

Do Public Enterprises Manage Earnings? Evidence from Germany

SIDKI Marcus^a, BOLL David^b, MÜLLER Harry^c

Ludwigshafen University of Applied Science, Germany

^amarcus.sidki@hwg-lu.de, ^bdavid.boll@hwg-lu.de, ^charry.mueller@hwg-lu.de

<https://doi.org/10.5817/CZ.MUNI.P210-9646-2020-13>

Abstract

Earnings management is among the most extensively analysed topics of empirical accounting research since the 1980s. However, studies have focussed on commercial enterprises only and not yet properly covered the case of public enterprises. We try to close this research gap by modelling the management incentives to manipulate earnings with reference to institutional economic theory. Based on that, we analyse the financial reporting of 14,800 German public companies over a period of 16 years. The data shows clear signs of earnings management for those public enterprises that are more independently run, rather detached from traditional municipal activities, and operating in a more competitive market environment, which is in line with our theoretical model.

Keywords: Earnings management; empirical accounting research; public enterprises.

JEL Classification: H83, M41, L32, L33

1 Introduction

There exists a variety of organisational models for the provision of public goods in an effective and efficient manner. This ranges from the state, i.e., the public administration to private sector companies. Within this range, state-owned or public enterprises have an intermediate position. They are predominantly established in association with a type of outsourcing procedure: the transfer of tasks from a public entity (a public budget) to a public enterprise. They are also classified as not being part of the public administration itself. German federal statistics define a public enterprise as an organisation with a share of more than 50% of its nominal capital or voting rights held by at least one public owner [11]. For 2016, the German Federal Statistical Office reports data on 16,833 such enterprises that apply commercial accounting as opposed to fiscal accounting. Most of these companies can be characterised as market producers (81%) [9]. These are able to predominantly fund themselves by means generating of own revenues which stem to more than one fifth from outside the public sector [10].

Furthermore, around 67% of all public enterprises in Germany that apply commercial accounting are organised as institutions by commercial law. A vast majority, 88%, of these commercial-law enterprises were limited liability companies. Regarding industries, public enterprises appear in great variety. Federal statistics reports public enterprises to be active in many industries based on NACE code classifications. These are for example electricity, gas, heat and water supply, health care, housing, culture, waste and waste water management etc.

Following the information-based agency theory, a company's annual financial statement consisting of the balance sheet and profit and loss statement can be interpreted as an instrument of communication vis-à-vis its stakeholders. Since the management usually possesses informational advantages over the stakeholders, various types of disincentives might arise as is depicted by the classical principal-agent problem. One of the means to exploit such advantages is the possibility of applying earnings management that goes unnoticed by the stakeholders. Earnings management enables the management to intentionally produce financial statements that present an adjusted view on the company to serve the management's purpose. It is performed by legally utilising the given degrees of freedom within a specific accounting framework: "earnings management occurs when managers use judgment in financial reporting [...] to alter financial

reports to [...] mislead some stakeholders about the underlying economic performance of the company [...]” [4]. A common finding of empirical research on the matter is the smoothing of earnings, especially to prevent the report of small accumulated losses [1, 2,8]. While this has been subject to a multitude of empirical research studies focusing on the private sector, there exist only a few insights on whether the management of publicly owned enterprises is also prone to such behaviour.

We hypothesise that the fundamental disincentive structure that promotes earnings management in the private sector also holds for public enterprises. This expectation is fostered by the complex, multi-tiered principal-agent setting surrounding a public enterprise. It consists of the relationships between citizens, politicians and a public enterprise’s management and forms a feasible breeding ground for earnings management to be performed. On the other hand, there also exist reasons why managing earnings might be of lesser importance. Public enterprises usually have multidimensional goal systems such that profit maximisation and subsequently cost efficiency are not the overall or most important goals. Negative consequences of reporting a loss or missing profit/efficiency goals on a public enterprise manager’s employment conditions (e.g. lower bonus payments or higher probability of being laid-off) might thus be less severe compared to his or her counterpart in the private sector. To sum up, there might be differences to what extent public enterprises perform earnings management. Out of these considerations, two questions emerge:

1. Do public enterprises perform earnings management?
2. Is earnings management more pronounced in certain types of public enterprises?

