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# THE IMPACT OF GENDER AND AGE ON EARNINGS MANAGEMENT PRACTICES OF PUBLIC ENTERPRISES – A CASE STUDY OF BELGRADE<sup>4</sup>

The goal of this study is to investigate whether the gender and age of the director, the supervisory board chairman and other supervisory board members influence earnings management practices in public enterprises established by the Serbian capital city. We have found that the age of the directors and the age and gender of the board members appointed by the local authority are statistically insignificantly associated with earnings management practices. But the study reveals a huge gender inequality concerning the directors and supervisory board members appointed by the local authority and opens up a debate on whether supervisory board members are sufficiently qualified for the task assigned to them by Law. As a result of this research, we suggest several inputs for the ongoing public administration reform.

Keywords: earnings management; gender; age; supervisory board; public enterprises; Serbia

JEL: M41; M48; M14; G30; C33

## 1. Introduction

Despite a long history of gender issues in the legislation of today's European region, which dates back even to Ancient Roman times (Bauman, 2015; Vujović, 2017), the gender issue has been a hot topic in the EU, not only over the last decade but is also one of the priorities of the EU Commission for the coming years (European Commission, Legislative train, 11.2020). Namely, according to the new EU Gender Equality Strategy 2020-2025, unblocking the 'Women on Boards' Directive Proposal has been declared as one of the

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priorities. Besides the reason to fight against inequalities, prescribing gender quota on board of directors has also been strongly supported by economic arguments that stem from the conviction of the advantage of gender-balanced boards. This conviction stems not only from the belief that women improve the decision-making process but also as a consequence of seeing women as more ethical than men. It has been usually considered that women are more risk-averse than men, have a long-term perspective, and are more ethical, diligent, compassionate, inclusive, and stakeholder-oriented (Kirsch, 2018). At the same time, it has been widely argued that risk-aversity, ethicality, conservatism are also features of older CEOs (Pavlović et al., 2019a).

Although neglected for a long time, a few recently published studies link the gender and age issues in corporate governance matters. Most of them were initiated by the introduction of mandatory gender quotas on the boards of directors of certain states, which opened the question of whether the introduction of mandatory quotas would result in the recruitment of younger, less experienced and less qualified female directors than the men they replace and, consequently, will lead to a decrease in the value of the company and its profitability (Matsa, Miller, 2013; Ahern, Dittmar, 2012; Schwartz-Ziv, 2017; Kirsch, 2018; Solal, Snellman, 2019). On the other hand, Pavlović et al. (2019a) show that female board members are significantly younger than male members even when women are not recruited on board due to the introduction of gender quotas.

This study aims to investigate whether the gender and age of the director, the supervisory board chairman and other supervisory board members influence earnings management practices in public enterprises of the Serbian capital city. This study's results could be important insight useful for the public administration reform (PAR) in terms of improving gender equality in local public enterprises in Serbia, as PAR is one of the main challenges in Serbia's EU integration process.

The 'Women on Boards' Directive Proposal prescribes gender quota on board of directors of public companies, but not on public enterprises' supervisory board. While many research explored the economic arguments for introducing gender quota, including the effect of women's participation on a company's performance, earnings management and fraudulent reporting, those research were not conducted in the sector of public enterprises.

A survey on the impact of women on the supervisory board of public enterprises on performance, as well as the impact of appointment women on the position of director or supervisory board chairman, would face a huge problem of results interpretation due to the hybrid goals of public enterprises (regular satisfaction of the consumer's needs and earning a profit) which are often in conflict (Sobol, 2016; Liechti, Finger, 2019). On the contrary, research on the impact of women appointed at the position of director and as a supervisory board member, as well as the impact of the president's gender on earnings management practices, could be done. The situation is unchanged with regard to their age. So, some arguments for introducing gender quota on supervisory boards of public enterprises could be supported or rejected by this research.

The most important role of financial reports is to effectively communicate financial information to outsiders in a timely and credible manner (FASB, 1984; Marai, Pavlović, 2013, p. 39). It has been argued that managers have both the ability and the incentive to

manage reported earnings in order to increase or decrease current period earnings relative to their 'unmanaged' level (Marai, Pavlović, 2013, p. 39). Healy and Wahlen (1999) point out the opportunistic perspective of earnings management, which is to mislead financial information users (Marai, Pavlović, 2013, p. 39). Either stakeholders are misled about the underlying economic performance of the company or otherwise management influence the contractual outcomes that depend on reported accounting numbers (Healy, Wahlen, 1999; Marai, Pavlović, 2013, p. 39). Thus, earnings management erodes public confidence in the financial reporting process (Soon, Wee, 2011). Thiruvadi and Huang (2011, p. 495) underline that the regulators, legislators, and policymakers are very concerned with the issue of earnings management, and therefore there is a need to ensure public confidence in the reporting of accounting information. But while earnings management is widely discussed in the corporate world, this research is almost non-existent in the public sector. The consequences of reducing the quality of the financial reporting process in public companies and public enterprises are not equal. Reducing the quality of the financial reporting process has its political dimension as well. The practice of earnings management in public enterprises further undermines public confidence in public enterprises and local authorities as well, which are often not very high, particularly in transitional and emerging economies. Del Bo and Florio (2012) pointed out that different strands of theoretical research have questioned the confidence in planning and policy adoption in public enterprises.

Bearing in mind that earnings management practices reduce the reliability of the financial reports, and, therefore, can have a huge impact on several important issues concerning the director and the supervisory board members of the public enterprises, we investigate if there is an association between gender diversity of the supervisory board members and earnings management, an association between the director's age and earnings management, and an association between the age and gender of the chairman of the supervisory board and earnings management.

