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Analysis on the Management Measures of University Scientific Research Funds under the Background of "Delegation, Regulation and Service

-- Performance Management based on Comprehensive Budget

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Abstract: Under the background of "decentralization, management and service", with the transformation of the management mode of scientific research funds from supervision and management to supervision and management and standardized services, from the responsibility system of project leaders to the responsibility system of legal persons, from process control to results oriented, and from fine budget to lump sum budget, the focus of internal control of scientific research funds has also changed, from project level risk to unit level risk. How to better control the internal control of scientific research funds at present? This paper analyzes the effectiveness of comprehensive budget performance management on the internal control of scientific research funds, proposes to combine the assessment indicators of comprehensive budget performance management with the internal control risk points, guide the scientific research management departments and researchers to improve the internal control measures by completing the assessment indicators, so as to achieve the internal control objectives, and discusses the above situation with case method.

Keywords: "Decentralization, management and service" policy; Scientific research funding; Budget performance management; Colleges and universities.

1. The Background and Significance of Promoting the Reform of “Decentralization, Regulation and Service" of Scientific Research Funding

1.1. This is the Strategic Requirement of the Party and the State

On August 5, 2021, the General Office of the State Council issued the Several Opinions on Reforming and Improving the Management of the Central Government's Scientific Research Funds (GB32), which is another milestone in the reform of the Party Central Committee and the State Council to "release, manage and serve" scientific research funds since the General Office of the State Council issued the Notice on Implementing Relevant Documents on Giving Scientific Research Institutions and Personnel Greater Autonomy (127) in 2018. In the report to the Twentieth National Congress of the Communist Party of China (CPC), the General Secretary pointed out that "education, science and technology, and talent are the fundamental and strategic supports for building a socialist modern country in an all-round way. We must adhere to the principle that science and technology are the first productive force, talent is the first resource, and innovation is the first driving force. We must thoroughly implement the strategy of revitalizing the country through science and education, the strategy of strengthening the country through talent, and the innovation driven development strategy, open up new areas and new tracks for development, and constantly shape new drivers and new. In order to better stimulate innovation and creativity, form a dynamic science and technology management and operation mechanism, and effectively support the implementation of the innovation driven development strategy, the national and local governments have issued a series of financial research project fund management policies, which require the management of research project funds to adhere to the combination of "decentralization, management and service", streamline administration, delegate power, and optimize services. The reason why the CPC Central Committee and the State Council attach great importance to streamlining administration and delegating power in the scientific research field of universities and research institutes is mainly to further break the shackles of scientific research personnel in the use of scientific research funds, speed up the improvement of scientific research project management evaluation and other systems, improve innovation performance, increase the supply of scientific and technological achievements, and support high-quality economic and social development. Break the old management mode, and avoid scientific researchers from spending their precious time and energy on the purchase of instruments and equipment, the approval of government procurement of consumables, and the extraction of scientific research performance. Therefore, only by continuously deepening the reform of "decentralization, management and service" in the field of science and technology, promoting policy integration and forming policy resultant force can we better play the role of "experimental field" of reform. To implement the strategy of streamlining administration and delegating power in the field of science and technology, we need to take the socialism with Chinese characteristics for a new era as a guide, fully implement the spirit of the 20th National Congress of the Communist Party of China, earnestly implement the decisions and arrangements of the Party Central Committee and the State Council, firmly establish a new concept of development, follow the laws of

scientific research activities, talent growth, and achievement transformation, deepen the reform of the science and technology system, transform the government's science and technology management functions, and focus on strategy, planning, policies, and services, We will support universities and research institutes to exercise scientific research related autonomy in accordance with laws and regulations, fully mobilize the enthusiasm and creativity of units and personnel, enhance the vitality of innovation and the ability to serve economic and social development, and provide strong support for building an innovative country and a world science and technology power.

