

Armed Police Financial Performance Evaluation Method Design

A Research Perspective Based on Balanced Scorecard

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Abstract—The financial performance evaluation is the key link of the financial performance management of the Armed Police Force. It is of great significance to reduce the cost of maintaining the stability of the Armed Police Force, increase the efficiency of fund use, and ensure the effective generation of combat effectiveness. The management idea of the balanced scorecard was introduced into the evaluation of the financial performance of the armed police, and the financial strategy map of the armed police was drawn with the target mission system. Under the guidance of the strategy map, the financial performance evaluation index system of the armed police is constructed from the four aspects of guarantee effect, expense management, internal operation, learning and development. This paper proposes to use AHP and fuzzy comprehensive evaluation method to calculate the individual scores and overall scores of each evaluation item, obtain the performance evaluation value of the specific project and the overall situation, and quantitatively reflect the financial security of the armed police. Through the specific indicators to identify weak points, so as to improve the financial work in a targeted manner, improve financial management quality and effectiveness.

Keywords—armed police finance; performance evaluation; balanced scorecard; index system

I. INTRODUCTION

The evaluation of financial performance of armed police is a performance evaluation method that takes the maximization of protection as a goal orientation, project efficiency as a measure, and performance evaluation as the core content. Although the goal of national defense and army building is not to pursue profit maximization, the defense sector as a public goods supplier mainly provides public goods such as combat effectiveness (or deterrence). However, the operation and management of national defense expenditure also requires efficiency and results. Gradually stepped into a new track of delicacy and strategic management to resolve the conflict between the absolute increase in the funding of the armed police and the relatively

low scale, control the flow of funds, eliminate the power to rent from the institutional standards, and protect the armed police from financial resources. The modernization of the military has been steadily progressing. Under the guidance of this concept, it is imperative to introduce performance evaluation into the armed police financial management in order to be able to reflect, control, and control financial revenues and expenditures and budget implementation in a comprehensive, accurate, and timely manner, ensure the effectiveness of funding, and improve the effectiveness of the use of funds and assets.

The Balanced Scorecard is a comprehensive indicator evaluation system [1] that is carefully designed according to the organization's tasks, decisions, and strategic requirements. The method can link the strategic objectives of the organization with the performance drivers, transform the mission and strategy into a comprehensive and balanced performance assessment index system, comprehensively reflect the management of the organization, and help the long-term balanced development of the organization. After 30 years of theoretical research and practical application and improvement, the Balanced Scorecard method has certain scientificity and practicality. It has been widely applied in large-scale enterprises, non-profit organizations and national governments, and is suitable for comprehensive performance of large-scale organizations. Based on the theory of balanced scorecard, this paper designs the evaluation method of the financial performance of the armed police.

II. THE ARMED POLICE FINANCIAL STRATEGY MAP

The strategy map is the basis and guidance for the establishment of a balanced scorecard system. It can pass strategies from top to bottom and guide the direction of development in order to determine the key objectives that drive the financial management of the Armed Police and their causal relationships with strategic objectives. The first step in the development of strategic maps is to determine the

strategic objectives of the Armed Police Finance and use it as the core of the balanced scorecard strategic management. At this stage, the basic tasks of the financial management of the Armed Police are: implement the party's and national financial guidelines and policies, implement the unified financial regulations of the People's Liberation Army and Armed Police Forces, organize the implementation of funding, strengthen financial management and supervision, increase the effectiveness of funds, and ensure the armed police from financial resources. The completion of tasks such as army building and duty training [2] take the task of the financial management of the armed police as the strategic target of the financial management of the armed police, and use the completion of the financial support as the measurement standard of the financial performance evaluation of the armed police. Through the strategy map, the strategic objectives should be decomposed layer by layer to design a balanced score. The four dimensions of the card.