## 2. A Few Words on the Legal Aspect

Public enterprises are significantly different from other business entities in many ways. In the context of our research, besides the fact that public enterprises, according to the Serbian Law on Public Enterprises (articles 4, 58), are faced with conflicting goals (ensuring the continuous performance of activities of general interest and regular satisfaction of the consumer's needs, and earning a profit in order to fill the budget), the fact that the majority of the supervisory board members, as well as the director, are appointed by the local authority, while only one member of the supervisory board is elected by the employees (Law on Public Enterprises), makes the crucial difference.

According to the Serbian Law on Public Enterprises ("Official Gazette of the RS", No. 15/2016 and 88/2019), public enterprises are governed by the supervisory board and the director (Article 15). Among other tasks, the supervisory board supervises the work of the director, discusses financial reporting matters and external audit reports and brings decisions of adopting financial reports (Article 17, 5-6).

According to Article 29 of the Serbian Law on Public Enterprises, the director and the executive director may be entitled to incentives, and the act on payment of incentives is enacted by the supervisory board. The former Law on Public enterprises ("Official Gazette of the RS", No. 119/12, 116/13 and 44/14) prescribes that the director and the executive director may be entitled to incentives in the event that a public company operates with positive business results (Artice 29). The new Law on Public Enterprises leaves the Government to determine the conditions and criteria for determining and the amount of stimulation by a sub-legal act. But the financial result is not important for the management of public enterprises just for getting incentives, but as well for keeping positions. As Article 49 prescribes, "the director is dismissed in the event of a significant deviation from the achievement of the basic business objective of the public company, i.e. from the business plan of the public company". Therefore, the supervisory board not only "supervises the work of the director, discusses financial reporting matters and external audit reports and brings decision of adopting financial reports (Article 17, 5-6)" and enact incentives for the director and executive director depending on the reported profit, but as well govern the public enterprises with the director (Article 15). The reported profit is the information basis for numerous decisions in public enterprises. These decisions are difficult to be made when managers are challenged to manage conflicting goals. Therefore, the earnings management practice of public enterprises needs to be taken into consideration, because this practice could influence decisions about reported profit and consequently its distribution.

Contrary to public companies and public enterprises established by the Republic of Serbia, which, according to the Serbian Law on Public Enterprises ("Official Gazette of the RS", No. 15/2016 and 88/2019), have to establish an audit committee (Article 55), public enterprises established by the local authority do not. That fact additionally increases the importance of the supervisory board in public enterprises established by the local authority in which the supervisory board de facto takes this role. Thiruvadi and Huang (2011) find consistent evidence to show that the presence of a female director on the audit committee constrains earnings management and also acts as an influencing factor in overcoming the glass ceiling effect and therefore recommend the appointment of more female members on the board.

## 3. Literature Overview

The crisis has always increased the number of articles dealing with earnings management, fraudulent reporting and insolvency, and it seems that since the global crises of the first decade of the third millennium, these issues have received increasing attention (Pavlović, Knežević, Cunha Callado, 2021).

Most of the researchers are trying to find patterns when and why earnings management occurs and which factors positively and negatively influenced the earnings management practices. But, the earnings management and fraudulent reporting issues did not get the expected attention in the public sector. Just a few of the studies investigated the earnings management practices in the public sector. Stalebrink (2007) investigated if Swedish municipalities use discretion associated with the accounting for depreciation and asset write-offs for purposes of reporting small surpluses across accounting periods, Ferreira et al. (2013), analysed

whether local politicians in Portuguese municipalities, aiming to demonstrate their high level of competence and skills, engage in earnings management in such a way as to ensure that earnings are positive but close to zero, Arcas and Martí (2016) investigated financial performance adjustment in English local governments, Hodges (2018) investigate how might harmonisation influence the future prevalence of public sector creative accounting, while recently Beck (2018) checked the earnings management practices motivated by municipal bond issues. Numerous studies support the widespread hypothesis that women are more ethical than men showing that an increase in the participation of women on boards of directors results in higher ethical standards and therefore results in fewer earnings management practices (Heminway, 2007; Peni, Vähämaa, 2010; Barua et al., 2010; Srinidhi et al., 2011; Thiruvadi, Huang, 2011; Gavious et al., 2012; Abbott et al., 2012; Arun et al., 2015; Sun et al., 2019). A widespread hypothesis is also that older people are more ethical, conservative and more risk-averse than the younger (Pavlović et al., 2019b).

On the other hand, some studies do not support the hypothesis that men and younger people are more likely to practice earnings management (Sun et al., 2011; Hili, Affes, 2012; Shawver, Clements, 2015), while Zalata et al. (2019) discovered that the magnitude of earnings management practices is significantly higher in firms with female CEOs than in those with male CEOs. The only studies on gender and age effect on earnings management in Serbia show that neither women's presence (Pavlović et al., 2018) on board nor the age of board members (Pavlović et al., 2019b) affects earnings management.

Although it has been well known for some time that demographic and personal characteristics affect earnings management practices, especially gender and age, this issue has never been raised in the municipal sector. However, it seems that numerous gender and age stereotypes are present between scholars as well. From the initial attitude that female and older CEO members contribute to more ethical behaviour and hence boards with these members are less engaged in earnings management and fraudulent reporting, today we know that national institutional environments, cultural factors, regulatory, economic and corporate governance institutions could not only explain female board participation across countries (Terjesen, Singh, 2008) but could as well partially explain the behaviour of board members. The study conducted by Kyaw et al. (2015) highlights the importance of country factors, by revealing that a gender diverse board mitigates earnings management only in countries where gender equality is high.

It is also known that female participation on boards (Brieger et al., 2019) could partially be explained by sectorial variation and the expectation that the board member behaviour could be influenced by sector characteristics is a reasonable assumption. Today we also know the effect of 'critical mass' which has been recently confirmed in several studies exploring the effect of women's participation in boards of directors (Amorelli, García-Sánchez, 2020; Schwartz-Ziv, 2017), as well as the "glass cliff" phenomenon (Ryan, Haslam, 2005). Thus, studies exploring women's participation on boards should be conducted very carefully to not come out with premature conclusions.