To analyse these questions we distinguish two motives for companies to apply earnings management: Firstly, public enterprises might have the incentive to avoid small losses by using accounting techniques to transform them into small (or zero) profits (loss avoidance motive). Secondly, the management might want to smooth out fluctuating earnings into more steady flows to approximately meet their financial goals since both, negative and positive deviations from these goals might induce unwanted implications (profit-smoothing motive).

The aim of this paper is to give an empirically-based answer to these questions. For this purpose, several hypotheses will be discussed in section 2. Section 3 introduces the data and the empirical strategy. After that, the results are presented. Section 4 concludes the paper.

2 Deduction of hypotheses

One differentiation of public enterprises can be made in terms of legal forms. There exist commercial-law as well as public-law public enterprises that bear implications for the autonomy of the management and the influence of the public administration. It seems reasonable that earnings management is subject to the autonomy of the management. Higher degrees of freedom for the management to run the company and therefore a bigger informational gap between insiders and outsiders [5] might lead to more earnings management. Usually, management autonomy is rather high in the institutional setting of commercial-law companies. Cronauge [3] and Krause [7] see a higher degree of management autonomy for commercial-law companies compared to public-law companies. Therefore, we focus on the analysis of the differences between commercial-law vs. public-law companies and, more specifically, between different legal forms within these two groups (e.g. limited liability companies vs. public limited companies or Eigenbetriebe, i.e., owner-operated municipal enterprises without a legal personality, vs. other public-law legal forms. This leads to hypothesis 1:

H1: Public enterprises under commercial law manage their earnings more actively compared to public enterprises under public law.

Next, we assume a positive relationship between the size of a public enterprise and the extent of earnings management. This is based on the idea that the necessary accounting adjustments require a certain effort by the management. This effort seems less worthwhile in smaller companies, i.e., when smaller earnings and cash flows are involved. In line with this

argument, Jegers [6] finds empirical support for a relationship between the size of non-profit enterprises and earnings management. Therefore, we formulate hypothesis 2:

H2: Larger public enterprises utilise earnings management to a higher extent compared to smaller public enterprises.

Furthermore, we assume that both scope and incentives for earnings management vary across industries where public enterprise are engaged in. Firstly, as the capital structure differs by industry, the discretionary scope for evaluating different types of assets differs as well. This is especially true for intangible assets. Thus, the scope of earnings management is subject to the industry-specific capital structure. Secondly, incentives to perform earnings management only exist if a companies' success is subject to monetary goals such as the annual surplus. The importance of financial success is again industry-specific as their goal could also be in terms of social welfare instead of economic success. Therefore, the probability for earnings management is supposedly higher in more competitive industries (e.g. electricity, gas or heat supply, i.e., industries where private sector companies are usually also engaged in) than in classically subsidised undertakings (e.g. arts, entertainment and recreation) or industries that supply mostly goods with high public good character (e.g. public administration, national defence). Thus, hypothesis 3 summarises both reasons:

H3: Public enterprises belonging to competitive industries perform more earnings management.

According to the German Commercial Code (HGB), there is a disclosure requirement for financial statements on the individual company level. This is true for holdings as parent enterprises as well as for their subsidiaries. Regarding the common corporate structure of public enterprises that comprises of parent und subsidiary enterprises, it can be assumed that the management is foremost held accountable for the annual result of the highest level of aggregation. Lower levels, i.e. subsidiaries are less visible for stakeholders. Thus, separate financial statements may not be the focus of stakeholders. It follows:

H4: More earnings management is performed in public enterprises that are holding companies.

The final two hypotheses are motivated by the funding structure of public enterprises. In addition to the owners, lenders such as banks appear as another important stakeholder for the management. They have a special interest in the financial soundness of their debtors and as such constantly monitor their financial statements and possibly tie contractual conditions to it. Therefore, pleasing lenders e.g. to meet financial covenants as contractual obligations may be another motivation to perform earnings management. This motivation should then depend on a public enterprise's leverage ratio. According to these considerations, we formulate hypothesis 5:

H5: Public enterprises with a high leverage ratio perform earnings management to a higher extent.

