

THE ROLE OF SUPREME AUDIT INSTITUTIONS IN BETTER MANAGING PUBLIC SECTOR ASSETS - SOME EVIDENCE FROM NORTH MACEDONIA

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Abstract

The Public Sector Asset Management is a crucial process for the progress of a society, while Supreme Audit Institutions are designated as one of the main stakeholders related to that process. Although the PSAM has been the subject of research in recent years, especially by western countries that have established the concept of New Public Management for a long time, there is still a lack of evidence on the meaning and role of public sector auditing for improving that process. The purpose of this paper is to provide empirical evidence on the role of the Supreme Audit Institution in the Republic of North Macedonia for better PSAM, through quantitative research using the survey method, i.e structured questionnaire that was delivered to all public sector auditors who are employed by the Supreme Audit Institution of the Republic of North Macedonia. The obtained results show that the state auditors audit the public sector assets with regularity audits more than with performance audits. State auditors are familiar with INTOSAI's GUID 5260 and according to them SAI alone is not a sufficient PSAM control mechanism. The limitation in the research is the measurement of the variables from the survey that is based only on the perception of the state auditors.

Keywords: *State auditors, public sector, asset management, supreme audit institutions*

JEL classification: *H83*

1. INTRODUCTION

Linked to public sector reforms, public sector assets are crucial for the delivery of public services and for performing wider set of government's basic functions. Thus, their management and maintenance are essential to governments and citizens and are addressed as the central institutional building block of modern societies ([Detter & Fölster, 2015](#)). With the proliferation of private-inspired management approaches in the public sector and the pursuit of an increasing emphasis on effective asset management, this process is becoming an increasingly prominent public financial management function ([World Bank, 2020](#)).

Governments are accountable for providing quality public services to their citizens at the most favourable terms. They are, among other issues, responsible for managing a diversified public asset portfolio. Public sector asset management (hereinafter: PSAM) policies and practices can vary

significantly between countries depending on accounting practices, the size and composition of the asset portfolio, and the organizational and legal aspects of public administration ([Grubišić et al., 2009](#)).

Following the international trends in conducting public sector reforms and the need for North Macedonia to move closer to the requirements of the EU on the path of its accession to the EU, undertaking public sector financial management reforms package is considered a priority. Efforts that are to take place are such that reforms are viewed as managerial reforms where changes to public sector reporting, including reporting on state assets, are to make for a series of sub-reforms. ([Dionisijev & Roje, 2020](#)).

The influence of Supreme audit institutions (hereinafter: SAI) on the better management of public assets is crucial, as these institutions represent an enforced control mechanism. Their reports often point out the need for greater clarity in PSAM regulatory frameworks, supportive information systems, and clearer accountability lines ([Roje, Popović & Flynn, 2020](#)). [The Center for Financial Reporting Reform \(CFRR\) by The World Bank \(2020\)](#) in their report entitled “*Strengthening Fixed Asset Management through Public Sector Accounting*” point out the importance of the SAI in the PSAM, according to which “SAIs in most jurisdictions are traditionally mainly concerned with the ex-post evaluation of year-end financial statements, but also their ex-ante involvement in the process of establishing a balance sheet is considered beneficial. Countries that successfully completed accrual accounting reforms and implemented an IPSAS compliant asset accounting engaged with the SAI throughout that process. Besides its involvement in the establishment of the accounting framework, the SAI acted as a sparring partner in determining the relevant accounting estimates and measurement parameters. A step-by-step strategy for auditing and testing balance sheets is considered crucial so that the entire open balance sheet is audited upon completion of the accounting transition project. Following the initial revision of the newly established balance sheet, SAIs are required to support the process of PSAM, their assessments, and audits.”

The purpose of this paper is to provide evidence on the existing role of SAI in fostering PSAM in North Macedonia. In the international literature on public sector asset management, South-Eastern Europe has so far been the subject of remarkably little work. Some issues concerning these countries are peculiar, but others may also apply to other national settings: for example, the unresolved definition of ownership rights and the lack of systematic information on public assets. Finally, we can state that this paper represents follow-up of the already published discussion paper ([Dionisijev & Roje, 2020](#)) in which we came to the conclusion that the challenges of the SAI in the PSAM processes remain at conducting a larger number of performance audits, providing more concise and clear recommendations, and monitoring the implementation of recommendations through conducting audit follow-ups. This paper offers empirical evidence on the perception of the state auditors.

2. LITERATURE REVIEW - PUBLIC SECTOR ASSET MANAGEMENT AND THE SUPREME AUDIT INSTITUTIONS

Although there are not many research studies in the field of PSAM in the Balkans and in North Macedonia in particular, they are still numerous worldwide, and the importance of establishing sound policies in the entire process of PSAM is acknowledged worldwide. [Grubishikj et al. \(2009\)](#) investigate the relationship between New Public Management (hereinafter: NPM) and the objectives of PSAM, as well as the current regulations and practice of the entire process of PSAM in Croatia, finally paying attention to the classification, valuation and appropriate use of public assets, and with their paper they introduce and indicate the importance of PSAM in Croatia, but

their research is also significant for other countries in the region. [Azuma \(2002\)](#) points out that to ensure that Parliament's control over the cabinet is effective, it is essential to maintain the reliability of performance reports and financial statements. In advanced Western countries that have introduced NPM theory, it is the SAI independence from that tries to maintain and improve the reliability of performance reports and financial statements.