This study brings a few important novelties. Despite, earnings management is one of the most researched topics in the accounting field today, this is the first study exploring earning management practices of public enterprises. Some aspects of gender issues of South-East

European public enterprises have been explored (Dragičević, Mihić, 2020; Maskarinec, 2019) as well as some studies have been done on female representation at different administrative levels (Kjaer, 2019), but this is the first study linking the issues of gender and age not only in matters of earnings management practices of public enterprises but also of all gender issues of public entities in South-East Europe. The result of this study could be important as well for public policies of appointing supervisory board members and directors in public enterprises.

### 4. Data and Methodology

We investigated if the gender and age of the supervisory board members and the gender and age of the chairman affect earnings management of public enterprises owned by the city of Belgrade. We also examined whether the age of the director affects earnings management. Research on the gender effect of the director on earnings management could not be conducted as no woman was appointed director of Belgrade's public enterprises in the covered period. Bearing in mind that the majority of board members are appointed by the local authority (2 members), while a minority represents the employees (1 member), we investigated whether certain patterns could be found on this basis.

We posted the following research questions:

- R1: Is there an association between the gender diversity of the supervisory board members and earnings management?
- R2: Is there an association between the director's age and earnings management?
- R3: Is there an association between the age and gender of the chairman of the supervisory board and earnings management?

Today, the city of Belgrade own 21 public enterprises of which 13 enterprises are public utility enterprises and public 8 enterprises are not utility enterprises. One of them was established in 2018, so it could not be included in the sample, and we excluded another one for being insolvent during the whole observed period. For calculating earnings management, we used data from the financial reports of those entities covering the period from 2015 to 2018. Therefore, we calculated earnings management for the following years: 2016, 2017, and 2018. Due to the lack of data (some enterprises have been founded in the observed period), 15 public enterprises were analysed for the year 2016 (4 enterprises are excluded), 17 for the year 2017 (2 enterprises are excluded), while all 19 public enterprises were analysed for the year 2018.

Since some directors and supervisory board members have changed during the observed period, and since the ages of the directors and supervisory board members have changed every year, we have considered each supervisory board for each year as a separate item. When the people in charge changed during a year, we took over the person who was on call at the end of the year because earnings management decisions are mostly undertaken at the end of the year. Two of the three members of the supervisory boards and the directors are

appointed by the Belgrade city assembly. We used the Sig (2-Tailed) test, and the data are analysed with the SPSS software package version 23.0.

This research has some limitations. First, there is a small number of public enterprises established by the city of Belgrade, which makes our sample small. Second, we considered gender identity on the basis of the sex of directors and supervisory board members, while an increasing number of papers argue, from different perspectives, that a distinction should be made between gender identity and sex.

### 5. Research

5.1. Identifying the appropriate method for earnings management detection

Exploring factors that influence earnings management suppose firstly the identification of the appropriate method for earnings management detection (Jones, 1991; Dechow et al., 1995; Healy, Wahlen, 1999; Marai, Pavlović, 2014; Pavlović et al., 2018; Marai et al., 2020; Blazek et al., 2020; Durana et al., 2020). This is done on the sample of public enterprises which data was available for the period 2015-2018. This includes 18 public enterprises, which gives a sample of 49 observations per variable. As Pavlović et al. (2018) did, in order to find the appropriate earnings management detection method for our sample, we tested the:

- (1) Jones Model (ACC=βi 1/TA -1 + β1i ΔSALES+β2i PPE + €it)
- (2) Modified Jones Model (ACC=βi 1/TA -1 + β1i ΔSALES-ΔRECEIV+β2i PPE+€it)
- (3) Performance ADJ Jones Model (ACC=βi 1/TA -1 + β1i ΔSALES-ΔRECEIV+β2i PPE +PERFORMANCE €it)
- (4) Modified Jones Panel Data (ACC=βi 1/TA -1 + β1i ΔSALES-ΔRECEIV+β2i PPE+€it)
- (5) Performance ADJ Jones Panel Data (ACC=βi 1/TA -1 + β1i ΔSALES-ΔRECEIV+β2i PPE+PERFORMANCE €it)

### where:

ACC = total accruals

TA = total assets at the end of year t1

 $\triangle$  SALES = the change in sales from year t1 to t

 $\triangle$  RECEIV = the change in receivables from year t1 to t

PPE = gross property, plant, and equipment in year t for firm i.

€it = error term in year t for firm i.

