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RESEARCH PAPER

Analysis of Budget Solvency in Regencies/Cities of West Nusa Tenggara Province 2019–2023

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Abstract. Budget solvency is a critical indicator of a local government's ability to meet its financial obligations and sustain essential public services over time. In the context of increasing demands for fiscal accountability and regional autonomy, assessing the financial health of local governments has become increasingly urgent, particularly in regions with diverse economic capacities such as West Nusa Tenggara Province. This study aims to analyze the budget solvency of municipal and regency governments in West Nusa Tenggara Province from 2019 to 2023. The research employs a descriptive quantitative approach. The data used in this study are secondary data from the Budget Realization Reports of regency and municipal governments in West Nusa Tenggara Province for the 2019–2023 period. Budget solvency is assessed through a three-stage calculation: (1) computing four solvency ratios related to revenue and expenditure; (2) standardizing these ratios into index values using normalization; and (3) averaging the index values to obtain the budget solvency dimension index. Budget solvency analysis is conducted using calculations of the budget solvency ratio, the budget solvency ratio index, and the budget solvency dimension index, which serve as the final measures of budget solvency. Based on the analysis results, it was found that the budget solvency of regencies and municipalities in West Nusa Tenggara Province shows relatively good outcomes and exceeds the financial health indicators for local government budget solvency.

Keywords: **Public Finance, Budget Realization Report, Budget Solvency.**

1. INTRODUCTION

Regional financial management is a crucial aspect of enhancing independence and efficiency in local government operations [1]. Law No. 1 of 2022 on Financial Relations between the Central and Regional Governments provides a clear legal framework for local governments to manage their revenues and expenditures. This law not only regulates financial rights and obligations but also introduces a restructuring of local taxes aimed at improving administrative efficiency and optimizing the potential for locally generated revenue [2]. By reducing the number of types of taxes and levies while introducing new types of taxes, it is expected that local governments can achieve greater independence in managing their finances [3].

The financial capacity of local governments is utilized to deliver public services. This is done to advance the region and improve community welfare [4]. One strategy implemented to achieve regional development goals is fiscal decentralization. Fiscal decentralization enables regions to optimize their resources more effectively and efficiently [5]. A key focus of this law is the importance of transparency and accountability in local financial management. Local governments are required to prepare financial reports periodically, which include essential information on budget realization, revenues, expenditures, as well as regional assets and liabilities [6]. Accurate and timely reporting is vital to provide a clear picture of the regional financial condition and to ensure accountability in the use of public funds to both the community and the central government. Thus, high-quality financial reporting not only reflects financial performance but also serves as a basis for more effective policy and development program planning [7].

In the context of West Nusa Tenggara Province, which consists of eight regencies and two cities, the challenges in managing local finances are increasingly complex. Each local government is required to present budget realization reports that are transparent and accountable, allowing the public to understand how public funds are managed [8]. Based on the 2023 Budget Realization Report (LRA) of West Nusa Tenggara Province, regional revenues were recorded as follows:

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Table 1. Budget Realization Report of West Nusa Tenggara Provincial Government for 2023 [8]

Category	Description	Amount (IDR)
Revenue	Regional Own-Source Revenue (PAD)	2,351,800,042
	Intergovernmental Fiscal Transfers	13,812,811,399
	Other Statutory Regional Revenues	146,511,113
	Total Revenue	**16,311,125,154**
Expenditure	Operational Expenditure	11,934,687,287
	Capital Expenditure	2,398,643,003
	Contingency Expenditure	62,042,634
	Transfer Expenditure	1,888,427,758
	Total Expenditure	**16,283,800,682**

The Budget Realization Report (LRA) Data of the Provincial Government of West Nusa Tenggara for the year 2023 indicates that the province's revenue exceeded its expenditures, enabling the government to provide adequate public services to its citizens. However, a thorough evaluation and financial performance assessment of the regional government are necessary. This can be achieved by comparing the financial performance outcomes from one fiscal period to the subsequent period [9]. The Data Provides positive difference between revenue and expenditure, the West Nusa Tenggara provincial government demonstrates its capacity to provide quality services to its citizens [10]. Previous research has highlighted the importance of budget solvency analysis in assessing financial performance Jimenez and Afonso [11] revealed an improving trend in solvency in the Special Region of Yogyakarta, while Hendratmi et al. [12], analyzing budget solvency in South Sumatra, reported favorable results over five years. In West Nusa Tenggara, Bernards [13] found that Bima City excelled in short-term solvency, while Bima Regency stood out in long-term solvency.

