative ways and the means of their realization. To adapt the instruments of budgeting for the analysis cash flow of company. **Research design, data and methodology:** The creates the budget of cash flow were carried out on the basis of data of the report for the 2017 of corporations POSCO and in the first half of the 2018 Daewoo Shipbuilding & Marine Engineering of South Korea. **Results:** The simultaneous use of budgeting techniques and the simple financial analysis allows to systematize the transactions, to identify the main problem areas in the movement cash flows. Therefore, working capital analysis is to determine the limits of their fluctuations in view of the changes in the business processes. **Conclusions:** In the pedagogical context solved the features of budgeting in the part evaluation current assets, its financing, its elements: the cash, the debtor. In the process of budgeting of cash flow, in credit budget, in financial budget we can see the main indicators: the current assets, the functioning capital, the optimum number of debtors, the optimum amount of cash and another.

Keywords : Budgeting, Financial Planning, Financial Forecasting, Financial Analysis

JEL Classification Code : D24, G30

1. Introduction³

The first works on the forecasting have appeared in the works of "the Roman club" where the analysis of dynamics of the world system was considered. The sources of forecasting can be found out and in the works Leonardo da Vinci and Aristotle and the other scientists.

The forecasting is the likelihood scientifically proved judgment about the prospects, the possible conditions of this or that phenomenon in the future and (or) about the alternative ways and the means of their realization.

The search forecast is under construction on the certain scale (a floor, a spectrum) of opportunities on which then the degree of probability of the predicted phenomenon is established.

On character of process distinguish the two types of forecasts: continuous and discrete - concerning the same objects during the different moments of time. The last, are subdivided on casual, received as the result accompanying the basic research, and aperiodic - as opposed to periodic, continuous.

* Professor, Volgograd State Agrarian University, Doctor of economic sciences, Volgograd, Russia, E-mail: el.nik.vyborova@mail.ru

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There is a set of classifications of the forecast. Thus, the choice of this or that classification is defined by conditions, means, the whole research, and also information base of the forecast.

The process of forecasting includes four basic stages:

- The first stage - organizational. During this period of time the circuit of the forecast, object of forecasting is formed, the task for the forecast is made.

- The second stage - scientifically-analytical or the predictive retrospective. At this stage the object of forecasting is specified, the structure and the border of the information of files describing with sufficient accuracy a condition of object in the past till the moment of the diagnosis are defined; established the optimum depth of a retrospective; approached the hypothetical model of object. At this stage essential value has predictive a background understood as set the external conditions under the attitude of object of forecasting. Thus, it is considered into account the impact of both endogenous and exogenous.

- The third stage - a stage of the diagnosis on which define: the possible methods of forecasting, a count methods, a degree of approximation of statistical set of retrospective data given as various mathematical dependences, logically, the economic-mathematical analysis of the chosen hypothetical models. Thus the number of problems is solved: the identification of an economic situation; the revealing of changes in an economic condition in an existential cut; revealing of the major factors which have caused change in an economic situation.

- The fourth stage - verifications. Check of the forecast is spent, its reliability is estimated.

By estimations of domestic and the foreign scientists, now it is totaled more than the 200 methods of forecasting. The cores from them it is possible to see in works G. Tail, S.A. Sarkisyan, E. Jancha and others.

Questioning (assumes, interviewing), interrogation revealing subjective opinions of individuals with the purpose of ordering, definition of objective estimations the character of forecast. Given method can be used when for some reasons law of development of process cannot be reflected by the formal device, or because of its excessive complexity, or because of absence of necessary data, or on a number of other reasons.

The extrapolation - the continuation in the future of tendencies of the process reflected in the form of dynamic numbers of its parameters, to a basis of the developed models regression type. The extrapolation is applied usually when tendencies are expressed by retrospective numbers of data on the basis of which it is possible to define law of development of process. For example, the forecast GDP of South Korea on the base data from 1953 to 2017 (Figure 1).

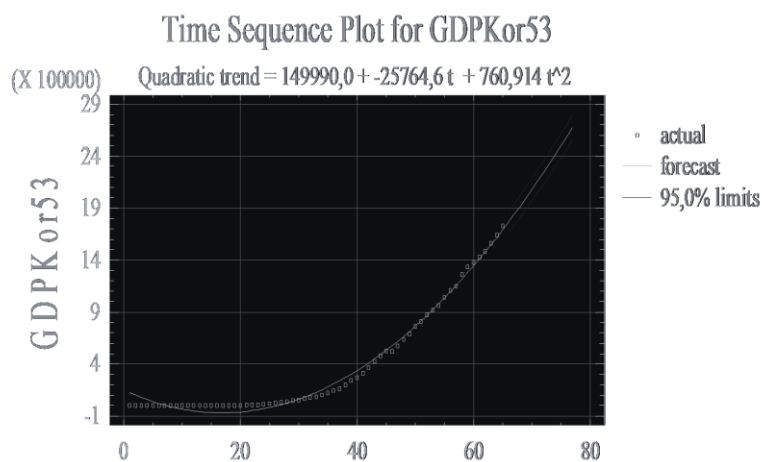


Figure 1: The dynamic of GDP of South Korea.