PSAM is affected by various factors, such as political influence, legal framework, regulations, organizational arrangement, administrative decisions, and the composition of stakeholders ([Fernholz & Fernholz, 2007](#)). The goals of PSAM can be generally classified into two categories: traditional and nontraditional ([Kaganova & Nayyar-Stone, 2000](#)). The traditional goal is to supply appropriate properties for providing public goods and services at the least cost, based on market valuation. Typical examples the nontraditional goals include supporting economic development, promoting social development, and developing governmental revenue sources ([Simons, 1994](#); [Fernholz & Fernholz, 2006](#); [Dent & Bond, 2007](#); [Kaganova & Nayyar-Stone, 2000](#)). Besides, accounting reforms and requirements in the public sector exert strong impact on the operation of PSAM ([Kraus, 2004](#); [Kaganova et al., 2006](#)).

PSAM has been producing considerable effects in the domain of public management. To ensure that PSAM achieves its goals and objectives in serving government agencies, the processes of asset management need to be effectively monitored in different dimensions. In addition, oversight over PSAM helps produce accountable and transparent government by assuring constituents that tax money is spent reasonably and that publicly owned properties are utilized efficiently ([Hentschel & Utter, 2006](#)).

Considering the structure of PSAM, monitoring and oversight covers the following aspects of PSAM: monitoring of compliance of laws and regulations; monitoring of effectiveness of policies & procedures; contract monitoring (cost, schedule, performance, quality); performance measurement; and financial accountability monitoring (purpose, time, amount). Monitoring and oversight are a kind of managerial control and a process by which management at different levels evaluates and audits the PSAM process and performance against previously determined standards and takes corrective measures if necessary ([Hitt et al., 1989](#)).

Government needs to have an effective control and audit mechanism ([OECE, 2007](#)). This mechanism is backed up by a legal framework, policy, procedures, and organization of PSAM operations. Several components exist to contribute to compliance to integrity and transparency codes. One is sufficient and timely information on compliance provided by the internal control system, and another is auditors who are sufficiently informed about both PSAM operation and the control system. Still another is enforcement of control and audit requirements and follow-up on findings and recommendations of control and audit.

In 2019, INTOSAI issued GUID 5260 - Governance of Public Assets, which is a document that has been developed by the Working Group on the Fight Against Corruption and Money Laundering, in the light of the impact of the global financial crisis and after recognizing the need for guidelines related to the role of SAIs in enhancing integrity, transparency, accountability and good governance for public assets in public entities ([INTOSAI, 2019](#)). This guideline is focused on "creating a common front against corruption by efficiently promoting institutional awareness, standards, policies and best practices with due consideration to the mandate, authority and capacities of SAIs. This represents a framework for SAIs to implement supreme auditing actions bearing in mind the public entities' ethical standards or codes of conduct, as well as their social responsibilities, with the understanding that each public institution should be held fully responsible for its own public assets management" ([INTOSAI, 2019](#)).

In the GUID 5260, in addition to the other stakeholders related to the entire process of PSAM, SAIs are also listed as important. They encourage and support the performance of public duties in accordance with the principles of good governance. Assessments of the organization's operations are made during SAIs' compliance, financial and performance audits and depending on their specific legislative mandate, SAIs may communicate their findings and recommendations to interested stakeholders. Through their daily work, SAIs help build integrity, transparency and accountability, and public confidence by enabling oversight, accountability, and governance in the public sector ([INTOSAI P-1, 2019](#))

In accordance with its mandate, in enhancing good governance, each SAI should create a comprehensive strategy of combating corruption, money laundering and other types of wrongdoing. One of the most important elements of an SAI's program for combating wrongdoing is the work it does in strengthening public institutions, which are the elements of the national integrity system. Each public institution, within its statutory powers, supports this national integrity system like pillars that support the roof of a building. Sound governance in such a system is based on integrity, transparency, and accountability ([Dobrowolski, 2012](#)).

[INTOSAI \(2019\)](#) stated that in compliance with their legal powers, SAIs' efforts to enhance good governance should be multifaceted, and these efforts may include, but are not limited to: incorporation of good governance issues in an SAI's routine audit work; increasing public awareness of the significance of ongoing integrity, transparency and accountability within the government; improving methods and tools of combating wrongdoing such as corruption, fraud, abuse of power, waste, etc.; providing a means for whistleblowers to report instances of such wrongdoing; and collaborating with other institutions that have active roles in curbing such wrongdoing and enhancing the principles of good governance.

3. METHODOLOGY

We conducted quantitative research, using the structured questionnaire that was sent to all state auditors in North Macedonia employed by the SAI of North Macedonia. The survey questionnaire was web-based by sending an access link to all state auditors and consisted of 23 questions that required 6-8 minutes to answer. The questions were structured as follows:

- the first 3 questions about *general characteristics* of the respondents (job title, education and experience).
- 8 questions about *regularity audits and PSAM*.
- 2 questions about *performance audits and PSAM*.
- 4 questions about *GUID 5260*.
- 5 questions about *auditors' opinions*.

The research with the questionnaire was conducted in the period July-August 2022 and the questionnaire was answered by 66 state auditors employed by the SAO. The total population in the survey (the number of state auditors in the SAO) is 104, hence the response rate is **63%**. The subject of research is the role of the state audit in improving the PSAM process, while the purpose of the research is to provide empirical evidence on the perception of public sector auditors for their role in fostering and improving the process of PSAM.