Thus, this study aims to analyze the budget solvency of regency and city governments in West Nusa Tenggara Province during the 2019–2023 period using LRA data. This approach measures the budget solvency ratio by comparing total revenue, including special allocation fund revenue, to total operational, personnel, and capital expenditures [14]. The study's findings are expected to provide useful recommendations for local governments to improve financial performance, manage revenues and expenditures sustainably, and ensure optimal provision of public goods and services for the community.

2. METHOD

This study employs a quantitative method with a descriptive approach. One or more independent variables can be used in descriptive research to identify variable values without comparing them with other variables [15]. The study focuses on regencies and cities in West Nusa Tenggara Province during the 2019–2023 fiscal years. The data used in this research are secondary data from the Budget Realization Reports (LRA) of regency and city governments in West Nusa Tenggara Province for the 2019–2023 budget periods. These data are sourced from the Central Bureau of Statistics (BPS) of West Nusa Tenggara Province [16]. To obtain budget solvency results, it is necessary to calculate the budget solvency dimension index [17]. The purpose of calculating the budget solvency dimension index is to assess the extent to which local governments are capable of providing services to the public and managing their operational expenditures. A high index value indicates that the local government has good capabilities in delivering services and managing the budget [18].

The calculation of the budget solvency dimension index is divided into three stages:

2.1 Stage 1: Calculating the Budget Solvency Ratios

The budget solvency ratios are calculated using the local government's budget realization reports. There are four types of ratios, each with different calculations:

$$\text{Ratio A} = \frac{(\text{Total Revenue LRA} - \text{Special Allocation Fund Revenue LRA})}{(\text{Total Expenditure LRA} - \text{Capital Expenditure LRA})} \quad (1)$$

$$\text{Ratio B} = \frac{(\text{Total Revenue LRA} - \text{Special Allowcetion Fund Revenue LRA})}{\text{Oprational Expenditure LRA}} \quad (2)$$

$$\text{Ratio C} = \frac{(\text{Total Revenue LRA} - \text{Special Allocation Fund Revenue LRA})}{\text{Personnel Expenditure LRA}} \quad (3)$$

$$\text{Ratio D} = \frac{\text{Total Revenue LRA}}{\text{Total Expenditure LRA}} \quad (4)$$

The Special Allocation Fund is excluded because it is beyond the control of local governments.

a) Ratio A measures the local government's ability to cover operational expenses, excluding capital expenditures.
b) Ratio B assesses the proportion of revenue available for operational expenditures.
c) Ratio C focuses on the proportion of revenue allocated to personnel expenditures.
d) Ratio D provides an overall picture of the revenue's ability to cover all expenditures.

2.2 Stage 2: Calculating the Ratio Index

After calculating the individual ratios, the next step is to determine the ratio index using the following equation 5:

$$\text{Ratio Index} = \frac{\text{Actual Value}_n - \text{Lowest Value}}{(\text{Highest Value} - \text{Lowest Value})} \quad (5)$$

Fom equation 5, the Ratio Index represents the standardized score for the budget year, Actual Value_n refers to the ratio value for the respective budget year, *Highest Value* is the maximum ratio observed among all compared entities or years, and *Lowest Value* is the minimum. This normalization process allows for a consistent comparison across different entities or periods by scaling the values between 0 and 1. A ratio index value of **1** indicates that the local government has achieved the highest possible performance for that ratio, suggesting strong capability in delivering public services effectively. Conversely, values closer to **0** reflect weaker performance relative to others in the comparison set.