The first level is the effectiveness level. The stability maintenance product provided by the armed police force is a kind of public goods. The central task of the corresponding armed police financial affairs is to provide service guarantee for the troops to carry out peacekeeping maintenance tasks. This determines that the closest aspect of the financial management of the Armed Police is the effectiveness level. The means of safeguarding troops is through funding, and the way to achieve this is a fund movement. In order to serve mission tasks more efficiently, it is necessary to strengthen the management and control of funds, so the fund management level is set at the level of guarantee effectiveness. To improve the efficiency of funds management requires standardized internal operations as the

basis and support for the system, so the third level is the internal operation level. Located at the bottom of the strategy map is the level of learning and development. It plays a role in supporting and motivating the first three levels of basic resources. The four levels of the Armed Police Financial Strategy Map correspond to the customer, financial, internal processes, and learning and development aspects of the Balanced Scorecard.

The strategy map shows from bottom to top how the financial department of the Armed Police Force has integrated its own resources and turned it into support. Through the rational allocation of human resources, information capital, and organization capital, and the internal operation of the standard constraints, the funds management efficiency will be increased from all phases of the fund movement, so as to achieve the goal of service guarantee effect. In the four levels of the Balanced Scorecard, the next level is the foundation and support of the upper level, and the bottom-up progress will enable the organization to achieve sustained and steady development, achieve the ultimate goal of improving capital efficiency and enhancing financial security. Based on the design concept of the Balanced Scorecard, combined with the actual financial work of the Armed Police Force, the author designs the performance evaluation, expense management, internal operation, learning and development to evaluate the performance. In order to make the whole evaluation system more objective and comprehensive, after setting the above four levels, according to the characteristics of each level, according to certain logic, the whole is divided and additional indicators are added. The final draft of the Armed Police Financial Strategy Map is shown in "Fig 1".

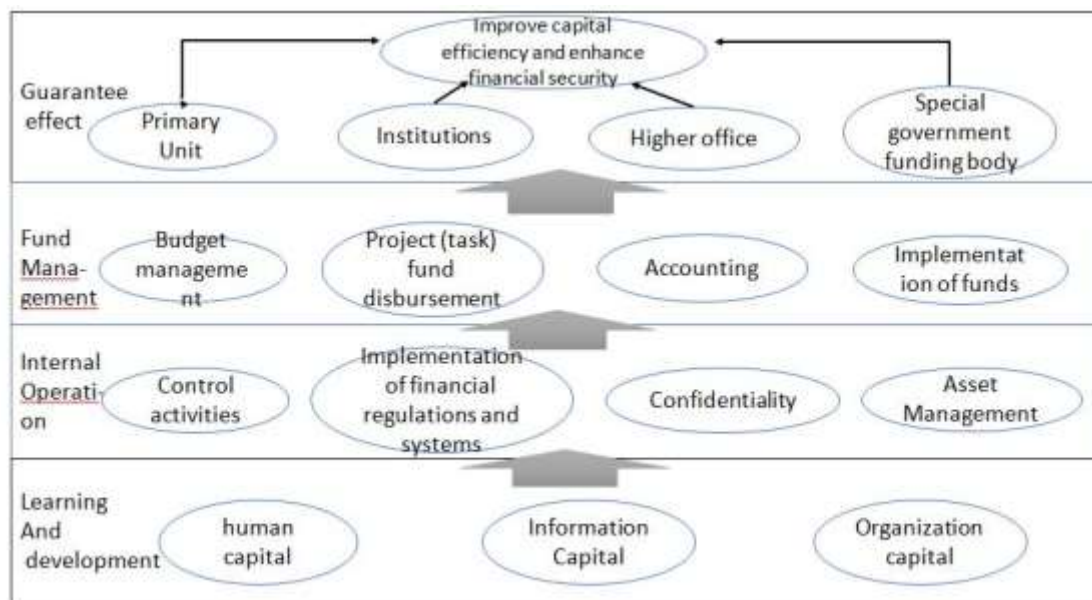


Fig. 1. Strategy map.