The paper tries to answer the general research question, as follows:

- **How can the State Audit improve the PSAM processes?**

For the purposes of the research, several specific questions were set:

1. Which type of audit has the greatest impact on improving the PSAM? Regularity audits or performance audits?
2. What is the percentage share of public sector auditors in conducting audits related to PSAM?
3. For which asset-related assertions, auditors most often find irregularities?
4. What is the level of implementation of given recommendations related to the PSAM? Have follow-up checks on performance audit recommendations been conducted and how many public sector auditors have been involved in those?
5. What is the opinion of public sector auditors regarding PSAM control mechanisms? Is the state audit sufficient to provide solutions to key issues arising from PSAM?

The processing of the collected data was done through several statistical methods and tests, using SPSS software:

- Cronbach's alpha to identify internal consistency in respondents' responses.
- Descriptive statistics to perceive the aggregate statistics that quantitatively describe the answers of the respondents.
- ANOVA analysis to examine the differences in the mean values of responses by the state auditors managers (Category B) and filed state auditors (Category V).

4. RESULTS AND DISCUSSION

As noted in the literature review, PSAM plays a key role for the successful functioning of the public sector, while state audit is significant in implementing control in the management of public sector assets. Before any further analysis of the results, reliability analysis was carried out. According to many authors (Tuan, Chin, & Shieh, 2005; George & Mallery, 2003), Cronbach's Alpha is considered a measure of certainty, and the coefficient α must be greater than 0.7 ($\alpha \geq 0.7$) for the answers to be considered relevant and acceptable for further analysis. For the calculation of the Cronbach's Alpha indicator the questions that identify the characteristics of the respondents and two questions that are elaborated separately, where the respondents had the opportunity for multiple choice and additional field to add their opinion, were excluded. Cronbach's Alpha is 0.835, which means that the results can be considered relevant and appropriate conclusions can be drawn.

Table 1: Descriptive statistics the Characteristics of the Respondents

Feature	Description	Number	Percent
Job Title and Department	- State Auditor in Audit Department (Category V - Junior Auditor, Auditor, Senior Auditor, Principal Auditor)	54	60.94%
	- State Auditor in Audit Department (Category B - (Assistant Audit Manager, Audit Manager, Assistant to the Auditor General, Advisor to the Auditor General))	12	1.56%
	Total	66	100.00%
Education	Secondary	0	0%
	Bachelor	57	86%
	Master/PhD	9	14%

	Total	66	100%
Work experience in the SAO	0-5	18	27.2%
	6-10	17	25.7%
	11-15	30	45.6%
	over 15 years	1	1.5%
	Total	66	100.00%

(Source: Authors' calculation)

Furthermore, Table 1 shows the descriptive statistics of the characteristics of the respondents, where it can be noted that 12 of the respondents are state auditors employed in Category B (Assistant Audit Manager, Audit Manager, Assistant to the Auditor General, Advisor to the Auditor General), while 54 are state auditors employed in category C (Junior Auditor, Auditor, Senior Auditor, Principal Auditor). All state auditors have higher education or master's/PhD degree. The largest representation is the auditors who have work experience from 11 to 15 years.

Regularity Audits and PSAM (Financial audits and Compliance audits)

In the section on the regularity audit and PSAM, the state auditors were asked a total of 8 questions. Most of the questions were asked with "YES" and "NO" answers, where in the analysis "1" is used for YES, and "5" is used for NO. (see table 2)

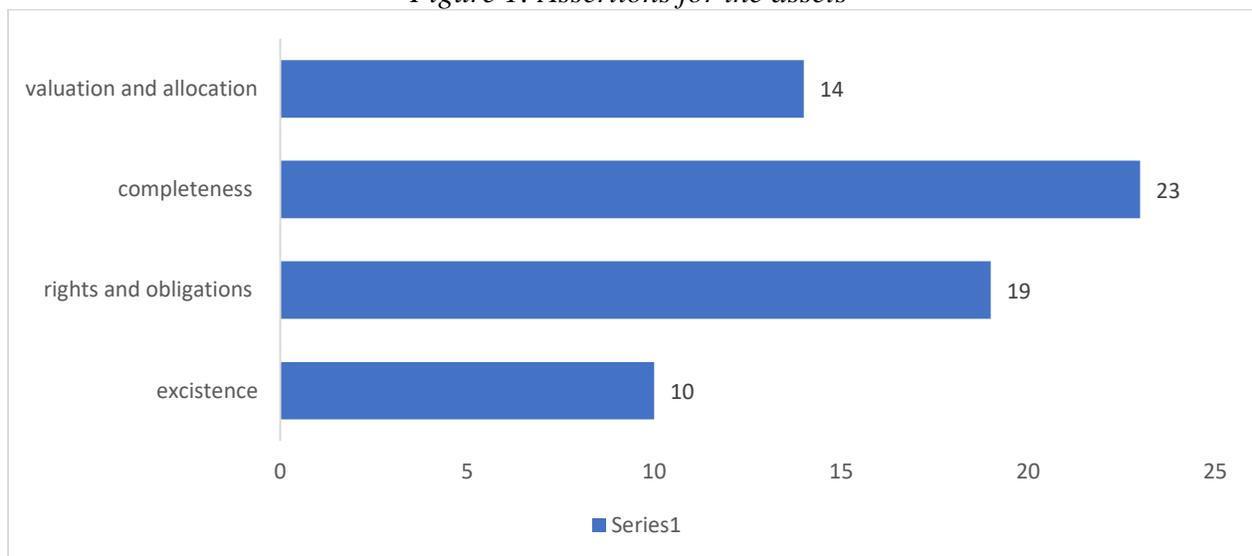
Table 2: Descriptive Statistics – Regularity Audit