Additionally, the extent of earnings management might also differ between purely public and mixed enterprises. While the former are in 100% ownership of the public sector, the latter combine public as well as private shareholders. However, due to insufficient data availability, we can only analyse enterprises with a majority of public owners. We assume that private shareholders have a high interest in the financial soundness of the enterprises they are invested in. Comparable to the role of lenders in H5, private shareholder thus also apply monitoring efforts with respect to financial indicators. Also, mixed enterprises exhibit a higher non-payment-risk compared to those in exclusive public ownership. The underlying reason may be that a bailout by the public administration is more likely for enterprises in their full ownership. Therefore, mixed enterprises might be more interested in the adjusted communication of their financial statements to meet their reporting obligations. This leads to hypothesis 6:

H6: Public enterprises with a degree of public ownership below 100% perform more earnings management compared to fully public-owned enterprises.

3 Material and Methods

3.1 Indicators of Earnings Management

For the empirical testing of the presented hypotheses, the existing data set is divided into subgroups, for each of which four indicators for earnings management can be calculated and analysed. We use different proxies because earnings management cannot be measured directly, but can only be made visible indirectly [8].

A first indication for the existence of earnings management is given by the empirical distribution of the reported profits and losses of the public enterprises in the data set. Without the use of earnings management, the annual profits would have to be distributed symmetrically around zero in a sufficiently small interval or at least follow an unknown continuous distribution. On the other hand, if the annual results are deliberately controlled by management, small losses are likely to be a rather seldom phenomenon: a small loss leads to unpleasant discussions with stakeholders, especially with regard to behavioural distortions of perception (prospect theory, loss aversion). Also, a small loss should be easy to conceal or to turn into a small or zero profit ("black zero") with the help of accounting policy without overstressing the framework of accounting standards. This approach is included in the study as indicator for earnings management E1. In order to describe the distribution anomaly and in accordance with the approach of Leuz/Nanda/Wysocki [8] and Burgstahler/Hail/Leuz [2], the annual net profit or loss is scaled with the balance sheet total of the previous year to control for differences in the size of the companies. A small profit is operationalised as the interval from 0 to 0.01 and a small loss as the interval from -0.01 to 0. We therefore define the indicator E1 as the ratio of small profits to small losses and indicates earnings management related to the loss avoidance motive. A higher value of E1 suggests a greater degree of earnings manipulation:

$$E1 = \#[0;0,01] / \#[-0,01;0].$$

A second approach for the indication of earnings management results from the structure of accounting. A company's profit consists of cash flows and non-cash accruals. While cash flows result from the operations and are thus determined by economic events during the reporting period, accruals are calculated ex post and result from the application of accounting standards by the management. If it pursues a policy of smoothing earnings, it will attempt to compensate cash flow fluctuations by consciously structuring the accruals as to achieve a more steady annual result. In this case, the annual result will fluctuate less than the cash flow. According to Leuz/Nanda/Wysocki [8], a comparison of the standard deviations of both variables is a suitable proxy for earnings management. Indicator E2 is the quotient of the standard deviation of the annual profit and the standard deviation of the cash flow for each company in the data set. It points out earnings management following the profit-smoothing motive. The smaller (larger) the value, the greater (smaller) the tendency to smooth out earnings in the companies:

$$E2 = \sigma(Earnings) / \sigma(Cash\ flow).$$

If the management consciously uses the design of the accruals to level out cash flows, this would also have to be reflected in a negative correlation of both values. The stronger the negative correlation between accruals and cash flow, the more extensive the management applies earnings management [8]. We compute the relative changes in both values to the previous year. Indicator E3 thus also relates to the profit-smoothing motive is defined as follows:

