

**ZRÍNYI MIKLÓS NATIONAL DEFENCE UNIVERSITY
DOCTORATE COUNCIL**

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**COST EFFECTIVE RESOURCES AND METHODS OF
EMPLOYING CIVILIAN AND MILITARY
ASSETS IN TIMES OF PEACE AND WAR**

Author's Review of the PhD Theses

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I.**Composition and topicality of the scientific problem**

Among the expectations of the Administration regarding the transformation and the new structure of the Hungarian Defence Forces between the period of 2004 and 2013 there are the terms of ‘preservation of certain **economically sustainable** capabilities’ **pointing towards cost efficiency**, the issues ‘to be solved by the **efficient utilization** of the budget’ and ‘**the reduction of the necessary costs** with the maximum flexibility’. These expectations were expressed during issuing the tasks to be implemented by the Minister of Defence and the Defence Staff.

Among the challenges of the Military Logistics Support coherent with all the above we can find:

- the emphasis of cost efficiency and the validation of the cost efficient management.

This is **one of the relevances** and the actuality of the **present study theme**. As a result of the magnitude of the appropriation major resource reserve discovery is possible within the defence expenditures. The military economy within the reproduction cycle of the National Income is one of the elements of the consumption. The defence expenditures are one of the most extent factors of the public consumption. Their magnitude differs from country to country, however this is one of the largest group of expenditures among the other expenditures globally.

However, evaluating these appropriations with a military view, these will be increasing year by year, but not always with the same, calculable cycles. It is in an absolute correlation with the fluctuations of the economic potentials. It is understandable that in the continuously broadening reproduction the defence expenditures are not increasing together with the defence needs, even not with a fixed percentual share of the Gross Domestic Product. This reasoning might lead me **to seek such possibilities, which can ensure growth even with a relative stationariness, or with a slight increase of the existing assets**. This will give **the second relevance of the present study theme**, and this may be the efficiency, the economic appropriation.

II.**Research Objectives**

1. Definition of the cost effectiveness terms in the defence sector, specially in military economic management;

2. to determine the success of cost effectivity within peace and war time preparation of military logistics activities, within the planning the resources of the military and civilian assets on the responsibility level of defence planning;

3. to determine the reciprocal effects of the civilian and military assets involved in mass employment, on unchanging or slightly changing base of the national economy;

4. **to determine how** the qualitative change of resources **effects the cost efficiency** of military logistics **activities** and to introduce **how** the cost efficiency **effects the development areas** of military logistics support and planning;

5. to justify how the cost efficiency determines and provides opportunities for the economic management of the Hungarian Defence Forces and for the development of the logistics system.

III.

Methods of Research

The phrasing of the selected theme in the title basically belongs to **base type research** of **military sciences in general**. The extent of the requirement to develop the military, to establish and prepare logistics support can very well be seen. The naturalization of the **economic** theories, processes including the arguments of the well functioning cost efficiency within the framework of the **applied research built upon basic research** is predominating when assaying the detailed organization plan during discovering and employing civilian and military assets. In this regard the research can be classified as an **applied type research**.

Regarding the **method** selection, this activity is also **not homogeneous**.

General methods are applied according to the degree of generality. The basic reason is that with invoking the instruments, principles of economics, the theory of the cost effectiveness of military economic management and the military logistics will be scrutinized.

I will elucidate the existence of interdependence of the effects within the framework of the comparative method. The **special method** is also indispensable, though I want to explain the interrelations of the civilian and military assets of the national economy by mathematical methods and function representations in an example of pre- and post- and in-war situation in one of the chapters. Similarly, comparison is a form of the special (partial) research method. Its usage goes through the processes in the theme of the analyzed areas of civilian, as well as military logistics and economics.

Throughout the ideology of the present thesis the military scientific nature of the effectivity result can be sensed, as well as the economical content of the costs.

The organization and the higher levels of the leadership within the Hungarian Defence Forces are in constant change, therefore I only compared my own theory against the system in operation in the examined period.

The **attribute of the theme** is that the same questions would produce different answers according to the priority sense of the respondent. **Arising from the term of efficiency** itself, questions raised with phrasing intentions will create naturally **diverging answers** not only between the organizations, but within themselves, too. This is coherent with the generally relative nature of efficiency. It is especially important that the ventures of the **civilian sphere** should eminently carry out rigorous **scalar** measurements and analyses **based on profit**, while for the target oriented **results of the state budget sector measured by alternating methods** would create peculiar explanations.

This duality, as a margin condition, had existed all through my research!

IV.

