

## **Research on the Performance Budget Management Model of Colleges and Universities in China**

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**Abstract:** The main purpose of this paper is to improve and improve the budget management level of colleges and universities in China. On the basis of the concept and theory of performance budget management, through the in-depth analysis of the status quo and main problems of budget management in China's colleges and universities. The necessity and challenges of implementing performance budget management in Chinese universities are put forward. This paper studies and designs five first-level indicators including teaching performance, scientific research performance, social satisfaction, comprehensive ability, development potential and 15 second-level indicators, and puts forward measures to improve the performance budget management of colleges and universities in China.

### **1. Introduction**

With the continuous reform of the management system of higher education, the continuous expansion of the scale of higher education, the increasing competition among universities, the benefits of running higher education have been paid more and more attention, and the status of economic benefits has become increasingly prominent. How to improve the efficiency of the use of funds has become the main focus of attention of colleges and universities. The original university budget management model can not fully meet the management needs under the new situation, and has exposed a series of problems. If we only pay attention to the allocation and use of budgetary funds, but neglect the evaluation and evaluation of the effectiveness of the use of funds, the use of funds in Colleges and universities will inevitably lead to unnecessary waste. Colleges and universities must be in an invincible position in the highly competitive education market and must change their financial management philosophy. The new "Accounting System for Higher Education", which has been implemented since the day of the year, transforms the accounting model of colleges and universities from the long-term payment system to the accrual system. Changes in accounting methods also reflect the future management of colleges and universities will pay more attention to cost accounting and performance management. The performance budget management serviced by the school's strategic goals is conducive to improving the transparency of the budget and enhancing the binding force of the budget, which is conducive to improving the efficiency of the use of funds by the budget entities and maximizing the benefits of the funds.

### **2. The Status Quo and Problems of Budget Management in China's Colleges and Universities**

At present, with the continuous reform of China's college education system, the level of financial management is gradually strengthened, and the problems existing in the budget management of colleges and universities in China are becoming more and more prominent, which are manifested in the following aspects:

#### **2.1 The Budget Management of Colleges and Universities is not closely linked with its development strategic objectives**

The traditional budget management model usually compiles the current revenue and expenditure plan according to the current project and task plan, and seldom takes into account the relationship between the medium and long-term development strategic objectives of schools and departments

and the allocation of school funds, which will not be conducive to the realization of the long-term development goals of colleges and universities.

## **2.2 Lack of scientificity in University budgeting**

Firstly, incremental budget method is widely used in Colleges and universities in China. Although this method is simple and feasible, it does not consider whether the budgetary arrangement of the previous year is reasonable or not, which results in departments blindly expanding the budgetary quota without considering its scientificity. Various departments will increase the budget quota under various headings, resulting in the shortage of budgetary funds, restricting the improvement of the efficiency of the use of funds, which is not conducive to the adjustment between the budget of funds and the development of undertakings. Secondly, the personnel involved in budget preparation are limited. School budget preparation involves all aspects of the school, which budgets should be implemented and how to implement them are only known by the executives. The budget content is not detailed and complete. Some subjects do not refine expenditure items. Some projects do not have detailed subjects, which is not conducive to analysis and management, and is not conducive to the rational flow of budget funds. Due to the difficulty in quantifying the rated rating of the public basic expenditure, the preparation method is not scientific, which leads to the budgetary preparation of each department is relatively random and lacks balance. This will lead to low accuracy of budget preparation and directly affect the subsequent implementation of the budget, which is not conducive to the rational allocation of resources and the rational flow of funds.

## **2.3 Lack of supervision in the budget execution process**

First of all, the budget is not authoritative and serious. In the process of budget implementation, there will be a situation in which the budget exceeds the expenditure budget. The reasons are: first, the lack of strict budget, and second, the school budget control is not strict enough. It is only re-programmed and not re-executed, resulting in deviations between budget execution results and budget preparation quotas. Second, the analysis of the implementation of the budget is not timely. The ultimate goal of budget management is not to turn the budget into reality, but to understand the difference between budget indicators and implementation results. The analysis of budget implementation should not wait until the end of the year, but be carried out regularly in the process of implementation so as to keep abreast of budget implementation in time. Finally, there is a lack of budget supervision departments. In practical work, many funds have not been applied to specific projects and departments, resulting in the phenomenon of project funds being misappropriated, intercepted, crowded out or even false expenditure.

