Daniel Budzeń, MSc
Poznań University
of Economics and Business

https://doi.org/10.26366/PTE.ZG.2018.134

Assessment of the effectiveness of local debt management in Poland: a case study of cities with district rights

Abstract

Effective management of local debt is important both in relation to the absorption of external funds as well as the financial stability of local governments. The article concerns the analysis of municipal debt in a strictly defined time frame, namely 2011-2017. The purpose of this paper is to assess the effectiveness of local debt management in Poland. The study was carried using the case of cities with district rights. To that end, a ratio analysis was used, which made it possible to obtain an answer to the question of the effectiveness of debt management by the surveyed entities. The obtained results allow to formulate the conclusion that debt management by cities with district rights shows positive tendencies, indicating an improvement of the efficiency of this process.

Keywords: effectiveness; local debt management; local government units.

JEL CODE: H740, H700.

Introduction

As far as effective management of property resources by local government units is concerned, one of the tasks of local authorities is to draw attention to debt management as an element of a broader financial strategy. Relevant studies, largely theoretical, are available in the Polish literature, providing information on the components of the debt management process. Some papers address local debt management using models that enable the assessment of the analyzed process. However, those models do not fully account for the current legal framework, omitting (due to the progress of time) aspect related to the individual debt ratio.

The aim of the this article is to assess the effectiveness of municipal debt management on the example of cities with district (*poviat*) rights. To that end, a ratio analysis will be carried out. Added value of the research consists in that the presented method allows comparison of the examined area both in relation to a single entity as well as the entire subsector of local governments. It should be noted, at the same time, that this subsector includes both local government units and organizational units subordinated to them (Kosikowski 2006, p. 20).

For the purpose of this study, domestic and foreign literature sources were used (scientific monographs, JASTOR, Google Scholar, databases of the International Monetary Fund and the OECD). Empirical data necessary to conduct the study was gathered from the Local Data Bank of the Polish Central Statistical Office (GUS), databases of the Polish Ministry of Finance, as well as budget reports published by cities with district rights. The time horizon of the analysis covers the period from2011 to 2017.

The article was divided into sections that form a logical whole. The issues related to the effectiveness of public finance were first addressed, followed by the role of ratio analysis in the process of empirical assessment of debt management effectiveness in local government units. In the paper, an attempt was made to use the ratio analysis as a complementary empirical tool for assessing the effectiveness of local debt management.

Effectiveness of public finance

Managing an organization, whether public or commercial, requires attention to the effectiveness of decisions and actions that are implemented. In the literature, economic efficiency is associated withan outcome of the operation of an entity or a specific task; a result of the ratio of achieved effects (or those planned to achieve) to incurred expenditures. In public finance, this refers not only to the amount of funds allocated for the implementation of a given project, but also the appropriateness(purposefulness) of their spending. In addition, effects achieved through the allocation of available financial resources affect effectiveness (Jastrzębska 2016, p. 44).

In public finance, the implementation of the concept of new public management (NPM) favors the assessment of effectiveness. It represents a shift in the orientation of public administration from traditional management towards one based on an economic assessment of the efficiency of operations. This should be done using the available market mechanisms (Marchewka-Bartkowiak 2014, p. 1).

From the point of view of the effectiveness of public tasks which are carried out, the problem of the effectiveness of public debt, or in the case of this article - municipal debt, is not without significance. A debt portfolio, which is immune to negative perturbations from the environment (both economic, as well as political and social), gives local authorities a certain head start in the event of an economic downturn. Not only that, a coherent and transparent debt management strategy can help improve effectiveness when debt management

objectives are clearly defined and understandable for the whole socio-economic environment (*Revised Guidelines* ... 2014, pp. 6-16). An effective debt portfolio is determined by a compromise between the cost of debt service and risk. One of the tasks of finance management in this area is to look for such a consensus (Adinugrahan, Ridwan, Månsson, Klaesson 2015, p. 10).