2.3 Stage 3: Calculating the Budget Solvency Dimension Index

The budget solvency dimension index is calculated using the formula:

$$\text{Budget Solvency Dimension Index} = \frac{(\text{Ratio A} + \text{Ratio B} + \text{Ratio C} + \text{Ratio D})}{4} \quad (6)$$

The Index Ratio is composed of four key components: Index Ratio A, Index Ratio B, Index Ratio C, and Index Ratio D, each representing standardized values for their respective financial ratios in a given budget year. These index values are derived through normalization to enable consistent comparisons across different entities or time periods. An index dimension value greater than 0.14 is considered indicative of sound financial conditions. This threshold suggests that the local government possesses adequate financial capacity to deliver public services effectively and to meet its operational expenditure obligations. Such a benchmark serves as a critical tool in assessing the fiscal health and performance of regional governments [19].

3. RESULT AND DISCUSSION

3.1 Budget Solvency Ratios

The budget solvency ratios consist of four different calculations, Ratio A measures the local government's ability to cover operational expenditures, excluding capital expenditures. Ratio B assesses the proportion of revenue available for operational expenditures. Ratio C focuses on the proportion of revenue allocated to personnel expenditures. Ratio D provides an overall picture of the revenue's ability to cover all expenditures. Below are the results of the budget solvency ratio calculations can be seen in Table 2. The regencies and cities in West Nusa Tenggara Province exhibit varying levels of budget solvency ratios due to differences in revenue, special allocation funds, total expenditures, capital expenditures, operational expenditures, and personnel expenditures across each regency and city during different fiscal years.

3.2 Budget Solvency Ratio Index

The budget solvency ratio index is a key indicator used to evaluate the ability of local governments to finance their expenditure responsibilities and ensure the continuity of public service delivery.

Table 2. Recapitulation of Budget Solvency Ratios in Regencies and Cities of West Nusa Tenggara Province

District/City	Ratio A					Ratio B					Ratio C					Ratio D				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
Mataram City	1.15	1.08	1.04	1.03	0.93	1.25	1.18	1.05	1.03	0.98	2.56	2.54	2.34	2.34	2.11	1.01	0.99	1.03	1.02	0.99
West Lombok	1.03	0.98	0.97	0.89	0.92	1.38	1.25	1.18	1.07	1.10	2.30	2.23	1.92	1.78	1.87	1.02	0.92	1.03	1.00	1.00
Central Lombok	0.96	0.92	0.88	0.84	0.87	1.21	1.30	1.07	1.02	1.04	2.08	1.73	1.67	1.61	2.03	0.98	0.99	0.98	0.93	1.00
East Lombok	0.92	0.89	0.83	0.82	1.00	1.19	1.20	1.17	1.01	1.25	2.06	2.20	2.11	2.02	2.03	0.98	0.97	0.91	1.00	0.98
North Lombok	1.01	1.01	0.98	1.02	0.96	1.34	1.19	1.24	1.14	1.24	3.04	2.32	2.37	2.46	2.01	0.96	0.97	1.00	1.01	1.01
Sumbawa	0.98	0.94	0.91	0.86	0.85	1.25	1.16	1.08	1.04	1.01	2.01	1.90	1.80	1.56	1.98	0.97	0.98	0.89	0.99	0.92
West Sumbawa	1.00	1.00	1.05	1.45	0.97	1.22	1.23	1.27	1.23	1.11	2.89	2.49	2.52	3.45	2.11	0.95	0.98	1.05	1.34	0.96
Dompu	1.02	0.92	0.98	0.97	0.87	1.26	1.24	1.15	1.06	1.02	2.24	1.94	2.18	2.13	1.92	1.01	0.95	1.02	1.00	0.96
Bima	0.93	0.93	0.96	0.87	0.86	1.38	1.25	1.17	1.06	1.05	1.99	2.02	1.85	1.77	1.65	0.99	0.98	1.00	1.04	0.98
Bima City	1.03	0.95	1.04	1.15	0.94	1.17	1.04	1.05	1.14	0.95	2.05	2.02	1.69	1.87	1.73	0.97	0.89	1.02	1.08	0.93

Table 4. Recapitulation of Budget Solvency Ratio Indices in Regencies and Cities of West Nusa Tenggara Province