Table 1

## Modified Jones Model Panel Data

| MODIFIED JONS Model   |  |  |  |  |  |  |  |
|---|--|--|--|--|--|--|--|
| $ACC = a \ 1 \ 1/TA - 1 + a \ 2 \ \Delta SALES - \Delta RECEIV + a \ 3 \ PPE + e$ |  |  |  |  |  |  |  |
| . xtreg taccru toassets charevrec ppe, re   |  |  |  |  |  |  |  |
| Random-effects GLS regression Number of obs. = 51                                 |  |  |  |  |  |  |  |
| Group variable: id Number of groups = 19  |  |  |  |  |  |  |  |
| R-sq: within = $0.2328$ Obs per group: min = 1                                    |  |  |  |  |  |  |  |
| between = $0.0003$ avg = $2.7$  |  |  |  |  |  |  |  |
| overall = $0.0010$ max = $3$  |  |  |  |  |  |  |  |
| Wald chi2(3) = 1.20   |  |  |  |  |  |  |  |
| corr(u i, X) = 0 (assumed) $Prob > chi 2 = 0.7533$                                |  |  |  |  |  |  |  |
|   |  |  |  |  |  |  |  |
| taccru   Coef. Std. Err. z P> z  [95% Conf. Interval]                             |  |  |  |  |  |  |  |
|   |  |  |  |  |  |  |  |
| toassets   16977.4 16936.45 1.00 0.316 -16217.42 50172.23                         |  |  |  |  |  |  |  |
| charevrec  0031523  |  |  |  |  |  |  |  |
| ppe   .1067795 .2200636   |  |  |  |  |  |  |  |
| _cons  2085354 .1694719 -1.23 0.2195406942 .1236234                               |  |  |  |  |  |  |  |
|   |  |  |  |  |  |  |  |
| sigma_u   .27601284   |  |  |  |  |  |  |  |
| sigma_e   .07466552   |  |  |  |  |  |  |  |
| rho   .93181172 (fraction of variance due to u_i)                                 |  |  |  |  |  |  |  |
|   |  |  |  |  |  |  |  |

```
MODJONS PANAL DATA
xtreg acc tas ravrev ppe, re
Random-effects GLS regression
                                      Number of obs
Group variable: company id
                                     Number of groups =
                                                            18
R-sq: within = 0.0029
                                 Obs per group: min =
   between = 0.0765
                                        avg = 2.7
   overall = 0.0160
                                        max =
                          Wald chi2(3)
                                        = 0.45
corr(u i, X) = 0 (assumed)
                                   Prob > chi2
                                                 = 0.9288
    acc | Coef. Std. Err. z P>|z| [95% Conf. Interval]
   tas | -1599.478 5596.929 -0.29 0.775 -12569.26 9370.3 ravrcv | .0030849 .0052281 0.59 0.555 -.0071619 .0133318
   _cons | -.0791163 .0763867 -1.04 0.300 -.2288314 .0705989
  sigma_u | .08518512
  sigma_e | .0755244
    rho | .55989652 (fraction of variance due to u_i)
ACC = a\ 0\ 1/TA - 1\ + a\ 1\ \Delta SALES - \Delta RECEIV + a\ 2\ PPE + e
```

Source: Authors' own calculations.

Contrary to Pavlović et al. (2018) and similarly with Marai et al. (2020) who also explored earnings management of entities in Serbia, we find that the Modified Jones Model developed by Dechow et al. (1995) is the most appropriate one for Belgrade's public enterprises.

## 5.2. Identifying gender and age effect on earnings management

Table 2

## Descriptive statistics

## Table. 2.1

Table 2.2

## Entity sizes

|       |        | Frequency | Percent | Cumulative Percent |
|-------|--------|-----------|---------|--------------------|
| Valid | Micro  | 1         | 5.3     | 5.3                |
|       | Small  | 5         | 26.3    | 31.6               |
|       | Medium | 6         | 31.6    | 63.2               |
|       | Large  | 7         | 36.8    | 100.0              |
|       | Total  | 18        | 100.0   |                    |

Source: Authors' own calculations.

Table 2.1 shows the sizes of public enterprises. We can see that the large and medium-sized enterprises form the large majority of the sample, while only one enterprise is classified as a micro-entity.