Completed research by Chapters

First Chapter

Discovering and inserting terms relating to research theme within the cost effective support system

- Term of efficiency, national and international interpretations, measurement principles
- Efficiency study in the state budget sector and problems of measurements
- The pursue of efficiency as a tool of command and a method of thinking
- Interpretation (interpretability) of efficiency in the defence sphere
- Efficiency concept in state budget (defence) sector

Second Chapter

Effects of planning on the employment of cost effective assets

- The defence (military economic) planning is a special element of the economy planning
- The Defence Planning System (DPS) – in the first years of the new century
- Goals, requirements and function of DPS
- How can our planning system contribute to logistics support, directions of development
- Using elementary cost functions in making military logistics decisions

Third Chapter

The employment system of peace and war time assets

- The system of real processes
- Tasks of preparing the national defence economy, determining the resource requirement, interrelations of civilian and military assets
- Concerns of allocation and resource requirement in market environment
- Interrelations of employing civilian and military assets

Fourth Chapter

Measurable results, in a well articulated, transparent planning and support system

- Steadily maintained and occasionally used support capacities as one of the arenas of reaching cost efficiency
- Roles and results of the approach in effectivity issues within the system of military economy

V.

Summarized conclusions

1. The interpretation of cost efficiency of defence sector and the military logistics within it, should inevitably be broader than before, both in respect of results and expenditures, regarding that without them a much narrower area and correlation of material processes would have been reflected. With an unchanged utilization of resources within this defence sector we need to understand the increase of quality and the product standards, however with a decreasing utilization of resources this will also be valid in the context of maintaining the preserved quality of the target-products.

The cost effective military logistics support particularly is a correlation to aim those qualitative task implementations which are specified by complex measurements and analysing activities carried out before, during and after planning and completing the force movements and sustainment, and is expressing the relations between the goals and the resources spent to reach them, and which can influence the support decisions.

2. The basic correlation of the interdependence between civilian and military assets measured on the basis of the national economy with changing efficiency and pictured by simple function representations carries three substantive elements:

a. the period preceding a hypothetical war or crises and directly prior the demand on military assets emerging on the base of the still unchanging capacities of the national economy will effect the quantity of these assets in such a way that the quantities of the military assets will increase against the civilian ones on the level of the original economic efficiency.

b. following the outbreak of war, initially with an unchanging national economic capacity for a short while, which will be decreasing later on, the interdependence of civilian and military assets will subsist, however on a lower level of economic efficiency.

c. this theoretic direction of movement in the interrelation of assets will not considerably be influenced by the assets of other (foreign) national economies. These substantive elements, the problems of the preparation of the national economy for mobilization are representing an important correlation in the market economy environment.

3. Similarly, the tasks arising from peace, crisis or from allied obligations will largely be covered by the employment of civilian and military assets, their procurement, distribution and spreading, stocks management, storage and warehousing, transportation and processing the needs, as well as the communication will be the major areas of the process of defence utilization.

Each levels of decision making and the different environments of the tasks are common in the sense that within the terms of activities and responsibilities of the committees, cabinets and bodies (and the delegated experts) participating in the selection of the nearly optimum resources will formulate the possibility of efficiency intentions. Three sharp points of cost efficiency intentions can be determined in every type of tasks and in many dimensions of every environment during the employment of civilian and military assets.

a.) In the planning committees, providing that appropriate and prepared experts will be delegated,

b.) With the careful contract selection and awarding, and

c.) Reaching cost efficiency in connection with contracting, but beyond the optimum selection, through the improvement of efficiency of implementation during the military logistics activities.

4. Generally, the performance of the military logistics is influenced by the volume of the allocated resources and the size of own (fixed) costs in **two ways**. By applying elementary cost functions, it is demonstrable that the ratio of the generally diverging budget support volumes compared to each other can express certain organizational efficiencies. The **relative** extent of the fixed costs is influenced by the achieved results, while it is the extent of the budget support in the defence sector. The **efficiency** of the military logistics will be ensured by the optimum utilization of the allocated resources measured against the possibilities. The **decreasing** budget support (resource) with unchanged fixed costs will corrupt the judgement of military logistics within this proportion. In this latter process besides the steadily decreasing support, it is among the important conditions to reach unchanged goal (result) to obtrude and apply cost efficiency. This is one way to influence the changing the military logistics performances.

The other influencing factor is the increase of the fixed costs measured from one year to the other, and in general, a different increase of support, generally in a lower degree (simple inflationary effect), or its stagnation. In this context the cost efficient operation is a basic requirement to reach the proportions of the preceding year, at least! These correlations become the **basic correlation in influencing the future operation and existence of military logistics**. It will lead to very circumspect, meticulous analyses of the decisions, and the mass

utilization of efficiency calculations, the idealistic size of the organizations will be vexed taking one year with another reflecting the knowledge of fixed costs with the required details.