## **2.4 Weak Performance Budget Management Mechanism**

Traditional budget management is an input-oriented budget, focusing on the allocation of budget indicators, paying attention to cost expenditure, focusing on the control of budget execution, focusing mainly on the right or wrong audit of expenditure items. It has not focused on the evaluation and evaluation of the results of budget implementation, nor has it combined the actual implementation of the budget with the original budget objectives. There is no performance appraisal and reward and punishment for the effectiveness of the budget implementation of individuals and implementing agencies, and there is no corresponding incentives. As a result, the budget management of colleges and universities has only stayed at the level of budget formulation and budget implementation, ignoring the performance evaluation of the effect of budgetary funds, resulting in asset reset, waste of funds, and reduced efficiency and efficiency of use of fiscal funds.

## **2.5 Lack of budget audits**

At present, colleges and universities only pay attention to the audit of final accounts, but ignore the audit of budget implementation. The lack of audit links in the budget of colleges and universities makes it impossible to find problems in the process of budget compilation and implementation in a timely manner. Unable to correct and take practical measures in time, lack of

audit work on the budget, so that the degree of emphasis on budget management by universities has also been affected, which is not conducive to improving the level of budget management.

## **2.6 Lack of a complete scientific indicator evaluation system**

The precondition of performance budget management is to have definite performance objectives, and should serve the overall strategic objectives. In order to achieve this goal, it is necessary to introduce a complete and scientific evaluation index system to analyze and evaluate the degree of achievement of performance budget objectives. For colleges and universities, it has the characteristics of diversified educational goals and diversified sources of funds, and is also set by the internal institutions of the university.

## **3. Construction of Performance Budget Management Mode in Chinese Universities**

### **3.1 Operational steps of university performance budget**

According to the principle of performance budget, the steps of university performance budget operation are as follows: according to the strategic objectives, formulate the development strategy of each department - the annual plans and objectives of each department - the annual budget of each department - conduct performance evaluation at the end of the year - adjust the annual budget according to the performance completion.

First of all, the establishment of the budget management committee, its main responsibility is to determine the overall goal of the university budget according to the long-term strategic goals of the university, so as to meet the long-term development requirements of colleges and universities. It combines the strategic cost of universities with budgeting, and ensures the funds needed for key projects in universities. The school discipline committee is responsible for supervising and examining the budget management committee of colleges and universities.

Secondly, under the guidance of the overall objectives of universities, the specific objectives of various departments are formulated. After defining the specific objectives, each secondary college can formulate its own department's budget accordingly, and it must conform to the specific objectives that have been set when preparing the department's budget. In order to better achieve the overall goals of the school, it is necessary to formulate departmental budgets strictly in accordance with specific goals. At the same time, we should extensively listen to the advice of college staff, increase the participation of the budget, clarify the theme of budget allocation, and moderate decentralization.

Finally, the year-end assessment, adjust the budget for the next year, at the end of the year, the secondary colleges or departments will summarize the budget implementation of the year, whether there are budget deficits and budget balances, etc., must be detailed in the analysis report. Finance Department. At the same time, the rationality of the use of budgetary funds is analyzed, and the reward proportion is formulated according to the performance evaluation report set up, and the overall requirements for the next year's budget work are put forward.

### **3.2 The Process of Performance Budget Management Model in Colleges and Universities**

Zero-based budgeting is used in performance budgeting in Colleges and universities. Zero-based budgeting is conducive to improving staff's awareness of "input-output". It is conducive to the rational allocation of funds, the creativity of grass-roots units participating in budget preparation, and the improvement of budget management level. Because the goal of performance budgeting is mainly to focus on the expected results of the project and the cost information needed to implement the project, while zero-based budgeting focuses on the quantification of performance objectives. Performance evaluation of project activities, so that performance evaluation and project budget are closely combined, the budget from the input budget to the output-oriented budget, through the organic combination of the two, to make up for their shortcomings, improve the budget preparation.

The specific steps are:

(1) The unit that prepares the budget clearly, the unit that prepares the budget may select each

secondary college or select the relevant departments, and the budget preparation unit shall not arbitrarily change once determined.

(2) Understand the basic situation of each department, and learn the basic data related to budgeting from the educational administration, personnel and students departments. If the Ministry of Finance only relies on the data reported by various departments to determine the budget, it is not conducive to the preparation of the budget.