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
Have you ever audited tangible (fixed) assets in public sector institutions with a Regularity audit?	66	1.0	5.0	306.0	4.636	1.1587
With a financial audit, do you inspect the existence of the assets (whether the assets really exist)?	66	5.0	5.0	330.0	5.000	0.0000
Do you inspect the rights and obligations for the assets (that the audited entity has the rights over the assets) to the assets?	66	5.0	5.0	330.0	5.000	0.0000
Do you inspect the completeness of the assets (all assets that should be recorded in the accounts are de facto recorded)?	66	5.0	5.0	330.0	5.000	0.0000
Do you inspect the valuation of the assets (all assets are included in the financial statements in the correct amounts, and any amount resulting from an adjustment due to valuation or allocation is correct recorded)?	66	1.0	5.0	314.0	4.758	.9617
In your opinion, how often do you identify conditions (or findings) for the above assertions for public sector assets and make recommendations to overcome them?	66	3.0	5.0	270.0	4.091	.7174
How often have the audited entities implemented the recommendations related to the findings on public sector assets when you perform a follow-up audit?	66	2.0	5.0	207.0	3.136	.8751

(Source: Authors' calculation)

On question of whether the auditors have ever audited tangible (fixed) assets in public sector institutions with a regularity audit, the mean value of the answers received is 4,636, which means that most of the auditors (**61 auditors or 92% of the respondents**) have once participated in a regularity audit and audited tangible (fixed) assets. The following 4 questions referred to whether, in auditing assets, auditors examine: *existence, rights and obligations, completeness, and valuation and allocation*. Except for valuation and allocation (mean: 4,758), all state auditors inspect the other management assertions (existence, rights and obligations, completeness) related to tangible - fixed assets (mean value: 5). When asked how often the auditors determine conditions related to the stated assertions, they gave an answer with great certainty (mean value: 4.091), i.e. they very often determine irregularities related to public assets with the regularity audit, but according to ANOVA (Appendix) there is a difference in answers between the groups of respondents (field state auditors and state auditors managers) for this question. In relation to which assertion they most often establish irregularities, the most frequently answered assertion is that of the *completeness of the assets* (23), then the *rights and obligations* related to the assets (19), *valuation and allocation* (14) and finally, the least irregularities related to the *existence* of assets (10) (see Figure 1).

Figure 1: Assertions for the assets



(Source: Authors' calculation)

Finally, the auditors were asked how often the audited entities implement the given recommendations for improving asset management, and here it can be concluded that the recommendations of the auditors are not so often implemented (mean value: 3.136).

Performance Audits and PSAM

In the performance audit and PSAM section, two questions were asked. The first refers to whether the auditors have ever participated in a performance audit related to PSAM, and here the mean value is 1,606, that is, a few of the auditors were part of such a performance audit (10 auditors – 15% of the respondents) - see table 3.

Table 3: Descriptive Statistics – Performance Audit

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
Have you ever been part of a Performance Audit related to public sector asset management?	66	1.0	5.0	106.0	1.606	1.4452

(Source: Authors' calculation)

The second question referred to those auditors who took part of a performance audit, and the question was on which topic they performed an audit related to PSAM (see table 4).

Table 4: Topics on Performance Audit related to PSAM

	Answers
If you were part of a performance audit related to PSAM, please state the topic of the performance audit:	Inventory of assets, receivables and liabilities of the Office for General and Common Works of the Government of RSM
	Effectiveness of the management of the real estate property of the Republic of Macedonia used by the state administration bodies

(Source: Authors' calculation)

From the responses received, it can be concluded that a small number of state auditors participated in a performance audit related to the PSAM theme and that for Effectiveness of the management of the real estate property of the Republic of Macedonia used by the state administration bodies and Inventory of assets, receivables and liabilities of the Office for General and Common Works of the Government of North Macedonia.

GUID 5260 - Governance of Public Assets

In the next section, the auditors were asked questions about GUID 5260 – Governance of Public Assets (see table 5).

Table 5: Descriptive Statistics – GUID 5269

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
Are you familiar with the GUID 5260 (Governance of Public Assets) from the INTOSAI Framework of Professional Pronouncements?	66	1.0	5.0	262.0	3.970	1.7626
In compliance with their legal powers, SAIs' efforts to enhance good governance should be multifaceted. Certain efforts are listed in the GUID 5260. Rate the efforts that your SAO fulfills (from 1 to 5, 1-least, 5-most)	66	3.0	5.0	280.0	4.242	.6807
• incorporation of good governance issues in an SAI's routine audit work.						