The analytical modeling - the research of process on the basis of construction and uses of the model reflecting it internal and external interrelations during development. This group of methods it is used, when it is possible to recreate conditions of

development of processes through its model, and then on the basis of an available minimal information to reproduce alternative variants of its development.

Use of the formalized methods is focused on full enough and trustworthy information. The methods of expert estimations are inherently subjective. They can be subdivided also on individual and collective. To the individual methods concern, for example a method "interview", the analytical reports, a writing of the script.

Most often in researches use statistical methods, one of which is the method of extrapolation of tendencies.

The planning is a projection to the future of financial and the economic position of the organization for achievement of an object in view; at the certain means is a transformation of information on the future for purposeful activity.

The means direction of planning:

1. Directive - the process of development of plans is valid the law, and as a complex of measures on maintenance of their performance.

2. Indicative - is based on system of the parameters (indicators) describing a condition and development (for example, the profitability, a condition, etc.).

3. Strategic planning focused on long-term prospect. Its purpose consists in maintenance of potential for successful development. If process includes planning separate operations in the short-term and intermediate term period, this operative (or tactical) planning.

The approaches in the planning:

1. Reactive - based on use of experience of the past, ignoring of modern tendency, the sights.

2. An inactive - described inertness, research during the given period of time.

3. Preactive - focused on the future.

4. Interactive - the basic purpose: the designing of the future (on basic massive alternative).

The mean stage of planning:

- Gathering and processing of the information.
- The strategic and the current analysis. This two stage included prescheduled research.
- Forecasting.
- Planning and updating.
- The control.

There are next main methods of planning:

1. The settlement-analytical methods - a version of a method of percent from realization (on the basis of the planned growth of a sales volume for forthcoming business year, it is defined the next size of items of expenditure).

2. A balance method. In a basis of a method is the balance between the resources and a direction of their use in the view of need. There are versions of balance: labor, material, financial.

3. A normative method. In a basis of a method - definition and the use of the norms and the specifications. The norm - the scientifically-proved measure of necessary expenses for manufacturing of a unit of production. The specification - the complex component of norm describing a degree of use of resources. There are following kinds of specifications: financial and economic, the capital investments, the charge of raw material and a material etc.

4. A program-objective method. The essence: the definition of the basic purposes, development of programs and actions on their achievement at the balanced maintenance with resources.

5. The mathematical economics methods.

2. The result of analyses

2.1. The financial planning

The financial planning – the process of definition of actions on the formation and use of financial resources, the results.

The purpose: the duly maintenance of process of activity corresponding on the volume, the structure financial resources. The tasks of financial planning:

- The maintenance in the necessary size of financial resources (in view of effective capital investments and its optimum structure, and as the tactics and the strategy of financing, the definition of additional volumes of financing).

- A substantiation of strategy in the financial market (or a financial substantiation of strategy as a whole).
- Co-ordination and the monitoring of action of the financial mechanism of the organization, and as process of functioning of a tactical and strategic complex.
- The forecasting of incomes and the charges of the organization.

The kinds of financial planning: the report on profits and losses (Income Statement, See Figure 2), the balance sheet (Balance Sheet, See Table 1), the report on movement of money resources (Cash Flows, See Figure 3).

Income Statement

Income Statement according to requirements of book keeping GAAP (General Accepted Accounting Principals)

The name of clause	96	97	98	99	00	01	02	...
+ Proceeds from realization								
- Losses								
= the sales volume in view of losses								
- Variable expenses								
= Total profit								
- Operational costs								
- Trading-administrative costs								
= Profit								
- Taxes								
= Net profit								

Figure 2: Income Statement

Table 1: Balance Sheet

The active	The passive
The money resources	The creditor debts
The debtor indebtedness (receivables debts)	The payments (taxes, wages)
The stocks	The short-term loan (till 12 months)
The total current actives	The total current passives (short-term liabilities)
The fixed capital:	The long-term loans (more than 1 year)
- the ground	The own capital (Joint-stock)
- the buildings and the constructions	the gain of own capital (Pure profit/losses)
The equipment (behind a minus of amortization)	Total own capital
The non-material actives	
The total assets	The cumulative passives

Cash Flows

1. The planning of monetary streams.
 1. Proceeds.
 2. The value added tax and the excises.
 3. The cost of product.
 4. Amortization.
 5. Taxes from profit.
 6. Other monetary stocks.
 7. Creditor debts
 8. Cash Flow from production-trading activity (1-2-3 4-5+ 6+7).
- II. Investment activity.
 9. Receipts from sale of property and actives.
 10. Payments for purchase of property and an active.
 11. Cash Flow from investment activity 9-10.
- III. Financial activity.
 12. The additional capital.
 13. The extra capital (credit).
 14. Payments of repayment of credits and percent on them.
 15. Payments of dividends.
 16. Cash Flow from financial activity 12+13-14-15 1Y.
 17. Cash Flow on the beginning
 18. Cash Flows on the end 17+8+11+16

Figure 3: Cash Flows

The strategic financial plans define the major financial parameters and proportions of activity, strategy of development of the organization, financial opportunities. The current financial plans. In a basis – the balance of incomes and charges. We shall consider it in the table 2, table 3. As make verifying table.