1.2. This is an Important Mission of Universities and Research Institutes

Universities and scientific research institutes are engaged in exploratory and creative scientific research activities, with unique advantages in knowledge and talents. They are important forces in implementing the innovation driven development strategy and building an innovative country. The CPC Central Committee and the State Council attach great importance to streamlining administration and delegating power in the scientific research field of universities and research institutes. In recent years, a series of reform measures have been introduced and good results have been achieved. On July 4, 2018, Premier Li Keqiang held an executive meeting of the State Council, which defined the relevant requirements for continuing to expand the autonomy of scientific researchers, deepened the reform of "decentralization, management and service" in the field of science and technology, and stimulated innovation vitality. On July 18 of the same year, the State Council issued the Notice on Several Measures to Optimize Scientific Research Management and Improve Scientific Research Performance (Guo Fa [2018] No. 25). In July 2019, the Ministry of Science and Technology issued Several Opinions on Expanding the Autonomy of Universities and Scientific Research Institutes in Scientific Research (National Science and Technology Development Administration[2019] No. 260), pointing out that expanding the autonomy of universities and scientific research institutes in scientific research conforms to the overall requirements of the central government to promote the reform of public institutions by classification, Respecting scientific laws, implementing precise policies according to different characteristics of universities and research institutes, implementing classified management, and improving the pertinence and operability of policies. As the supporting units of scientific research projects, universities and scientific research institutions should be the main force of scientific research management, because they are more familiar with the laws of scientific research activities, closer to the scene of scientific research activities, and better understand the use of scientific research funds.

The transformation of the power subject relationship between the political school and the government is behind the reform of "releasing, regulating and serving". The reform enables universities and research institutes to have greater autonomy and innovation space in management, thus ensuring the subjectivity of researchers in scientific research projects. It is necessary to gradually delegate the management power of scientific research funds to grass-roots scientific research personnel while gradually transmitting pressure to universities, which puts forward higher requirements for improving the governance ability of universities and scientific research institutions. Standing at a new historical starting point, universities and research institutes should make full use of the responsibilities and authorities entrusted by the state to organize and carry out work, actively undertake major scientific research tasks, promote the reform of "releasing, managing and serving" the management of scientific research funds, fully release the innovative role of scientific research funds, integrate the development of units into the overall national development, and achieve their own sustainable development in the process of serving national goals.

In the field of scientific research fund management in colleges and universities, "releasing" mainly refers to deepening the reform of the examination and approval system of scientific research funds. As long as "managing" is to strengthen the supervision and management of scientific research funds in and after the event, it is necessary to improve the supervision method and improve the supervision efficiency on the premise that market allocation plays a decisive role; "Service" mainly refers to changing the functions of the management and supporting parties, optimizing services, and promoting the innovative vitality of university researchers. It is the premise for universities and scientific research institutes to implement the government accounting system to implement "releasing, managing and serving". The government accounting system has defined the budget, accounting and other contents of scientific research funds from a macro perspective. Only by fully clarifying the policy boundary can the performance of scientific research projects be improved. "Decentralization, management and service" requires universities and research institutes to formulate internal management measures for scientific research funds within the scope of national policies, delegate the authority of project budget adjustment, and serve scientific research projects well; It is also necessary to strengthen the review of scientific research budget, scientific research business expenditure must be reasonable, legal and compliant, and improve internal control standards, which fully laid the foundation for the implementation of the government accounting system. The reform of "decentralization, management and service" is a systematic project. "decentralization" is the premise, "management" is the guarantee, and "service" is the purpose. We should make sure that we are open, manageable and well served. The three restrict, guide and promote each other. How to give full play to the maximum efficiency of scientific research funds, innovate the management system of scientific research funds, improve the enthusiasm of scientific researchers through system design, and release innovation vitality is an important embodiment of universities and scientific research institutions in implementing the national strategy of streamlining administration and delegating power in the field of science and technology.