• increasing public awareness of the significance of ongoing integrity, transparency, and accountability within the government.	66	1.0	5.0	280.0	4.242	1.0237
• improving methods and tools of combating wrongdoing such as corruption, fraud, abuse of power, etc.	66	1.0	5.0	279.0	4.227	1.0640
• providing a means for whistleblowers to report instances of such wrongdoing;	66	1.0	5.0	220.0	3.333	1.3849
• collaborating with other institutions that have active roles in curbing such wrongdoing and enhancing the principles of good governance.	66	2.0	5.0	288.0	4.364	.9053
The GUID 5260 list the roles and responsibilities of key stakeholders in the process for good governance of public assets. In your opinion, please rate the stakeholders (1-least significant, 5 – most significant)	66	3.0	5.0	290.0	4.394	.7622
· Legislators and regulators						
· Audit Committees	66	1.0	5.0	226.0	3.424	1.2286
· Financial intelligence units	66	2.0	5.0	238.0	3.606	.8749
· SAI	66	4.0	5.0	311.0	4.712	.4562
· Other external audits	66	1.0	5.0	211.0	3.197	1.1665
· Internal auditors	66	1.0	5.0	246.0	3.727	1.2222
· Managers	66	2.0	5.0	274.0	4.152	.9322
· Employees	66	2.0	5.0	254.0	3.848	.9805
· Other stakeholders (such as NGOs, media, international organizations)	66	2.0	5.0	242.0	3.667	.9171
Do you, as state auditors, often determine deficiencies in asset registers in audited entities?	66	1.0	5.0	290.0	4.394	1.4452

(Source: Authors' calculation)

Results show that most of the auditors are familiar with this GUID 5260 (mean value 3.97). In compliance with their legal powers, SAIs' efforts to enhance good governance should be multifaceted and certain efforts are listed in the GUID 5260. The auditors have responded with great certainty to all efforts, mostly for *collaborating with other institutions that have active roles in curbing such wrongdoing and enhancing the principles of good governance* (mean value 4.394), and at least for *providing a means for whistleblowers to report instances of such wrongdoing* (mean value 3.333).

Regarding the question on the stakeholders involved in the process for the good governance of public assets, the auditors replied with great certainty that the **SAIs** are the most important in PSAM (mean value: 4.712), and the least important are **Other external audits** (mean value: 3.197), but according to ANOVA (Appendix) there is a difference in the answers between the groups for this question.

At the end of this section, the GUID 5260 defines the Asset Register as the cornerstone of an asset management framework for entities, no matter the size of their asset portfolio, in that it keeps asset information as well as a historical record of both financial and non -financial information over each asset's life cycle for the purposes of asset planning, assisting in meeting accounting standards and legislative compliance, monitoring performance, and accountability. The auditors have

answered that they very often determine deficiencies in the asset registers of the audited entities (mean value: 4,394).

Auditors' opinions

In the last section of the questionnaire, the auditors were asked several questions about their perceptions and opinions related to the improvement of PSAM in North Macedonia (see table 6). The auditors agree that the state audit is not sufficient for efficient management of public funds (mean value 2,455), but also that in North Macedonia there is no need to establish a new institution that will be in charge only of PSAM issues. Also, the auditors in North Macedonia are pessimistic that the transition to the accrual basis of accounting in the public sector would improve the management of public funds.

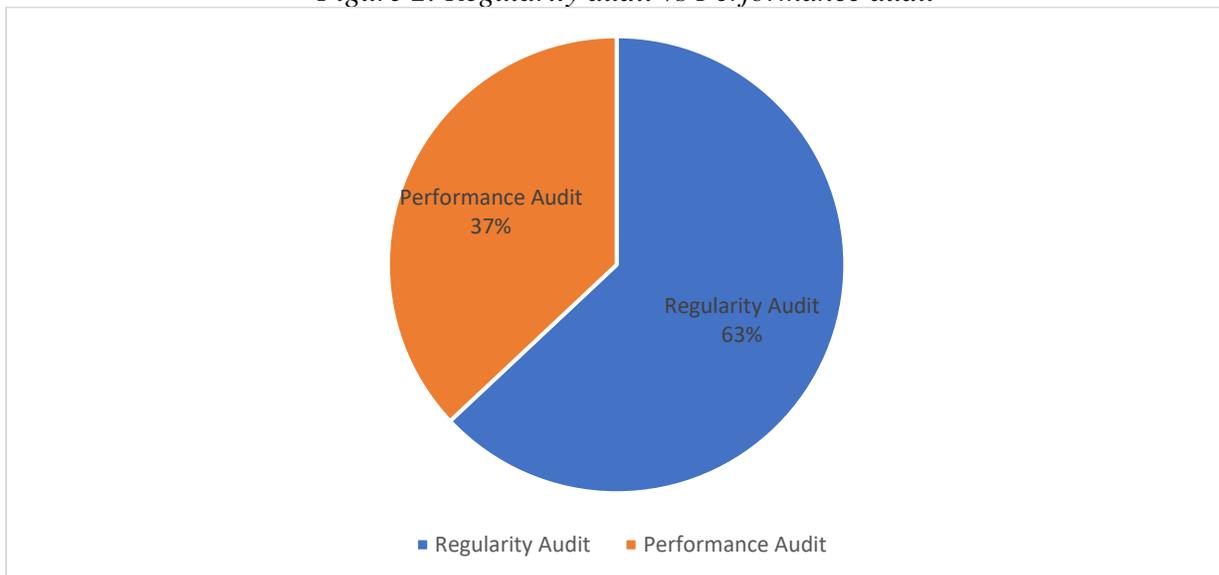
Table 6: Descriptive Statistics – Auditors' opinions

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
Is the state audit a sufficient control mechanism in the state for efficient management of public sector assets?	66	1.0	5.0	162.0	2.455	1.9389
Is there a need to establish a new institution in charge only of the problem of managing public sector assets in NM?	66	1.0	5.0	142.0	2.152	1.8250
Will the transition to accrual-based accounting in the public sector contribute to better management of public funds?	66	1.0	5.0	182.0	2.758	2.0005

(Source: Authors' calculation)

Regarding the question of which audit is more significant for improving PSAM, two-thirds of the auditors agree that it is the Regularity Audit (see Figure 2).