Table 2: The balance of incomes and the charges

No	The parameter	The sum
1	The profit on realization	
2	The profit on other realization	
3	The incomes from extraordinary charges operations	
4	The incomes of course differences in a foreign currency	
5	The added amortization	
6	The long-term credits	
7	The long-term loans	
8	The target financings	
9	The other incomes and receipts	
10	The total incomes and receipts	
11	The payments in the budget	
12	The deductions in funds	
13	The accumulation	
14	The consumption	
15	The social payments	
16	The reserves of forthcoming charges and payments	
17	The deductions on the charitable purposes	
18	The paid dividends	
19	The long-term investments	
20	The long-term financial investments	
21	The repayment of loans and percent	
22	The miscellaneous costs and deductions	
23	The total charges and deductions	

Table 3: The verifying table

No	Incomes and charges	The profit on realization	The profit on other realization	The incomes from extraordinary charges	The incomes of course differences in a foreign currency	The added amortization	The long-term credits	The long-term loans	The target financings	The other incomes and receipts	The total incomes and receipts
A	B	1	2	3	4	5	6	7	8	9	10
1	The payments in the budget										
2	The deductions in funds										
3	The accumulation										
4	The consumption										
5	The social payments										
6	The reserves of forthcoming charges and payments										
7	The deductions on the charitable purposes										
8	The paid dividends										
9	The long-term investments										
10	The long-term financial investments										
11	The repayment of loans and percent										
12	The miscellaneous costs and deductions										
13	The total charges and deductions										

The operative financial plans. A basis the cash plan (Appendix E See table 4, table 5, table 6, table 7), the credit plan, the tax, payment calendar, which reflecting an operative monetary turnover, (make stages of drawing up: a choice of the period, planning of volume of realization, an estimation of monetary incomes and charges, drawing up of a payment calendar (See table 8)).

Table 4: The cash plan – 1. The sources of receipt of money

No	The receipt of money, except for received in bank	The plan	The fact
1.	The proceeds from realization of production		
2.	The proceeds from realization commodity-material assets		
3.	The other receipts		
4.	The total receipts		
5.	From a total sum of receipts:		
	It is spent on a place		
	Surrenders on post		
	Surrenders in bank		

Table 5: The cash plan – 2. Charges

No	The kinds of charges	The plan	The fact	Including from the money received in the bank
A	B	1	2	3
1	On the wages			
2	On payment of social grants			
3	On travelling and living expenses			
4	On economic charges			
5	The miscellaneous costs			
6	The total charges			

Table 6: The cash plan – 3. The calculation of payments of wages and other kinds of a payment

No	The parameter	The plan	The fact
1	The fund of a payment of organization		
2	The other kinds of a payment which are not included in fund of a payment of organization		
3	The total of fund of a payment of organization		
4	The deduction (the taxes, the goods bought on credit).		
5	The total		
6	Transfers:		
	In contributions of bank		
	The translation by post under the accepted payment assignments		
7	The privileges and the deliveries considered in fund of a payment of organization		
8	Is a subject to delivery by cash:		
	From cash department		
	Through bank		

Table 7: The cash plan – 4. A calendar of salary payments on target dates (The sums of payments by the cashes received in bank)

The month	The number								
	1	2	3	...	19	20	21	22	...
January									
February									
March									

Table 8: The payment calendar of firm

No	The clause	The plan	The fact	The deviation
A	B	1	2	3
1.	The urgent needs			
2.	A payment of labour			
3.	The payments in the budget			
4.	The payments in fund social Insurances			
5.	The insurance payments in federal and territorial funds of obligatory medical insurance			
6.	The insurance payments in the Pension fund			
7.	The payments in the anther funds			
8.	The payment of accounts for commodity-material assets			
9.	The delayed creditor debts			
10.	The payment of accounts of contractors for performed capital works			
11.	The repayment of the delayed loans of bank			
12.	The payment of percent for the credit			
13.	The advance payments, issued advances to the suppliers and the contractors			
14.	A rent			
15.	The payments to branches of organizations			
16.	The payments under bills received			
17.	The payments on account of payment of securities			
18.	The payment of dividends and percent			
19.	The miscellaneous costs			
20.	The total charges			
21.	The receipts from realization of production, the goods, the works and the services on primary activity			
22.	The receipts by other kinds of activity			
23.	From realization of securities and currency			
24.	The receipts from delayed debtor indebtedness			
25.	The receipts of the credit on commodity-material assets			
26.	The received advance payments from buyers and the customers			
27.	The receipt of the gratuitous financial help			
28.	The target receipts			
29.	The means acting on account of payment of the authorized capital			

30.	The other receipts			
31.	The total receipts			
32.	The excess of receipts over charges			
33.	The excess of charges over receipts			

The budgeting as a part of financial planning. Processing of budgeting

The budgeting - a version of the short-term financial planning, an assuming establishment of hierarchical system of budgets of the managing subject.