Entities managing debt must be aware of the accompanying risks. Ignorance in this area may adversely affect the achievement of goals, and therefore, it is justified to undertake control activities at every level of the institution's management. To improve the effectiveness of a decision-making process in the area of debt management, it is necessary to ensure monitoring and reporting of related processes (Tokaç, Williams 2013, p. 15). This will contribute to increasing the effectiveness of the adopted assumptions in the area of local debt. In addition, it should be noted that the implementation of the main objective of debt management is supported by ensuring the efficiency of budget liquidity management (*Strategiazarządzaniadługiem*... 2017, p. 26).

The role of ratio analysis in assessing the effectiveness of debt management by local government units

Informational value derived from budget reporting and other planning documents, i.e. the budget and long-term financial forecasts, is an important element of local finance management, including debt management. Information contained in these documents is an indispensable source of data in the process of formulating assumptions of the financial strategy of local government units. One of the elements of a financial policy is to find an answer to the question of strengths and weaknesses of local government units, as well as identify opportunities and threats in the development of territorial self-government, in particular economic growth (Jastrzębska 2012, p. 256). The broadly understood local-government strategy encompasses the possibilities of absorption of external funds (repayable and non-repayable), debt-generating objectives, and local investment potential.

In this context, it is important to ensure the effectiveness of local debt management. One of the tools that can be used to assess this is a ratio analysis. Therefore, a study of the effectiveness of local debt management should focus on three key areas: the appropriateness (purposefulness) of incurring debt, risk analysis, and the assessment of capacity to repay and service debt.

First, let us consider the **appropriateness of incurring debt**. For the purposes of this article, it was assumed that the appropriateness of borrowing relates both to the need to use repayable financing and to allocate the funds thus obtained for the implementation of an investment, thereby increasing the assets of local government units. In the former, it should be recognized that incurring a debt is necessary when, as a result of the analysis of the possibility of financing public tasks, it was deemed impossible to rely on other non-repayable sources of financing. In the latter, the ratio of debt to investments per capita will be used to assess the appropriateness of borrowing. This ratio will allow to formulate proposals regarding the destination of debt for property expenses or other local-government needs (e.g. repayment of debt). An increase in the ratio should be interpreted negatively, as it will indicate a faster increase in residents' burdens due to debt repayment and debt, rather than increasing assets of the local community.

Information resulting from the structure of budget reporting and long-term forecasts does not allow for a thorough **risk analysis** in the area under examination. There is no information on the type and amount of interest rate, which makes it impossible to precisely determine the sensitivity of debt to changes in this respect. In addition, it is not possible to precisely determine the structure of debt maturities. However, the current scope of data presented in long-term forecasts allows identification of the risk of debt refinancing. The threat of the so-called *rollover* is measured by means of the average debt maturity expressed in years. An increase in the ratio value means a reduction in refinancing risk (*Strategia zarządzania długiem*…, 2017, p. 40). This concerns a situation in which local authorities may be forced to refinance debt at a high rate because of difficulties arising from the inability to pay off their current financial obligations. However, this risk can be mitigated by the appropriate shaping of debt maturity dates[1] (Mylonas, Schich, Thorgeirsson, Wehinger 2000, p. 14).

Optimal adjustment of the maturity structure of liabilities as well as the ability to transform the structure of debt portfolio are important elements of debt management assumptions (Wheeler 2004, pp. 17-18). In the case of a high interest debt with a fixed interest rate, it is possible to achieve savings or contribute to the restructuring of unfavorable cash flows related to repayment and debt service (*Best Practices* ... 2008, p. 18.). It also seems justified to note that the diversification of a debt portfolio due to various criteria

[1]For more on the risk of refinancing local debt, seeBudzeń, D. (2016). *Refinansowanie długu lokalnego w Polsce*, Studia BAS (Bureau of Research of the Sejm), 3(47).

(e.g.maturities, interest rate) is one of the components of effective debt management (Wolswijk, de Haan 2005, p. 5).