District/City	Ratio A					Ratio B					Ratio C					Ratio D				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
Mataram City	1.00	0.61	0.39	0.30	0.00	0.74	0.27	0.22	0.00	1.00	0.94	0.51	0.00	0.49	0.00	1.00	0.94	0.00	0.94	0.00
West Lombok	1.00	0.64	0.56	0.00	0.21	1.00	0.60	0.47	0.00	0.13	1.00	0.86	0.27	0.00	0.18	1.00	0.68	1.00	0.68	0.72
Central Lombok	1.00	0.65	0.33	0.00	0.27	1.00	0.66	0.00	0.00	0.08	1.00	087	0.25	0.12	0.61	1.00	0.71	0.85	0.00	1.00
East Lombok	0.51	0.38	0.55	0.00	0.60	1.00	0.66	0.00	0.00	1.00	0.49	0.00	0.00	0.00	0.34	0.83	0.48	0.45	1.00	1.00
North Lombok	0.84	0.92	0.23	0.00	0.75	0.31	0.00	0.00	0.00	0.00	1.00	0.74	0.31	0.00	0.00	0.64	0.51	0.84	0.76	0.76
Sumbawa	1.00	0.73	0.49	0.00	1.00	0.22	0.11	0.00	0.00	1.00	0.90	0.75	0.74	0.00	0.74	0.64	0.91	1.00	1.00	1.00
West Sumbawa	1.00	0.93	100	0.00	0.23	0.70	0.35	0.00	0.00	1.00	0.58	0.29	0.31	1.00	0.00	0.83	0.63	1.00	1.00	0.00
Dompu	1.00	0.33	0.74	0.00	0.25	0.19	0.55	0.00	0.00	1.00	0.75	0.68	0.00	0.00	0.94	1.00	0.74	1.00	0.77	0.15
Bima	0.75	0.72	1.00	0.08	1.00	0.70	0.45	0.00	0.00	0.04	0.93	0.55	0.33	0.00	0.00	1.00	0.71	0.33	0.00	0.31
Bima City	0.63	0.02	049	1.00	1.00	0.42	0.47	0.87	0.00	0.87	0.92	0.00	0.51	0.13	0.42	0.00	0.64	1.00	0.00	0.20

This index is derived through a normalization process that enables fair comparisons across regions and time periods. It reflects the relative financial strength of a local government within a given dataset. A higher index value indicates stronger fiscal capacity, while lower values may signal potential budgetary challenges. The detailed index values and comparative assessments can be found in Table 4. The results of the ratio index above show that the highest value of 1 is achieved for each ratio across all regencies and cities in West Nusa Tenggara during 2019–2023. This indicates that local governments are capable of providing services to the public effectively [20].

3.3 Budget Solvency Dimension Index

The budget solvency dimension index for each regency and city in West Nusa Tenggara Province is described in Table 6.

Table 6. Recapitulation of Budget Solvency Dimension Index in Regencies and Cities of West Nusa Tenggara Province

District/City	Budget Years					Average
	2019	2020	2021	2022	2023	
Mataram City	0.87	0.57	0.54	0.48	0.00	0.49
West Lombok	0.99	0.57	0.57	0.17	0.31	0.52
Central Lombok	0.82	0.81	0.40	0.03	0.34	0.48
East Lombok	0.46	0.63	0.55	0.00	0.75	0.48
North Lombok	0.67	0.74	0.40	0.70	0.19	0.54
Sumbawa	0.91	0.77	0.55	0.30	0.00	0.51
West Sumbawa	0.22	0.29	0.23	1.00	0.00	0.35
Dompu	0.98	0.15	0.74	0.45	0.04	0.47
Bima	0.72	0.60	0.75	0.18	0.00	0.45
Bima City	0.76	0.34	0.40	0.84	0.08	0.49
Average of Years	0.74	0.55	0.51	0.42	0.17	