The purpose: the organization of continuous construction of system of budgets.

We shall consider the tasks:

- The coordination on the structural divisions and the organizations as a whole the information, the financial streams for acceptance of administrative decisions.
- The structural planning of financial operations and the control over their carrying out.
- The organization of a vertical of the financial control of the subject of managing.

The advantages of budgeting:

1. The organization of process of planning in a cut of structural divisions during the certain period of time.
2. A high degree of detailed elaboration and accuracy.
3. Increase of efficiency of managerial process by incomes of the organization.
4. Reduction of other control functions (increase of efficiency of the organization of management).
5. The economy of financial resources.

The principles of budgeting:

- A continuity.
- The confidentiality.
- The universality of formats, the procedures and the rules.
- The through character of construction.
- A regularity.

On a variety of nomenclature of expenses allocate: functional, complex budgets. The functional budget is developed on the one (less often on the 2-nd) clause of expenses. For example, the budget of a labor, the amortization. The complex budget is developed under the wide nomenclature of expenses, for example, administrative and the managerial charges.

The methods of development distinguish: stable and flexible budgets. The stable budget does not change from changes of volumes of activity, for example, the budget of charges on the protection of firm. The flexible budget provides an establishment of scheduled current or capital expenses not in firmly fixed sum, and in the form of specifications of charges which are coordinated to volumetric parameters of activity of firm, such, as the volume of output or realization, the volume of civil and the erection works.

In view of the terms, considered operations, and a subject of budgeting allocate: the basic (general) and current (operative, periodic) budgets. On structure of budgets it is possible to allocate: operational (the budget of sales, manufactures, cost of product, etc.) and financial (the budget of movement of money resources, tax, etc.).

As allocate: the auxiliary budgets (the budget of taxes, the capital expenses, the credit) and additional (special) (the budgets of separate projects, the programs, the distribution of profit).

Let's consider the structure of the general (basic) budget and process of its formation (See Figure 4, 5). The budgets with zero - it budgets, which are prepared from scratch each time, "from scratch". The continuity budgets. There is a pattern in which the adjustments are made, reflecting the ongoing changes. The budgets multiple-choice events. The general and the private budgets. The general budget covers the overall activities of the organization. The private budgets examine certain aspects of the organization or its business units.

The components of budgeting are:

1. The technology of budgeting.
2. The organization of budgeting in the company.
3. The auto The budgetary rules is the order of drawing up established in the organization, the order preparation, the provision, the coordination, the consolidation (the treatment and the analysis), carrying out the plan-fact of the analysis and

an estimation of execution of budgets of a various kind and the levels.