5. Bi- and multilateral agreements, contract awarding mechanisms of NATO is equipped with the cost efficiency intentions originated from the first look. Due to the relative and complex nature of efficiency, the real and deeper backgrounds of these agreements cover intricate interrelations of the interests. A more thorough and manifold analyses is required by the public sphere to discover the relations of the national (partial) and the allied (total) efficiency interrelations measured against themselves, or each other, and arising from the particularities of the defence sector to evaluate the targeted tasks to be achieved. The evaluation of the success factor, as the most influencing element of the cost efficiency of the defence sector may overreach the realities of the mathematic interrelations.

VI.

Recommendations

1. Introducing and applying the term of the cost effective military logistics support in military logistics education and training.

2. Simultaneously with the development of the defence planning system, the established workshops will be tasked with required expansion and determination of the concepts and techniques of examining the relating to cost efficiency, which can provide answers to the challenges of the present military economic management.

3. Further to the existing regulations, only those military organizations should be licensed for economic management and entitled for budget allocations, which can meet the measuring and analytic requirements of cost efficiency. The personnel and operational costs of every other organization are to be registered and compared to the organizational product, as well as to draw the consequences in connection with the existence of the organization.

4. The ministerial instruction for the implementation of the **annual budget report** should be amended with the progressive introduction and **instruction** of efficiency **analyses and methods** aiming to improve the (inner) accounting of the commanders, in a restricted way at the beginning, which can be extended later on.

VII.

New scientific results

1. **I discovered by analysis** the inner features of the efficiency relating the present sphere of defence, together with the reasons of broadening the interpretation of this term within military economic management, and the determinations of its application in military logistics support.

2. **I revealed** the effects of the national economic environment to the mechanism of the mass employment of civilian and military assets, which were demonstrated with simple function representations.

3. **I systematized** the different forms of activities in the Hungarian Defence Forces from the view of economic actions and supply possibilities. I also demonstrated the different locations of applying cost efficiency in many dimensions determined by the different types of tasks and the environment.

4. **I proved** that the application of the elementary functions known by the business sphere in state budget organizations will have a vital effect on the present and future activities of the military logistics, and will act toward the cost efficient operation.

5. **I verified** that the well organized and cost effective model of the Bundeswehr can not be adapted to the Hungarian Defence Forces in toto, and I justified that we can progress in the issues of cost efficiency by using the proposed progressive discovering and analysing work, which is adjusted to the national economic and legal environment, and the change of the approach will have a vital effect on the implementation of the cost efficient economic management.

VIII.

Practical applicability of the results of research

- The directions of development of the military logistics support can be a basic research in the pursuit of efficiency.
- The using elementary cost functions interpreted to defence in the analytic-evaluating activities of the Hungarian Defence Forces.
- The exploration of the nature of the efficiency terms can give a fresh impetus to the economic management of HDF within the evidently existing intentions.
- Not neglectable methods of the present and future resource utilization.

IX.

List of publication prepared in the subject

1. How the welfare strategy of national defence heads?
New Defence Review (Új Honvédségi Szemle), No. 2001/2. p. 117-118. Ministry of Defence, HU. ISSN: 1585-4167
2. How do the millennia 'logisticians' carry out planning?
Military Logistics Materiel Support No. 2001/1. HDF Joint Logistics Support Command, Budapest, p. 53-57. ISSN 1588-4228
3. Military economy in the consumption of civilian and military assets.

Military Logistics Materiel Support No. 2001/2. HDF Joint Logistics Support Command, HDF Joint Logistics Support Command, Budapest, p. 69-73. ISSN 1588-4228

4. Welfare strategy of the Hungarian Defence Forces, or Will the tactical elements aggregate into strategy?
Human Review (Humán Szemle) No. 1. year 2002. p. 49-54. Ministry of Defence, HU. ISSN: 1219-929 X. Budapest,
5. Synopsis on cost efficient methods and resources of peace and war time employment of civilian and military assets
ZMNDU Science and Research Organizing Co-ordination Centre, National Defence University Doctorandum, Budapest No.2002.4. Volume 1. p. 23-33. ISSN 1588-2233
6. Cost Efficiency in military logistics.
Military Logistics Materiel Support No. 2. year 2002, p.62-66. ISSN 1588-4228
7. Defence Planning System, as a general background in the process of force reform.
Bólyai Review (Bólyai Szemle) 2002. Special Edition, Armaments 2002, International Symposium, Budapest, 2002. 09.16. p. 246-251. ISSN 1416-1443,
8. Certain aspects of the movement of materiel resources, and the conversion of civilian and military assets.
Military Logistics Materiel Support No. 2. year 2003, p. 108-114. ISSN 1588-4228
9. Tax exemption for products and services procured in Hungary for the international peace keeping forces
ZMNE, VSZTK, Economics and Defence Economy Chair, October 08. 2002 Defence Economy Conference, Participants of defence economy and the market environment, section, IMO Hall No. 2001, 4th exposé
10. Civilian and military assets in the system of contract logistics services.
Military Logistics Materiel Support No.3. year 2003, p. 47-53. ISSN 1588-4228
11. Defence economy, military economy, logistics, or back to the theoretic grounds.
Military Logistics Materiel Support No.1. year 2003, p. 96-105. ISSN 1588-4228
12. Target orientation – Cost sensitivity – Cost efficiency here and abroad.
Budget Finance Accountancy, Professional Edition of MoD CFAB, Vol. III. No. 2. in 2003.
13. Methods and resources of employing civilian and military assets in peace and war time, some science metric correlations essay.