The last area affecting the assessment of the effectiveness of debt management is the **capacity to repay and service debt**. Research in this area concerns the compliance of incurred debt with the provisions of law and the analysis of local-government finance (Wiśniewski 2011, p. 88). To this end, measures will be applied regarding the safety (security) of debt repayment, the insolvency risk of local government units, and the ability to finance investments and indebtedness.

Safety of debt repayment can be defined as a difference of maximum permissible level of debt repayment and service to planned payment for a given budget year. The higher the value of this ratio, the greater the security of local government units in terms of debt repayment and servicing in a given budget year. An assessment of the insolvency risk should be carried out by determining the level of current revenue increment with current expenditure and outgoings related to debt repayment. Accordingly, a growing value of the ratio will be associated with the growing insolvency risk. The third measure is the capacity to finance investments and indebtedness, which results from the level of share of operating surplus in total revenues. Operating surplus is understood as a ratio of current revenue to current expenses, which determines for local government units the degree of capability of incurring new financial obligations in relation to total revenue. An increase in value should be regarded as a positive symptom, as it indicates the possibility of increasing the level of investment expenditures or financial resources that could be used to repay debt. A negative value, meanwhile, signifies that current revenue is insufficient to cover current expenses, that is, that a local government unit does not generate operating surplus (*Wskaźniki do oceny…*2017, p. 6).In order to improve the value of the analyzed measure, own revenue collected by local governments can be used. This is related to the mechanism of leveling the differences in potential revenue of the entities examined, which is linked to the evolution of the value of ratios reflecting the ability to repay and service debt. This is because, if we were to assume that the purpose of transfers from the state budget (grants and subsidies) is to reduce social inequalities, then these subsidies do not fulfill that role (Kańduła 2016, p. 119). On the other hand, excessive revenue inequalitiesin municipal budgets could hamper local development (Voloshin, Kozera, Głowicka-Voloshin, Stanislawska 2016, p. 119). For this reason, the level of revenue at the disposal of a local government unit is important both for the ability to repay and service debt and for funding investments promoting the development of local communities.

Effectiveness of debt management by cities with district rights in 2011-2017

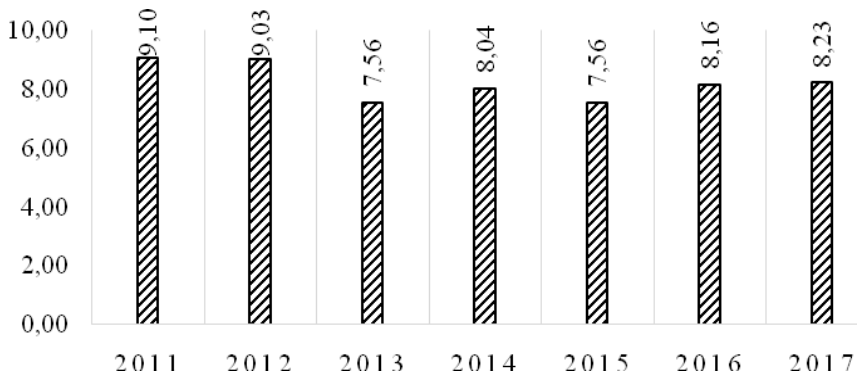
To assess the effectiveness of local debt management in Poland, the study was carried out in accordance with the predefined convention. The analysis covered the budgets of cities with district rights between 2011 and 2017. It should be noted that, in 2011-2012,there was a total of 65 cities with district rights in Poland, but since Wałbrzych also became one in 2013,a total number of entities in 2013-2017 is 66.

First, the level of borrowing needs and debt revenues was analyzed, which would allow to determine the actual necessity to incur debt. To this end, budget balance was calculated, from which expenditures were deducted, and to which non-debt income was later added. A negative value will indicate the necessity to incur debt in order to finance the budget deficit and outgoings. The conducted analysis showed that, in the period under consideration, cities with district rights incurred liabilities exceeding the actual demand for repayable financial sources, thus giving rise to excessive debt, the total amount of which exceeded PLN 20 billion in the examined group. Between 2011 and 2017, the lowest level of excessively incurred debt was recorded in 2016, which is the effect of a lower number of liabilities incurred than in the other years. Given the persistence of this situation, where cities annually borrow above their actual borrowing needs, the phenomenon should be assessed negatively and provide premise for further deliberations on financial appropriateness and resourcefulness.

