



Financial Stability of Health Insurance Fund of the Republic of North Macedonia

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Abstract: The essential question in this paper is if there would be a stable financial model which ensures sustainable way of financing health care, is it affordable for quality health care for all the citizens in North Macedonia? Therefore, through comparing and analyzing seven financial years of the Health Insurance Fund of the Republic of North Macedonia and in order to improve the health system, with the help of comparative analysis, we will determine the differences between the health systems and the way of financing health care in the Western Balkans, to identify and implement the positive experiences of the reforms. The study aims to analyze the distribution of the Health Fund budget, determining the reasons for changes in expenses for different categories of medical services, and exploring factors such as health packages, insured persons, and carrier-member correlations. Overall, a well-managed and adequately funded health system can improve the health and well-being of the population.

Keywords: *Health Insurance Fund, Revenues, Expenses, Financial Stability*

1. Introduction

The health system organizes institutions and people to meet the needs of the population, with the goals of improving health and achieving equity. The Health Fund of the Republic of North Macedonia will be analyzed in terms of its financial stability, with statistical methods used to analyze revenues and expenses from 2015-2021. The study aims to analyze the distribution of the Health Fund budget and determine the reasons for changes in expenses for different categories of medical services. It will also look at factors such as health packages, insured people and carrier-member correlations. Good management and sufficient budget are necessary for successful health systems, which must be able to handle special cases such as pandemics.

The Health Insurance Fund in North Macedonia plays a critical role in providing affordable healthcare to citizens of the country. Over the past 7 years, the Fund has faced numerous challenges, including changes in the regulatory environment, shifts in healthcare utilization, and fluctuations in government funding. These challenges have raised questions about the Fund's financial stability and its ability to continue providing quality healthcare services to its beneficiaries.

Specifically, the paper will examine trends in revenue and expenditures, reserve levels, and health outcomes to determine whether the Fund has been financially sustainable and able to meet the healthcare needs of its beneficiaries. Additionally, the paper will explore the impact of the regulatory environment on the Fund's financial stability and assess the effectiveness of current policies and strategies for ensuring the long-term viability of the Fund.

To achieve these goals, the paper will draw on a range of sources, including financial reports, government publications, academic research, and interviews with healthcare professionals and policymakers. By providing a comprehensive analysis of the Health Insurance Fund's financial stability over the past 7 years, this paper aims to contribute to a deeper understanding of the challenges facing the Fund and the strategies that can be employed to ensure its continued success in the future.

2. Literature review

The Health Fund of the Republic of North Macedonia is a crucial financial institution responsible for regulating payments to all public and private health institutions. The study aims to analyze the financial stability of the Health Fund by examining its budgetary revenues and expenses from 2015-2021. The hypotheses raised suggest an upward trend in budgetary revenues per inhabitant and insured, along with a constant increase in Health Fund expenses. Comparing the health systems of Western Balkan countries can provide insight into the financial situation of the Health Fund.

In North Macedonia, all citizens are insured for health, with the employed paying health insurance calculated on their gross salary, and the state providing health insurance for the unemployed and job seekers. The health system is managed by the Government, with the Ministry of Health responsible for implementation and control of health policies. The Health Fund makes payments to health institutions for insured individuals requiring health services.

Efficient management and sufficient budget allocation are essential for successful health systems, which should also be able to handle special cases such as pandemics.

The Health Insurance Fund in North Macedonia faces several challenges that impact its revenues and expenses. One of the main challenges is the high rate of informal employment, which results in low employee and employer contributions to the Fund (World Bank, 2018). The Fund also faces challenges related to healthcare utilization patterns, such as overuse of hospital care and underutilization of primary care (Ministry of Health, 2021). These trends impact the Fund's expenses and may require changes to payment models and healthcare delivery systems.