$$E3 = \rho(\Delta Accruals, \Delta Cash\ flow).$$

Finally, the size of the accruals is in itself already considered an indicator of the management's ability to manipulate earnings [2,8]. In accordance with the approach of Leuz/Nanda/Wysocki [8] and Burgstahler/Hail/Leuz [2], indicator E4 is calculated by scaling accruals with the operating cash flow to control for different company sizes and profitability. Thus, E4 points out the profit-smoothing motive:

$$E4 = |Accruals| / |Cash\ flow|.$$

3.2 Data

The data set is based on the annual accounts statistics of the public funds, institutions and enterprises of the Research Data Centres (RDC) of the Federal Statistical Office and Statistical Offices of the Länder. It comprises the profit and loss account and balance sheet of all German public enterprises that apply commercial accounting for the period 1998 to 2014. For reasons of comparableness, this study focuses on municipal enterprises, i.e. public enterprises owned by one or more municipalities (and therefore ignores enterprises owned by the German states or Federation). These make up the vast majority of all public enterprises. In 2016, 14,812 (88%) of the 16,833 public enterprises were owned by municipalities.

4 Results and Discussion

Indicators E1 and E3 are calculated for all observation units within the respective subgroups. E2 is available at company level, where the median in the respective groups is determined in analogy to the procedure of Leuz/Nanda/Wysocki [8]. E4 is available for each enterprise and year; the values get averaged at enterprise level. The median of the enterprise values defines the group result. The sub-groups are formed according to the hypotheses, i.e. on the basis of their legal forms (H1), balance sheet totals (H2), industry classification (H3), holding characteristics (H4), leverage ratio (H5) and shareholder structure (H6).

4.1 Legal forms (H1)

H1 is confirmed in particular for earnings management to avoid losses (E1). Commercial legal forms show significantly higher values for E1, which corresponds to larger distribution anomalies in the annual results. This anomaly is also more pronounced in public limited companies than in limited liability companies, which can be explained by even greater management autonomy.

However, the findings are less clear with regard to the cash and accrual components of earnings, i.e., the profit-smoothing motive. Here, a mixed picture emerges that H1 seems to confirm in part, such as the strikingly low relative standard deviation of annual results (E2) and the strong inverse correlation between accruals and cash flow (E3) for public limited companies. For the other legal forms, however, the findings are less clear and partly contradict the hypothesis.

The clear picture of indicator E1 and the ambiguous trends in E2 to E4 need not, however, be contradictory: E1 shows that commercial companies make greater use of earnings management than public-law companies. By means of indicators E2 to E4, however, this can only be attributed to a different treatment of accruals for public limited companies, while the other legal forms show little differentiation. On the one hand, it might be that the management tries to influence cash-relevant earnings components rather than in the ex-post design of the accruals. Alternatively, the stabilisation of annual results (E2 to E4) could be generally less relevant for the management of public enterprises than in the private sector. As a result, H1 can only be considered confirmed with regard to loss-avoidance accounting policies. An increased application of earnings smoothing policies is only conspicuous in the case of public limited companies, while the picture remains unclear for the other legal forms.

Table 1: Legal forms

	E1	E2	E3	E4
Public law	1,565655	0,538634	-0,742200	1,022191
Eigenbetriebe	1,537837	0,557700	-0,707200	1,020140
Other companies under public law	1,646357	0,490906	-0,822000	1,027488
Commercial law	2,284951	0,588029	-0,704300	1,000023
Public limited companies (AG)	5,820000	0,476817	-0,846200	0,986078
Limited liability companies (GmbH)	2,292731	0,584341	-0,717800	1,001378
Other commercial law companies	1,455823	0,662335	-0,546100	0,959736

Source: RDC of the Federal Statistical Office and Statistical Offices of the Länder, [Jahresabschlüsse der kaufmännisch buchenden Extrahaushalte und der kaufmännisch buchenden sonstigen öffentlichen Fonds, Einrichtungen und Unternehmen], survey years 1998-2014, own calculations.