Similar conclusions are provided by the analysis of the size of debt and property expenditure per capita. The results show a deterioration in the relationship between the size of debt and the level of investment. The ratio of debt to investments per capita in 2011 was at PLN 1,191, having risen to PLN 1,743 in 2017. This indicates a more dynamic increase in social burden due to debt repayment and servicing, rather than an increase in assets of the local community.

Another important ratio used in the assessment of the effectiveness of debt management is the definition of the debt refinancing level. For this purpose, data from the long-term financial forecasts published by the Polish Ministry of Finance was used. The results presented in Chart 1.

Chart 1. Refinancing of the local debt of cities with district rights in 2011-2017

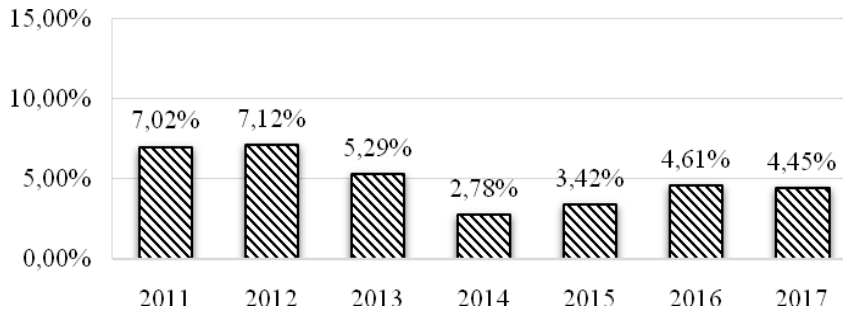


Source: own study based on Polish Ministry of Finance data, available at https://www.mf.gov.pl/ministerstwo-finansow/dzialalnosc/finanse-publiczne/budzety-jednostek-samorzadu-terytorialnego/sprawozdania-budzetowe/-/asset_publisher/rf7E/content/wieloletnia-prognoza-finansowa-jednostek-samorzadu-terytorialnego?redirect=https%3A%2F%2Fwww.mf.gov.pl%2Fministerstwo-finansow%2Fdzialalnosc%2Ffinanse-publiczne%2Fbudzety-jednostek-samorzadu-terytorialnego%2Fsprawozdania-budzetowe%3Fp_p_id%3D101_INSTANCE_rf7E%26p_p_lifecycle%3D0%26p_p_state%3Dnormal%26p_p_mode%3Dview%26p_p_col_id%3Dcolumn-2%26p_p_col_count%3D1#p_p_id_101_INSTANCE_rf7E_ (retrieved 15.09.2018).

In the period under consideration, the risk debt refinancing by cities with district rights increased. In 2011, it was 9.1 years, reduced to 8.23 in 2017. A positive aspect is the gradual extension of this period, which can be observed in 2016-2017 compared to 2013-2015. This complements the results obtained by comparing the size of debt and investments per capita.

Another issue examined in this paper concerns the safety (security) of debt repayment. An increase in the ratio value points to an improvement in the capacity to repay debt, meaning that a city with district rights can incur and repay debt within a given budget year in the event of undesirable situations.

Chart 2. Safety marginfor debt repayment by cities with district rights in 2011-2017



Source: own study based on budget implementation data for 2011-2017, GUS and Polish Ministry of Finance.

In this case, an improvement was observed after 2015. In 2016-2017, the ratio remained mostly unchanged, which could be explained by the fact that th higher values for 2011-2013 result from the higher maximum limit of debt repayment, which then amounted to 15% of total revenues. From 2014, a new formula called *individual debt ratio* became applicable, prompting a reduction of the maximum debt repayment limit during the financial year. This triggered a gradual extension of debt maturity in subsequent years. An increase in the safety margin for debt repayment indicates that debt management decisions are taken deliberately to enable the implementation of investment tasks and the absorption of external funds (both repayable and non-repayable).