2. Transformation of Scientific Research Fund Management Mode under the Background of "Release, Management and Service"

2.1. Change from the Responsibility System of Project Leader to the Responsibility System of Project Undertaking Unit

The traditional management of scientific research funds emphasizes the project leader responsibility system. The

project leader is the organizer and manager of the scientific research project. He is responsible for organizing the preparation of the project budget, the use of funds and the audit of final accounts. He is directly responsible for the rationality, authenticity and relevance of the use of funds, and is responsible for accepting the supervision, inspection and audit of relevant departments. After the issuance of Several Opinions on Further Improving the Fund Management and Other Policies of the Central Government's Financial Research Projects (ZBF [2016] No. 50), it mainly strengthened the corporate responsibility and standardized the fund management. The project undertaking unit earnestly implements the relevant national policies and regulations, establishes and improves the internal control system, improves the internal risk prevention and control mechanism, strengthens the fund use performance evaluation, ensures the safe and effective use of funds, creates a sound institutional environment for scientific researchers, and devotes itself to scientific research.

2.2. Change from Strict and Standardized Supervision and Management to Equal Emphasis on Management

Before the reform of scientific research "releasing management and serving", the policy orientation focused on the refined management of budget and final accounts. The management document of scientific research funds made many restrictive provisions on the use of funds, and through the document, the requirements for "not to" use and "must" implement be clarified. During the use of scientific research funds, the whole process supervision of mid-term inspection, conclusion audit and re audit after acceptance shall be strengthened. The audit focuses on the use of funds exceeding the budget, reimbursement approval procedures, reasons for low budget implementation rate, unreasonable distribution of scientific research services and performance, etc. The budget preparation requirements are too detailed, the fund execution is poor, the reimbursement requirements are too strict, the performance evaluation mechanism is not sound, and the audit inspection is too frequent, which has become a shackle for researchers to devote themselves to research. After the reform of "decentralization, management and service" was first put forward in 2015, the state has made a policy change in the management of scientific research funds, streamlining administration and delegating power, stimulating vitality, optimizing services, improving efficiency, giving more autonomy to scientific researchers, and strengthening the management and service functions of scientific research and financial management departments, freeing scientific researchers from complicated financial affairs.

2.3. Change from Project Management Focusing on Process to Results

In order to standardize management and prevent and control risks, for a long time, the management of scientific research funds has strengthened process control, paid attention to budget binding force, and emphasized that the budget should not be adjusted at will. The adjustment of direct funds must be approved by the scientific research and financial management department of the university. Some key projects must also be reported to the project approval competent department for approval. The management of scientific research funds is operated according to the administrative process, which is overly administrative. During the implementation of scientific research projects, there are mid-term inspection, special audit and closing audit of funds, and some projects will accept the inspection and acceptance of surplus funds after two years of closing. Scientific researchers spend a lot of energy on the trivial matters of reimbursement and meeting the audit inspection. In order to give full play to the maximum efficiency of scientific research funds, improve the enthusiasm of scientific researchers and reduce the non-academic burden of scientific researchers through system design, the State Council issued the Notice on Several Measures to Optimize Scientific Research Management and Improve Scientific Research Performance to simplify the use process of scientific research funds, mobilize the secondary supervision and management functions, gradually relax the limit of funds audit and reduce the number of audit departments on the basis of full trust in scientific researchers, Do "put as much as you can, and simplify as much as you can". It is easy to see from the reform spirit at the national level that the management of scientific research projects has changed from process control to result orientation, thus releasing the vitality of scientific research innovation, stimulating the determination of scientific researchers to work hard for the country, devote themselves to research, overcome difficulties, and make more high-level achievements, improving the original innovation ability of scientific research projects and the ability to tackle key technologies in key areas, further strengthening the new momentum of economic development, and enhancing the comprehensive national strength of the country.