III. THE DESIGN OF THE EVALUATION INDEX SYSTEM

A. *Guarantee Effect*

The closest aspect of the Armed Police Finance's strategic objectives is the effectiveness level and the customer level of the Balanced Scorecard. The customers of the Armed Police Financial Services are the troops that are guaranteed. To enhance the scientific evaluation of the evaluation, refer to the 360-degree evaluation method, the lower level, the same level, the higher level, and the customer's four perspectives to set up the grassroots units, public institutions, higher-level departments, and government special funds. The main four secondary indicators measure the effectiveness of financial sector protection. Among them, the method of combining subjective and objective evaluation is adopted for the grassroots units and public institutions that directly support the service support, and the evaluation is based on comprehensive subjective unit satisfaction and objective service response and real-time evaluation. The evaluation of the superior department is based on the opinions of the higher authorities and the headquarters. Government special subjects are divided into local governments and military units. Therefore, feedback from both opinions is used as a scoring basis.

B. *Fund Management*

The armed police funds are the financial resources for the construction of the armed police force. The management of funds is the main work of the financial department. The degree of guarantee of funds determines the size of the military's various material support capabilities. A good financial situation can effectively guarantee the combat units to achieve their strategic development goals, which will help maximize the effectiveness of the funds. Under the level of guarantee effect, the fund management level is set, and the three secondary indicators of budget management, project (mission) fund appropriation, and accounting are divided according to the fund movement stage from acquisition to expenditure to accounting.

Budget management will be assessed in terms of the scientificness and execution rate of budget preparation. The project (task) refers to important tasks such as the important construction projects of the Armed Police Force and the handling of emergencies that embody the functions of the armed police. The timeliness of safeguards is high, and over-acceleration of funds will result in inefficient fund management. In order to comprehensively reflect timeliness and economy, the two indicators, namely the allocation of timeliness and the oversight rate of funds, were selected for evaluation. There are four accounting standards, namely, the correct setting of account books, the legality of voucher notes, the actual reflection of data, and the timely reporting of reports. There are two aspects of the effectiveness of the implementation of funds. First, the actual level of security and the degree of protection achieved after the end of the expenditure can be comprehensively assessed by means of a multi-score by superiors, professional evaluation agencies

and experts; second, the military benefits of expenditures, ie, In a budget year, the level of contribution of expenditures to the increased combat effectiveness of the troops supplied. The effectiveness of combat effectiveness is mainly based on the professional evaluation agencies and experts to comprehensively score [3].

C. *Internal Operation*

The objective of the internal financial control of the Armed Police Force is to ensure the legal compliance of economic activities of units, ensure the fair and equitable distribution of economic resources, provide standardized operating procedures and a good operating environment for fund management, and ensure the safety and integrity of assets. Decompose the internal control objectives and correspond to the financial business execution process, and design the secondary indicators. The legal compliance of economic activities corresponds to the implementation of financial regulations and systems (Note: The implementation of financial regulations and systems can reflect the effectiveness of party committee financial management control), the fair and impartial distribution of economic resources is guaranteed by control activities, and the environmental specialties of the armed police force management. It lies in the security and secrecy. The integrity of assets is evaluated by the whole process of asset management.

The implementation of financial laws and regulations can be measured in terms of the scope of expenses and the compliance of payment methods, and whether there are violations of financial regulations and systems. The main control methods of the Armed Police Force units include division of duties control, authorization control, approval control, budget control, accounting system control, information system control and other controls. Among them, authorization control, budget control, and accounting system control have been reflected at the level of fund management. Therefore, control activities are evaluated from four other aspects. Security and confidentiality are considered from the security of funds and the confidentiality of data files. Finally, asset management selects the availability rate of physical assets, the asset allocation rate over the standard, and asset disposal efficiency as the basis for scoring, and measures the overall benefits of asset purchase, use, and disposal.

D. *Learning and Development*

Learning and development indicators as the basis and driving force of the first three items are the underlying support of the entire Balanced Scorecard strategic system. Only by strengthening the learning capacity can organizations achieve sustainable development. This article selects human capital, organizational capital, and information capital for research.