Gender and age of director and supervisory board members

| No   | Directo | or – age/ | gender |       | d Chairn<br>ge/gende |       | appoin | ard mem<br>ted by th<br>uthority<br>ge/gende | ne local | dele  | ard mem<br>gated by<br>nployees<br>ge/gende | the               | memb  | ge age of<br>ers with<br>chairmar | out the | % Wo | man on | board |
|------|---------|-----------|--------|-------|----------------------|-------|--------|--|----------|-------|---|-------------------|-------|-----------------------------------|---------|------|--------|-------|
|      | 2016    | 2017      | 2018   | 2016  | 2017                 | 2018  | 2016   | 2017   | 2018     | 2016  | 2017  | 2018              | 2016  | 2017                              | 2018    | 2016 | 2017   | 2018  |
| 1    |         | 59        | 60     |       | 48♀                  | 49♀   |        | 47   | 48       |       | 53♀   | 54♀               |       | 50                                | 51      |      | 0.67   | 0.67  |
| 2    | 63      | 64        | 65     | 64    | 65                   | 66    | 62     | 63♀  | 64♀      | 51    | 52  | 53                | 56.5  | 57.5                              | 58.5    | 0    | 0.33   | 0.33  |
| 3    | 42      | 43        | 44     | 49    | 50                   | 51    | 56♀    | 57♀  | 58♀      | 44    | 45  | 46                | 50    | 51                                | 52      | 0.33 | 0.33   | 0.33  |
| 4    | 49      | 50        | 51     | 39    | 40                   | 41    | 58     | 59   | 60       | 46♀   | 47♀   | 48♀               | 52    | 53                                | 54      | 0.33 | 0.33   | 0.33  |
| 5    | 44      | 45        | 46     | 58    | 59                   | 60    | 35     | 36   | 37       | 39    | 39  | 40                | 37    | 37.5                              | 38.5    | 0    | 0      | 0     |
| 6    |         | 39        | 40     |       | 66                   | 67    |        | 37   | 38       |       | 36♀   | 37♀               |       | 36.5                              | 37.5    |      | 0.33   | 0.33  |
| 7    |         |           | 54     |       |                      | 50♀   |        |  | 60       |       |   | 53♀               |       |                                   | 56.5    |      |        | 0.67  |
| 8    | 53      | 54        | 55     | 54♀   | 52                   | 53    | 51     | 39   | 40       | 43    | 63  | 64                | 47    | 51                                | 52      | 0.33 | 0      | 0     |
| 9    | 33      | 34        | 35     | 38    | 39                   | 40    | 55     | 43   | 44       | 59♀   | 64  | 51♀               | 57    | 53.5                              | 47.5    | 0.33 | 0      | 0.33  |
| 10   | 56      | 57        | 58     | 66    | 67                   | 68    | 62     | 69   | 70       | 45    | 61  | 62                | 53.5  | 65                                | 66      | 0    | 0      | 0     |
| 11   |         |           | 58     |       |                      | 37    |        |  | 49       |       |   | 39                |       |                                   | 44      |      |        | 0.67  |
| 12   | 49      | 40        | 41     | 39    | 40                   | 41    | 40     | 55   | 56       | 34    | 35  | 36                | 37    | 45                                | 46      | 0    | 0      | 0     |
| 13   | 43      | 44        | 44     | 49    | 50                   | 51    | 64     | 65   | 66       | 61♀   | 62♀   | 63♀               | 62.5  | 63.5                              | 64.5    | 0.33 | 0.33   | 0.33  |
| 14   | 62      | 63        | 39     | 35    | 36                   | 37    | 62     | 63   | 64       | 63    | 64  | 48♀               | 62.5  | 63.5                              | 56      | 0    | 0      | 0.33  |
| 15   | 47      | 48        | 31     | 49    | 50                   | 41    | 42     | 43   | 39♀      | 37    | 49  | 50                | 39.5  | 46                                | 44.5    | 0    | 0      | 0.33  |
| 16   | 53      | 54        | 50     | 46    | 41♀                  | 42♀   | 68     | 69   | 70       | 59♀   | 47  | 48                | 63.5  | 58                                | 59      | 0.33 | 0.33   | 0.33  |
| 17   | 39      | 40        | 33     | 67    | 68                   | 69    | 54     | 41   | 42       | 44♀   | 45♀   | 46♀               | 49    | 43                                | 44      | 0.33 | 0.33   | 0.33  |
| 18   | 34      | 35        | 36     | 52    | 39                   | 40    | 61♀    | 62♀  | 63♀      | 34    | 35  | 39♀               | 47.5  | 48.5                              | 51      | 0.33 | 0.33   | 0.67  |
| 19   | 43      | 40        | 41     | 39    | 40                   | 45    | 70     | 71   | 44       | 42    | 43  | 27                | 56    | 57                                | 35.5    | 0    | 0      | 0     |
| N    | 15      | 17        | 19     | 15    | 17                   | 19    | 15     | 17   | 19       | 15    | 17  | 19                | 15    | 17                                | 19      | 15   | 17     | 19    |
| Mean | 47.33   | 47.59     | 46.37  | 49.60 | 50.00                | 49.89 | 56.00  | 54.06  | 53.26    | 46.73 | 49.41                                       | 47.58             | 51.37 | 51.74                             | 50.42   | 0.18 | 0.19   | 0.31  |
| SD   | 8.70    | 9.22      | 9.70   | 10.24 | 10.85                | 10.79 | 9.88   | 11.93  | 11.21    | 9.38  | 10.05                                       | 9.49              | 8.46  | 8.27                              | 8.41    | 0.16 | 0.20   | 0.23  |
| Max  | 63      | 64        | 65     | 67    | 68                   | 69    | 70     | <i>max</i><br>→71                            | 70       | 63    | 64  | 64                | 63.50 | 65.00                             | 66.00   | 0.33 | 0.67   | 0.67  |
| Min  | 33      | 34        | 31     | 35    | 36                   | 37    | 35     | 36   | 37       | 34    | 35  | <i>min</i><br>→27 | 37.00 | 36.50                             | 35.50   | 0.00 | 0.00   | 0.00  |

The symbol  $\mathcal{P}$  is used for women. Source: Authors' own calculations.

Table 2.2 shows that no woman is appointed as director, while in the entire observed period, in only three enterprises, a woman was elected as chairman of the supervisory board. Table 2.2 also shows that the large majority of women on boards are board members delegated by the employees.

Table 3
Set – Correlation between selected variables and earnings management practices

Table 3.1

Correlation between the gender of the board chairman, board member appointed by the local authority and Board member delegated by the employees with earnings management practices

| Variable/Pearson product moment results | 2016                  | 2017   | 2018   |  |  |  |  |  |
|---|-----------------------|--------|--------|--|--|--|--|--|
| Chairman of the Board                   |                       |        |        |  |  |  |  |  |
| Pearson Correlation                     | 0.007                 | 0.023  | 0.019  |  |  |  |  |  |
| Sig. (2-tailed)                         | 0.981                 | 0.932  | 0.939  |  |  |  |  |  |
| N                                       | 15                    | 17     | 19     |  |  |  |  |  |
| Board member appointed b                | y the local authority |        |        |  |  |  |  |  |
| Pearson Correlation                     | -0.151                | -0.169 | -0.233 |  |  |  |  |  |
| Sig. (2-tailed)                         | 0.592                 | 0.518  | 0.337  |  |  |  |  |  |
| N                                       | 15                    | 17     | 19     |  |  |  |  |  |
| Board member delegated                  | by the employees      |        |        |  |  |  |  |  |
| Pearson Correlation                     | -0.176                | -0.238 | -0.193 |  |  |  |  |  |
| Sig. (2-tailed)                         | 0.530                 | 0.357  | 0.429  |  |  |  |  |  |
| N                                       | 15                    | 17     | 19     |  |  |  |  |  |
| Woman % on the board                    |                       |        |        |  |  |  |  |  |
| Pearson Correlation                     | -0.266                | -0.273 | -0.332 |  |  |  |  |  |
| Sig. (2-tailed)                         | 0.338                 | 0.288  | 0.165  |  |  |  |  |  |
| N                                       | 15                    | 17     | 19     |  |  |  |  |  |

Source: Authors' own calculations.