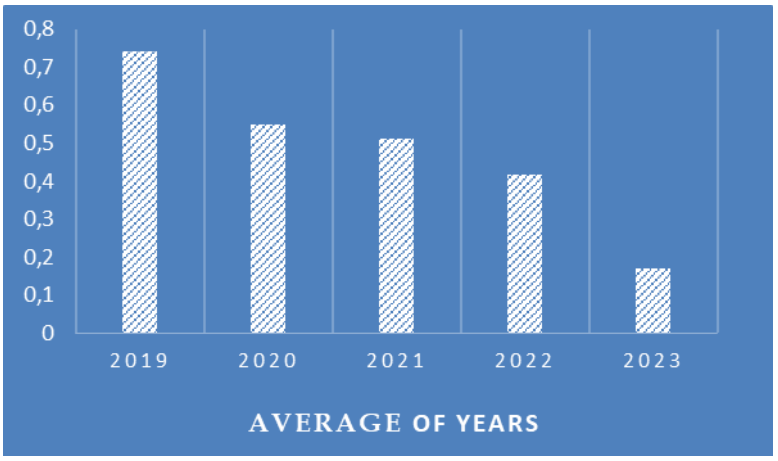

Figure 1. Average Annual Budget Solvency Dimension Index

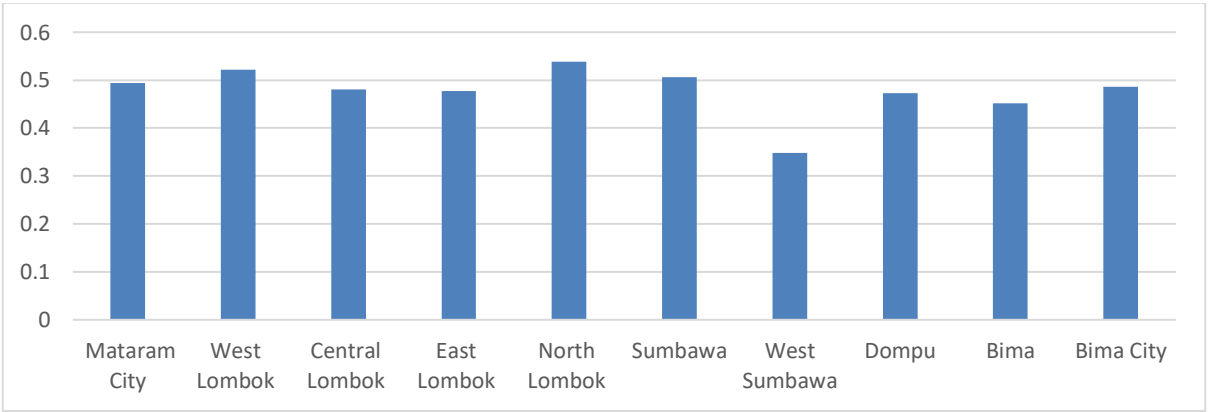

Figure 2. Average Budget Solvency Dimension Index Per Regency/City in West Nusa Tenggara Province

The analysis of the average annual budget solvency dimension index for 2019–2023 shows the lowest value in 2023, at 0.17, and the highest average value in 2019, at 0.74. The average budget solvency dimension index for regencies and cities in West Nusa Tenggara Province shows the lowest average in, West Sumbawa Regency at 0.35, Bima Regency at 0.45, Dompu Regency at 0.47, Central Lombok and East Lombok Regencies at 0.48. The highest average values are seen in, North Lombok Regency at 0.54, West Lombok Regency at 0.52, Sumbawa Regency at 0.51. The average results per year and per regency/city indicate that the regencies and cities in West Nusa Tenggara Province are generally capable of financing operational expenditures, as they have exceeded the budget solvency indicators.

3.4 Discussion

The analysis of the budget solvency dimension index across districts and cities in West Nusa Tenggara (NTB) from 2019 to 2023 reveals varying financial capacities in sustaining public services. In general, most local governments recorded positive index values above the regional financial health benchmark, although several areas experienced significant declines in 2023. Mataram City, as the provincial capital, consistently demonstrated strong budget solvency from 2019 to 2022, surpassing the regional benchmark. However, in 2023, the index dropped sharply to 0.00, suggesting a sudden fiscal imbalance. Despite this, the city government remains capable of delivering public services. To improve fiscal sustainability, Mataram needs to increase locally-generated revenue (PAD), reduce dependency on central government transfers, and enhance planning to avoid cost overruns in infrastructure projects. These findings are consistent with Jimenez and Afonso [21], who emphasize the vulnerability of urban areas to fiscal shocks when local revenue diversification is weak.