2.4. Transformation from Refined Project Budget Management to "Lump Sum System"

In order to strengthen the supervision of scientific research projects and funds, the management of scientific research funds emphasizes the refinement of budget preparation, and clearly sets up the content of funds. The budget is rigid, the adjustment procedure is complex, and the signing and approval procedures are many and time-consuming. In particular, the budget preparation and use of major special science and technology projects in some countries are stricter. For example, the contract and sequencing results must be provided for the expenditure of equipment costs, bulk material costs, and testing, testing and processing costs. The focus of financial audit is on the standardization of project budget adjustment, the rationality of account adjustment expenditure, the proportion of indirect funds withdrawn, the details of equipment procurement, and whether there is false claim for scientific research labor expenditure. In the government work report of the State Council in 2019, Premier Li Keqiang proposed to fully respect and trust scientific researchers, give more power to control people's property, set no limit on the proportion of subjects, and carry out the pilot reform of the "lump sum system" for the use of project funds, which is decided by the scientific research team. In order to respect the laws and characteristics of scientific research activities and reduce the burden on scientific researchers, the state has issued a series of reform and improvement suggestions on the management of the central financial research funds, simplified budget preparation, and delegated budget adjustment authority. Under the premise that the total budget of the project remains unchanged, the budget "lump sum" management mode is adopted to give scientific researchers more autonomy in the use of funds. At the same

time, it clarified the measures to improve the financial reimbursement management mode, expand the scope of labor expenditure, increase the proportion of indirect funds, improve the management mechanism of scientific research performance, improve the retention method of balance carry forward funds, simplify the financial management of scientific research project acceptance and conclusion, etc. The management reason of scientific research funds budget was changed from fine budget to lump sum budget.

2.5. Transformation from Project Budget Supervision and Management to Comprehensive Budget Performance Management

The supervision and management of scientific research funds include but are not limited to budget preparation, budget implementation, review of financial reports, review of capital receipts and expenditures, asset management, etc., and internal and external audits are used to prevent and stop violations of financial laws and regulations. For a long time, scientific research projects have achieved process supervision of scientific research funds by strengthening supervision and inspection before, during and after the budget. Audit supervision, financial and accounting supervision and daily supervision have been integrated and coordinated to enhance the resultant force of fund supervision and ensure the legitimacy, compliance and rationality of the use of scientific research funds. In 2020, the Ministry of Finance issued the Measures for the Management of Performance Evaluation of Project Expenditures, which incorporated the performance concept into budget management, and incorporated performance target setting, tracking, evaluation and results application into the whole process of scientific research budget preparation, implementation and supervision, so as to increase the overall planning of budget funds, optimize budget setting and expenditure structure, and invest limited financial resources in key areas affecting scientific research, supported by budget review and performance management, A new budget management mode of scientific research projects with project expenditure, which aims at rational allocation and efficient use of resources, ensures an effective incentive and restraint mechanism, and focuses on highlighting, standardized management and efficient operation. Establish and improve the budget performance management in the whole process of "budgeting with objectives, budget implementation with monitoring, budget completion with evaluation, evaluation results with feedback, and feedback results with application".

3. Implementation of Comprehensive Budget Performance Management of Scientific Research Funds in Colleges and Universities

The report of the 20th National Congress of the Communist Party of China proposed that "implementing the strategy of rejuvenating the country through science and education and strengthening the talent support for modernization", "education is the national and party's major plan", and "education, science and technology, and talent are the basic and strategic support for building a socialist modern country in an all-round way". From the strategic height of comprehensively promoting the great rejuvenation of the Chinese nation, and thoroughly implementing the development strategy and development needs of the Party in the new era, colleges and universities, while implementing the fundamental task of establishing morality and cultivating people, have built a good platform for scientific research and social services, enhanced the vitality of innovation and creativity and the ability to serve economic and social development, and provided strong support for building an innovative country and a world science and technology power. On February 25, 2022, the State Council announced at a press conference that in 2021, the whole society's R&D investment will be about 2.79 trillion yuan, an increase of 14.2% over the previous year, and the ratio of the whole society's R&D investment to GDP will be 2.44%; Basic research funds increased by 15.6% over the previous year, accounting for 6.09% of the whole society's R&D investment. The turnover of technology contracts is expected to exceed 3.7 trillion yuan. The comprehensive ranking of national innovation capacity has risen to the 12th in the world, achieving a good start to the "14th Five Year Plan". In the context of the high amount of national capital investment, the implementation of the policy of "decentralization, management and service" of scientific research funds should not only clarify the management measures of scientific research funds under the decentralization policy to improve service efficiency, but also well prevent and control the risk of funds use to achieve legal compliance. In this paper, through the combination of internal control risk points and budget performance reform assessment indicators, the internal control of scientific research funds should be done well under the background of comprehensive budget performance management.