The analysis of the insolvency risk of cities with district rights in 2011-2017 indicates a positive trend that minimizes threats in this area. In 2011-2012, the ratio was at above 100%, dropping to 94.80% in 2016. In 2017, it went up to 95.57%, which may indicate an increase in the risk related to the capacity to cover current liabilities and expenses. When formulating conclusions from the insolvency risk analysis, it should be noted that, in 2011, current expenditures and debt repayment were not covered above current revenues inas many as 40 of the examined cities with district rights, while in 2017 this concerned only 13 local governments in the surveyed group, thus proving that effective management solutions were implemented along the way.

Concluding the deliberations on the effectiveness of local debt management, attention should be paid to the ratio of operating surplus to total revenues. From 2013, the share of operating surplus in total revenues was marked by an upward trend, which should be assessed positively. In 2011-2012, the ratio was at 4.90% and 4.20%, respectively, while in 2013 it was 6.47%, reaching 8.07% in 2017. The number of cities with district rights in which current expenditure was not covered by current revenues also indicates an improvement, pushing the value down to a negative figure. In 2011, this applied to 4 entities (Jelenia Góra, Siedlce, Słupsk and Mysłowice), while in 2017 only to Świętochłowice, which also slid into negative values in 2013-2014.

Conclusions

Providing an unambiguous answer to the question of the effectiveness of local debt management is problematic due to the measurement of the quality of this process. The object of these deliberations was not to analyze qualitative aspects in this area, but to provide empirical evidence to assess the effectiveness of municipal debt management. The goal of the

article, which was to assess the effectiveness of local debt management, was therefore achieved. A statement can be made that this process shows positive tendencies, pointing to an improvement in the effectiveness of activities undertaken by local government units in Poland. The following conclusions indicate this:

- local authorities carry out debt management activities by: regulating the structure of debt maturity dates,
- reducing the risk of debt refinancing in 2016-2017,
- increasing and stabilizing the safety margin for debt repayment and servicing in 2015-2017,
- reducing the insolvency risk while increasing the share of operating surplus in total revenue.

An arguable weakness of this process remains the question of measuring borrowing needs in the context of avoiding incurring liabilities that exceed the actual demand for financial resources. This is tantamount to doubts as to the appropriateness of incurring debt, which is not particularly favored by legal regulations, as they simply do not impose debt only for the purpose of financing investment tasks.

The study is an incentive to further consider the effectiveness of local debt management. In order to carry out a comprehensive assessment of the effectiveness of local debt management, the quality aspects of this process should be analyzed, such as developing debt management strategies by local government units, formulating goals and managing debt risks, as well as adopted organizational solutions. It will also allow identification of good practices in the examined area. The use of both quantitative and qualitative analysis methods to assess the effectiveness of local debt management will make it possible to identify strengths and weaknesses of undertaken activities and will contribute to improving their effectiveness.

References

Adinugrahan S., Ridwan M., Månsson K., Klaesson J. (2015),*Efficiency of Foreign Debt Portfolio Management in Emerging Economies*, available at:http://primo-48amu.hosted.exlibrisgroup.com/48AMU_VIEW:primo_central_scope:TN_divahj-26887 (access date: 17.09.2018).

Government Finance Officers Association (2008), *Best Practices Related to Debt Issuances*, available at http://kcttc.co.kern.ca.us/forms/Attachment-GFOA%20Best%20Practices%20Re%20Debt%20Issuance.pdf (access date: 19.09.2018).

International Monetary Fund, World Bank (2014),*Revised Guidelines for Public Debt Management*, Washington D.C., available athttps://www.imf.org/en/Publications/Policy-Papers/Issues/2016/12/31/Revised-Guidelines-for-Public-Debt-Management-PP4855 (access date: 19.09.2018).