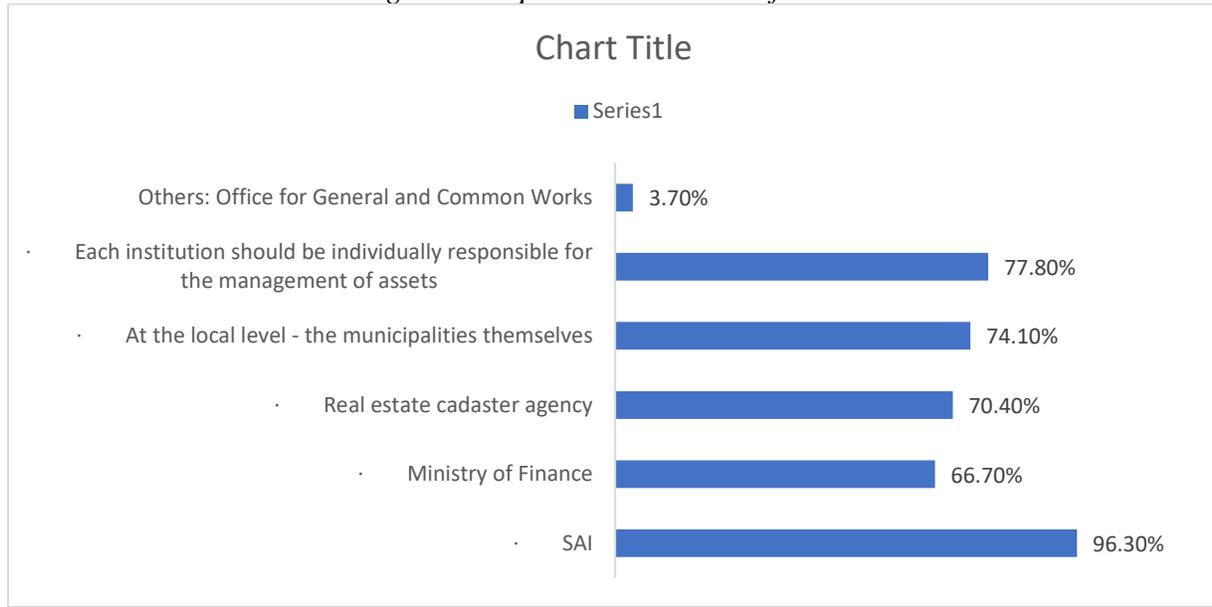
Figure 2: Regularity audit vs Performance audit



(Source: Authors' calculation)

As for the question of which institution the survey participants regard as the most important in North Macedonia when it comes to PSAM, the given answers are presented in Figure 3.

Figure 3: Important institutions for PSAM



(Source: Authors' calculation)

As evidenced in Figure 3, the most significant institution for improving PSAM is the SAI (96.30%), then that each separate institution from the public sector should be responsible for good management of funds (77.80%), the Municipalities at the local level (74.10%), the Cadastre Agency (70.40%), the Ministry of Finance (66.70%) and other institutions.

Lastly, the auditors also gave their recommendations for improving the situation with PSAM in North Macedonia, and that a complete inventory and recording of the property at the disposal of the state is needed; it is necessary to initiate a legal regulation of the way of recording the state property and its presentation in the financial statements; as well as education, training of the employees responsible for managing the assets.

5. CONCLUSION

Public sector asset management (PSAM) has been a topic of academic debate and research for several decades. Globally, there are many studies and papers on PSAM, but also the role of the SAI in improving that process, but in the Balkan region, those studies are scarce and still missing. Reviewing the efficiency of asset use and providing firm recommendations for governments to act upon can trigger significant improvements: conducting regular audits on governments' annual financial statements. With this research, we aimed to provide empirical evidence on the role of the SAI of North Macedonia for better PSAM and to draw certain conclusions about what influence the state audit has on PSAM, by exploring the perception of the state auditors in North Macedonia.

The findings of this study show that the regularity audit has greater importance for PSAM improvement, and the majority of auditors have ever audited public sector assets with the regularity audit, compared to performance audits that relate to public sector assets that are not represented by a large percentage of auditors. In terms of an irregularity related to asset assertions, the auditors determine the most conditions for the completeness of the assets, and the least for the existence of the assets. Although the auditors often give recommendations to overcome the conditions, the recommendations are not systematically implemented by the audited entities. Furthermore, state auditors believe that SAI is the biggest factor in controlling PSAM, but also that other institutions, such as: the Ministry of Finance, municipalities, the cadastre agency, that should have a role in better managing the PSAM process, that is, that state audit as a control mechanism it must not be unique.

Lastly, the state audit improves the PSAM through regularity audits, and less often performance audits by giving specific recommendations to overcome certain conditions related to the PSAM, however, as such, it is not sufficient for full control of PSAM.

Although the limitation of this paper is found in the measurement of the variables from the survey that is based only on the perception of the state auditors, it contributes to the existing literature on PSAM and leaves a lot of room for further research, especially for comparative studies of the role of SAI in better management of public sector assets.