(3) Form a departmental budget plan. In the preparation of the department's budget plan, in addition to setting targets according to the development needs of each department, the overall goals of the school should also be considered, and the development plan of the department should be established under its guidance. In the budget plan, a detailed description of the declared use of the budget funds is required. For new projects, an analysis report on the feasibility of the new projects is required. For example, the cost-benefit analysis method is generally used in the declaration of special funds for laboratory construction, i.e. the expenditure budget of the project fund demand plan reported by various departments and its use effect. Judge the reasonable degree and order of expenditure of each project.

(4) Management approves the budget. After the budget proposal is submitted, the management first carries on the cost-benefit analysis. Then, according to the development strategic plan of universities, the priority development projects are determined, and the use of budgetary funds is allocated accordingly. At the same time, the cost-benefit analysis and importance evaluation of new projects in various departments are carried out, and the final decision is whether to examine and approve them. The management approval process should be open and transparent, and a democratic conference should be convened. All departments should have a comprehensive understanding of the allocation of funds, which will facilitate the management of future budget work of various colleges and departments.

(5) Budget execution and control. After the budget is approved, it enters the budget execution phase. The task at this stage is to align the budget execution results with the original budget. Reflecting the overall principles of the total amount, structure, direction and time of budget indicators, we should strictly control expenditure items and prevent the arbitrariness of expenditure. The budget management committee should monitor and review the implementation of the budget.

(6) Establish a suitable performance evaluation index system. Reward and punishment measures should be formulated according to different performance to fully mobilize the enthusiasm of budget execution departments. Specific performance feedback can be fed back to the budget management by a formal written report based on regular performance assessment results, or by top-down performance.

#### **4. Construction of University Performance Budget Evaluation System**

The performance budget evaluation link is the focus of performance budget management. Only a scientific and reasonable indicator system can be used to effectively evaluate the budget funds, and a reasonable performance budget can be prepared based on the evaluation results. This paper introduces the core content of the university performance budget model--the performance budget evaluation index system.

##### **4.1 The overall idea of the evaluation system construction**

The overall idea of the design of university performance budget indicators and evaluation system is to establish a performance-based core in performance budget management. Select a series of evaluation indicators, determine the evaluation criteria, establish evaluation system, and calculate the input and output data of colleges and universities, and draw the conclusion of the benefits and efficiency of the use of funds in Colleges and universities.

The first step is to set up a set of indicators which can fully reflect the main aspects of the research object.

In step two, a certain method is used to determine the weight of each indicator.

The third step is to determine the evaluation criteria of the indicators as the basis for the analysis

and evaluation of the actual data.

In step four, the indicators are compared with the determined evaluation criteria, and the index of the indicator is calculated.

Step 5: Summarize the value of each index, that is to say, form a comprehensive evaluation index reflecting budget performance.

#### 4.2 Selection of Evaluation Index of Financial Performance Budget in Colleges and Universities

Because of the financial characteristics of colleges and universities, the economic benefit assessment of colleges and universities has its particularity. Establish a comparable system to transform the direct and incomparable conditions into comparable conditions, so that the performance budget evaluation not only takes into account the different characteristics of the evaluation objects, but also takes into account the common characteristics of financial management. Considering the unmatched constraints of scale and the feasibility of relative performance. From the perspective of the evaluation of university performance budget, the closer the characteristics of the evaluation individual are, the stronger the comparability is, and the greater the credibility of the evaluation results.

The index system adopted in this paper is based on various factors such as the feasibility, objectivity, validity and comparability of the indicators based on the financial indicators specified in the annual department final accounts of the universities. The specific indicators are listed in Table 1:

Table 1 Performance budget evaluation indicators

Performance level	Serial number	Performance indicators
Teaching performance	1	Student to Teacher Ratio
	2	Per capita expenditure
	3	Per capita expenditure of faculty and staff
	4	Annual Income Growth Rate of Teaching Activities (%)
Scientific research performance	5	Per capita research expenditure of Teachers
	6	Annual Income Growth Rate of Scientific Research Activities (%)
Social Satisfaction	7	Undergraduate Employment Rate
	8	Provincial Excellent Papers
Comprehensive ability	9	Allocation growth rate
	10	Self-sufficiency rate of funds
	11	Annual growth rate of fixed assets
	12	Increase rate of business fund
Development potential	13	Realistic capacity to pay
	14	Asset-liability ratio
	15	Total expenditure as a percentage of total income

#### 4.3 Hierarchical Analysis of Evaluation Index of Budget Performance in Colleges and Universities

According to the actual situation of performance budget management in Colleges and universities, every budget expenditure institution needs to have a general understanding of teaching performance and financial situation. The purpose and emphasis of performance budget evaluation in Colleges and universities is to evaluate the output efficiency and utilization efficiency of the funds invested in the same year or a certain year. That is to say, through the establishment of the evaluation index system, the actual data of colleges and universities are measured, and the conclusions of the advantages and disadvantages of the use of capital output and efficiency of the university are obtained.