Table 3.1 shows that the percentage of women on boards, whether appointed by the local authority or delegated by the employees, is linked to lower earnings management practices, but that the relationship is statistically insignificant. Namely, a weak negative statistically insignificant correlation is found between the percentage of women on board and earnings management practices over the entire period (p = 0.338,  $\rho$  = -0.266 for the 2016; p = 0.288,  $\rho$  = -0.273 for the 2017; p = 0.165,  $\rho$  = -0.332 for the 2018). As expected, no correlation between women appointed as chairman of the board and earnings management practices could be found due to a negligible number of women elected as chairman.

Table 3.2. shows a statistically insignificant negligible negative correlation between the age of the director and earnings management practices over the entire period (p=0.648,  $\rho$ =-0.129 for the 2016; p = 0.556,  $\rho$  = -0.154 for the 2017; p = 0.931,  $\rho$  = -0.021 for the 2018).

The results show a week negative correlation between the age of the supervisory board chairman and earnings management practices for the year 2016 (p = 0.206,  $\rho$  = -0.346) and 2017 (p = 0.214,  $\rho$  = -0.317) and a negligible negative correlation for the year 2018 (p = 0.465,  $\rho$  = -0.179), but the correlation is statistically insignificant for the entire period.

Table 3.2 Correlation between the age of the board chairman, director, board member appointed by the local authority and Board member delegated by the employees with earnings management practices

| Variable/Pearson product moment results        | 2016   | 2017   | 2018   |  |  |  |  |  |
|--|--------|--------|--------|--|--|--|--|--|
| Supervisory Board Chairman                     |        |        |        |  |  |  |  |  |
| Pearson Correlation                            | -0.346 | -0.317 | -0.179 |  |  |  |  |  |
| Sig. (2-tailed)                                | 0.206  | 0.214  | 0.465  |  |  |  |  |  |
| N  | 15     | 17     | 19     |  |  |  |  |  |
| Director                                       |        |        |        |  |  |  |  |  |
| Pearson Correlation                            | -0.129 | -0.154 | -0.021 |  |  |  |  |  |
| Sig. (2-tailed)                                | 0.648  | 0.556  | 0.931  |  |  |  |  |  |
| N  | 15     | 17     | 19     |  |  |  |  |  |
| Board member delegated by the employees        |        |        |        |  |  |  |  |  |
| Pearson Correlation                            | 0.349  | 0.353  | -0.148 |  |  |  |  |  |
| Sig. (2-tailed)                                | 0.202  | 0.165  | 0.545  |  |  |  |  |  |
| N  | 15     | 17     | 19     |  |  |  |  |  |
| Board members appointed by the local authority |        |        |        |  |  |  |  |  |
| Pearson Correlation                            | -0.069 | -0.060 | -0.402 |  |  |  |  |  |
| Sig. (2-tailed)                                | 0.806  | 0.820  | 0.088  |  |  |  |  |  |
| N  | 15     | 17     | 19     |  |  |  |  |  |

Source: Authors' own calculations.

The results also show a negligible negative correlation between the age of the board member appointed by the local authority and earnings management practices for the years 2016 (p = 0.806,  $\rho$  = -0.069) and 2017 (p = 0.820,  $\rho$  = -0.060) and a weak negative correlation for the year 2018 (p = 0.088,  $\rho$  = -0.402), but the correlation is statistically insignificant for the entire period.

On the other hand, the results show a week positive correlation between the age of the board member elected by the employees and earnings management practices for the year 2016 (p = 0.202,  $\rho$  = 0.349) and 2017 (p = 0.165,  $\rho$  = 0.353) and a negligible negative correlation for the year 2018 (p = 0.545,  $\rho$  = -0.148), but the correlation is statistically insignificant for the entire period.

Table 3.3 Correlation between earnings management practices and entity size

| Entity size |                     |          |  |  |  |  |
|-------------|---------------------|----------|--|--|--|--|
|             | Pearson Correlation | -0.713** |  |  |  |  |
| 2016        | Sig. (2-tailed)     | 0.003    |  |  |  |  |
|             | N                   | 15       |  |  |  |  |
|             | Pearson Correlation | -0.584*  |  |  |  |  |
| 2017        | Sig. (2-tailed)     | 0.014    |  |  |  |  |
|             | N                   | 17       |  |  |  |  |
|             | Pearson Correlation | -0.551*  |  |  |  |  |
| 2018        | Sig. (2-tailed)     | 0.014    |  |  |  |  |
| 2016        | N                   | 19       |  |  |  |  |

<sup>\*\*</sup> correlation is significant at the 0.01 level (2-tailed)

<sup>\*</sup>Correlation is significant at the 0.05 level (2-tailed)

Table 3.3 shows a medium-strong statistically significant relationship between the entity size and earnings management practices, in the sense that management of smaller entities is more engaged in earnings management than the management of the largest ones. For the year 2016, this relationship is highly statistically significant (p = 0.003,  $\rho = -0.713$ ), while for the year 2017 (p = 0.014,  $\rho = -0.584$ ) and the year 2018 (p = 0.014,  $\rho = -0.551$ ) this relationship is statistically significant.

### 6. Discussion

Contrary to the finding of Brieger et al. (2019, p. 495) that board gender diversity is higher in the public and the non-profit sector than in the for-profit sector, our study shows that the public sector observed at the local units level can be described as non-gender-sensitive. Namely, results show that no woman was appointed as a director of public enterprises of Belgrade City. Over the observed period, just three women were holding the chairman position of the supervisory board, while at the end of the observed period, these positions were occupied by only two women. These facts seem to be very important. Namely, it seems that the private sector in Serbia is more gender-sensitive (Knežević et al., 2017; Knežević, Pavlović, Bojičić, 2021; Knežević, Pavlović, Arıç, 2021) than the public service observed at the level of local units, particularly having in mind that the vast majority of women on boards were delegated by the employees.