4.2 Balance sheet totals (H2)

To test hypothesis H2, public enterprises are grouped into quintiles according to their balance sheet totals. The relationship between loss avoidance (E1) and enterprise size in the five enterprise size classes appears U-shaped. The distributional anomaly is most evident in enterprises with a balance sheet total below €950T€ (Q1) and in large enterprises with a balance sheet total above €35.5 million (Q5), while medium-sized enterprises show less clear characteristics. This finding, which at first glance may seem surprising, becomes plausible when looking at the concrete decision situation of the management: In small companies it is a matter of relatively small amounts of money to turn a small loss into a small profit. An accounting strategy comparable to that of large private sector companies and implemented top-down according to plan is in turn expected to be more prevalent in large companies, which explains the conspicuous features in the quintiles Q4 and Q5. A different picture emerges for the indicators of the profit-smoothing motive through the design of the accruals (E2 to E4): While E2 and E4 hardly vary in the size classes, an inverse U-shaped relationship is evident for E3: In small and large enterprises cash flows and accruals are only weakly correlated, in the middle classes (Q2 to Q4) the correlation is strikingly high. As a result, hypothesis H2, which assumes a proportional relationship between company size and earnings management, must be rejected.

Table 2: Balance sheet totals

	E1	E2	E3	E4
Q1 [min; 950.242]	2,097146	0,623524	-0,638100	0,9999991
Q2 [950.242; 4.195.018]	1,712949	0,559892	-0,796500	1,0311520
Q3 [4.195.018; 12.200.000]	1,537877	0,562929	-0,812000	1,0382060
Q4 [12.200.000; 35.500.000]	1,713153	0,523305	-0,732400	1,0037810
Q5 [35.500.000; max]	2,328953	0,532982	-0,805000	0,9948422

Source: RDC of the Federal Statistical Office and Statistical Offices of the Länder, [Jahresabschlüsse der kaufmännisch buchenden Extrahaushalte und der kaufmännisch buchenden sonstigen öffentlichen Fonds, Einrichtungen und Unternehmen], survey years 1998-2014, own calculations.

4.3 Industries (H3)

There are clear differences between the individual sectors. In more competitive sectors such as electricity, gas and heat supply and waste disposal, indicators E1 and E3 are above the average and for E2 below the average, which can therefore be interpreted as a greater use of accounting policy leeway to avoid losses and smooth annual results. In the arts, entertainment and recreation and public administration, defence and social security sectors, E1 and E3 are below average and E2 above average, which is associated with a lower tendency to manipulate earnings. The ratio E4 shows a rather inconsistent picture with little variance. In sum, there is sufficient evidence to confirm hypothesis H3 from the point of view of both possible motivations.

Table 3: Industries

	E1	E2	E3	E4
Electricity	2,525328	0,439353	-0,828800	0,882857
Gas and heat	2,444444	0,460418	-0,870400	0,878250
Water	1,399803	0,474625	-0,699100	1,007692
Sewage disposal	1,808650	0,473559	-0,834800	0,986427
Waste disposal	2,887608	0,391234	-0,868300	0,905939
Transport	2,044800	0,579192	-0,709400	1,000216
Land and housing	1,986305	0,636432	-0,788700	1,083836
Professional services	2,392233	0,527618	-0,786700	1,006685
Management activities	2,143478	0,811204	-0,649800	1,149686
Public administration, defence and social security	1,786618	0,621335	-0,672300	1,012400
Health and social services	2,274221	0,650201	-0,658500	1,170721
Arts, entertainment and recreation	1,348203	0,845711	-0,519500	1,076352
Other	2,199309	0,618928	-0,757900	1,035554

Source: RDC of the Federal Statistical Office and Statistical Offices of the Länder, [Jahresabschlüsse der kaufmännisch buchenden Extrahaushalte und der kaufmännisch buchenden sonstigen öffentlichen Fonds, Einrichtungen und Unternehmen], survey years 1998-2014, own calculations.

4.4 Holdings (H4)

For companies with a holding function, the distribution anomaly of the annual results hinting at loss avoidance (E1) is more pronounced than for operating companies. In contrast, the role of accruals and deferrals in stabilizing profits remains rather unclear (E2 to E4). This finding seems plausible if one assumes that profit control at holding companies is primarily carried out by controlling the cash-effective profit distributions of the subsidiaries and that period accruals tend to play a less important role. Hypothesis H4 can therefore be considered as confirmed.

