

Construction of a Performance Evaluation Indicator System for Transfer Payments: Based on the Input-Output Method

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Abstract: In recent years, transfer payments have expanded continuously in scale and been optimized steadily in structure, playing a significant role in equalizing regional fiscal capacity, safeguarding fiscal operations, and advancing the equalization of basic public services. However, problems in fund utilization may cause deviations between inputs and intended objectives. Against the backdrop of comprehensive disclosure of government budgets and final accounts and the full implementation of budget performance management, developing a comprehensive and scientific performance evaluation system for transfer payment funds is a practical necessity for improving the effectiveness of fund utilization and optimizing resource allocation. Based on the input-output method and following the fundamental principles of performance evaluation, this paper refines the selection and calculation of performance indicators and attempts to construct a quantitative performance evaluation indicator system for transfer payments, thereby improving the effectiveness of fund utilization, refining the performance management model, and preventing deviations between fund inputs and intended objectives.

Keywords: Transfer Payments, Performance Management, Performance Evaluation System.

1. Introduction

Since the 18th National Congress of the Communist Party of China, the scale of transfer payments has grown approximately 2.25-fold from 2012 to 2024. Structurally, the share of general transfer payments has risen to 87.45%, nearly doubling its previous level, while the share of specific transfer payments has continued to decline to 7.65%, indicating an optimized fund allocation structure. Specifically, transfer payments comprise general transfer payments, transfer payments for common fiscal responsibilities, and specific transfer payments, with the budget preparation for transfer payments for common fiscal responsibilities incorporated into general transfer payments [1]. From a structural perspective, both general and specific transfer payment funds exert a positive effect on local economic growth and can enhance the quality of such growth [2]. However, since the central government often provides only broad policy directives or aggregate targets when formulating certain transfer payments, without specifying detailed implementation rules or specific execution methods, the actual implementation outcomes of local governments may deviate from the central government's strategic intentions [3], potentially leading to a decline in the efficiency of transfer payments. Furthermore, examinations of issues such as retention, misappropriation, and leakage in the transfer payment process have revealed that implementation deviations in transfer payments have become a bottleneck constraining the effectiveness of central policies [4, 5, 6].

In summary, problems in the utilization of transfer payment funds may result in the partial or complete failure to achieve the intended policy objectives of the original transfer payments, thereby giving rise to a phenomenon of deviation between fund inputs and intended objectives. Therefore, systematic research on the performance management of central-to-local transfer payment funds to avoid such a phenomenon carries both theoretical foresight and practical

urgency. This paper attempts to construct a quantitative performance evaluation indicator system for transfer payments based on the input-output method, and to establish subdivided indicators that enable precise traceability, so as to enhance the effectiveness of fund utilization.

2. Basic Methods for Constructing the Performance Evaluation Indicator System for Transfer Payments

Against the backdrop of China's multi-tiered governance structure, transfer payments, as a vehicle for the vertical allocation of fiscal resources, not only involve the pursuit of economic attributes such as fiscal capacity equalization and regional equity, but also inevitably entail coordination and game-playing among governments and departments. Therefore, transfer payment funds must not only achieve the objective from an economic perspective, namely the maximization of fund utilization efficiency, but also pursue process control and implementation effectiveness at the micro level—that is, from a management science perspective, specifically focusing on the compliance, targeting accuracy, and timeliness of a series of management activities including fund allocation, utilization, and supervision.

Performance is a management concept with multiple connotations, among which the definition of "performance as the ratio of valuable outcomes to the cost of behaviors (activities)" is a relatively classic one [7], that is, performance is the ratio of output value to input costs [8]. From an economic perspective, to a certain extent, the input of transfer payment funds can be regarded as a form of productive input, through which the fund inputs of different projects under various types of transfer payments generate benefits in areas such as the provision of basic public services, fiscal capacity equalization, and the operation of grassroots governance.

Accordingly, this paper adopts the input-output method to construct a quantitative performance indicator system for

transfer payments, employing a comprehensive depiction of the efficiency and effectiveness of input-output activities to describe the performance of transfer payment funds. Finally, based on the differences in fund inputs and outputs among transfer payment funds, this paper evaluates the performance variations across different types of transfer payments, and achieves benefit maximization through the scientific and rational allocation of funds.