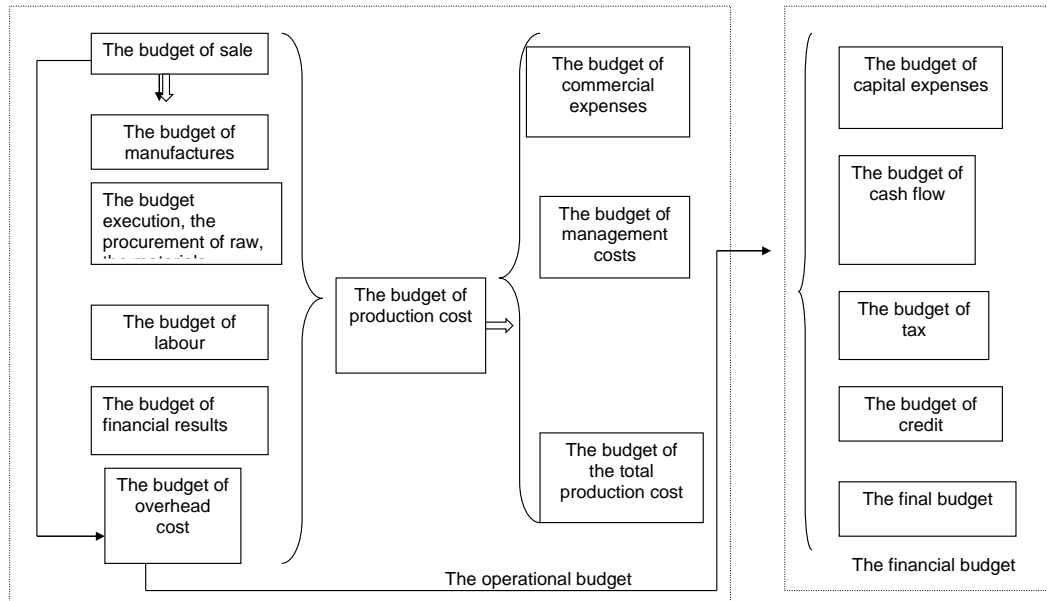


Figure 4: The structure of the general budget

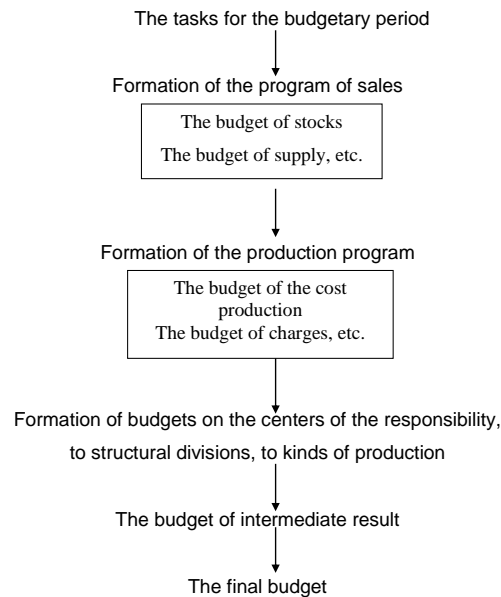


Figure 5: The process of formation the general budget

The principle of the budgetary rules - the sliding schedule of development assuming constant updating of budgetary bastings.

The budgets can be made as on the centers of the financial reporting, at a level of the centers of a finance administration. The elements of the budgetary rules:

1. Accepted in the organization the budgetary period (the horizon of financial planning) is the period during which budgets are corrected and the control over their execution and the minimal budgetary period (the quarter, the month, the

decade) - a unit of measure of the budgetary period by kinds of budgets is carried out. For example, in the budget of incomes the minimal period makes the 1 month or the 1 decade. In the budget of movement of money resources minimal - from the 1 week till the 1 decade, and for the first month of work – the 1 day.

2. The terms and the order of development, the coordination, the representation, the consolidation, the statement of budgets of various levels.

3. A budgetary cycle or a step of budgetary planning. It is the period after which reports on execution before developed are made and voted budgets, the plan-fact the analysis is spent and revision of budgets on the remained part of the budgetary period is carried out.

4. The period of budgetary controlling (definition of the rules the plan-fact) that is the system of internal control and the assessment of budget performance. Controlling - a system of continuous control the information, accounting, the analytical units in the organization to implement of administrative decisions in conditions of limited of resources, including the information storage, processing, accounting, the analysis, forecasting, planning. It is focused on the search for the problem "bottlenecks", their analysis and elimination. The cycle of planning within the controlling is carried out on the technology the "counter-flow". The first, planning is carried out the "top down" - the creation of centralized the plans and bring them to the business units. Then, a counter-flow "bottom up" – the adjustment of plan targets in some areas of work and the general adjustment the plan of tactics and the strategy management. The general objectives of controlling include: the organization of analysis, the accumulation of information, monitoring the safety of property, monitoring the preparation of accounting documents, the current inspection of documents, the inventory, the development of the organization's accounting policies and another. The special objectives can include: the prepare a general plan for the organization and for individual transactions, the analysis of the external environment, the comparative analysis of competitors, the preparation of reports for external users, the preparation and analysis of financial and other reports, the cost accounting on the production and marketing of products, the control over the amounts issued under report and another. Table 9 shows to do the comparative characteristics of the types of controlling.

Table 9: The comparative characteristics of the types of controlling

No	The classification signs	The strategic	The operations
1	The areas of study	The internal and external environment of the organization	The current management solutions
2	The focus in the management	The strategic	The tactical operational
3	The purpose	To do anti-crisis policy and strategic plan for the development of the company	Maintaining a certain level of profitability, the organization financial stability
4	The objectives	1. The provide strategic planning. 2. The analysis of the strengths and weaknesses of the company. 3. The development of corrective actions. 4. The development of alternative strategies. 5. The evaluation of investment decisions and the development of innovative projects, etc.	1. The current and operational planning. 2. The development of cost control. 3. The creation of an information security system for the adoption of the current administrative decisions and another

Let's consider the structure the financial budget as shown in the Figure 6, the credit of budget as shown in the Table 10, the budget of cash flow. Table 11, Table 12 shows the budget of cash flow presented on the data of the report for the 2017 of corporations POSCO and in the first half of the 2018 Daewoo Shipbuilding & Marine Engineering of South Korea. The cash flow of corporations is liquidity. The budgets are presented. This allows to systematize the transactions, to identify the main problem areas in the movement cash flows.