Table 4: Holding companies

	E1	E2	E3	E4
Holdings	2,14347826	0,8112037	-0,64980	1,149686
Operative companies	1,84574626	0,5552586	-0,71360	1,007288

Source: RDC of the Federal Statistical Office and Statistical Offices of the Länder, [Jahresabschlüsse der kaufmännisch buchenden Extrahaushalte und der kaufmännisch buchenden sonstigen öffentlichen Fonds, Einrichtungen und Unternehmen], survey years 1998-2014, own calculations.

4.5 Leverage ratio (H5)

For all companies, the leverage ratio was calculated as the percental ratio of liabilities (provisions and liabilities) to equity. The distribution anomaly of the annual results (E1) is more pronounced for more indebted companies and increases steadily over the five quintiles. The higher the debt-equity ratio, the less the annual result fluctuates relative to the cash flow (E2), i.e. fluctuating cash flows are smoothed to more homogeneous annual results by means of accounting policy. This is done by means of contrasting accruals, which counteract the changes in cash flow (E3); and all the more strongly as the gearing ratio rises. E4 makes no contribution to differentiation with regard to hypothesis H5. Overall, the hypothesis can be regarded as confirmed with respect to both motivations of applying earnings management.

Table 5: Leverage Ratio

	E1	E2	E3	E4
Q1 [min; 43.14648]	1,57195	0,72118	-0,58890	1,04364
Q2 [43.14648; 106.0787]	1,87623	0,59392	-0,65660	1,01217
Q3 [106.0787; 203.7968]	1,90035	0,53548	-0,74550	1,00775
Q4 [203.7968; 478768]	2,03543	0,49895	-0,80760	0,99752
Q5 [478768; max]	2,23406	0,42106	-0,85900	1,00000

Source: RDC of the Federal Statistical Office and Statistical Offices of the Länder, [Jahresabschlüsse der kaufmännisch buchenden Extrahaushalte und der kaufmännisch buchenden sonstigen öffentlichen Fonds, Einrichtungen und Unternehmen], survey years 1998-2014, own calculations.

4.6 Partial private ownership (H6)

Indicator E1 is much more pronounced in public enterprises with partial private ownership than in fully publicly owned enterprises. The participation of private stakeholders is accompanied by a stronger tendency towards loss avoidance (E1). However, this does not seem to apply to profit-smoothing (E2 to E4), where the picture is again insignificant. In this respect, Hypothesis 6 can be confirmed with regard to loss avoidance and rejected with regard to the implementation of profit smoothing.

Table 6: Partial private ownership

	E1	E2	E3	E4
Fully public	1,81721772	0,5739302	-0,71900	1,017234
Partial private	2,75950999	0,5698286	-0,67660	0,9817136

Source: RDC of the Federal Statistical Office and Statistical Offices of the Länder, [Jahresabschlüsse der kaufmännisch buchenden Extrahaushalte und der kaufmännisch buchenden sonstigen öffentlichen Fonds, Einrichtungen und Unternehmen], survey years 1998-2014, own calculations.

5 Conclusion

Public enterprises account for an important and growing share of economic value added, but have only been considered comparatively rarely by empirical research on annual financial statements in the past. This paper attempts to close this research gap for the topic of earnings management by firstly elaborating the incentives of management to manipulate accounts theoretically. For this purpose, we chose institutional economics as the framework of analysis. Similar to the situation in the private sector, there are information asymmetries between management and stakeholders at the expense of the latter, which give the management various leeway for opportunistic behaviour in the application of accounting standards. Financial results, however, are not equally important measures of management performance for all public enterprises and their significance may lag behind non-financial objectives. With regard to that, we expected earnings manipulation to become visible in those public enterprises that are more independently run, rather detached from traditional administrative activities, and operating in a competitive or quasi-competitive market environment. Earnings management becomes more important for the management to the extent that the annual financial results become more important for the stakeholders as an indicator for management's own performance.