Based on the existing research results, according to the idea of AHP, the following index layer system is established for the performance budget of colleges and universities. The highest level of the hierarchical structure is generally the target layer of evaluation, which is the fundamental solution to the problem. The next level is the criterion layer, which is the sub-indicator level measured by the multi-dimensionality of the overall evaluation target. It is based on the overall evaluation goal to carry out specific decomposition. The last layer is the specific index layer, which is the index system formed by further decomposition of the index of the criterion layer. Compared with the criterion layer, it is more specific and comprehensive.

#### 4.4 Construct correlation matrix and get index weight coefficient

Each evaluation index has different importance in the whole evaluation system, so we need to judge the mutual importance of different indicators. We can quantify the correlation among the elements by constructing the correlation matrix, and get the weight coefficients of each index. The weight coefficient is the quantitative relationship of the proportion of an indicator in the indicator system. It not only represents the status or contribution rate of the indicator in the whole system, but also the relationship between an indicator and other indicators. In order to make the two-two comparison between the elements to obtain a quantitative judgment matrix, refer to the relevant research results, introduce the scale indicators and their meanings, as shown in Table 2:

Table 2 Indicator scale and meaning

Scaling a ij	meaning
1	The i factor is as important as the j factor
3	The i factor is slightly more important than the j factor
5	i factor and j factor are significant
7	i factor and j factor are very important
9	i factor and j factor and their importance
2, 4, 6, 8	The intermediate value of the above two phase judgment
Reciprocal	Indicates the opposite of the above numerical meaning

After the establishment of the hierarchical structure, all indicators are determined by two or two to form a judgment matrix.

#### 4.5 Standard for comprehensive evaluation of performance budget

Performance budget evaluation criteria as a measure of comparing and measuring the quality of performance budget situation are based on different scales, often the evaluation conclusions will be different. Therefore, it is necessary to determine the comprehensive evaluation criteria of performance budget before the comprehensive evaluation of financial performance budget.

The commonly used evaluation criteria are:

Planning criteria refer to comparing the actual level of comprehensive economic benefits and the level of prior planning, which can reflect the completion of the budget plan.

Historical standard: refers to the comparison of the actual level of comprehensive economic benefits and historical data, which can reflect the direction and extent of performance budget changes.

Social criteria: The existing average actual level of a department in a region is used as the evaluation criterion, and the average actual level is used as the evaluation criterion. This comparison can make different evaluation objects comparable.

Advanced criteria: Take the existing level or satisfactory target level of an advanced region or unit as evaluation criteria. This comparison is helpful to measure the extent of the gap between the evaluation object and the advanced level.

#### 4.6 Comprehensive evaluation using the comprehensive performance budget index method

The comprehensive performance budget index method is a method for comprehensive evaluation of performance budget based on the basic principle of index analysis and weighted arithmetic

average index formula. The basic idea is to use the index of each performance budget indicator in a certain standard period as the base, and then compare the actual value of the corresponding index in the report period, and finally calculate the weighted average of the calculated coefficient (dynamic ratio). According to the final total score to evaluate the overall budget performance of the reporting period, through various data analysis to evaluate the strengths and weaknesses of colleges and universities, and then strengthen the financial management ability of weak links.

## **5. Conclusion**

This study elaborates the related concepts and theories of performance budget management. On this basis, through in-depth analysis of the current situation and main problems of budget management in China's colleges and universities, this paper puts forward the concept of performance budget management in China's colleges and universities. The research and design of China's college performance evaluation index system including teaching performance, scientific research performance, social satisfaction, comprehensive ability, development potential, and five secondary indicators. The aim is to improve and improve the budget management level of colleges and universities in China, and hope to provide reference for financial researchers and workers in universities.

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