3.1. Implementation Conditions for Comprehensive Budget Performance Management

The financial work is the basis and support for ensuring the sustainable development of the school and improving the comprehensive governance capacity, and carries the important task of ensuring people's livelihood, operation and key points. In 2018, the State Council issued the Notice on the Implementation of the Opinions of the Central Committee of the Communist Party of China and the State Council on the Comprehensive Implementation of Budget Performance Management, proposing to establish a comprehensive, standardized and transparent budget system with scientific standards and strong constraints to fully implement performance management. In order to standardize the budget management of colleges and universities, reasonably allocate the resources in colleges and universities, and improve the efficiency of fund use, colleges and universities should focus on the following aspects when implementing comprehensive budget performance management.

3.1.1. Establish correct awareness and create environmental conditions for implementing comprehensive budget performance management

The leadership of colleges and universities attaches importance to the reform of budget performance, gives play to the functions of macro-control, supervision and guidance, and establishes the concept of budget and performance of all faculty. The principle of performance orientation should be clarified. All links and tasks of budget management should be performance oriented. Performance management should be carried out throughout the whole process of budget

management. The overall planning of budget funds should be strengthened to achieve "focusing financial resources on major issues". Project settings and expenditure structures should be optimized to avoid repeated investment in similar projects, prevent fragmentation of fund use, and maximize the efficiency of budget fund operation and budget management. At the same time, we will strengthen the principle of accountability, adhere to the management philosophy of "using money must be effective and ineffective must be accountable", emphasize the responsibility of project units for expenditure and the responsibility of management departments for supervision, and implement performance accountability. Accountability shall be investigated for non-performance or low performance project units and departments.

3.1.2. Establish and improve the budget performance indicator system of colleges and universities

The budget performance objective can clearly reflect the expected output and expected effect of the budget funds, and is detailed and quantitatively described by corresponding performance indicators, mainly including output indicators, benefit indicators and satisfaction indicators. The performance objective should be directly related to the overall performance objective, and can fully and appropriately reflect the degree of realization of the objective. Common performance indicators should be set for similar performance management objects, so that the evaluation results can be compared with each other. The performance objectives shall be detailed in terms of quantity, quality, cost and timeliness, and shall be expressed quantitatively as far as possible. If they cannot be expressed in quantitative form, they can be expressed in qualitative hierarchical form. The combination of quantitative indicators and qualitative indicators helps to systematically reflect the benefits generated by budget expenditure. The acquisition of the data involved in the performance indicators should take into account the realistic conditions and operability. The formulation of performance objectives should be subject to investigation and scientific demonstration. The objectives should conform to the objective reality and the cost-benefit principle. Colleges and universities should establish a hierarchical and type budget performance indicator system that is suitable for all departments and projects.

Establish a new project expenditure budget management mode with scientific and reasonable rolling planning as the traction, standardized project library management as the basis, budget review and performance management as the support, reasonable allocation and efficient utilization of resources as the purpose, effective incentive and constraint mechanism as the guarantee, and focus on highlighting, standardized management, and efficient operation.

3.1.3. Define the organization and responsibilities of comprehensive budget performance management

Colleges and universities should set up an independent budget performance management leading group, which is composed of financial, human resources, educational affairs, graduate schools, research institutes, capital construction, audit and other functional departments. The group leader is the president, and the deputy group leader is the vice president in charge of finance. The leading group office is generally located in the financial department. The school should implement a comprehensive budget performance management pattern, run through the whole process of budget performance management, improve the full coverage budget performance management system, improve the budget management system, and strengthen the budget performance management constraints. The leading group and each department (unit) managing or using funds are the main body of budget performance evaluation. The budget leading group is responsible for organizing the budget performance evaluation of the whole school, completing the preparation and submission of the school's overall expenditure performance evaluation report assigned by the superior department and the performance evaluation report of related project expenditure; Formulate and implement the budget performance management and assessment methods of the school, assist functional departments and the college in budget performance management, track, inspect and report the budget implementation progress, communicate with the units with low budget implementation rate and problems, and propose rectification suggestions based on the performance evaluation, which can be implemented after being approved by the school.