3. Fundamental Principles for Constructing the Performance Evaluation Indicator System for Transfer Payments

Given that central-to-local fiscal transfer payments are characterized by large fund scale, extensive coverage, long allocation chains, and relatively lengthy cycles, this paper, in constructing a three-dimensional quantitative performance

evaluation system for transfer payments, not only takes into account the relevant stipulated principles but also incorporates the principles of guidance, scientific rigor, and dynamic adaptability, as specifically illustrated in Figure 1. This is attributable to the following considerations: in constructing the performance evaluation system, a guiding role should be played to guide governments in maximizing the effectiveness of fund utilization and reducing inefficient or even ineffective fund utilization; the selection of indicators should not only highlight core indicators with reasonable weights assigned, but also give due attention to the quantifiability and data availability of the indicators; and the indicator system and weight coefficients should be regularly reviewed and optimized, thereby reducing the impact of random factors on performance evaluation results and helping to ensure that the performance evaluation can continuously and authentically reflect the long-term benefits and comprehensive impacts generated by the input of transfer payment funds.

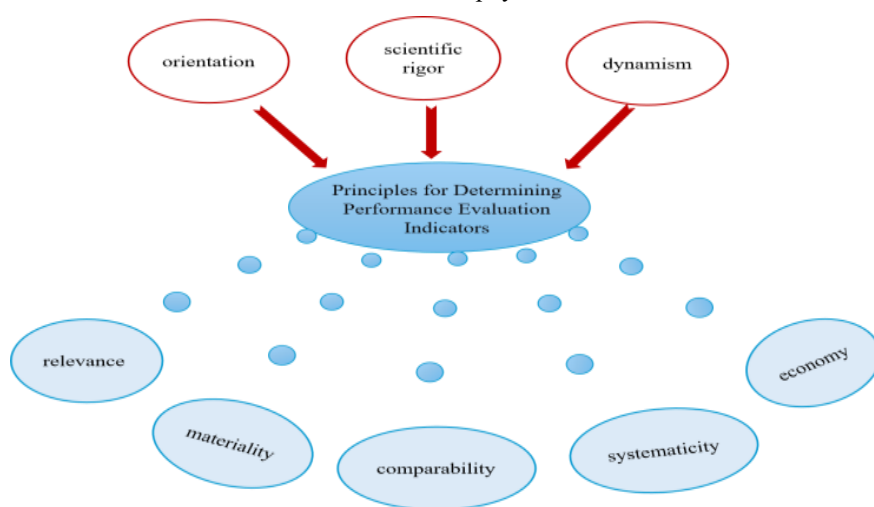


Table 1. Performance Evaluation Indicator System for General Transfer Payments

Tier-I Indicator	Tier-II Indicator	Tier-III Indicator
Input	Aggregate Fund Input	Total amount of general transfer payments
		Per capita transfer payment level
	Coverage of Fund Allocation	Number of beneficiary counties
	Fund Implementation Status	Fund disbursement rate
		Timeliness of fund disbursement
Output	Provision of Basic Public Services	Compulsory education seats per 10,000 inhabitants
		Primary-level medical and health institution beds per 1,000 population
		Completed urban-rural community public facility projects
	Fiscal Capacity Equalization	Increase in per capita fiscal resources at the county level
		Share of transfer payments in county-level expenditure
		Reduction in the county-level fiscal distress coefficient
	Operation of Grassroots Governance	Standardization rate of "Three Guarantees" budget preparation at county level
		Timeliness of "Three Guarantees" expenditure disbursement at township level
		Number of primary-level grid workers on duty

Note: "Three Guarantees" refers to safeguarding basic livelihoods, wage payments, and operational expenditures at the grassroots level.

5. Selection and Calculation of Performance Evaluation Indicator Methods

(1) Analytic Hierarchy Process (AHP)

After constructing the performance evaluation indicator system for transfer payments, it is necessary to standardize both qualitative and quantitative indicators to form a comprehensive performance evaluation index. This paper primarily employs the Analytic Hierarchy Process (AHP) to determine indicator weights, thereby transforming subjective judgments into quantitative weights and enabling the construction of quantifiable indicators.