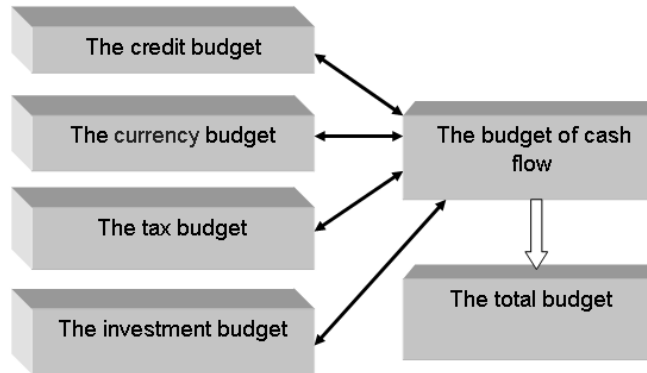


Figure 6: The structure of financial budget

Table 10: For example of structure of credit budget

No	The receipts of credit resource			No	The payments of credit resource	
	The kind of credit resource	The term of operation	The sum		The kind of payments of credit resource	The sum
1.	The long-term credit	3 years	50,000	1.	The purchase the equipment	30,000
2.	The short-term credit	3 months	1,000	2.	The purchase the stocks	20,000
3.	The short-term loan	1 month	200	3.	The purchase the material	1,000
4.				4.	The payments of creditor debts	200
5.	Total		51,200	5.	Total	51,200

Table 11: The layout of table of budget of cash flow of POSCO on the 2017

No	The element of budget	Inflow	No	The element of budget	Outflow
1	The cash flow from operating activity:		1.	The cash flow from operating activity:	
1.1	The profit	2973,5	1.1.	The financial cost	1440,3
1.2	The amortization	3297,5	1.2.	The tax	2212,6
1.3	The financial income	1376,3	1.3.	The interest paid	735,7
1.4.	Another receipts	547,4	1.4	Another payments	3695
2.	Total 1.1. – 1.4.	8194,7	2.	Total 1.1. – 1.4.	8083,6
3.	The cleaner the cash flow from production-trading activity				
		111,1			
4.	The cash flow from investment activity:		4.	The cash flow from investment activity:	
4.1.	Proceeds from the financial instruments	10146,6	4.1.	Acquisitions of financial activities	20843,5
4.2.	Increase of loans	1723	4.2.	Acquisitions of investments associations, joint ventures	195,8
4.3.	Proceeds from the investments associations, joint ventures	1087,6	4.3.	Acquisitions of property, equipment, intangible assets	2631
4.4.	Proceeds from the property, equipment, intangible assets	67,7	4.4.	Another payments	264,6
4.5.	Another receipts	204			
5.	Total 4.1. – 4.5.	13228,9	5.	Total 4.1. – 4.4.	23934,9
6	The cleaner the cash flow from investment activity				
					10706
7.	The cash flow from financial activity:		7.	The cash flow from financial activity:	
7.1.	Proceeds from the borrowing	2284,1	7.1.	The repayment of borrowing	3136
			7.1.	The payment of dividends	863,5
			7.2.	The repayment of interest	67,8
			7.3.	Another payments	314,8
8.	Total 7.1	2284,1	8.	Total 7.1. – 7.3.	4382,1
9.	The cleaner the cash flow from financial activity				

					2098
10.	Total	23707,7			36400,6
11.	The cleaner the cash inflow (outflow) 3 + 6 + 9				12692,9

Table 12: The layout of table of budget of cash flow of Daewoo in the first half of the 2018

№	The element of budget	Inflow	№	The element of budget	Outflow
	Cash and cash equivalents at the beginning of the period	205,8			
1.	The cash flow from operating activities:		1.	The cash flow from production-trading activity:	
1.1.	The generated activities	519,5	1.1.	The payments of interest	59,2
1.2.	The receipts of tax, interest	30,1			
2.	Total 1.1. – 1.2.	549,6	2.	Total 1.1.	59,2
3.	The net of cash flow from operating activity				
		490,4			
4.	The cash flow from investment activity:		4.	The cash flow from investment activity:	
4.1.	Proceeds from the property, equipment, intangible assets	1,6	4.1.	Acquisitions of property, equipment, intangible assets	55,4
4.2.	The sale of long-term financial instruments	4	4.2.	The purchase long-term financial instruments	0,8
4.3.	The sale of short-term financial instruments	78,8	4.3.	The purchase of short -term financial instruments	2,7
4.4.	The sale non-current assets	38,3	4.4.	The other acquisitions	54,2
4.5.	Another receipts	6,3			
5.	Total 4.1. – 4.5.	129	5.	Total 4.1. – 4.4.	113,1
6.	The net of cash flow from investment activity				
		15,9			
7.	The cash flow from financial activity:		7.	The cash flow from financial activity:	
7.1.	The receipts of the short-term credit	491,6	7.1.	The repayment of financial lease obligations	8,6
7.2.	The exchange rate changes on the cash and cash equivalents	1,3	7.2.	The repayment of short-term credit	858,1
8.	Total 7.1.	492,9	8.	Total 7.1. – 7.5.	866,7
9.	The cleaner the cash flow from financial activity				373,8
10.	The cleaner the cash inflow (outflow) 3 + 6 + 9				
		132,5			
	Cash and cash equivalents at the end of the period	338,3			