The construction of personnel, the evaluation of personnel competence and the training of personnel can roughly reflect the composition, quality and development of human capital, and constitute the third-level indicators of human capital. The information capital includes information construction and information disclosure, and is evaluated

according to the information management evaluation work standards and the implementation of the financial disclosure system. Organizational capital represents the cultural atmosphere of the organization. It measures the leadership style and the cohesiveness of the members within the organization. It sets two indicators: the leadership qualities of the financial department and the collective responsibility of the members.

IV. DESIGN OF COMPREHENSIVE EVALUATION METHOD BASED ON ANALYTIC HIERARCHY PROCESS AND FUZZY THEORY

A. Indicator Weight Design

The first step in designing index weights using AHP is to establish hierarchical hierarchies. In the financial performance evaluation model, the target layer is the strategic goal of the Balanced Scorecard, which is to improve the capital efficiency and strengthen the financial security; the criterion level 1 is the four levels of the balanced scorecard, and the guarantee effect, fund management, internal operations, For learning and development, criterion level 2 is the secondary indicator of the performance evaluation indicator system, and criterion level 3 is 36 tertiary indicators.

Using the 1-9 ratio scale method, experts and professors who have consulted on the financial field and financial performance of the Armed Police have obtained a comparatively quantified judgment matrix for each factor of each level of the guideline. In combination with various expert opinions, one judgment matrix for BSC level 1 indicators, 4 judgment matrixes for level 2 indicators, and 15

judgment matrixes for level 3 indicators were established. The following is an example of a judgment matrix with relative importance of the first-level indicators:

TABLE I. JUDGMENT MATRIX OF FIRST-LEVEL INDICATORS

	Guarantee effect	Fund management	Internal operations	Learning and development
Guarantee effect	1	1/3	1/4	3
Fund management	3	1	1/2	4
Internal operations	4	2	1	5
Learning and development	1/3	1/4	1/5	1

According to the judgment matrix shown in "Table I", the maximum eigenvalues and the corresponding eigenvectors are calculated using Matlab, and the consistency check is performed. After calculation, the weight vector is $Q = (0.1395, 0.3131, 0.4869, 0.0705)$ and the consistency check index $CR = 0.0429 < 0.1$. The judgment matrix passed the consistency test, and the weights obtained by the analytic hierarchy process were reasonable. Otherwise, the judgment matrix needs to be adjusted until it passes the consistency check [4].

The same weights as other levels of indicators can be obtained from the judgment matrix, as shown in "Table II".

TABLE II. ARMED POLICE FINANCIAL PERFORMANCE EVALUATION INDEX WEIGHT TABLE

First-level indicators	Secondary indicators	Third-level indicators	Based on scoring
Security barrier unit team A (0.1395)	Primary Unit A₁ (0.4619)	Grass-roots unit satisfaction evaluation A₁₁ (0.7763)	Grassroots unit feedback
		Guarantee basic responsiveness and real-time performance A₁₂ (0.2237)	Appropriations, Borrowings, Reimbursement Timeliness
	Institutions A₂ (0.3130)	Institutional satisfaction evaluation A₂₁ (0.6667)	Institutions Feedback
		Guarantee the responsiveness and real-time performance of business units A₂₂ (0.3333)	Appropriations, Borrowings, Reimbursement Timeliness
	Higher office A₃ (0.1641)	Direct superior department evaluation A₃₁ (0.1667)	Year-end assessment of the financial department of the detachment
		Headquarters Authority Assessment A₃₂ (0.8333)	Headquarters Financial Bureau's year-end assessment of the detachment's financial department
Government special funds provide main body A₄ (0.0610)	Local Government Satisfaction Evaluation A₄₁ (0.1250)	Local government feedback	
	Evaluation of Unit Satisfaction A₄₂ (0.8750)	Soldiers' Feedback	
through fee tube Management B (0.3031)	Budget management B₁ (0.0622)	Budgeting Science B₁₁ (0.7500)	The rationality of the allocation ratio of funds
		Budget execution rate B₁₂ (0.2500)	Budget execution rate = actual budget expenditure / budget expenditure annual expenditure × 100%
	Project and mission funds disbursement B₂ (0.2141)	Timely allocation B₂₁ (0.7920)	Timely rate of special funds in place = Special fund appropriation during project (task) period / Total budget of special funds × 100%
		Overtime of funds B₂₂ (0.2080)	Project, mission funds, festivals overtime rate = balance at the end of the year or overexpenditure/annual budget of the funds × 100%