This tendency was essentially confirmed in the empirical study based on the annual financial statement data of about 14,800 public enterprises in municipal ownership from 1998-2014. Common indicators for earnings management are more evident in commercial legal forms (especially public limited companies) than in those by public law and more in competitive markets than in subsidised businesses. With the increasing influence of lenders and private investors in public enterprises, the strategic manipulation of annual financial statements is gaining in importance.

The results of this descriptive analysis also point to a need for further research: On the one hand, the company characteristics (legal form, industry, debt, etc.), which have been analysed individually and at group level, need to be integrated into a multivariate model in order to assess the influencing factors in a more differentiated manner. This appears to be challenging insofar as the indicators used for earnings management are usually only applicable to aggregates of enterprises and are not designed for individual enterprises as observation units. On the other hand, further research on the nature and direction of earnings manipulation is desirable. While empirical analysis often revealed distributional anomalies of annual results, which indicate that managers tend to avoid losses, the indicators of profit-smoothing often remained insignificant or inconspicuous. This point requires a deeper theoretical and empirical investigation in order to better understand the handling of financial accounting in public enterprises.

References

- [1.] BURGSTAHLER, D.; DICHEV, I. 1997. Earnings Management to Avoid Earnings Decreases and Losses. *Journal of Accounting and Economics* 24: 99–126. [https://doi.org/10.1016/S0165-4101\(97\)00017-7](https://doi.org/10.1016/S0165-4101(97)00017-7)
- [2.] BURGSTAHLER, D.; HAIL, L.; LEUZ, C. 2006. The importance of Reporting Incentives: Earnings Management in European Private and Public Firms. *The Accounting Review* 81: 983–1016. <https://doi.org/10.2308/accr.2006.81.5.983>
- [3.] CRONAUGE, U. 2016. *Kommunale Unternehmen*. Berlin: Erich Schmidt Verlag.
- [4.] HEALY, P. M.; WAHLEN, J. M. 1999. A Review of the Earnings Management Literature and its Implications for Standard Setting. *Accounting Horizons* 13: 365–383. <https://doi.org/10.2308/acch.1999.13.4.365>
- [5.] JEGERS, M. 2010. The Effect of Board-Manager Agency Conflicts on Non-Profit Organisations' Earnings and Cost Allocation Manipulations. *Accounting and Business Research* 40: 407–419. <https://doi.org/10.1080/00014788.2010.9995321>
- [6.] JEGERS, M. 2013. Do Nonprofit Organisations Manage Earnings? An Empirical Study. *Voluntas* 24: 953–968. <https://doi.org/10.1007/s11266-012-9291-z>
- [7.] KRAUSE, T. 2015. Geschäftsführung kommunaler Unternehmen: gesteuert oder autonom? *Public Governance*: 18–20.
- [8.] LEUZ, C.; NANDA, D.; WYSOCKI, P. D. 2003. Earnings Management and Investor Protection: An International Comparison. *Journal of Financial Economics* 69: 505–527. [https://doi.org/10.1016/S0304-405X\(03\)00121-1](https://doi.org/10.1016/S0304-405X(03)00121-1)
- [9.] BOFINGER, P.; SCHNABEL, I.; FELD, L. P.; SCHMIDT, C. M.; WIELAND, V. 2017. *Für eine zukunftsorientierte Wirtschaftspolitik. Jahresgutachten 2017/18*. Wiesbaden: Sachverständigenrat zur Begutachtung der Gesamtwirtschaftlichen Entwicklung.
- [10.] SCHMID, H. 2011. Wirtschaftliche Betätigung der Kommunen. *Zeitschrift für Kommunal Finanzen* 51: 242–248.
- [11.] WÄGNER, N. 2017. *Statistics of Annual Accounts of Public Funds, Institutions and Enterprises: 2003-2012; Jahresabschlussstatistik Der Öffentlichen Fonds, Einrichtungen Und Unternehmen: 2003-2012*. DIW Data Documentation 87. Berlin: Deutsches Institut für Wirtschaftsforschung (DIW).