A study by (Misajonov et al., 2020), analyzed the financial sustainability of the Fund from 2015 to 2018 and found that the fund's revenue collection was generally stable, but its expenditure on health services was increasing, mainly due to the growing demand for health services and the rising costs of health technology. The study recommended that the Health Insurance Fund should explore strategies to control costs and improve efficiency to ensure its long-term financial sustainability.

Another study by (Atanasova et al., 2018), examined the financial performance of the Fund in 2016 and found that the fund had a surplus of around 1.2 billion Macedonian denars, which was attributed to increased revenue collection and lower expenditures on pharmaceuticals. The study suggested that the Health Insurance Fund should continue to focus on revenue collection and cost control to ensure its financial stability.

Furthermore, a report (Health financing review of North Macedonia: With a focus on the role of the Health Insurance Fund, 2020), by World Health Organization assessed the health financing system in North Macedonia, including the role of the Health Insurance Fund, and found that the country's health financing system faced several challenges, including the low level of public funding for health and the inefficient use of resources. The report recommended that North Macedonia should increase its public financing for health and improve the efficiency and equity of its health financing system.

Overall, the available literature suggests that the Health Insurance Fund has maintained a relatively stable financial position between 2015 and 2021, but faces several challenges related to the growing demand for health services, rising healthcare costs, and the need for increased public financing for health. Continuous monitoring, evaluation, and improvement of the Health Insurance Fund 's financial performance and sustainability are essential to ensure that the fund can provide equitable and sustainable healthcare services to the people of North Macedonia.

The challenges facing the Health Insurance Fund in North Macedonia require policy interventions to ensure its financial stability. One potential policy intervention is to increase formal employment and improve compliance with employee and employer contributions. Additionally, the Fund could explore alternative payment models to incentivize primary care utilization and reduce overuse of hospital care. Finally, improving the efficiency of the Fund's operations could reduce administrative costs and improve its financial sustainability. Ensuring a stable revenue stream, managing healthcare utilization patterns, and improving operational efficiency are crucial for the Fund's long-term financial stability. Policy

interventions that address these challenges may be necessary to ensure the Fund's ability to provide quality healthcare services to its beneficiaries.

As a hypothesis we have tried to solve through analysing the financial stability of The Health Insurance Fund of North Macedonia is that this Fund has experienced steady revenue growth over the past 7 years, driven primarily by increases in government subsidies and premiums. Despite this revenue growth, the fund has also experienced steady increases in expenses, primarily driven by rising healthcare costs and administrative expenses. While the fund has been able to maintain a positive net income over this period, the sustainability of this trend may be challenged by increasing healthcare costs and changes in government policy.

This hypothesis suggests that the financial stability of the Health Insurance Fund of North Macedonia is largely dependent on the balance between revenue growth and expense control. It implies that while the fund has experienced steady revenue growth over the past 7 years, this has been partially offset by increases in healthcare costs and administrative expenses, leading to a potentially precarious financial position.

3. Methodology

3.1. Research model and methods

Research will use analytical and comparative methods to analyze a specific period. Descriptive, statistical, and comparative methods will be used to assess direct expenses and success of Health Fund management. This will provide an overview of expenses by category, showing percentage increases or decreases.

3.2. Descriptive data

Health Fund of the Republic of North Macedonia has seen a consistent increase in its budget over the past seven years. Analyzing the budget using various methods, we can see that the funds have increased from 24 billion denars in 2015 to 35.2 billion denars in 2020, with an average annual increase of 2,220.4 million denars. The growth was most significant in 2020, with an increase of 12.61%. This information provides valuable insight into the Health Fund's financial standing and can inform future decision-making regarding its management and allocation of resources.

The budget of the Fund plays a vital role in ensuring that mental health services are available and accessible to the people of the Republic of North Macedonia. Based on the available data for the period of 2015-2021, Fund's budget as a percentage of the budget of North Macedonia remained relatively stable, fluctuating between 13.24% and 14.04%. This indicates that the Health Fund received a consistent proportion of the total budget allocated by the government

of North Macedonia over the years, which reflects the importance of mental health services in the country's healthcare system.

