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Negative media reporting and its effects on performance information use in public spending

David Lindermüller [a], Matthias Sohn [b] and Bernhard Hirsch [a]

aChair of Management Accounting, Bundeswehr University Munich, Munich, Germany; bChair of Management Accounting, European University Viadrina Frankfurt (Oder), Frankfurt, Germany

ABSTRACT
Translating performance information about public services into spending allocations is difficult. Drawing on blame-avoidance theory, we propose that negative media reporting affects the rationale for spending public resources for public services. A process tracing laboratory experiment shows that negative media reporting increases the willingness to spend more money for public services, particularly on a relatively low-performing public service. Furthermore, we find that negative media reporting shifts participants' attention in the predecisional information search process towards performance information on the relatively low-performing public service. The paper helps explain decision makers' use and interpretation of performance information in spending allocations.

Introduction

Performance measurement systems have been introduced into the public sector worldwide. Consequently, data on the efficiency, quality, and effectiveness of public services are available for internal and external stakeholders (Bouckaert and Halligan 2008; Pollitt and Bouckaert 2017; Van Dooren 2004). Internal stakeholders can use such performance information to guide management decisions and control practices (Behn 2003; Cristofoli et al. 2010; Van Dooren, Bouckaert, and Halligan 2015; Verbeeten 2008). For example, in performance-based budgeting (hereafter PBB), performance information is used to determine spending allocations of public resources (Mauro, Cinquini, and Grossi 2017). Performance information also fulfils an accountability function, as external stakeholders, such as citizens and the media, are able to evaluate performance information and hold governments or public organizations accountable for their decisions and achievements (Hammerschmid, Van de Walle, and Stimac 2013; Moynihan 2008; Radin 2006; Saliterer and Korac 2013; Van Dooren, Bouckaert, and Halligan 2015).

However, experimental and observational evidence indicates that external stakeholders, such as citizens and the media, respond asymmetrically to positive and negative information when evaluating governments and public organizations. In an

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CONTACT David Lindermüller ✉ david.lindermueller@unibw.de

experimental study, James (2011) found that poor prior performance affected citizens' public service expectations more than excellent prior performance did. Observations indicate a negativity bias in media reporting, as the media tend to report more about negative information than about positive information with respect to the public sector (Soroka 2006; Soroka and McAdams 2015). Arguably, the tendency of external stakeholders to be biased towards negative information also affects the behaviour of individuals within the public sector. Hood (2011, 48) states that 'victims of negativity bias' will exert a substantial effort 'to correct such bias to keep blame at bay.' The avoidance of negative information and accordingly blame is crucial to understanding the behaviour of public officials (Hood 2007, 2011; Hood et al. 2009; Hood and Lodge 2006; Sulitzeanu-Kenan 2010; Weaver 1986). Therefore, we propose that the use of performance information for internal management processes is also affected by external stakeholders' interpretation of public sector performance.

In this study, we examine the effect of media reports featuring the performance of public service provision in a negative light, on public managers' use of performance information in the context of spending allocations. In a laboratory setting, we analyse *how* negative media reports affect the relation between performance and the willingness to spend financial resources for public services. Furthermore, we are interested in *how* negative media reporting affects decision makers' attention in the information search process that precedes a budget allocation decision. This focus is supported by a growing body of research in other disciplines that uses predecisional data to understand the information search and attention processes that precede decision makers' judgements (e.g., Chen, Jermias, and Panggabean 2016).

Drawing on blame avoidance theory, we propose that negative media reporting positively affects the willingness to spend money for public services and increases overall attention and effort in the predecisional performance information search process. Additionally, we propose that, in the context of public service provision, negative media reporting increases the willingness to spend more money on a relatively low performer compared to a relatively high performer and shifts attention to the performance information of the relatively low performer.

To test these hypotheses, we set up an experiment. For the experiment, the software MouselabWEB, a process tracing method, was used (Willemsen and Johnson 2011), which can capture participants' attention in the predecisional information search process (Schulte-Mecklenbeck et al. 2013). We provide participants (graduate students with several years of work experience in the German public sector) with a fictitious case in the context of public healthcare provision. Participants are cast in the role of a public manager in a German municipality whose job is to advise and assist political decision makers in governing and monitoring two hospitals owned by the municipality. Based on performance information, the participants are asked to spend financial resources on the two public hospitals. We design a treatment and a control group to test the effect of negative media reporting. Participants in the treatment group receive, in addition to the performance information, quotes from media reports, which put the performance of public hospitals in a negative light. In the control group, no additional information is provided. Furthermore, we manipulate the performance of the two hospitals so that one hospital outperforms the other hospital on some performance measures to operationalize a relatively high and a relatively low performer in the experiment.

The results show that negative media reporting positively affects the willingness to allocate financial resources to public hospitals. Furthermore, negative media reporting increases the willingness to spend more money on a relatively low-performing public hospital compared to a relatively high-performing public hospital. Additionally, we find that, in the predecisional information search process, negative media reporting shifts participants' attention towards the performance information of the relatively low-performing public hospital. Participants who are confronted with negative media reports respond with behaviour that is consistent with blame avoidance, in terms of both their predecisional information search processes (process level) and their willingness to spend (outcome level). This finding provides a coherent behavioural pattern consistent with our hypothesis. We therefore provide first empirical evidence that negativity bias, institutionalized in media reporting, triggers blame avoidance and show the underlying cognitive processes that lead to differences in spending.

These findings add to the theoretical literature on blame avoidance (Hood 2011; Hood et al. 2009; Hood and Lodge 2006; Sulitzeanu-Kenan 2010; Weaver 1986). As we find that negative media reporting changes the interpretation of performance information, we also contribute to empirical research about biases in the use of performance information in a public sector setting and the consequences for organizations, policies, and society (Belardinelli et al. 2018; George et al. 2017; Hong, Kim, and Son 2020; Nielsen and Baekgaard 2015; Nielsen and Moynihan 2017). Additionally, using a process tracing method, which allows the attention in the predecisional information search to be combined with the final decision outcome, contributes to experimental research in public management (James, Jilke, and Van Ryzin 2017; Margetts 2011).

In the following section, we review the relevant literature on public sector accountability, negativity bias, and blame avoidance and discuss blame avoidance in the context of PBB. We then use the reviewed literature to formulate hypotheses concerning the impact of negative media reporting on the response to performance information in a PBB context. In the next section, we present our experimental research design and our results. Finally, we provide a conclusion and discuss the limitations of our study.