The specific steps are as follows: first, establish a hierarchical structure model, i.e., the three-tier indicator system constructed above; second, construct judgment matrices and calculate weight vectors to determine the weight coefficients among indicators at the same level; third, conduct a consistency test and calculate the consistency index (CI).

$$CI = \frac{\lambda_{\max} - n}{n - 1} \quad (1)$$

Where $\lambda_{\max}$ is the maximum eigenvalue of the matrix, and n is the order of the matrix.

(2) Comprehensive Performance Index

The first step is to perform positive orientation processing on the indicators in the transfer payment performance evaluation indicator system constructed in this paper, with the positive orientation processing for reverse indicators and moderate indicators shown in Eqs. 2 and 3, respectively.

$$x'_{ij} = \max_{1 \leq i \leq n} (x_{ij}) - x_{ij} \quad (2)$$

$$x'_{ij} = \max_{1 \leq i \leq n} (|x_{ij} - k_j|) - |x_{ij} - k_j| \quad (3)$$

The second step is to standardize the indicator data using the min-max normalization method, on the premise that the indicators have achieved trend homogenization through positive orientation processing, as shown in Eq. 4.

$$y_{ij} = \frac{x_{ij} - \min_{1 \leq i \leq n} (x_{ij})}{\max_{1 \leq i \leq n} (x_{ij}) - \min_{1 \leq i \leq n} (x_{ij})} \quad (4)$$

Where y_{ij} is the standardized value of the j -th indicator for the i -th unit.

The third step is to synthesize the performance index of each Tier-I indicator, i.e., the weighted sum of all Tier-III indicators under each Tier-I indicator, as shown in Eq. 5.

$$K_i = \sum_{j=1}^n (X_{ij}^* Q_{ij}) \quad (5)$$

Where K_i is the performance index of the i -th Tier-I indicator; X_{ij}^* is the performance index of the j -th Tier-III indicator under the i -th Tier-I indicator; and Q_{ij} is the weight of the j -th Tier-III indicator under the i -th Tier-I indicator.

The fourth step is to synthesize the comprehensive performance index. Specifically, two approaches are available: first, directly summing the performance indices of the two Tier-I indicators, as shown in Eq. 6; second, calculating the weighted sum of all Tier-III indicator performance indices and their respective weights. Since the Tier-III indicators, after positive orientation and dimensionless normalization, have been brought to the same scale, the comprehensive performance index can also be obtained through weighted aggregation.

$$R = \sum_{i=1}^2 K_i \quad (6)$$

(3) Performance Evaluation Results and Presentation Format

After determining the weights through the Analytic Hierarchy Process (AHP), the comprehensive performance index of transfer payment funds can be derived, which may represent the overall performance evaluation outcome of such funds. Specifically: once the annual comprehensive performance index is calculated, different tiers and grades are determined using the progressive mean method, and the evaluation results are ranked. The higher the ranking, the higher the level of fund utilization effectiveness of the transfer payment funds. The magnitude of the comprehensive performance index can indicate the differences in input-output performance of transfer payment funds. The specific pathway for deriving the comprehensive performance index of transfer payment funds is illustrated in Figure 2.

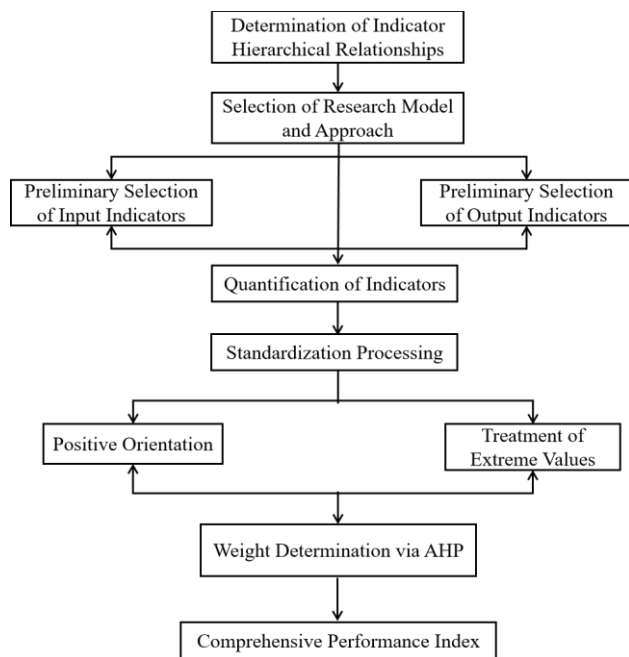


Figure 2. Illustrative Pathway of the Comprehensive Performance Index for Transfer Payment Funds