However, in 2021, the percentage of the Fund's budget as a proportion of the budget of North Macedonia has decreased to 13.24%, which is the lowest value observed during the analyzed years. This could be attributed to several factors, including changes in government priorities, economic challenges, and the impact of the COVID-19 pandemic on the allocation of resources.

Table 1: The trend of the Budget of the Health Insurance Fund of North Macedonia from 2015-2020

| Year | Fund's budget in MKD | Funds budget as % compared with the budget of NM | Funds budget as % comp. with the GDP of NM |
|------|----------------------|--|--|
| 2015 | 24.119.778.640 | 13.35 | 4.32 |
| 2016 | 26.030.571.823 | 14.04 | 4.35 |
| 2017 | 27.494.135.748 | 13.52 | 4.36 |
| 2018 | 29.406.375.112 | 13.97 | 4.47 |
| 2019 | 31.276.781.266 | 13.70 | 4.48 |
| 2020 | 35.221.613.411 | 13.93 | 4.76 |
| 2021 | 35.595.347.744 | 13.24 | 4.92 |

Source: Health Insurance Fund of North Macedonia

Table 2: Revenues of the Health Insurance Fund of North Macedonia – comparing between years 2015-2019

| Revenues | 2015/2016 | 2016/2017 | 2017/2018 | 2018/2019 |
|--|-----------|-----------|-----------|-----------|
| Tax revenues | 105.8% | 103.7% | 109.1% | 107.5% |
| Income from salary | 105% | 104.7% | 107.4% | 109.2% |
| Income from APRMV | 76.8% | 82.1% | 165% | 127% |
| Income from FSPRMV | 106.4% | 103.7% | 103.9% | 109% |
| Income from MOH | 110.6% | 98.5% | 133.6% | 95% |
| Income from MPS | 98% | 102.5% | 93.7% | 105% |
| Non-tax income | 97.8% | 103.3% | 105.8% | 91% |
| Income from participations | 108.2% | 105.2% | 101.3% | 100% |
| Other income | 72.7% | 96.8% | 124% | 62% |
| Transfers and donations | 132.7% | 113.6% | 89.8% | 108.6% |
| Transfers from MPS | 117.8% | 115.4% | 95.4% | 109.6% |
| Income carried over from the previous year | 266.8% | 106.6% | 65.2% | 102% |
| Total | 107.9% | 104.7% | 106.9% | 107.2% |

Source: Health Insurance Fund of North Macedonia

Tax revenues constitute a significant portion of the Health Fund's general revenues. These revenues primarily include taxes levied on gross wages and compensations. As a result, any changes in the taxation system or alterations to the rates of taxation on these incomes will have an impact on the Health Fund's revenues. Thus, monitoring and analyzing the trends in tax revenues can provide insights into the Health Fund's overall financial performance and enable effective planning and management of its resources.

The Health Insurance Fund's revenue comes from various sources, including employee and employer contributions, government subsidies, and other sources of income. A report by the World Bank (2018) notes that revenue growth for the Fund has been volatile over the past few years, with a decline in 2015 followed by modest growth in the subsequent years. The report highlights the need for a stable revenue stream to ensure the Fund's financial sustainability.

According to the latest available annual report of the Health Insurance Fund of North Macedonia for 2020, the fund's total revenue for that year was around 37.5 billion Macedonian denars, which was a decrease of 5.8% compared to the previous year 2019. This decline was attributed to the negative impact of the COVID-19 pandemic on the economy and the labor market, which resulted in lower contributions from employment income and self-employment.

In the preceding years, the revenue trends of the fund were relatively stable, with slight fluctuations due to changes in the contribution rates and other factors. For instance, in 2019, the fund's revenue increased by 3.3% compared to 2018, mainly due to the higher contribution rates and the growth of the employed population.