Literature review and hypotheses development

Accountability, negativity bias, and blame avoidance

Accountability is a widely discussed concept in the public sector (Bovens, Goodin, and Schillemans 2014; Radin 2006; Willems and Van Dooren 2012) and could be defined as 'a relationship between an actor and a forum in which the actor has the obligation to explain and justify his or her conduct, the forum can pose questions and pass judgement, and the actor may face consequences' (Bovens 2007, 450). Public sector accountability traditionally concerns the relation of politicians and public managers to citizens.[1] Accountability rests on a principal-agent relationship in which citizens are the principals and the government acts as the agent (Barberis 1998; Moynihan 2008; Mulgan 2000). Citizens delegate responsibility for the provision of public services to the government by electing politicians to govern public organizations and control the public managers who staff them (Hodge and Coghill 2007). When the public has greater information about government performance, external accountability improves. Measuring performance and publishing performance reports are important steps to

increase accountability and the external legitimacy of governments and public orga-nizations (Kroll 2014; Neale and Anderson 2000). Consequently, citizens and the media are able to evaluate performance information and hold governments and public organizations accountable for their decisions and achievements (Moynihan 2008; Radin 2006).

The media is often seen in the role of a watchdog, highlighting policies, political events, public officials' decisions and public service performance. The idea that the media is an independent guardian counterbalancing the power of public officials is deeply rooted in the concept of liberal states. Therefore, it is part of the media's job to identify and report problems in the public sector (Norris 2014; Soroka 2006). A considerable body of work underlines that media reporting tends to be more negative than positive. Political science shows that the media concentrates on negative informa-tion and holds governments accountable rather than highlighting information in a favourable light and complimenting governments (Soroka 2006; Soroka and McAdams 2015). Although reporting about negative events in the public sector is in line with the watchdog role of the media, there are alternative explanations rooted in psychology for the dominance of negative information in news reports. We know from psychology research that humans respond asymmetrically to positive and negative information due to negativity bias. As a result of this bias, humans are more sensitive to negative events than to comparable positive events (Baumeister et al. 2001; Rozin and Royzman 2001). In addition, competition and commercialization encourage the media to shape the provision of news in a way that attracts the attention of readers/viewers (Bennett 2016). Thus, the media could consciously anticipate a negativity bias in a reader's or viewer's perception and could report more negative information to increase audience attention. Furthermore, journalists unconsciously could regard negative information as more important for writing articles based on their own negatively biased perception of information (Soroka 2006). Therefore, the organization and functioning of the media institutionalize a negativity bias (Hood 2007).

Negativity bias is also observable when citizens use performance information to evaluate public service performance (Boyne et al. 2009; James 2011; Olsen 2015). Olsen (2015) showed that exposing citizens to a 10% patient dissatisfaction rate with a public hospital generated more negative views of public service performance compared with exposing them to a logically equivalent 90% patient satisfaction rate. James and John (2007) found similar results when examining voters' performance evaluations of local governments in England. The authors showed that officeholders are punished for extremely poor municipal service performance by voters but are not rewarded for extremely good municipal service performance.

However, increased transparency combined with negativity bias in a public sector context also affect the behaviour of individuals who are held accountable and blamed for poor decisions or poor performance (Hood 2007). Researchers in political science and public administration state that negativity bias triggers indivi-duals in the public sector to have a strong motivation to avoid blame. The avoidance of blame is crucial to understanding the behaviour of public officials (Hood 2011; Hood et al. 2009; Hood and Lodge 2006; Sulitzeanu-Kenan 2010; Weaver 1986). Public officials, whether elected or appointed, have obvious reasons to manage blame. Elected politicians are typically interested in avoiding negative media cover-age that could damage their image and chances for re-election (Hood 2011; Soroka 2006; Weaver 1986). In the same manner, appointed public managers or

bureaucrats could be concerned with avoiding blame that might damage their autonomy and hurt their personal career prospects (Carpenter and Krause 2012; Hood 2011; Moynihan 2012). For both politicians and public managers, this approach seems to be the most viable strategy to respond to a policy problem or poor performance (Olsen 2017). An example of blame avoidance is observable in public managers' reporting practices. Charbonneau and Bellavance (2012) found that public managers in Canada provide performance reports with justifications significantly more often when municipalities perform poorly. The managers provide justifications to showcase performance information in a more favourable light and counteract potential blame for poor performance. Moreover, Rajala (2019) observed that the design of performance management systems could also facilitate blame avoidance strategies.

In sum, performance information is important for holding governments accountable. At the same time, negativity bias, which is institutionalized in media reporting, is assumed to drive public officials to have a strong motivation for blame avoidance (Hood 2007). Furthermore, blame avoidance is important to understand public officials' use and interpretation of performance information. Accordingly, we concentrate in our study on the interplay between negative media reporting and the interpretation and use of performance information.

Performance-based budgeting and blame avoidance

Budgeting is a central aspect of decision making in the public sector. Traditionally, governments decide in the budgeting process how much financial and nonfinancial resources will be spent on what. Given that available resources are limited, budgets show which initiatives, programs, or public services will be supported and to what extent (Wildavsky 1961). Therefore, budgeting is a political process that creates winners and losers. Early works on budgeting tried to understand and improve the budgeting process. Typically, these efforts aimed at introducing a stronger element of objectivity and rationality into the process of allocating public resources (Bretschneider, Straussman, and Mullins 1988). Under the term PBB, the use of performance information for budget allocation decisions became popular. The core idea of PBB is to establish an explicit and direct link between performance and the allocation of public resources. PBB involves the development and integration of nonfinancial performance data, such as public service outputs or outcomes, in the budgeting process (Joyce 1993; Joyce and Tompkins 2002).

Reforms, initiated by the new public management movement to measure and manage performance in public organizations (Behn 2003; Steccolini 2019; Van Dooren, Bouckaert, and Halligan 2015) revived the idea of using performance information for budgeting (Mauro, Cinquini, and Grossi 2017). Performance information is used in the budgeting process and consequently influences decisions (Bleyen et al. 2017; Melkers and Willoughby 2005). However, it is difficult to devise an automatism for directly translating performance information into budget allocations, as PBB suggests. Moynihan (2006) states that performance information will not be used in the same way from decision to decision due to the ambiguity of performance information. Therefore, it is difficult to envision a direct connection from performance information to a resource allocation decision. In an experiment involving graduate students, Moynihan (2006) tested this assumption. The results of the experiment

illustrate that participants come to different conclusions about future funding requirements based on the same performance information.