Each fund management or user department shall reasonably arrange the project expenditure and implementation progress according to the budget, regularly prepare and report the performance objectives and performance indicators of the project expenditure and the overall unit expenditure, complete the project performance self-assessment report at the end of each year or at the end of the project, accept the performance inspection of departments at all levels, and rectify and implement as required.

3.1.4. Deeply promote the implementation of budget management integration reform

In order to implement the relevant requirements of the Opinions of the State Council on Further Deepening the Reform of the Budget Management System (GF [2021] No. 5), the Ministry of Finance is scheduled to comprehensively promote the implementation of the integrated budget management system in all central departments and budget units in 2022. In order to accelerate the construction of the integrated budget management at the central level, the central budget preparation and implementation and other businesses will be implemented through the integrated system in 2023, effectively support further deepening the reform of the budget management system.

The integration of budget management is a key step to ensure the implementation of relevant national policies by opening up the whole cycle and whole process management links of project library, budget preparation, budget implementation, final accounts and performance evaluation, realizing the integration and unification of capital flow and business flow, greatly improving the level of budget management, and enhancing the transparency of fund use. Colleges and universities should take this opportunity to strengthen top-level design, further rationalize internal management processes and mechanisms, optimize college financial management, establish a project centered management concept, and effectively improve budget performance management.

3.2. Effectiveness Analysis of Overall Budget Performance Management on Internal Control of Scientific Research Funds

3.2.1. The objectives of comprehensive budget performance management and internal control of the unit are consistent

Comprehensive budget performance management and internal control are important carriers to promote the modernization of comprehensive governance of administrative institutions. The Opinions of the Central Committee of the Communist Party of China and the State Council on the Overall Implementation of Budget Performance Management pointed out that "it is necessary to build a budget performance management system that is comprehensive, full process and full coverage, achieve the integration of budget and performance management, focus on improving the efficiency of financial resource allocation and use efficiency, change the fixed pattern of budget fund allocation, improve the budget management level and policy implementation effect, and provide a strong guarantee for economic and social development"; The Code for Internal Control of Administrative Institutions (for Trial Implementation) states that "the objective of internal control is to reasonably ensure the legality and compliance of economic activities, the safety and effective use of assets, the authenticity and integrity of financial information, effectively prevent fraud and corruption, and improve the efficiency and effectiveness of public services". It can be seen that the objectives of comprehensive budget performance management and internal control system construction are to establish and improve the management system of economic activities, optimize the efficiency of resource allocation, reduce the risk of economic activities, and select risk response strategies. The two have the same goals, guide and promote each other, and jointly improve the scientific governance capacity of administrative institutions.

3.2.2. Comprehensive budget performance management and internal control of the unit are linked, coordinated and mutually promoted

First of all, comprehensive budget performance management is one of the effective measures for administrative institutions to implement internal control. Establishing a scientific and efficient budget performance management system, rationally allocating unit resources, improving fund use efficiency, and hardening responsibility constraints will help administrative institutions to organize and implement a comprehensive, systematic and efficient internal control system. Comprehensive budget performance management is an important method of implementing internal control management. Secondly, the operation of internal control directly affects the implementation of financial management in administrative institutions, including the implementation of comprehensive budget performance management, the effect of steadily improving the quality of financial information, and the guarantee ability of continuous optimization of resource allocation, which are the important foundation for the smooth development of various economic activities of the unit. The comprehensive budget performance management is the basic work of the organization and implementation of internal control management of the unit. Internal control is the guarantee. The two are interrelated, coordinated and mutually promoted.

3.2.3. Comprehensive budget performance management and unit internal control jointly promote the management of scientific research funds

The objectives of comprehensive budget performance management and internal control are consistent. According to the actual needs of scientific research management, the internal control governance indicators are included in the budget performance management evaluation indicators. Through the mutual reference and integration of the two indicator systems, the work efficiency is improved and double evaluation and double promotion are achieved. Scientific research fund management is a highly professional economic business, and it puts forward high standards for budget performance management and internal control management. Based on comprehensive budget performance management, it implements internal control management on scientific research funds, combines the two parts of work, integrates the two indicators, implements the national requirements for scientific research fund management, and effectively meets the actual needs of administrative institutions for scientific research management.