6. Recommendations for Transfer Payment Performance Evaluation

Budget performance management serves not only as a critical pathway for optimizing fiscal resource allocation, but also as a powerful foundation for promoting quality improvement and efficiency enhancement in the new era. As a focal point of the new round of fiscal and taxation system reform, transfer payments can further enhance the governance effectiveness of government administration. It is therefore evident that conducting performance evaluation of central-to-local transfer payment budgets is imperative, as this initiative contributes to improving the effectiveness of fund utilization of transfer payments.

(1) Improving the Top-Level Design of Indicator System Construction

At present, fiscal budget performance management requires a shift from addressing the question of "whether a system exists" to that of "whether it is effective and efficient," necessitating a break from the entrenched inertia of "emphasizing allocation while neglecting management" and the rectification of inefficient and ineffective fund utilization. Accordingly, fiscal performance management must thoroughly abandon formalism, be grounded in China's realities, strengthen bottom-up design, and refine the above requirements into operational, measurable, and accountable mechanisms.

(2) Strengthening the Application of Performance Evaluation Results

Over the long-term development of transfer payments, issues such as retention, misappropriation, and leakage have persisted. On the whole, this may be attributable to a disconnect between fund inputs and performance objectives during the performance management process. Therefore, it is necessary to strengthen performance management awareness, and to establish mandatory linkage mechanisms that tie evaluation results to budget allocation and policy adjustments, thereby forming a rigid constraint of "every expenditure must be evaluated for performance, and ineffectiveness must be held accountable." This will, in turn, elevate the level of

budget management and improve the expenditure policy system.

(3) Strengthening Performance Evaluation of Transfer Payment Funds in Key Areas

First, a macro-level performance evaluation system for central-to-local fiscal transfer payments should be constructed to examine the overall effectiveness of funds from an aggregate perspective. Second, the performance evaluation of key transfer payment projects should be reinforced to further standardize the utilization of transfer payment funds. Specifically, through a pilot-driven approach, the performance management capacity of transfer payment funds can be comprehensively enhanced, effectively strengthening the fiscal support effectiveness of local governments in critical areas.

(4) Establishing an Appropriate Scale of Transfer Payments

The appropriate scale of transfer payments fundamentally depends on the degree of imbalance between local governments' expenditure responsibilities and revenue capacity. An excessively large scale may result in transfer payments failing to achieve maximum efficiency, thereby increasing the fiscal burden on local governments and giving rise to resource misallocation. Therefore, it is necessary to prudently determine the aggregate amount of general transfer payments, and dynamically optimize the structure and scale of specific transfer payments, so as to effectively leverage the positive incentive effects of policies while avoiding potential adverse impacts.

7. Conclusion

Although transfer payments have achieved remarkable results in equalizing regional fiscal capacity, safeguarding the operation of grassroots governance, and advancing the equalization of basic public services, problems in fund utilization—such as retention, misappropriation, and implementation deviations—are prone to cause deviations between inputs and policy objectives. There is therefore an urgent need to establish a scientific and operational performance evaluation mechanism. Based on the input-output analytical method and following the principles of guidance, scientific rigor, and dynamic adaptability, this paper attempts to construct a quantitative performance evaluation indicator system for transfer payments. Furthermore, by employing the Analytic Hierarchy Process (AHP) to determine indicator weights, a comprehensive performance index is synthesized to enable horizontal comparison of fund utilization effectiveness. In summary, this paper attempts to optimize the performance management model and maximize the allocative efficiency and utilization effectiveness of fiscal funds by constructing a scientific, comprehensive, operational, and quantifiable performance evaluation indicator system and linking evaluation results to budget allocation.

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