3. Conclusions

In conclusion in the pedagogical context consider the features in budgeting. We must to do the total features of budgeting: the analyze “plan-fact”, the feature of structure of budget, the feature of value in the dynamic and the analyze the main indicator of budget. The construction of separate budgets, its analysis based on the analytical calculation of individual indicators. In the process of budgeting of cash flow, in credit budget, in financial budget we can see the main indicators: the current assets, the functioning capital, the optimum number of debtors, the optimum amount of cash and another.

Let's consider the several indicators. The working capital (the functioning capital) - the difference between the current assets and the liabilities. In the budgeting we must to form basis for the development of strategies to finance working capital as shown in Figure 7, Figure 8, Figure 9.

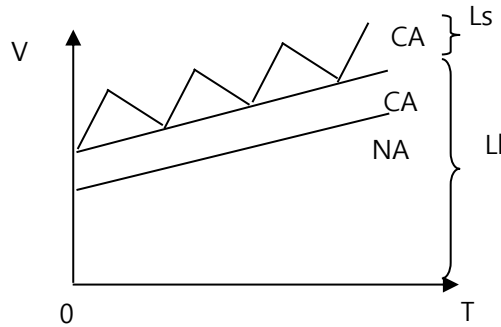


Figure 7: According to the agreed version of the financing current assets

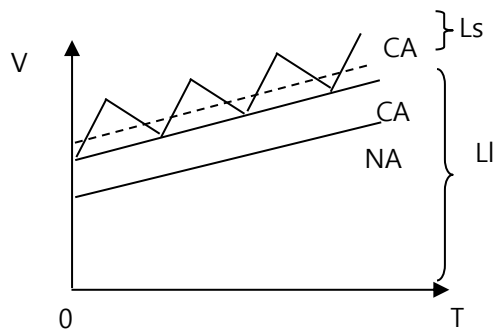
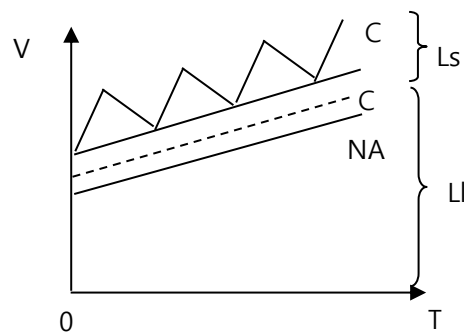


Figure 8: A conservative financing strategy of current assets



V – the assets,
 CAs – the system current assets,
 CAc – the changing of current assets,
 NA – the non-current assets,
 Ls – the short-term credit,
 LI – the long-term credit.

Figure 9: An aggressive version of the financing

Recall that, according to the agreed version of the financing system of working capital replenishment of system current assets, that is relatively stable, to do mainly due to long-term fund-raising, and the ranging (changing, varying) of current assets (experiencing frequent fluctuations) - due to the short-term borrowed funds.

When choosing a conservative financing strategy of current assets, the long-term fund-raising directed not only at the completion of non-current assets, to the system current assets, but also in part – in the part of varies current assets.

Relying on an aggressive version of the financing of working capital business entity sends the short-term funds and to varies

current assets and the partly - on the financing of system part of current assets. The long term borrowed sources are sent to the rest of the system part of current assets and the non-current assets.

In the process of budgeting, in budgeting of cash flow we must to analyze the current assets, it's the rhythmation, the regularity. Therefore, the next task of working capital analysis is to determine the limits of their fluctuations in view of the changes in the business processes.

This can be done by calculating the upper and the lower quartiles, which allow to define the boundaries, taking into account changes in the working capital, the current assets and other indicators in the dynamics of the volume:

$$Q1 = Xg1_{min} + K(1/4 \sum m - VQ1-1)/MQ1 \quad (1)$$

$$Q3 = Xg3_{max} + K*(3/4 \sum m - VQ3-1)/MQ3 \quad (2)$$

where $Xg1_{min}$ - the minimum value of the interval that contains the bottom quartile (determined by cumulative frequency), $Xg3_{max}$ - the same for the upper quartile,

K - the interval difference,

$VQ1-1$ - the cumulative frequency of interval preceding the interval containing the lower quartile,

$MQ1$ - the frequency range containing the lower quartile,

$MQ3$ - the same for the top,

m - the entire set

To estimate the upper and the lower quartiles of the following criteria may be used: a number density quartile, the differentiation factor, the coefficient of variation, the quartile deviation. The current assets consider from elements: the cash, the stocks, the debtor and others. The main elements of current assets in the budgeting, in budgeting of cash flow - the cash. The main goal of money analysis in the optimization of cash amount, which requires a certain amount of them, allowing partially (typically, 10 %-15% - (20%) as a minimum taking into account the type of activity) to cover it's the short-term liabilities to the suppliers, the creditors, the employees, the budget and the funds, and provides the liquidity of calculations that is basis for the normal functioning of the business entity.