First-level indicators	Secondary indicators	Third-level indicators	Based on scoring	
through fee tube Management B (0.3031)	Accounting B ₃ (0.3339)	Account book settings are correct B ₃₁ (0.1367)	Set, use, and register account books as required	
		Vouchers are valid B ₃₂ (0.4075)	The original certificate is authentic and the accounting voucher is accurate	
		Reflect the truth of the data B ₃₃ (0.3635)	Accounts, accounts, accounts, accounts are consistent	
		Reports are reported in a timely manner B ₃₄ (0.1523)	Full range of accounting and asset statements, complete content, etc.	
	Capital implementation B ₄ (0.3899)	Comprehensive expenditure benefits B ₄₁ (0.7778)	Comprehensive Guaranteed Benefits = Expenditure that has reached the target of protection / Total expenditure for all scheduled safeguards targets × 100%	
		Expenditure on military benefits B ₄₂ (0.2222)	Financial Expenditure Evaluation Factor for Military Benefits = Combat Effectiveness Generated by Expenditure Expenditure / Total Expenditures Expenditure on Combat Effectiveness × 100%	
Inside unit Transportati on camp C (0.4869)	Implementati on of financial regulations and systems C ₁ (0.4766)	Expenditure Item Compliance (0.5584)	Armed Police Expenditure Management Regulations	
		Unit violations C ₁₁ (0.3196)	\sum Number of violations x violation degree	
		Centralized procurement system and implementation of centralized payment system C ₁₂ (0.1220)	Centralized payment rate = centralized payment amount / total payment amount × 100%	
	Control activities C ₂ (0.2334)	Segregation of duties control C ₂₁ (0.2502)	Score based on two-dimensional tables of incompatible jobs	
		Approval approval control C ₂₂ (0.1957)	Business compliance with permissions, approval procedures, etc.	
		Information System Control C ₂₃ (0.4582)	Online payment rate	
		Other controls C ₂₄ (0.0960)	Cash in stock, etc.	
	Security C ₃ (0.2244)	Financial security C ₃₁ (0.8970)	No "outside accounts", "little treasury", arrival of white bars, etc.	
		Data file security C ₃₂ (0.1030)	Filing, archiving, keeping, reviewing and destroying archives	
	asset Management C ₄ (0.0656)	Asset acquisition C ₄₂ (0.6738)	Super Standard Asset Rate = Assets/Assets that exceed Asset Allocation Standard × 100%	
		Asset use C ₄₁ (0.2255)	Physical Asset Availability = Available Physical Assets / Total Physical Assets × 100%	
		Asset disposal C ₄₃ (0.1007)	Asset disposal benefits = asset disposal income / estimated net residual value of assets × 100%	
	learn Learning versus hair exhibition D (0.0705)	human capital D ₁ (0.5584)	Staff construction D ₁₁ (0.1923)	Proportion of financial professionals
			Business ability assessment D ₁₂ (0.5769)	Business simulation assessment results
Staff training D ₁₃ (0.2308)			Per capita business training time	
Information Capital D ₂ (0.1220)		Information construction D ₂₁ (0.4667)	Informatization construction according to information management evaluation work standards	
		Information disclosure D ₂₂ (0.5333)	Financial disclosure system implementation	
Organization capital D ₃ (0.3196)		Members' collective responsibility D ₃₁ (0.6857)	A combination of peer evaluation, superior evaluation, etc.	
	Financial leadership quality D ₃₂ (0.3143)	Combining subordinate, peer, and superior evaluation		