In a similar vein, Sicilia and Steccolini (2017) highlighted that budgeting in the public sector is an area in which different rationalities, logics, competences and professional identities interact. Therefore, one might assume that different logics shape how performance information is interpreted and tied to the allocation of financial recourses. A *high performance level* could be *rewarded*, and a *low performance level* could be *punished*, with the intention of increasing efficiency in the use of financial resources. Consequently, poor performance might signal that the organization is inefficient or, in the extreme case, completely ineffective such that it should not receive any additional resources. This rationale would be consistent with a private sector logic, which rewards good performing business units and punishes relatively low performing business units. Public management research suggests that the rationale of rewarding good and punishing low performance does not apply to the public sector – or applies to a lesser degree. Research suggests that a *low-performing public organization* or *program* can be *subsidized* with additional financial resources to improve its performance, while *successful organizations* or *programs* may *require no more than their current resources* (Gilmour and Lewis 2006; Moynihan 2006). The latter logic is based on blame avoidance theory (Nielsen and Baekgaard 2015), which presumes a strong motivation for public officials to avoid blame and respond to negativity bias. In this sense, budget decision makers feel pressure to support low performers to avoid the blame for this negative development (Hong, Kim, and Son 2020; Hood 2011; Moynihan 2012). A survey experiment conducted by Nielsen and Baekgaard (2015) among Danish councilors found that information showing high and low performance has a positive effect on attitudes towards spending public money on public schooling. Additionally, information on average performance has a negative effect on spending attitudes. The positive effect of high and low performance and the negative effect of average performance on the willingness to allocate resources have been replicated in the context of Flemish city councilors (George et al. 2017). We build on and extend this growing body of literature by providing insights into when public officials prefer to subsidize low performers over rewarding high performers. We suggest negative media coverage as a driver of this pattern. More specifically, we propose an effect of negative media reporting on the willingness to spend money and on the predecisional performance information search process.

Spending allocations and information search under negative media reporting

In the literature, it is frequently stated that negativity bias causes a strong motivation to avoid blame in the public sector (Hood 2011; Hood et al. 2009; Hood and Lodge 2006; Sulitzeanu-Kenan 2010; Weaver 1986). Considering that the media tends to provide negative reports with respect to public sector achievements (Soroka 2006; Soroka and McAdams 2015), we test whether decision makers respond to negative media reporting with blame-avoidance behaviour. Blame avoidance theory (Hood 2007; Weaver 1986) states that avoiding blame is likely a more common and powerful incentive for public officials than is claiming credit. Accordingly, it is assumed that low performance would have a greater incentive for performance improvements than high performance would (Hong, Kim, and Son 2020). In the case of PBB, spending more financial resources on public services is a strategy of blame avoidance. Researchers have argued that spending

more money for public services can improve performance or at least signal that one is doing so (George et al. 2017; Nielsen and Baekgaard 2015). Based on this argument, we propose that negative media reporting triggers a process that makes public decision makers avoid blame. Specifically, in the first stage, negative media reporting increases budget decision makers' willingness to allocate more money to improve overall public service performance. In the second stage, we propose that negative media reporting has a stronger effect on the willingness to spend money on a relatively low-performing public service than on a relatively high-performing public service. We hypothesize the following:

H1a: Negative media reporting with respect to public service performance increases budget decision makers' willingness to spend more money on public services.

H1b: Negative media reporting with respect to public service performance increases budget decision makers' willingness to spend comparatively more money on a relatively low performer (RLP) compared to a relatively high performer (RHP).

We do not solely examine the effect of negative media reporting on the outcome data (willingness to spend) but also on participants' information search and attention distribution processes preceding their judgements. This approach allows us to obtain a more fine-grained analysis of why the differences in the willingness to spend money occur. In the judgement process, attention is the filter between environmental information and the human working memory (Cowan 1988). Drivers of attention are both the characteristics of the stimuli and the objectives of the decision maker. Referring to the characteristics of a stimulus, salience and informativeness have been identified as the key components that drive attention. The informativeness of a stimulus implies its ability to increase decision makers' knowledge with respect to the goal to be achieved (Wedel and Pieters 2008). Accordingly, informativeness depends on the individual goals of the decision maker. Decision makers increase their attention when they perceive that the stimuli contain information that will help them achieve their goals (Yarbus 1967).

Above, we argued that negative media reporting with respect to public service performance creates the motivation to avoid blame. At the outcome level, this result increases the willingness to spend more money on public service improvements. At the process level, we assume that blame avoidance and the search for performance improvements drive individuals to pay more overall attention to the information search process, i.e., decision makers generally invest more effort into the judgement process. Additionally, in line with blame-avoidance theory, information on low-performing public services is more informative than information on high-performing public services to a decision maker motivated by blame avoidance (Nielsen and Baekgaard 2015). Therefore, we assume that, in the context of public service provision, negative media reports shift participants' attention to performance information about relatively low-performing public services rather than to relatively high-performing public services. We propose the following hypotheses about attention in the predecisional information search process:

H2a: Negative media reporting with respect to public service performance increases the overall attention that budget decision makers allocate to performance information.

H2b: Negative media reporting with respect to public service performance increases the share of attention that budget decision makers allocate to a relatively low performer (RLP) compared to that allocated to a relatively high performer (RHP).

Method

Participants and procedure

We use an experimental design to isolate the effect of negative media reporting on performance information use in spending allocations. The experiment uses the MouselabWEB software (Willemsen and Johnson 2011). We recruited Master's students from a public German university. The university provides a specific public sector context. The students are employed by the federal government while studying. The participants thus had work experience as decision makers in the public sector. The final sample consists of 74 participants who are, on average, 28 years old (*sd* = 4.84), with an average of 8.01 years of work experience in the German public sector (*sd* = 4.83). Twelve percent of the participants were female. We acknowledge that generally, relying on student samples limits the external validity of experimental results (Margetts 2011). However, we use a highly specific sample of graduate students with extensive experience in the public sector, with several years of experience as civil servants and thus ample familiarity with the specifics of the public sector. These students also have been responsible for spending public money during their career as federal employees.

The participants were invited to participate in a computer laboratory and were seated at individual computers. In the experiment, the participants were asked to imitate the role of a public manager in a municipality. The participants' role in the experiment comprised a consultation with political decision makers about spending allocations for the public hospitals owned by the municipality, which provide healthcare services to the local population.[2] We chose public healthcare provision, as it is a salient public service in Germany whose performance is repeatedly negatively discussed by the mass media (Theuvsen and Zschache 2011).