Before considering optimized models focus on the time period to model of cash requirements. The financial cycle is part of the operational cycle and is co-featured about difference between the operating cycle less the time of turnover the payables. Thus, the optimal balance of funds is determined by several factors:

1. The need for cash;
2. The projected income (and their frequency);
3. The degree of uncertainty in the forecast of cash flows (risk).

There are different models for the optimization of balance of cash, the optimum value of the cash: the model Baumol-Tobin, the model Miller-Orr, the Stone's model; the Lerner's model (basis of simulation modeling Monte Carlo) is shown in table 13.

Table 13: The assessment of the basic models of determines the optimal cash balance

No	The model	The content and the settings	The advantages and the disadvantages
1	The model Baumol-Tobin	Options: the cash flow, the time interval, the number of investment transactions, the transaction costs, the profitability of the operation.	Theocratic into the force the uniformity and straightness of cash flow. Easy calculations for adaptation.
2	The model Miller-Orr	Model is defining the boundaries means of varying the cash and the optimal cash balance at stochastic the cash flows and they cannot be the forecast. The parameters: the dispersion cash balance, the transaction costs, the opportunity cost of funds used for the short-term variations in the daily basis.	Not considered the cash costs of the transformation for the operations. Availability and realistic the model.
3	The model Stone	The logical continuation of the Miller-Orr model. Introduced under the border, which are designed to take into the account and reduce the costs of the fund's transformation.	The realism, a wide range of applications, the availability of the perception.
4.	The model Lerner	Determining the optimal balance of funds on the	The cumbersome of calculations.

		basis of simulation modeling. Settings: volume of sales and cash receipts.	The accuracy of the calculations.
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The Baumol-Tobin's model allows to identify the strengths and the weaknesses, the advantages of cash storage in the accounts at the box office (for organizations) or on the hands (for the people), provided that have not the interest and there are the options for obtaining more the favorable percent.

Omitting the counting procedure, determine the optimal cash as:

$$\frac{Y}{2N} = \sqrt{(2yF / i)} \quad (1)$$

F – the transaction costs,

i - the profitability,

y – a cash flow,

N - the number of investment transactions.

The Miller-Orr's model is called model-my control borders. The model is used when the cash of balance does not vary linearly. It takes into the account stochastic of cash, the disbursement of process the lack of frequency of peak of overabundance and the large of peak of deficiency. The model involves the establishment of control limits for the purpose of decision-making of investment operations. Hence, the main task - the definition of the upper and the lower control limits and determination of the optimal value of cash of residue. In the base of model - a stochastic process Bernoulli. It must use the forecast, the application of the model will not correct. The optimal of the value of cash is as follows:

$$Q^* = Q_n + 1/3 (Q_B - Q_n), \quad (2)$$

The Miller-Orr's model:

$$Q_B - Q_n = 3\sqrt[3]{\frac{3F\sigma^2}{4i}} \quad (3)$$

σ - the dispersion of cash;

i - the opportunity cost of cash in short term of variations in daily basis. Given the profitability in the year, which, as a rule, is more common, the day can be calculated:

$$(i \text{ day} + 1)^{360} = 1 + i \text{ year} \quad (4)$$

Q_n (B) - the lower (upper) limit of acceptable reduction in cash;

F – the transaction costs.

A logical extension of the Miller-Orr's model can be considered a model of Stone. The purpose of the modification is reduced to minimize costs of transformation of cash transactions. The model introduced at the border. To calculate the boundaries, you can use the upper and the lower quartile. The method of simulation to evaluate the optimal lead a rank of the cash was used Lerner for the first time in 1980. Lerner's model considers the cash as a function of the two of parameters: the volume of sales and the cash receipts. It is assumed that the costs (cash outflows) are constant. Initially, the proposed model of Lerner suggests that volume of sale by months is not dependent on each other. The following modeling of steps:

- To do based on demand forecast and the production of capacity forecast of sales and the sales volume per month.
- The projected monthly sales volume is considered as a variable value having a probability distribution, and to calculate on the formula of mathematics expectation.
- Calculate the variation in sales of volume index (its value is constant throughout the month).

- Determine the standard deviation of monthly sales and the likelihood is determined for the each possible range of variation of monthly sales.
- The dependence of the monthly cash flow from sales revenue.
- Construct the probability of distribution of the monthly of cash flow and the exclusion of fixed costs is built probable distribution of net cash flow and balance.
- The monthly demand of estimates for means determines, based on these.
- If the value of the upper border control does not cover the necessary of reserve of cash, then at this time should be to attract the additional sources of financing.

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