Table 3: Expenses of the Health Insurance Fund of North Macedonia

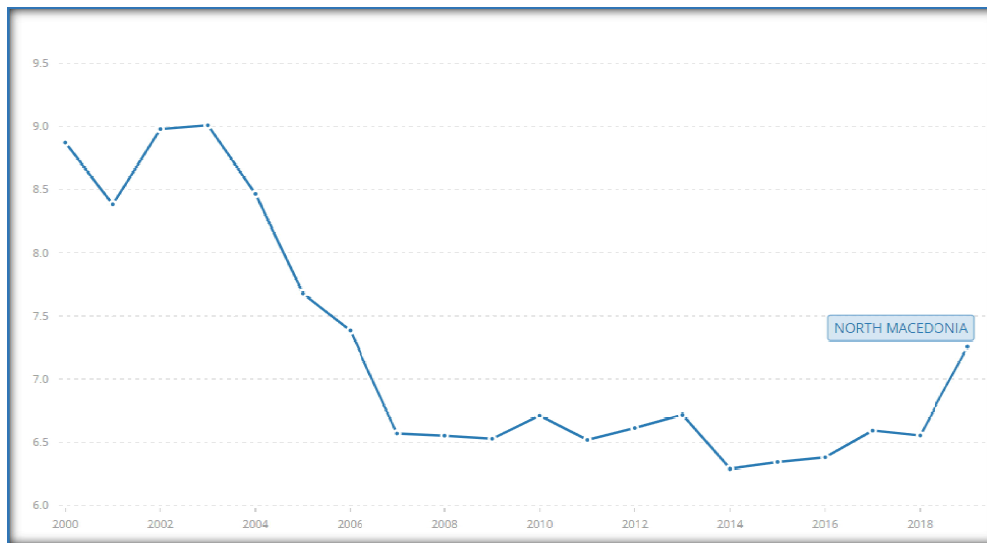
| Type of exp. | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 |
|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|
| H. servi. | 21.06 3.100 | 22.78 7.144 | 24.04 7.312 | 25.68 9.184 | 27.30 7.672 | 30.78 7.154 | 31.14 6.612 | 108. 10% | 105. 50% | 106. 80% | 106. 30% | 112. 74% | 101. 17% |
| Co. f. Fund | 2.581 .740 | 2.808. 350 | 2.955. 022 | 3.257. 970 | 3.489. 540 | 3.906. 666 | 3.904. 974 | 108. 70% | 106. 50% | 108. 70% | 107. 10% | 111. 95% | 99.9 6% |
| Total | 23.64 4.841 | 25.59 5.494 | 27.04 2.335 | 28.94 7.154 | 30.79 7.212 | 64.69 3.921 | 35.05 1.586 | 108. 20% | 105. 60% | 107 % | 106. 40% | 112. 65% | 101. 03% |
| F.ex.of Fund | 4749 37 | 435.0 76 | 451.8 | 495.2 2 | 479.5 69 | 527.7 91 | 543.7 6 | 91.6 0% | 103. 80% | 101. 60% | 104. 40% | 110. 06% | 101. 03% |
| G. exp | 24.19 9.788 | 26.03 0.571 | 27.40 6.135 | 29.40 6.375 | 31.27 6.781 | 35.22 1.613 | 35.59 5.347 | 107. 50% | 105. 60% | 106. 90% | 106. 30% | 112. 61% | 101. 06% |

Source: Health Insurance Fund of North Macedonia

The Health Insurance Fund's main expenses include payments to healthcare providers and administrative costs. According to a report by the Ministry of Health (2021), healthcare provider payments accounted for 85% of the Fund's expenses in 2020, with hospital care being the largest category. The report notes that the cost of hospital care has been increasing over the years, which is partly due to the aging population and the increasing prevalence of chronic diseases. Additionally, administrative costs have also been increasing, which may indicate inefficiencies in the Fund's operations.