3.3. Organization and Implementation of Comprehensive Budget Performance Management

The implementation of comprehensive budget performance management in the process of scientific research project management refers to the management activities that integrate the performance concept into the management of scientific research funds, include the setting, tracking, evaluation and results application of performance objectives into the whole process of scientific research budget preparation, fund implementation and final audit supervision, and aim to improve the social and economic benefits of scientific research funds. As the management of scientific research funds is an economic matter with clear budget performance goal orientation, and the practical operation is complex, the performance management of scientific research projects will experience a period of practical testing. In the early stage of implementation, it is necessary to optimize the management mode of scientific research projects and funds budget, implement budget performance management for scientific research projects by stages and steps, and steadily improve the budget performance management level. The basis for setting the performance objectives in this paper is only to classify the performance of the project implementation and the use of funds according to the assignment of scientific research projects under the relevant national laws, regulations and rules after the acceptance of the scientific research projects, and on this basis, evaluate the scientific research project management and internal risk prevention and control mechanism of the undertaking unit.

(1) Specify the institutions and responsibilities responsible for comprehensive budget performance management, and ensure that personnel, organization and evaluation are in place. Regularly carry out budget performance assessment of scientific research fund management to ensure the integrated operation of management, service, evaluation and assessment.

(2) On the basis of internal control risk points, the performance evaluation indicators, standards and methods of scientific research funds are constructed. Performance evaluation is mainly completed by comparing the set performance evaluation indicators with the actual performance of the project according to certain performance

evaluation standards. The performance evaluation standard is a measure of the completion of expenditure performance objectives. The performance evaluation index system is the core of the implementation of internal control management and budget performance management, which is divided into common indicators and individual indicators. Common indicators are indicators applicable to all evaluation objects, mainly including budget preparation and implementation, as well as social and economic benefits generated by the project; Personality indicators are set according to the characteristics of the project and are applicable to the performance evaluation indicators of different projects. The design of performance evaluation index of scientific research funds requires comprehensive consideration of multiple factors:

a. The principle of reference. On the one hand, refer to the evaluation criteria established by the internal control evaluation index system and the common performance index data of scientific research projects under national policies and regulations. On the other hand, it refers to the historical data of similar indicators.

b. The principle of pertinence. The evaluation index system is established based on the internal control risk points existing in the management process of scientific research funds. Combined with the difficulties and pain points under the current system, the evaluation design not only assesses the performance of the use of independent scientific research project funds, but also measures the overall level of scientific research fund management of the unit.

c. Principle of operability. The principle of operability requires that the operability and practical conditions must be fully considered when selecting performance appraisal indicators, and the indicator value should be easy to obtain.

Therefore, the design of budget performance evaluation indicators should first analyze the risk points of internal control of scientific research funds. The risk points at the unit level mainly consider two aspects: on the one hand, management, such as organization and mechanism construction, system construction, risk assessment, business process control, internal information communication, financial management, et al.; On the other hand, it is the effect. In fact, the scientific research undertaking unit pays great attention to the scientific research achievements and their effects. One of the objectives of internal control is to improve the efficiency and effectiveness of public services. Therefore, in the evaluation of scientific research funds, in addition to the normative management risk, we should also consider the value-added effect risk. Such as output, benefit, satisfaction, etc. For the risk points at the project level, two aspects can also be considered, namely, the implementation system and the results effect.

According to the analysis of the above risk points, combined with the general indicator system of comprehensive budget performance management, performance indicators at the scientific research management level and project level can be designed. There are four first level indicators, namely management indicators, output indicators, benefit indicators and satisfaction indicators. At the same time, second and third level indicators can be set under each first level indicator. Table 1 and 2 lists the framework system of performance evaluation indicators of scientific research funds. Different units can adjust the setting of indicator levels, levels, quantities and contents according to the actual situation. See Table 1 and 2 for details.