Jastrzębska M. (2012),*Finanse jednostek samorządu terytorialnego*, Wolters Kluwer Polska Sp. z o.o., Warszawa.

Jastrzębska M. (2016),*Uwarunkowania pomiaru efektywności wydatków jednostek samorządu terytorialnego*, „Finanse Rynki Finansowe, Ubezpieczenia", 6/2016 (84), available athttp://www.wneiz.pl/nauka_wneiz/frfu/84-2016/FRFU-84-cz1-43.pdf (access date: 19.09.2018).

Kańduła S. (2016),*Międzygminne nierówności dochodowe i efekty ich wyrównywania (na przykładzie gmin województwa lubuskiego)*, Zeszyty Naukowe Polskiego Towarzystwa Ekonomicznego w Zielonej Górze, 4, available athttp://ptezg.pl/Files/files/zn4/kandula.pdf (data dostępu: 19.09.2018).

Kosikowski C. (2006),*Sektor finansów publicznych w Polsce*, Dom Wydawniczy ABC, Warszawa.

Marchewka-Bartkowiak K. (2014),*Nowe zarządzanie publiczne*, „INFOS Zagadnienia społeczno-gospodarcze", Wydawnictwo Sejmowe Kancelarii Sejmu, Warszawa.

Ministerstwo Finansów (2017),*Strategia zarządzania długiem sektora finansów publicznych w latach 2018-2021*, Warszawa,available athttp://www.finanse.mf.gov.pl/c/document_library/get_file?uuid=4054e551-ebdb-4fb1-b8cf-a801612e025c&groupId=766655 (access date: 21.09.2018).

Ministerstwo Finansów (2017), *Wskaźniki do oceny sytuacji finansowej jednostek samorządu terytorialnego w latach 2014-2016*, Warszawa, available athttps://www.finanse.mf.gov.pl/documents/766655/6146149/I-II+_Wsk+2014-2016_opis.pdf (access date: 20.09.2018).

Mylonas P., Schich S., Thorgeirsson T., Wehinger G. (2000),*New Issues in Public Debt Management: Government Surpluses in Several OECD Countries, the Common Currency in Europe and Rapidly Rising Debt in Japan*, OECD Economics Department, Working Papers, 239, available athttps://www.oecd-ilibrary.org/docserver/071758446643.pdf?expires=1541090166&id=id&accname=guest&checksum=1BAA34E61E6A3A0EA98FD668F2E5C922 (access date: 20.09.2018).

Tokaç H., Williams M. (2013), *Government Debt Management and Operational Risk: A Risk Management Framework and its Application in Turkey*. OECD Publishing, available

athttps://www.oecd-ilibrary.org/docserver/5k483jnqxtms-en.pdf?expires=1541090253&id=id&accname=guest&checksum=007C1B2273BE2CCE3031514CA6473476 (access date: 21.09.2018).

Wiśniewski M. (2011),*Ocena zdolności kredytowej gminy*, Difin S.A., Warszawa.

Wheeler G. (2004), *Sound Practice in Government Debt Management*. Washington, DC: World Bank, available athttp://documents.worldbank.org/curated/en/650491468780582418/Sound-practice-in-government-debt-management (access date: 22.09.2018).

Wołoszyn A., Kozera A., Głowicka-Wołoszyn R., Stanisławska J. (2016), *Nierówności dochodowe w różnych typach funkcjonalnych gmin wiejskich województwa* wielkopolskiego, Zeszyty Naukowe Polskiego Towarzystwa Ekonomicznego w Zielonej Górze, 5, dostępny na:http://ptezg.pl/Files/files/zn5/wkg-ws.pdf (access date: 21.09.2018).

Woolswijk G., de Haan J. (2005), *Government debt management in the euro area. Recent theoretical developments and changes in practices*, European Central Bank Occasional Paper Series, 25, available at https://www.ecb.europa.eu/pub/pdf/scpops/ecbocp25.pdf (access date: 18.09.2018).