B. Fuzzy Comprehensive Evaluation

The evaluation of financial performance of armed police is a comprehensive evaluation problem involving multiple factors. It is subjectively affected by human beings to a certain extent. The evaluation results are ambiguous and uncertain, and are consistent with the applicable conditions of fuzzy comprehensive evaluation theory. Indicators include both qualitative and quantitative indicators. When evaluating the scores, for the indicators that can be quantitatively evaluated, the scores are calculated according to the formula and evaluation criteria. For the indicators that can only be qualitatively evaluated, the method proposed in this paper is to invite a number of experts to make qualitative evaluations of the four indicators of excellent, good, medium, and poor indicators of the financial performance evaluation system. Through comprehensive fuzzy evaluation method,

various indicators are integrated to obtain the evaluation and overall evaluation of the evaluated subject.

Take the qualitative indicator grassroots unit A₁ as an example. First determine the set of performance evaluation factors, set the lower level indicators A₁₁、A₁₂ of the grassroots unit A₁ into a set of factors S₁₁, S₁₁= {Evaluation of grassroots unit satisfaction, guarantee grassroots responsiveness and real-time performance}. The second step is to construct the weight distribution set obtained by the analytic hierarchy process, and the weight distribution set Q₁₁ of the factor set S₁₁, Q₁₁ = {0.7763, 0.2237}. The third step is to count the results of scoring by experts and obtain a single-level two-factor judgment matrix. R₁₁ (2×r) (where r is the number of judges). The weight set Q₁₁ and the expert

evaluation matrix R_{11} (2×2) are processed as a fuzzy synthesis. The calculation formula for the fuzzy comprehensive evaluation of S_{11} is $B_{11} = Q_{11} \circ R_{11}$. Choosing a fuzzy operator that can obtain a reasonable evaluation result is used to calculate, and a comprehensive evaluation of the S_{11} factor set is obtained, that is, the evaluation result of the grass-roots unit A_1 .

In accordance with the above method steps, a fuzzy comprehensive evaluation of each factor set is performed on the secondary indicators, the resulting secondary evaluation results constitute a new single-level evaluation matrix, and the fuzzy sets are calculated with the secondary index's weight set, and the fuzzy comprehensive evaluation is finally obtained. The overall evaluation results can comprehensively reflect the overall level of financial security.

V. CONCLUSION

Military performance management is an intrinsic requirement for deepening the reform of the military management system. It is the only way to improve the use of military expenditures and to administer the army according to law [5]. The theory of financial performance evaluation has just begun in the research and application of the armed police force. It has a certain degree of innovation and practicality. It is a useful exploration of improving the efficiency of the armed police funds management and deepening the financial management system reform. This paper combines the management thinking of Balanced Scorecard with the actual design of the financial performance evaluation method of Armed Police Force in the financial management of the Armed Police Force, establishes an index system, and uses the analytic hierarchy process and fuzzy comprehensive evaluation methods to quantify the evaluation indicators. Through the index scores to identify the weak links, and incentives combined with incentives to improve targeted financial work, can effectively reduce the cost of the armed police forces to provide stability and stability, promote the effectiveness of funds to ensure that the effectiveness of the armed police to more in line with The maximization of combat effectiveness and the requirements of a market economy provide more solid financial support for the armed police forces to perform their duties.

The article studies the ideas and methods of financial management performance evaluation from the perspective of theory. It is necessary to establish a sound financial performance evaluation mechanism for the Armed Police Force. There is still a lot of research work that needs further improvement and in-depth. The technical and practical obstacles encountered by the Armed Police Force's financial management performance evaluation in the research and implementation need the support of policies and systems. How to establish a performance evaluation mechanism, standardize performance evaluation procedures, and set up performance evaluation agencies under the special institutional environment of the Armed Police Force is an important part of the research on the evaluation of the

financial management performance of the Armed Police Force, and remains to be further studied.

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