Table 1. Performance Indicators of Scientific Research Management

Level I Indicators	Secondary Indicators	Third Level Indicators
Management Indicators	Business Management	Work organization
		System construction
		Risk assessment
		Operation of rights
		Construction of internal control system
	Financial Management	Standardization of accounting review
		Compliance of fund use
		Effectiveness of fund monitoring
Output Indicators	Quantitative Indicators	Number and amount of scientific research projects
	Quality Index	Project completion quality and results
	Timeliness Index	Timely rate of scientific research project completion
Benefit Indicators	Economic Performance	Industrialization capacity of scientific research achievements
	Social Results	Social impact of scientific research achievements
	Environmental Benefits	Impact of scientific research achievements on ecological environment
	Sustainable Benefits	The sustainable impact of scientific research achievements on social economy
Satisfaction Index	Satisfaction of Service Objects	Teacher satisfaction
		Student satisfaction

Table 2. Performance Indicators at the Level of Scientific Research Projects

Level I Indicators	Secondary Indicators	Third Level Indicators
Management Indicators	Compliance of Fund Use	Implementation of specific systems
Output Indicators	Quantitative Indicators	Completion of project objectives
	Quality Index	Project completion quality and achievements
	Timeliness Index	Timeliness of project conclusion
Benefit Indicators	Economic Performance	Industrialization ability of scientific research achievements
	Social Results	Social impact of scientific research achievements
	Environmental Benefit	Impact of scientific research achievements on ecological environment
	Sustainable Benefits	Sustainable impact of scientific research achievements on social economy
Satisfaction Index	Satisfaction of Service Objects	Satisfaction of scientific research competent department

(3) Establish an information management system for the whole process of comprehensive budget performance management. Performance appraisal is a complex system, but under the policy requirement of "releasing, managing and serving", the implementation of the appraisal cannot increase the burden of scientific researchers, which requires the establishment of an information management system based on data sharing. The unit shall make full use of information system to realize data sharing, process optimization and convenient service. Actively build platforms for contract management, experimental consumables procurement and management, office supplies procurement management, travel management, etc., open up access to asset management system, scientific research management system, and personnel management system, realize data sharing, make full use of these industry finance integration platforms, and build a science research management finance integration information system (see Figure 1 for details). On the one hand, it is convenient for the majority of scientific researchers to really reduce the complexity of filling in data and reimbursement; On the other hand, it is convenient to take the value of indicators in performance appraisal, ensure the accuracy of indicator appraisal, and improve the scientificity and fairness of budget performance management.

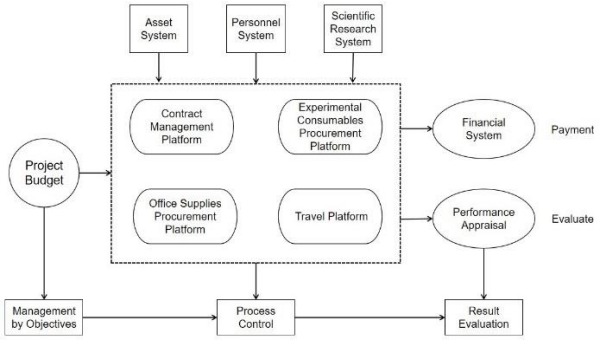


Figure 1. Comprehensive Budget Performance Management Information Management System.

(4) Establish a reward and punishment mechanism for comprehensive budget performance management. The state has proposed to implement integrity assessment on project undertaking units. The management of scientific research funds by the unit is also an important check point, so the unit should regularly carry out performance evaluation according to the indicator system, and link the evaluation results with the project application, excellence evaluation, professional title promotion, etc. of the scientific research personnel, as well as with the evaluation of the scientific research management department, forming a constraint mechanism, and strengthening the performance awareness and internal control awareness of all personnel.

To sum up, in the context of "decentralization, management and service", based on comprehensive budget performance management, integrating and supplementing the budget performance evaluation indicators and internal control indicators of scientific research funds can better achieve the dual objectives of performance evaluation and internal control, which is conducive to the standardized management and efficient service of scientific research funds.

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