West Lombok Regency displayed consistent budget solvency performance throughout 2019–2023, maintaining values above the financial health threshold and ranking second in average solvency across NTB. This stability is supported by repeated unqualified opinions (WTP) from the Audit Board of Indonesia (BPK). The regency's ability to meet public service obligations reflects a well-managed budget structure. Strategies to further improve local revenue include optimization of public asset utilization and service-based income streams, in line with recommendations by Sari & Nugroho (2020) regarding local government revenue enhancement. Central Lombok Regency also recorded positive average solvency values during the same period. Strong performance was observed from 2019 to 2021, but a drop occurred in 2022 (index = 0.03) due to indirect expenditure overruns. Recovery was seen in 2023 with a significant increase (index = 0.34), attributed to increased PAD and stabilized expenditure. This fluctuation illustrates the importance of prudent budget allocation, as highlighted by Sadaruddin et al. [22], who notes that expenditure discipline significantly affects fiscal solvency in subnational governments.

East Lombok Regency initially showed robust performance from 2019 to 2021. However, a sharp decline to 0.00 in 2022 occurred due to expenditures surpassing revenues. Recovery was evident in 2023 with an index of 0.75, supported by improved revenue collection and stable fiscal planning. This trend aligns with Antriyandarti et al. [23], who found that temporary fiscal shocks in rural districts can be mitigated through improved financial governance and PAD diversification. North Lombok Regency stands out as the region with the best solvency performance across NTB, consistently exceeding fiscal health benchmarks annually from 2019 to 2023. High ratios and index scores underscore its strong capacity to fund public services. The region's recognition in the 2023 Innovative Government Award further affirms its performance. Nevertheless, as one of the provinces with the lowest PAD levels, North Lombok must continue to explore local economic potentials to reduce long-term dependency on external transfers. This supports the findings of Martins et al. [24], who stress the role of innovation and entrepreneurship in strengthening fiscal autonomy in underdeveloped regions.

Sumbawa Regency also demonstrated generally strong solvency performance, ranking third in NTB. From 2019 to 2022, it maintained index values above the benchmark and received ten consecutive WTP opinions from the Ministry of Finance. However, in 2023, the index dropped below the threshold, indicating inadequate revenue to cover operational spending. To regain stability, Sumbawa must enhance local income and control expenditures. This reflects similar challenges discussed by Ramadhan & Hermawan (2018) regarding fiscal strain in service-intensive districts. West Sumbawa Regency showed good results between 2019 and 2022, but experienced a severe drop in 2023 to an index value of 0.00, signifying an inability to

finance operational needs. Strengthening PAD by exploring economic sectors such as tourism, agriculture, and mining could serve as a corrective strategy, as recommended by Hamzah et al. [25] in their study of resource-rich but revenue-poor regions.

Dompu Regency experienced stable fiscal conditions from 2019 to 2022 but saw a sharp decline to 0.04 in 2023, revealing the region's limited ability to fund operational expenditures. Similarly, Bima Regency's performance declined in 2023 after consistent solvency from 2019 to 2022, due to expenditures exceeding revenues. Both regencies need to focus on revenue diversification and better alignment of expenditure planning with available funds, consistent with Afonso [26] who noted that poor financial planning is a recurring issue in fiscal solvency for mid-sized districts. Lastly, Bima City recorded strong solvency until 2022 but faced a substantial decline to 0.08 in 2023. As one of the lowest-income areas in the province, Bima City must identify and cultivate local revenue sources to improve fiscal resilience. This aligns with research by Jonek-Kowalska and Wolniak [27], which emphasizes the importance of localized economic development strategies to support municipal fiscal health.

4. CONCLUSION

Based on the discussion, this study concludes that the budget solvency of 10 regencies/cities in West Nusa Tenggara Province has shown relatively good results. Over the past five years, all regencies and cities in the province have met the financial health indicators for budget solvency, although the annual average has tended to decline due to post-COVID-19 economic recovery. The highest average budget solvency value was 0.74 in 2019, while the lowest average was 0.17 in 2023. Among the regencies and cities, West Sumbawa Regency recorded the lowest average solvency at 0.35, while North Lombok Regency had the highest average at 0.54. This study is expected to contribute to public policy research by demonstrating how local government fiscal policies impact regional financial performance, particularly in maintaining budget solvency.

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6. AUTHOR DECLARATION

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