Thus, it was not possible to analyse the effect of the director's gender on earnings management. We found a weak relationship between the percentage of a woman on boards and engaging in earnings management, in the sense that more woman on supervisory boards leads to fewer earnings management practices, but this relationship is not statistically significant. A negative relationship between earnings management and woman's participation on boards over the entire period is confirmed as well when women were appointed by the local authority or delegated by the employees. Keeping in mind that the correlation is weak and not statistically significant, our study supports findings that women on board do not contribute to financial reporting quality, at least in public enterprises. But these results could be interpreted as well through the 'critical mass' theory having in mind that women appointed by the local authority as director as well as supervisory board members, particularly board chairmen, made a huge minority. It is not likely that women delegated from the employees vote differently from the other supervisory board members who are representing the local authority, of whom one is elected chairman, moreover if they did, they would not be able to change the result of the vote. But it could be questioned as well if a male supervisory board member delegated from the employees would vote differently from the other supervisory board members and the director's attitude having in mind that they are all appointed by the local authority, and which position in the enterprise is determined by their attitude toward him. Of course, it could be questioned as well if the supervisory board members, as well as the director, are actually the decision makers having in mind that all of them could be highly influenced by the local authority. Corruption is a well-researched topic, in particular within the transition economies perceived as having high levels of corruption, frequently attributed to the legacy of the communist system (Botrić, 2020, p. 700). The score of the Corruption Perceptions Index (CPI) 38 that Serbia had in 2020 (Transparency International, 2021), which means that the state is perceived as a more corrupt state, leaves room for doubt that board members and directors of public enterprises are not really the decision-makers. The recent arrest of the mayor of the largest Belgrade municipality, together with the head of the municipality's inspection services and six inspectors for corruption, reveals that corrupt activities are present in the city administration.

It should be noticed as well that the huge majority of the supervisory board members do not have the knowledge to read and understand the financial statements, particularly if the earnings management practices occurred. According to the Law on Public Enterprises ("Official Gazette of the RS", No. 15/2016 and 88/2019), among other criteria for membership in the supervisory board, the knowledge of corporate governance or finance is prescribed. Therefore, the members of the supervisory board of public enterprises should have a degree in Law or economics or take a course in corporate governance if they have graduated from another faculty. The websites of the public enterprises reveal that some supervisory board members appointed by the local authority are engineers or medical science graduates. Therefore, knowledge of accounting is not required. Certainly, no graduate economist in Serbia knows the earnings management technics and therefore could be suspicious concerning earnings management, while graduate law students, as well as others who attended a course in corporate governance, could even understand what earnings management is. When it is known that the vast majority of the supervisory board members do not know, not only the rules on recognition, measurement, and reporting of the assets and liabilities, but as well the basic accounting principles, it is not clear how the Supervisory Board could supervise the work of the director, discusses financial reporting matters and external audit reports, and brings decision of adopting financial reports, as required by Article 17 (5-6) of the Law. Bearing in mind that all supervisory board members graduated before the adoption of the fair value basis, as well as since they graduated, many IFRSs have been amended, even those who have graduated in economics cannot really understand today's financial reports. The introduction of the fair value in the financial reports is particularly important due that this change could bring an unrealised gain in the income statement, which has its implication on the profit distribution decision, which is also the responsibility of the supervisory board. The situation is further aggravated by the fact that according to the Law, public enterprises established by the local authority do not have an audit committee.

It is not clear whether gender diversity reduces fraudulent reporting and improves firm performance. Therefore, claiming that more women appointed as directors and supervisory board members will have an economic benefit on public enterprises cannot be taken for granted. But, it is absolutely clear that a supervisory board member without knowledge of accounting could not do the entrusted job properly.

Therefore, we indicate that it should be considered in the Public Administration Reform (PAR) to include a standard requiring members of the Supervisory Board to be certified public accountants. From the economic point of view, credibility should be the primary request for being a board member, while credibility is determined by two critical elements: competence and trustworthiness (Chng et al., 2018). Thus, supervisory board members should be appointed because of their knowledge, skills, and abilities, as well as their ethical behaviour. Being a certified public accountant signifies not only having knowledge of accounting and finance but as well expertise in wider business and management issues. Due that the accounting profession is founded on the confidence in the ethical behaviour of

accountants, and therefore ethical issues play a fundamental role in accounting education, it could be expected that certified public accountants are more ethical than others. The fact that they can lose their hard-earned license due to unethical behaviour makes this even more likely. This request should contribute to having persons with more integrity on boards, which is in line with the current focus of attention on individuals, i.e. the current process of replacing the model of "institutional integrity" with a public management concept focus on individual integrity (Demmke, 2020).

As a consequence that the vast majority of certified public accountants in Serbia are women (according to the register of the Serbian Association of Accountants and Auditors – SAAA in the period from 2010 to 2019, 81.76% of persons who have obtained a certificate in accounting are women) prescribing the possession of an accounting certificate for membership on a supervisory board, would probably per se bring more gender equality in the society. Our state that there is a need of including more women on supervisory boards as representatives of the local authority is based not on the 'gender hypothesis' according to which women are 'more ethical' than men because it is doubtful that this is true (Bampton, Maclagan, 2009), but on a fact that women make the vast minority of persons appointed by the local authority despite the fact that the majority of person graduated in Economics or Law are women and the fact that women's underrepresentation could not be attributed to the "biological trap".

Even if the suggestion of prescribing a criterion of being a certified public accountant for being appointed as supervisory board members, history teaches us that it is necessary to prescribe a gender quota as part of the Public Administration Reform (PAR) if we want to fight against gender inequalities. Namely, although accounting could be considered a traditional profession of women in Serbia for decades, the women elected as delegates in the Serbian accounting association were a distinct minority (Škobić, 2015, p. 147). This gender quota should only be prescribed for supervisory board members appointed by the local authority, and it should be 50%. There are several reasons for this. First, our results confirm that there is no gender inequality when employees elect their representative to the supervisory board. In addition to this, it might not be possible to prescribe a gender quota given that the law prescribes only one board member elected by the employees. Second, our results confirm that gender inequality is present at the local authority level. Therefore, we strongly believe that one of the two members of the supervisory board appointed by the local authority should be a woman. In that case, at least 33% of the board members would be women, which is very close to the gender quota prescribed by the 'Women on Boards' Directive Proposal.