REFERENCES

- Azuma, N., (2002), "The Role of the Supreme Audit Institution in NPM: International Trend", *Government Auditing Review*, 10, available at: https://report.jbaudit.go.jp/english_exchange/volume10/e10d07.pdf
- Dent, P., & Bond, S. (1993), "Public property holdings: Evaluating the asset", *Property Management*, 11 (4), 314-318. <https://doi.org/10.1108/02637479310048097>
- Detter, D., & Fölster, S. (2015), "*The Public Wealth of Nations – How Management of Public Assets Can Boost or Bust Economic Growth*", Palgrave Macmillan, available at: <https://link.springer.com/book/10.1057/9781137519863>
- Dionisijev, I., & Roje, G., (2020), "Public Sector Asset Management in the Republic of North Macedonia – The State of Play and Perspectives", *Center of Excellence in Finance*, available at: https://www.cefsee.org/assets/files/Public%20Sector%20Asset%20Management%20MN_web%20pages.pdf
- Fernholz, F., & Fernholz, R.M. (2006), "Strategic municipal asset management", *RTI International*, available at: <https://scholars.duke.edu/display/pub1017728>
- Fernholz, F., & Fernholz, R.M. (2007), "A toolkit for municipal asset management", *RTI International*, available at: <https://community-wealth.org/sites/clone.community-wealth.org/files/downloads/tool-rti-asset-mgmt.pdf>
- George, D., & Mallery, P. (2003), "*SPSS for Windows step by step: A simple guide and reference*", 11.0 update (4th ed.). Boston, MA: Allyn & Bacon.
- Grubišić, M., Nušinović, M., & Roje, G. (2009), "Towards Efficient Public Sector Asset Management", *Financial Theory and Practice*. Pp. 329-361
- Hentschel, H., & Utter, M. (2006), "U.S. Cities—An entrepreneurial approach to municipal real estate asset management", In O. Kaganova & J. McKellar (Eds.), *Managing government property assets: International experiences* (pp. 171-199). Washington, D.C.: The Urban Institute Press.

Hitt, M.A., Middlemist, R. D., & Mathis, R.L. (1989), “*Management: Concepts and effective practice (3rd ed.)*”, New York: West Publishing Company, available at: <https://www.abebooks.com/Management-Concepts-Effective-Practice-3rd-1989/112769128/bd>

INTOSAI, (2019), “*GUID 5260 – Governance of Public Assets*”, INTOSAI, available at: <https://www.issai.org/wp-content/uploads/2019/08/GUID-5260-Governance-of-Public-Assets.pdf>

INTOSAI, (2019), “*P-1 Lima Declaration*”, INTOSAI, available at: <https://www.issai.org/pronouncements/intosai-p-1-the-lima-declaration/>

Kaganova, O., & Nayyar-Stone, R. (2000), “Municipal real property asset management: An overview of world experience, trends, and financial implications”, *Journal of Real Estate Portfolio Management*, 6 (4), 307-326. <https://doi.org/10.1080/10835547.2000.12089624>

Kaganova, O., McKellar, J., & Peterson, G. (2006), “Introduction”, In O. Kaganova & J. McKellar (Eds.), *Managing government property assets: International experiences* (pp. 1-23). Washington, D.C.: The Urban Institute Press.

Kraus, D. (2004), “The benefits of asset management and GASB 34”, *Leadership and Management in Engineering*, January 2004, 17-18. [doi: 10.1061/\(ASCE\)1532-6748\(2004\)4](https://doi.org/10.1061/(ASCE)1532-6748(2004)4)

Lu, Y. (2011), “*Public Asset Management: Empirical evidence from the state governments in the United States*”, UMI Dissertation Publishing, available at: <https://www.proquest.com/openview/12afc70c2790295d7cb026c99eb3fddc/1?pq-origsite=gscholar&cbl=18750>

OECD, (2007), “Government capacity to assure high quality regulation in Sweden”, available at: <https://www.oecd.org/regreform/regulatory-policy/38286959.pdf>

Roje, G., Popovic, J., & Flynn, S. (2020), “*Improving Public Asset Management in South East Europe*”, available at: <https://blog-pfm.imf.org/pfmblog/2020/12/-improving-public-asset-management-in-south-east-europe-.html>

Simons, R.A., (1994), “Public real estate management and the planners ‘role’”, *Journal of the American Planning Association*, 60 (3), 333-343. [doi: 10.1080/01944369408975591](https://doi.org/10.1080/01944369408975591)

Tuan, H.-L., Chin, C.-C., & Shieh, S.-H. (2005), “The development of a questionnaire to measure students’ motivation towards science learning”, *International Journal of Science Education*, 27(6), 639–654. [doi:10.1080/0950069042000323737](https://doi.org/10.1080/0950069042000323737).

World Bank - The Center for Financial Reporting Reform (CFRR), (2020), “*Strengthening Fixed Asset Management through Public Sector Accounting*”, Washington, available at: <https://cfr.worldbank.org/publications/strengthening-fixed-asset-management-through-public-sector-accounting>

Z. Dobrowolski, (2012), “The activity of Polish Supreme Audit Office as an example of interagency co-operation in the fight against corruption, money laundering and other types of wrongdoing”, *20th OSCE Economic and Environmental Forum, Organization for Security and Cooperation in Europe*, Prague 2012, pp. 1-4, available at: <https://www.osce.org/files/f/documents/5/5/93685.pdf>