After a case and task description, the participants received financial and nonfinancial performance information about two municipal-owned hospitals, labelled *Hospital A* and *Hospital B*. The crucial information for evaluating the performance of the hospitals was displayed as the 'percentage change compared to the average performance over the past three years'. This performance information was hidden behind cells. The information could be accessed by moving the mouse cursor over the cell. When the mouse cursor was moved out of the cell, the information was concealed again. The MouselabWEB software records how often and how long participants access particular performance information (Willemsen and Johnson 2011). Based on the performance information, the participants had to indicate how to spend money on the two municipal-owned hospitals relative to the spending of previous years. Furthermore, the participants evaluated the performance of the hospitals' managers; we used this answer as a manipulation check. Figure 1 displays a screenshot of the task scenario in the treatment condition implemented in MouselabWEB.

After completing the tasks, the participants answered some post-experimental and demographic questions. The original experiment was conducted in German, and an English translation of the experimental materials is included in the Appendix.

Task

The following quotes are from reports of the Local Post. The Local Post has a decisive influence on the opinion of the municipalities' population in relation to the municipal-owned hospitals.

„Chaotic conditions in the municipal-owned hospitals! Again, we have received many complaints from patients of the municipal-owned hospitals. Not only is the repeated undersupply of nurses denounced, but now, more and more treatment errors and false diagnoses are coming to light."

„Compared to private hospitals, municipal-owned hospitals have treated significantly fewer patients in the recent years!"

Measure	Explanation	Actual value Hospital A	Percentage change compared to the average over the past three years Hospital A	Actual value Hospital B	Percentage change compared to the average over the past three years Hospital B
Profit after subsidies	Indicates the profit of the hospital after being subsidized by the municipality.	614,500 €	+9.33	613,000 €	
Return on equity after subsidies	Indicates the return on equity of the hospital after being subsidizing by the municipality.	2.78%		2.79%	
Patients' satisfaction	Indicates which percentage of patients is satisfied with the treatment.	88%		88%	
Treated patients	Indicates the number of patients treated.	25,000		25,000	

Please evaluate the performance of the managers of both hospitals on a scale from 0 (poor) to 100 (excellent).

Hospital A [   ]
Hospital B [   ]

To guarantee healthcare to the local population and to improve healthcare services, Hospital A and B have been subsidized by the municipality for the past three years with 500,000 Euros per year. Please indicate whether you would spend more, to the same, or less money than in previous years on Hospital A and B. You can choose from seven answer categories. Please note that increasing [reducing] the spending for the hospitals may result in a reduction [increase] in the ability to spend money on other municipal services.

Hospital A
○   ○   ○   ○   ○   ○   ○
much   same   much
less   more

Hospital B
○   ○   ○   ○   ○   ○   ○
much   same   much
less   more

[Please click here for some final questions.]

Figure 1. Screenshot of the English translation of the task in the treatment condition implemented in MouselabWEB. The original experiment was conducted in German.

Manipulations

We conducted a mixed 2 × 2 experiment with one between-subjects factor and one within-subjects factor.[3] The experiment employed a treatment and a control condition as a between-subjects factor for testing the effect of negative media reporting on spending allocations. Participants in the treatment group ($n = 37$) received quotes from media reports that presented the nonfinancial performance of the public hospitals in a bad light (see Appendix). In the control group ($n = 37$), no such information was provided.[4] When designing the media reports, we based the experimental material on real media reports and refer to the frequently reported stereotype that public sector organizations are less productive than their private sector counterparts are (Hvidman and Andersen 2016). The participants were randomly assigned to the groups. As a within-subjects factor, we asked participants to make two separate judgements, one for *Hospital A* and one for *Hospital B* (see Figure 1). We designed the performance of the hospitals so that *Hospital B* outperforms *Hospital A* on nonfinancial performance

information. Specifically, we provided participants with information on two nonfinancial performance measures: Patients' satisfaction with the treatment and the total number of treated patients. Participants were provided with information on the degree to which the two hospitals overperformed on these two measures relative to the past three years. The performance of *Hospital A* was depicted as relatively low compared to that of *Hospital B*. Hereafter, we refer to *Hospital A* as an *RLP* and to *Hospital B* as an *RHP*. This manipulation allows us to clearly identify whether participants spend more money to subsidize a relatively low performer (and thus to avoid blame in line with what prior public management literature suggests), or participants reward a relatively high performer (in line with what the accounting research for private firms suggests). This within-subjects manipulation builds on extant accounting research that used a similar manipulation (e.g., Libby, Salterio, and Webb 2004; Lipe and Salterio 2000). To avoid comparing negative and positive performance, both hospitals perform better than the average performance over the past three years. The financial performance (in the form of two financial performance measures 'profit after subsidies' and 'return on equity after subsidies') is held constant for both hospitals, as the quotes from the media reports only presented the nonfinancial performance of the public hospitals in a bad light (see Appendix).[5]

Dependent variables

As the outcome variable, we measured participants' willingness to spend money on public hospitals by asking the participants to state how much public money should be allocated to *Hospital A* and *Hospital B* compared to the allocations of previous years. Possible answers ranged from much less ('1') to much more money ('7') on a seven-point scale. Furthermore, the participants were aware that increases in hospital subsidies would affect (reduce) spending opportunities in other public service areas. A similar outcome variable has been used in previous experiments (George et al. 2017; Nielsen and Baekgaard 2015). Closing a hospital was not an option in our experimental case, because we were interested in how negative media affects the tensions between rewarding relative high performance and subsidizing relative low performance. As performance was low in relative terms – in absolute terms, the performance of both hospitals was displayed rather positively – there was no urgent necessity to close the low-performing hospital.

On the predecisional information search and attention distribution level, we measured how long the participants accessed particular performance information, which is our second dependent variable of interest. We used this process variable as a proxy for attention in the predecisional information search process (Schulte-Mecklenbeck et al. 2013; Sohn et al. 2015). Employing a process tracing technique that monitors the information search process gives us more granular insight into the effects of the manipulations on participants' decision making. We are thus able not only to observe *that* negative media coverage affects public manager's spending decisions but also show *how* participants' information search processes are affected by this manipulation. Hence, the process data and outcome data provide a coherent picture of how media coverage affects decision making and aligns our results to a growing body of research that suggests that process data provide a more nuanced picture of (managerial) decision making (e.g., Chen, Jermias, and Panggabean 2016).
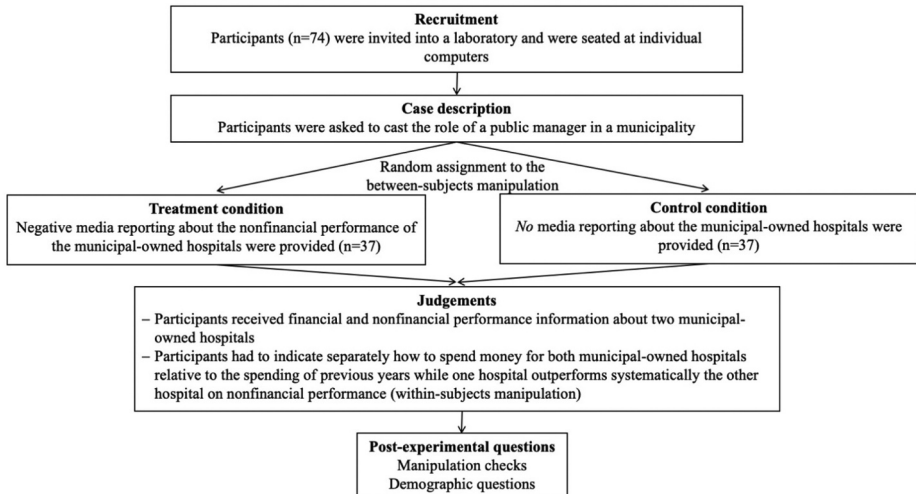
Figure 2 summarizes the experimental procedure.