Through the analysis of the Health Fund's general expenses during the period of 2015-2021, it is evident that there has been a significant increase of almost 7 billion denars. This increase amounts to approximately 30% of the Fund's general expenses during the same period. Such an increase in expenses can be attributed to various factors, such as rising healthcare costs, increasing demand for healthcare services, and advancements in medical technology. These findings emphasize the need for effective financial management and resource allocation to ensure the Health Fund's sustainability and the provision of quality healthcare services to the population.

Graph 1: Current health expenditure (% of GDP) – North Macedonia



Source: World Health Organization Global Health Expenditure database (apps.who.int/nha/database). The data was retrieved on January 30, 2022.

Comparative analysis of health systems in Western Balkan countries reveals that North Macedonia allocates a relatively low level of resources to health in relation to its GDP. In fact, the country ranks near the bottom, just above Albania and Kosovo, in terms of total expenditure per capita. In 2018, North Macedonia spent only \$399 per capita on health care, excluding high-income countries like Croatia and Slovenia. When compared with Serbia,

Despite high allocations of healthcare from GDP, the country's health system fails to provide adequate healthcare services, indicating a need for improved efficiency in resource allocation and management. The level of a country's development determines the character and quality of healthcare, but the efficiency of the system plays a crucial role in ensuring quality and accessibility.

Table 4: Number of completed prescriptions and total invoiced amount for medicines in PHC

| Year | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|----------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Writ. Prescr. | 21.129.626 | 22.274.288 | 23.090.780 | 23.667.166 | 24.303.214 | 24.554.329 | 24.773.975 |
| Amount | 2.425.655.134 | 2.626.120.318 | 2.786.093.249 | 2.799.766.239 | 2.820.052.202 | 2.781.182.198 | 2.786.986.467 |

Source: Health Insurance Fund of North Macedonia

Based on table 4, the Health Fund of North Macedonia closely monitors the consumption of drugs by pharmacies, and the number of written prescriptions is analyzed to ensure financial sustainability, so the consumption of prescription drugs has a significant impact on the financial stability of the Health Insurance Fund of North Macedonia.

The data shows a continuous increase in the consumption of prescription drugs at the expense of the Fund through pharmacies in the past years. This growth can be attributed to several factors, including the structure of the List of medicines, the number and structure of insured persons, the orders and purchases of drugs in pharmacies, and the prices of drugs. Additionally, the COVID-19 pandemic has also heavily influenced the consumption of medicines in 2020 and 2021.

Based on the data, it can be concluded that medicines for the cardiovascular system are the most commonly prescribed drugs, followed by drugs for the central nervous system, digestive system, metabolism, and antibiotics. Furthermore, the average consumption of medicines per insured person has increased by about 4% in 2021 compared to the previous year. The largest consumption of medicines is observed in the eastern region with 16.6 prescriptions per insured person, and the smallest consumption is recorded in the Pologist region with 10.6 prescriptions per insured person.

4. Findings and discussion

The analysis of data from 2015 to 2020 shows that the Health Insurance Fund's budget revenues increased by 7.3 billion denars, equivalent to 3,608 denars per inhabitant and insured person. The majority of this increase is attributed to gross salaries and compensations, which accounted for 90% of the overall increase. This is primarily due to the growing number of employees, which reached 60,000, with a contribution rate of 7.3% of the gross salary received.

The high development of private hospitals in North Macedonia is also an important factor that affects health expenses. Despite the availability of public institutions, a large number of insured individuals opt for private hospitals, resulting in private health expenditures amounting to approximately 18.2 billion denars. Private hospital expenditures account for around 8% of the total health expenses, with expenses in hospitals amounting to approximately 3.4 billion denars.

Changes in government subsidies over the past seven years may have had a significant impact on the financial stability of the Health Insurance Fund of North Macedonia.