APPENDIX

Appendix A1: ANOVA

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Have you ever audited fixed assets in public sector institutions with a Regularity audit?	Between Groups	1.939	1	1.939	1.455	.232
	Within Groups	85.333	64	1.333		
	Total	87.273	65			
With a financial audit, do you inspect the existence of the assets (whether the assets really exist)?	Between Groups	0.000	1	0.000		
	Within Groups	0.000	64	0.000		
	Total	0.000	65			
Do you inspect the rights and obligations for the assets (that the audited entity has the rights over the assets) to the assets?	Between Groups	0.000	1	0.000		
	Within Groups	0.000	64	0.000		
	Total	0.000	65			
Do you inspect the completeness of the assets (all assets that should be recorded in the accounts are de facto recorded)?	Between Groups	0.000	1	0.000		
	Within Groups	0.000	64	0.000		
	Total	0.000	65			
Do you inspect the valuation of the assets (all assets are included in the financial statements in the correct amounts, and any amount resulting from an adjustment due to valuation or allocation is correct recorded)?	Between Groups	.121	1	.121	.129	.720
	Within Groups	60.000	64	.938		
	Total	60.121	65			
In your opinion, how often do you identify conditions (or findings) for the above assertions for public sector assets and make recommendations to overcome them?	Between Groups	6.371	1	6.371	15.056	.000
	Within Groups	27.083	64	.423		
	Total	33.455	65			
How often have the audited entities implemented the recommendations related to the findings on public sector assets when you perform a follow-up audit?	Between Groups	.013	1	.013	.017	.896
	Within Groups	49.759	64	.777		
	Total	49.773	65			
Have you ever been part of a Performance Audit related to public sector asset management?	Between Groups	.054	1	.054	.025	.874
	Within Groups	135.704	64	2.120		
	Total	135.758	65			
Are you familiar with the GUID 5260 (Governance of Public Assets) from the INTOSAI Framework of Professional Pronouncements?	Between Groups	1.939	1	1.939	.621	.434
	Within Groups	200.000	64	3.125		
	Total	201.939	65			

<p>In compliance with their legal powers, SAIs' efforts to enhance good governance should be multifaceted. Certain efforts are listed in the GUID 5260. Rate the efforts that your SAO fulfills (from 1 to 5, 1-least, 5-most)</p> <ul style="list-style-type: none"> • incorporation of good governance issues in an SAI's routine audit work. 	Between Groups	.445	1	.445	.960	.331
	Within Groups	29.676	64	.464		
	Total	30.121	65			
<ul style="list-style-type: none"> • increasing public awareness of the significance of ongoing integrity, transparency and accountability within the government. 	Between Groups	.084	1	.084	.079	.779
	Within Groups	68.037	64	1.063		
	Total	68.121	65			
<ul style="list-style-type: none"> • improving methods and tools of combating wrongdoing such as corruption, fraud, abuse of power, etc. 	Between Groups	.304	1	.304	.265	.608
	Within Groups	73.287	64	1.145		
	Total	73.591	65			
<ul style="list-style-type: none"> • providing a means for whistleblowers to report instances of such wrongdoing; 	Between Groups	.407	1	.407	.210	.648
	Within Groups	124.259	64	1.942		
	Total	124.667	65			
<ul style="list-style-type: none"> • collaborating with other institutions that have active roles in curbing such wrongdoing and enhancing the principles of good governance. 	Between Groups	.189	1	.189	.228	.634
	Within Groups	53.083	64	.829		
	Total	53.273	65			
<p>The GUID 5260 list the roles and responsibilities of key stakeholders in the process for good governance of public assets. In your opinion, please rate the stakeholders (1-least significant, 5 – most significant)</p> <ul style="list-style-type: none"> • Legislators and regulators 	Between Groups	1.859	1	1.859	3.315	.073
	Within Groups	35.898	64	.561		
	Total	37.758	65			
<ul style="list-style-type: none"> • Audit Committees 	Between Groups	.371	1	.371	.243	.624
	Within Groups	97.750	64	1.527		
	Total	98.121	65			
<ul style="list-style-type: none"> • Government 	Between Groups	.054	1	.054	.069	.793
	Within Groups	49.704	64	.777		
	Total	49.758	65			
<ul style="list-style-type: none"> • Financial intelligence units 	Between Groups	.243	1	.243	1.172	.283
	Within Groups	13.287	64	.208		
	Total	13.530	65			
<ul style="list-style-type: none"> • SAI 	Between Groups	.708	1	.708	.516	.475
	Within Groups	87.731	64	1.371		

	Total	88.439	65			
· Other external audits	Between Groups	6.971	1	6.971	4.950	.030
	Within Groups	90.120	64	1.408		
	Total	97.091	65			
Internal auditors	Between Groups	.142	1	.142	.162	.689
	Within Groups	56.343	64	.880		
	Total	56.485	65			
· Managers	Between Groups	1.485	1	1.485	1.558	.217
	Within Groups	61.000	64	.953		
	Total	62.485	65			
· Employees	Between Groups	.102	1	.102	.119	.731
	Within Groups	54.565	64	.853		
	Total	54.667	65			
· Other stakeholders (such as NGOs, media, international organizations)	Between Groups	5.387	1	5.387	2.645	.109
	Within Groups	130.370	64	2.037		
	Total	135.758	65			
Do you, as state auditors, often determine deficiencies in asset registers in audited entities?	Between Groups	3.030	1	3.030	.804	.373
	Within Groups	241.333	64	3.771		
	Total	244.364	65			
Is the state audit a sufficient control mechanism in the state for efficient management of public sector assets?	Between Groups	.485	1	.485	.144	.706
	Within Groups	216.000	64	3.375		
	Total	216.485	65			
Is there a need to establish a new institution in charge only of the problem of managing public sector assets in NM?	Between Groups	4.862	1	4.862	1.219	.274
	Within Groups	255.259	64	3.988		
	Total	260.121	65			

(Source: Authors' calculation)