Figure 2. Experimental procedure.

Results

Manipulation checks

To test the effect of negative media reporting on PBB, the participants in the treatment group must have noticed that the media reports were negative with respect to the performance of the public hospital. Therefore, we asked the participants in the treatment group in the postexperimental questionnaire whether they perceived the media reporting as positive or negative. A one-sample t-test shows that the participants in the treatment condition recognized that the media reports were negative ($t(36) = -9.76$, $p < .001$, two-tailed), indicating that the between-subjects manipulation was successful. Table 1 contains the English translation of the questions and the means and standard deviations of the answers.

As the within-subjects factor, we manipulated the two hospital performances in both the treatment and control condition so that the *RHP* outperformed the *RLP* on nonfinancial performance measures. As a manipulation check for the within-subjects factor, we tested whether the participants in both groups perceived the performance of the two hospitals differently. Therefore, the participant had to evaluate the performance of the managers of the *RLP* and the *RHP* on a 101-point scale from 0 ('poor') to 100 ('excellent'). Table 2 contains the descriptive statistics for the performance evaluations of the two hospitals. The results show that the performance of the *RHP* was

Table 1. Manipulation check for the between-subjects factor.

Wording of the questions	Mean	Sd
How negative do you perceive the media statements with respect to the municipal-owned hospitals' performance to be? [a]	2.92	1.50
How positive do you perceive the media statements with respect to the municipal-owned hospitals' performance to be? [b]	5.70	1.15

[a]Possible answers range from very negative ('1') to not very negative ('7'). [b]Possible answers range from very positive ('1') to not very positive ('7').

Table 2. Manipulation check for the within-subjects factor.

Performance evaluation	Mean	Sd
RLP	70.47	13.97
RHP	84.36	8.74

The participants had to evaluate the performance of the managers of the *RLP* and the *RHP* on a 101-point scale from 0 ("poor") to 100 ("excellent").

evaluated as being significantly better than the performance of the *RLP* in both conditions ($t(73) = 8.43$, $p < .001$, two-tailed).

We also included a question on case understandability in the postexperimental questionnaire; the answer options, on a seven-point scale, ranged from 1 ('good to understand') to 7 ('hard to understand'). The mean value of the participants' answers is 2.66 ($sd = 1.56$). Furthermore, there is no difference between the two conditions ($t(72) = .22$, $p = .83$, two-tailed) concerning case understandability.

Willingness to spend money for public services (H1)

H1a suggests that negative media reporting increases the willingness to spend more money for public services. To test this assumption, we compare the willingness to spend money on both hospitals between the two conditions, irrespective of which hospital received the money. Accordingly, we formed the mean value of the willingness to spend money on the *RLP* and *RHP* per condition and compared it between the two conditions. The results show that the willingness to spend money on the hospitals is higher in the condition of negative media reporting than in the condition of no negative media reporting ($t(72) = -1.573$, $p = .06$, one-tailed[6]). Hence, *H1a* is supported. Table 3 provides the descriptive statistics for the willingness to spend money between the two conditions.

In line with blame-avoidance theory, *H1b* proposes that negative media reporting with respect to public service performance increases the willingness to spend more money on the *RLP* compared to the *RHP*. Table 4, panel A displays the average willingness to spend money on the *RLP* and the *RHP* for the conditions of negative media reporting and no negative media reporting (for a graphical expression, see Figure 3).

We tested *H1b* by calculating the joint effect of negative media reporting and the willingness to spend on the *RLP* and the *RHP*. Therefore, we used a mixed model ANOVA, employing a within-subjects factor and a between-subjects factor. The model consisted of relative performance as the within-subjects factor, the presence or absence

Table 3. Willingness to spend money by condition.

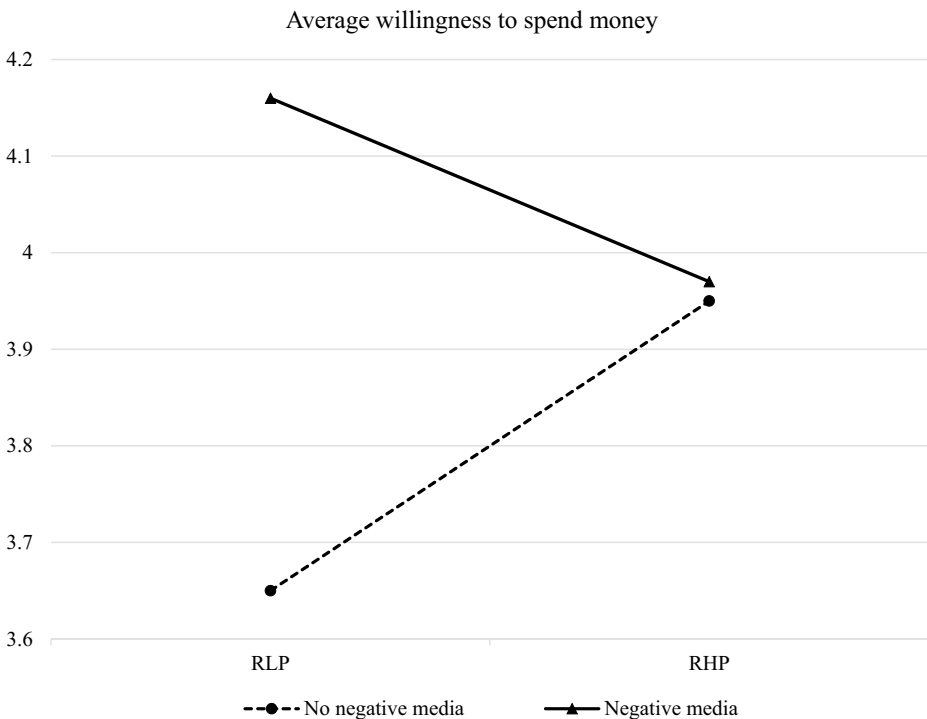| Willingness to spend	Mean	Sd
No negative media	3.80	.68
Negative media	4.07	.79

Possible answers range from much less ("1") to much more money ("7") compared to previous years.