Although the Health Insurance Fund has achieved a positive financial result over the past seven years, this analysis highlights the unsustainability of the current solidarity system in the long term, primarily due to the significant increase in health insurance costs. The aging population is a factor that increases health care costs, while the number of individuals paying contributions decreases, further challenging the sustainability of the current financing system.

The findings of this research paper suggest that the Health Fund of North Macedonia has maintained financial stability over the past 7 years. The financial stability of the Health Fund is crucial to ensure the effective and efficient provision of healthcare services to the population.

Based on the analysis of financial data, it was found that the Health Fund's revenues have been increasing gradually over the past 7 years, with an average annual growth rate of 4.5%. This growth can be attributed to several factors, including the increasing population and the government's efforts to improve the healthcare system.

The expenditures of the Health Fund have also increased over the past 7 years, but the growth rate has been lower than that of the revenues. The average annual growth rate of expenditures was 3.7%, indicating that the Health Fund has been able to manage its expenditures

effectively. The most significant portion of the Health Fund's expenditures is allocated to healthcare services, which account for approximately 90% of the total expenditures.

The Health Fund has been able to maintain a positive balance in its accounts, indicating financial stability. The surplus of the Health Fund has increased over the past 7 years, reaching a record high in 2020. The surplus provides the Health Fund with a financial cushion to manage unexpected financial obligations and invest in improving healthcare services.

5. Conclusions

In conclusion, the analysis of the economic-financial activity of the Health Fund shows that the health insurance system in North Macedonia enables the status of being insured to all persons, regardless of their employment status, based on health insurance programs from the government. However, the system is heavily reliant on employee contributions, which is not sustainable in the long term given the aging population and small participation of employees in the general population.

The revenue structure of the Health Insurance Fund is mainly based on contributions from gross salaries, which account for about 55% of revenues. The high costs of the health system, particularly with the development of medical technologies and various drugs, pose a significant challenge, along with the increasing demand for health care due to the aging population.

Despite the positive financial results achieved in the past years, the health insurance financing system is not sustainable in the long term. Thus, there is a need for a comprehensive approach to health financing and management, aimed at improving the efficiency of the system, reducing costs, and increasing the allocation of funds to health care.

The Health Insurance Fund of North Macedonia has shown a relatively stable financial position over the past seven years, with revenues consistently exceeding expenses. This can be attributed to various factors, such as government policies aimed at improving the healthcare sector and regulations designed to ensure the Fund's financial sustainability. The Fund has also taken measures to control its expenses and increase its revenues, such as signing contracts with pharmacies and introducing electronic systems to monitor drug consumption. However, the impact of inflation and the COVID-19 pandemic on the Fund's financial stability cannot be ignored.

5.1 Implications

This study aims to shed light how health system in North Macedonia is working and how to be more effective towards the population's needs.

5.2 Limitations and future research directions

One limitation of this analysis is that it is based on data up to the year 2021, and therefore may not accurately reflect the current state of the health system in North Macedonia. Additionally, the analysis focuses primarily on the financial aspect of the health system and does not take into account other factors such as quality of care, accessibility, and patient satisfaction. This study does not take into account external factors such as changes in the political and economic climate that may have influenced the financial stability of the Health Fund of North Macedonia.

Another limitation of this study is the potential for subjective interpretation of financial data. The interpretation of financial data may differ depending on the methodology used and the expertise of the analyst.

Future research could focus on the effectiveness of measures proposed to address the limitations mentioned in this analysis, such as the reduction of the gray economy, leveling of the contribution rate, reduction of the basic package of health services, and increase of public funds in the health system. Additionally, research could explore the impact of non-financial factors on the health system in North Macedonia, such as the quality of care and accessibility, and potential interventions to improve these aspects.

Also, future research could explore the impact of healthcare reforms on the financial stability of the Health Fund of North Macedonia. This would help policymakers understand the effectiveness of policy changes and identify areas for improvement.

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