New Defence Review (Új Honvédségi Szemle), No. 2004/4, Ministry of Defence, Hu. ISSN 1585-4167 p. 68-72 and University Proceedings of ZMNDU

14. Interrelation between efficiency and military logistics I. Terms of efficiency, national interpretations.

Military Logistics Materiel Support No. 1. Vol. XII. year 2004 ISSN 1588-4228 p. 34-51

15. Interrelation between efficiency and military logistics II. Efficiency study in the budget sector, problems of measurement

Military Logistics Materiel Support No. 2. year 2004. ISSN 1588-4228 (Under edition, received manuscript for publication, edited)

X.

Professional Scientific Profile

Lieutenant Colonel Tibor Balla was born on 18th May in 1965, at Sárospatak (Hungary).

He finished his elementary education in a special mathematics class at Mezökövesd (Hungary). He achieved his matriculation, together with corporate planner, statistician and licensed accountant skills at Sátoraljaújhely in Trade School of Economy. This was followed by the military career as his mission in life.

Besides studying at Zalka Máté Military Technical College on Logistics and Finance Department his first scientific attempt had begun with achieving the membership in 'Weekly World Economy' Club led by the economist-researcher Ms. Mária Zita Pesching, PhD.

He participated as a trimester student of finances in the intervarsity scientific studentship research programs initiated in 1968 with a study on „Remote data processing in the People's Army of Hungary”, on a proposed national network system to link the finance and accounting of the military organizations.

After graduation in 1987 as a qualified applied economist his first officer position was in the then Ministry of Defence at the Finance Department of Logistics Directorate. Then he reached such a situation as to achieve a post-graduation in the Budapest University of Economics at the Defence Economy Department in 1994. His prepared and successfully qualified diploma piece owned the weighty title 'Public Procurements' in 1995. As such, it reviewed the immature activity of the Defence Forces by phrasing the then existing and the expectable tasks and critics.

Beside all these, due to his position, he participated in the introduction of the taxation system in 1987-88, in the integration of the services in 1990, in the formulation of the new accounting order introduced in 1992 and in the reorganization of the financial-accounting

services in 1996, then in establishing No. 1. TPSZI (Regional Finance and Accounting Directorate) and in the introduction of HM KGIR (MoD Central Economic Control System).

Further to his job, he applied for the Logistics Department of the Command and Organization Sciences Faculty of ZMNDU in 1998, where he successfully graduated in 2001 with merits. His diploma piece was the examination of general logistics relations of military economic segment of the defence economy, seeking theoretic points between the terms of military logistics, military economics and defence economy trio.

Based on the results of his studies, also beside his job, he applied for the ZMNDU Doctorate School of Military Sciences. The directions of the welfare and incentive elements of the law on the legal status of the commissioned personnel issued in 1997 clearly signalled that further improvement is needed in this area. In his study he discovered ‘How the welfare strategy of national defence heads’ by examining the possible improvements, and in an other study, by the title ‘Welfare strategy of the Hungarian Defence Forces, or Will the tactical elements aggregate into strategy?’ he dealt with a potential version of the allowance system.

His diploma piece written at ZMNDU inspired him to study the theme ‘Military economy in the consumption of civilian and military assets’ in depth. This study became the base of his subsequent research. He spent his entire professional career with the Financial and Accounting Service in various positions.

He was a Senior Financial Controller Officer at the beginning, then he headed the controlling sub-department, later became the deputy head of the financial department, after establishing the new service he became the assistant director of No.1. Regional Finance and Accounting Directorate, at present he is the regional deputy of the director.

In the past 3 – 4 years he wrote a study, 2 lectures, 17 articles and a working paper, prior to this, he wrote a Scientific Studentship essay and a study.

He obtained high level language exam in Russian extended with “C” military terms, while he has a basic level extended with “C” military terms in Italian.

His military profession and scientific career is developing with an undiminished ambition, a questioning and explicative mentality and endurance.

Budapest, on “ “ May in 2004

(Lieutenant Colonel Tibor Balla)