Table 4. Willingness to spend money for public services.

Panel A. Average willingness to spend money on the *RLP* and the *RHP* by condition. [a]

	Willingness to spend on the *RLP*		Willingness to spend on the *RHP*	
	Mean	Sd	Mean	Sd
No negative media	3.65	.63	3.95	1.03
Negative media	4.16	.99	3.97	.80

Panel B. Mixed model ANOVA for the outcome data.

Source [b]	Df	SS	MS	F-value	p-value
Between-subjects					
Negative media (NM)	1	2.703	2.703	2.475	.060 [c]
Error	72	78.622	1.092		
Within-subjects					
Relative performance (RP)	1	.108	.108	.246	.311 [c]
NM x RP	1	2.189	2.189	4.972	.029 [d]
Error	72	31.703	.440		

[a]Possible answers range from much less ('1') to much more money ('7') compared to previous years. [b]The between-subjects factor is that participants either received quotes from media reports, which presented the performance of the public hospitals in a negative light, or received no such quotes. The within-subjects factor is the willingness to spend money on the *RLP* and the *RHP*. [c]The p-values are one-tailed. [d]The p-value is two-tailed.

Average willingness to spend money

- - ● - - No negative media ⎯▲⎯ Negative media

Figure 3. Average willingness to spend money on the *RLP* and the *RHP* by condition.

of negative media reporting as the between-subjects manipulation, and the willingness to spend money as the dependent factor. Table 4, panel B displays the results of the mixed model ANOVA. The interaction is statistically significant ($F(1, 72) = 4.972$, $p < 0.05$, two-tailed). Individuals' willingness to spend money on the *RLP* increases

compared to the willingness to spend on the *RHP* due to negative media reporting. This significant interaction effect provides support for *H1b*. The ANOVA also indicates a significant main effect for the between-subjects factor, which we already observed in the analysis of *H1a*. Furthermore, a post hoc analysis shows that participants in the negative media condition are willing to spend more money on the *RLP* compared to participants in the no negative media condition ($t(61.36) = -2.67, p < .01$, one-tailed). At the same time, the willingness to spend money on the *RHP* does not statistically differ between recipients and nonrecipients of negative media reports ($t(72) = -.13, p = .45$, one-tailed). The finding that negative media reporting significantly increases the willingness to spend more money on low public services performance further supports *H1b*.

Taken together, the results show that negative media reporting increases the overall willingness to spend more money on public services to improve performance. Furthermore, negative media reports make individuals more willing to spend money on an *RLP* compared to an *RHP*.

Attention in the predecisional information search process (H2)

Hypothesis *H2a* proposes that negative media reporting increases the overall attention allocated to the performance information about the two hospitals. The hypothesis was examined by means of a two-sample *t*-test in which we analysed whether the respondents in the negative media reporting condition spent more time on the performance information than the respondents in the no negative media reporting condition. Time spent on particular information is a common proxy for attention in the predecisional information search (Schulte-Mecklenbeck et al. 2013; Sohn et al. 2015). Accordingly, we used the time that participants spent reading the performance information as our proxy for attention. Table 5 reports the average time in milliseconds that the participants spent on all the performance information by condition. The *t*-test does not support the hypothesis ($t(72) = -1.005, p = .159$, one-tailed). Therefore, we need to reject *H2a*.

Hypothesis *H2b* addresses the effect of negative media reporting on the share of attention participants allocate to the performance information of the *RLP* relative to the *RHP*. We hypothesized that negative media reporting increases the share of attention that is spent on the performance information of the *RLP* compared to that of the *RHP*. Table 6, panel A contains the average time in milliseconds that participants spent on the performance information of the *RLP* and the *RHP* for the conditions of negative media reporting and no negative media reporting (Figure 4 expresses the information graphically).

First, we conducted a mixed model ANOVA using the process data to test the interaction effect of the between-subjects factor and the within-subjects factor. The

Table 5. Average amount of time participants spent on all performance information by condition.

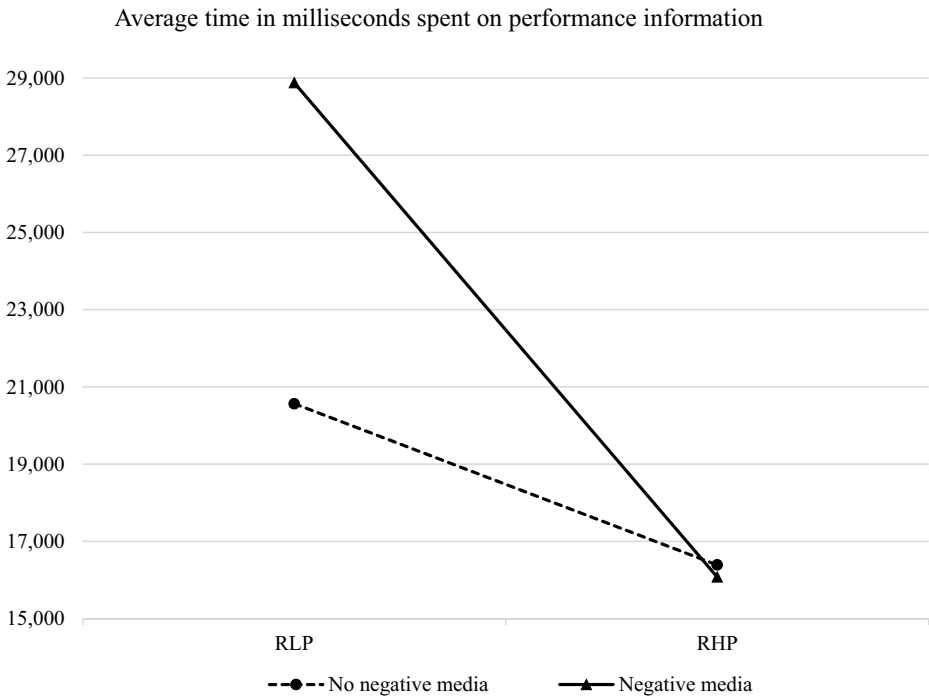| Time spent on performance information per subject	Mean	Sd
No negative media	36,956	21,374
Negative media	44,960	43,489

Time in milliseconds.

Table 6. Time spent on performance information in the predecisional information search.

Panel A. Average time participants spent on the performance information of the *RLP* and the *RHP* by conditions. [a]

	Time spent on performance information of the *RLP*		Time spent on performance information of the *RHP*	
	Mean	Sd	Mean	Sd
No negative media	20,565	12,075	16,392	11,842
Negative media	28,878	28,170	16,082	16,578

Panel B. Mixed model ANOVA for the process data.

Source [b]	Df	SS	MS	F-value	p-value
Between-subjects					
Negative media (NM)	1	5.93E+08	5.93E+08	1.009	.159 [c]
Error	72	4.23E+10	5.87E+08		
Within-subjects					
Relative performance (RP)	1	266E+09	266E+09	29.542	.000 [c]
NM x RP	1	6.88E+08	6.88E+08	7.630	.007 [d]
Error	72	6.49E+09	9.02E+07		

[a]Time in milliseconds. [b] The between-subjects factor is that participants either received quotes from media reports, which presented the performance of the public hospitals in a negative light, or received no such quotes. The within-subjects factor is the time that the participants spent on the performance information of the *RLP* and the *RHP*. [c] The *p*-values are one-tailed. [d] The *p*-value is two-tailed.

Average time in milliseconds spent on performance information

Figure 4. Average time in milliseconds that participants spent on the performance information of the *RLP* and the *RHP* by condition.

model consisted of relative performance as the within-subjects factor, negative media as the between-subjects manipulation, and the attention that participants spent on the performance information as the dependent factor. Table 6, panel B contains the results of the mixed model ANOVA. The interaction terms' coefficient is statistically significant ($F(1, 72) = 7.630$, $p < 0.01$, two-tailed), indicating that negative media reporting increases participants' share of attention allocated to the performance information of the *RLP* compared to that of the *RHP*. This finding is consistent with hypothesis *H2b*. Additionally, the ANOVA shows a significant main effect for the within-subjects factor ($F(1, 72) = 29.542$, $p < .001$, one-tailed). This finding indicates that the participants in both experimental groups allocated more attention to the performance information of the *RLP* than to that of the *RHP*. Second, we ran a number of post hoc tests. We compared the time that the participants spent on the *RLP* performance information between the two conditions. The result of a two-sample *t*-test shows that the recipients of negative media reporting paid more attention to performance information about the *RLP* than the nonrecipients of negative media reporting ($t(48.80) = -1.65$, $p = .053$, one-tailed). We used the same analysis for the attention participants spent on the performance information of the *RHP*. We found no statistically significant difference between conditions on the attention spent on the information of the *RHP* ($t(72) = .093$, $p = 0.464$, one-tailed). Additionally, we used one-sample *t*-tests to analyse whether the participants in both conditions allocated more attention to the *RLP* than to the *RHP*. The results show that, in both conditions, the participants paid more attention to the *RLP* than to the *RHP* (both *p*-values < .02, one-tailed). Finally, we calculated planned contrasts (Buckless and Ravenscroft 1990) to test if the attention allocated to the *RLP* in the negative media reporting condition is significantly higher than that of the remaining three options (i.e., *RLP* and *RHP* in the no negative media condition and *RHP* in the negative media condition). The analysis reveals that the attention allocation is higher for the *RLP* in the negative media reporting condition ($t(144) = 3.21$, $p < .01$, one-tailed) than it is for the other conditions. Furthermore, there is no significant variance residual among the remaining conditions (*p*-value = .145, one-tailed). Therefore, the analysis of planned contrasts indicates that the *RLP* in the negative media condition received the most attention. In sum, the post hoc analyses provide additional evidence supporting *H2b*.

In summary, the analyses of the process data provide no statistically significant evidence that individuals in general give more attention (effort) to performance information as a result of negative media reporting (*H2a*). However, we find substantive evidence that negative media guides individuals' attention to the performance information of the *RLP* (*H2b*). Therefore, we also find support for a blame-avoidance behaviour in the predecisional information search process.

Conclusion

The relationship between negative media reporting and blame-avoidance behaviour has not yet been researched directly, although it has been argued that negativity bias produces a strong drive to avoid blame in the public sector (Hood 2011). When individuals fear being blamed for public service performance, spending more money for public services is a way to signal that they are actively doing something to improve performance and to consequently avoid blame in the future (George et al. 2017; Nielsen and Baekgaard 2015). We show that negative media reporting increases the

willingness to spend more money on public services. Therefore, our study contributes to the theory of public sector blame avoidance by showing that negative media reporting increases the willingness to spend public money. We underline this finding by analysing decision makers' predecisional attention and information search processes. Although we do not find support for the idea that negative media reporting generally increases individuals' efforts in the predecisional information search process, we find, consistent with blame avoidance theory, that the attention distribution for performance information is affected by negative media reporting.

Survey experiments indicate that information showing high and low performance has a positive effect on attitudes towards spending public money on public services (George et al. 2017; Nielsen and Baekgaard 2015). We enrich these studies by testing how negative media reporting affects the response to relatively low and relatively high performance. We find that negative media reporting makes individuals spend more money on an *RLP* than on an *RHP*. Therefore, negative media reporting creates pressure to help low performers avoid blame. The same mechanism is also observable in the process data of the experiment. Our results show that when negative media reporting is given, information on an *RLP* receives a higher share of attention than information on an *RHP*. Therefore, negative media reporting shifts decision makers' attention to information about the *RLP*. As we reveal the same pattern in the process and outcome data, we observe blame-avoidance behaviour at different levels of decision-making.

However, as with all research, our study has limitations. First, to measure participants' attention in the predecisional information search process, it was necessary to conduct the experiment in a controlled laboratory setting. Laboratory-based experimental designs usually provide high internal validity but are often associated with a lack of external validity (Esteve et al. 2015). Moreover, the generalizability of our results is limited by the artificial nature of our case setting and our reliance on students as proxies for on-the-job decision makers (though we relied on a sample of students who were working as federal employees and possess considerable work experience as public decision makers). To improve the generalizability of our findings, we encourage scholars to replicate our study across different contexts using participants with different levels of experience in public sector management (George et al. 2017; Walker, James, and Brewer 2017). Second, we aimed to examine how *negative* media coverage affects public managers' behaviour relative to a condition *absent* media coverage. Hence, participants in the negative media coverage condition had to read more text and were confronted with more information prior to making the decision to spend money. We encourage future research to investigate how public managers' behaviour depends upon the effect of positive and neutral media coverage relative to negative media coverage. Finally, we relied on a setting where the participants – in the role of a public manager – advise politicians in how to spend public money. We did not provide participants with information about the addressee of their advice, e.g., on the politician's affiliation with a political party or general political attitude. We acknowledge that this might be important in practice, however, the experimental setup only allows us to examine the effect of some important variables of interest at a time. We encourage future research to investigate the moderating role of political attitudes on the effect of blame avoidance in public spending.

We conclude that negative media reporting has the potential to affect how low and high performance information is interpreted and how financial resources are tied to

performance. This result bears important implications for understanding the micro level of performance information use in spending allocations. Hence, we respond to Steccolini's (2019) call to investigate '… the microprocesses through which public managers, citizens, politicians and other relevant stakeholders use performance information'. A valuable lesson for practitioners is that the use and response to low and high performance information in spending allocations could be affected by external stakeholders' performance evaluations. Based on our study, future research could investigate the effect of negative media reporting on the use of performance information in other public sector decision contexts. Additionally, we encourage researchers in the field of public management to combine outcome and process data, which could offer advantages such as a more multilayered understanding of individuals' biases in performance information use.

Notes

1. Public sector accountability also has an internal dimension. Internal accountability concerns relationships within a public organization, e.g., the relation between elected officials and superiors to subordinated bureaucrats (Moynihan 2008).
2. Importantly, we did not provide participants with a detailed description of the political decision makers whom they were asked to advise. The experimental design forces us to manipulate the variables of interest and keep other factors constant across the experimental conditions. We acknowledge that future research could specify or manipulate the political and personal preferences of the addressee of the public managers' advice.
3. Prior research has extensively used MouselabWEB or similar process tracing methods in factorial experimental designs (e.g., Chen, Jermias, and Panggabean 2016; Lindermüller, Sohn, and Hirsch 2020; Schauß, Hirsch, and Sohn 2014).
4. We aim to clearly identify how *negative* media coverage affects public managers' behaviour relative to a condition *absent* media coverage (and not relative to a condition with the presence of positive or neutral coverage), thus explaining our design choice. A neutral media coverage could have provoked reaction from the decision maker that might create a confounding effect unintended in our design. Notably, however, the participants in one group had to read more text and were presented with more information. The additional text was concise and contained only the most important information to ensure that reading the additional text would not by itself affect participants' behaviour.
5. We concentrated on the nonfinancial performance, as prior research shows that politicians and public managers perceive nonfinancial performance information to be more important compared with financial performance information (e.g., Liguori, Sicilia, and Steccolini 2012).
6. We provide one-tailed *p*-values throughout the results section whenever our hypotheses offer directional predictions.

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Disclosure statement

Notes on contributors

David Lindermüller (david.lindermueller@unibw.de) is a postdoctoral researcher at Bundeswehr University Munich, Germany. His current research interests are public-sector performance management, performance information use, and experimental methods.

Matthias Sohn (sohn@europa-uni.de) is professor of management accounting at European University Viadrina Frankfurt (Oder), Germany. His research interests include management control systems, business ethics, non-profit management, and experimental research methods.

Bernhard Hirsch (bernhard.hirsch@unibw.de) is professor of management accounting at Bundeswehr University Munich, Germany. His research interests focus on behavioural aspects of management accounting and on accounting for public institutions.

ORCID

David Lindermüller 🆔 http://orcid.org/0000-0002-9650-9893
Matthias Sohn 🆔 http://orcid.org/0000-0001-9306-1416
Bernhard Hirsch 🆔 http://orcid.org/0000-0002-7283-558X

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Appendix

Case description

Imagine you are working as a public manager in a German municipality.

The municipality operates public hospitals for the provision of healthcare services to the local population. The hospitals are completely owned by the municipality, but they are organized in a private sector legal form and managed by hospital managers.

As a shareholder, the municipality has influence on the hospitals. On the one hand, the municipality provides hospitals with public money to guarantee the provision of healthcare services to the local population. On the other hand, the municipality has a say in management staffing decisions. As a public manager in the municipality, it is your job to advise and assist political decision makers in governing and monitoring the hospitals owned by the municipality.

With the hospitals, the municipality pursues the provision of healthcare services to the local population and, at the same time, must act economically. The public hospitals are in competition with private hospitals.

Next, you receive your task description.

Task description

The municipality subsidizes the hospitals with municipal money. The subsidies should guarantee the provision of healthcare services to the local population and improve healthcare services. In the following, you should indicate your willingness to spend money on the two hospitals that are owned by the municipality. Furthermore, you are asked to evaluate the performance of the hospitals' managers.

To determine how to allocate money to the hospitals, you are provided with financial and nonfinancial performance measures of the two hospitals. For an evaluation of performance, the measures are presented as percentage change in a measure compared to its average over the past three years.

In addition to the performance measures, quotes from reports of the Local Post are given, which make the municipal-owned hospitals a subject of discussion. The Local Post has a decisive influence on the opinion of the municipalities' population regarding the municipal-owned hospitals.

Next, you receive your task.

Task

The following quotes are from reports of the Local Post. The Local Post has a decisive influence on the opinion of the municipalities' population regarding the municipal-owned hospitals.

- *'Chaotic conditions in the municipal-owned hospitals! Again, we have received many complaints from patients of the municipal-owned hospitals. Not only is the repeated undersupply of nurses denounced, but now, more and more treatment errors and false diagnoses are coming to light.'*
- *'Compared to private hospitals, municipal-owned hospitals have treated significantly fewer patients in recent years!'*

Measure	Explanation	Actual value Hospital A	Percentage change compared to the average over the past three years Hospital A	Actual value Hospital B	Percentage change compared to the average over the past three years Hospital B
Profit after subsidies	Indicates the profit of the hospital after being subsidized by the municipality.	614,500 €	+9.33	613,000 €	+9.49
Return on equity after subsidies	Indicates the return on equity of the hospital after being subsidizing by the municipality.	2.78%	+7.59	2.79%	+7.43

Measure	Explanation	Actual value Hospital A	Percentage change compared to the average over the past three years Hospital A	Actual value Hospital B	Percentage change compared to the average over the past three years Hospital B
Patients' satisfaction	Indicates which percentage of patients is satisfied with the treatment.	88%	+4.55	88%	+8.65
Treated patients	Indicates the number of patients treated.	25,000	+3.91	25,000	+8.27

Please evaluate the performance of the managers of both hospitals on a scale from 0 (poor) to 100 (excellent).

To guarantee healthcare to the local population and to improve healthcare services, Hospital A and B have been subsidized by the municipality for the past three years with 500,000 Euros per year. Please indicate whether you would spend more, to the same, or less money than in previous years on Hospitals A and B. You can choose from seven answer categories. Please note that increasing [reducing] the spending for the hospitals may result in a reduction [increase] in the ability to spend money on other municipal services.

(Note: The treatment is *italicized*.)