An adequate representation of women on supervisory boards of public enterprises is of great importance, not only in order to combat gender inequalities but because public enterprises are facing a conflict of goals, where the role of the supervisory board is according to the Law substantial, since "the Supervisory Board adopts long-term and medium-term business strategy and development plan and is responsible for their implementation; adopt an annual or three-year business program, harmonised with the long-term and medium-term business strategy and development plan; decide on status changes, the establishment of other legal

entities and capital investment; make a decision on the distribution of profit, etc." (Article 22).

Besides that, Thiruvadi and Huang (2011, p. 483) argue that the presence of female members on the board may further enhance public confidence. No research has been conducted in Serbia that could confirm or reject this opinion, and therefore we could not take this statement for granted, but there is no doubt that appointing persons with more expertise in accounting on the supervisory boards of public enterprises may enhance public confidence. And since the majority of chartered accountants are women, this would mean greater participation of women on these boards.

A negligible statistically insignificant relationship is also found when the impact of the age of the director and supervisory board chairman on earnings management was observed. We found that public enterprises governed by younger directors and supervisory board chairmen are more engaged in earnings management practices, but having in mind that the correlation is negligible and not statistically significant, our study supports findings that the age of director and supervisory board chairman does not contribute to financial reporting quality, at least in public enterprises. Therefore, the hypothesis according to which younger people are more engaged in earnings management practises would be rejected. However, it should be noted that we were dealing with a small sample size.

Our results show that the management of smaller entities is more engaged in earnings management practices than the management of the larger public enterprises. A medium-strong (high) statistically significant relationship is established between the entity size and earnings management practices, in the sense that more earnings management practices are present in smaller size entities.

But these results should not be interpreted without the findings that older persons were appointed as directors, as well as supervisory board members, of entities with larger assets, equity, and cash flow. For the years 2016 and 2017, a positive medium-strong and medium statistically significant relationship is found between the age of the director and the cash flow (p = 0.521,  $\rho$  = 0.046 for the 2016; p = 0.491,  $\rho$  = 0.046), while a positive medium-stong statistically significant relationship is found in 2017 between the age of the director and the value of the assets (p = 0.5,  $\rho$  = 0.041). A positive stong-medium statistically significant relationship is found between the ages of the board members appointed by the local authority with total assets and equity which means that the local authority appointed older board members in entities with larger assets (p = 0.533,  $\rho$  = 0.028 for the 2017; p = 0.549,  $\rho$  = 0.015 for the 2018) and equity (p = 0.581,  $\rho$  = 0.014 for the 2017; p = 0.517,  $\rho$  = 0.023 for the 2018). Thus, we can conclude that the local government has appointed older persons to the posts of directors, as well as members of the supervisory board. These results could also be explained by the fact that the elderly are better established in the political sphere and therefore obtain a more powerful post than the younger ones.

### 7. Conclusions

Even the effect of gender on earnings management has been quite often discussed by scholars; this is the first study exploring gender and age effect on earnings management of public enterprises. Since public enterprises have different goals than private companies and public companies, different results are not unexpected. First, it can be concluded that earnings management practices occurred in public enterprises as well.

Second, our analysis reveals that age and gender have no impact on earning management practices. We found a weak relationship between the percentage of a woman on boards and engaging in earnings management, but this relationship is not statistically significant. We also found a statistically insignificant negligible relationship between the age of the director and supervisory board chairman and earnings management practices.

But, as Bampton and Maclagan (2009) have suggested, special caution should be paid to the interpretation of the results of gender studies. The lack of a statistically significant relationship between the sex and age of directors, as well as the supervisory board chairman and supervisory board members on earning management practices, could be the consequence of a small statistical sample, as well as the consequence of the possibility that these persons are not the real decision-makers in public enterprises, having in mind that all of them could be highly influenced by the local authority.

The possibility of this second hypothesis is reinforced by the fact that the majority of the supervisory board members do not have sufficient knowledge not only to have a suspicion about earnings management practices, but do not understand the financial reports by themselves. This thesis is also supported by the fact that the directors as well as the majority of the supervisory board members, including the board chairman, are appointed by the local authority, whereas the career destiny of the third member which is elected by the employees is in the hand of the one appointed by the local authority. This thesis is as well supported by studies that indicate low public confidence in public enterprises and local authorities as well, particularly in transitional and emerging economies.

Therefore, we are suggesting, within the framework of the reform of the public administration, to introduce a new standard requiring that the members of the supervisory board appointed by the local authority are certified public accountants. Since the overwhelming majority of certified public accountants in Serbia are women, in order to avoid a possible discriminatory gender practice, we suggest that at least one member of the supervisory board appointed by the local authority be a woman. This would also be in line with the EU Gender Equality Strategy 2020-2025, according to which, unblocking the 'women on boards' directive proposal is declared as one of the EU priorities.

"It is often emphasised in the literature that women constitute half of all societies, but their needs and rights are not reflected in social decisions." (Hernik, Vera, 2020, p. 83). The observation of public enterprises founded by the City of Belgrade strongly supports that stand. The lack of women appointed as directors and supervisory board members supports the conclusion that participation in politics is of greater importance than experience and expertise in the field of management. We strongly support the idea that the gender equality

strategy is even more important for public enterprises than for the one referred to in the 'women on boards' directive proposal refers.

Only a supervisory board composed of competent individuals could "supervises the work of the director, discusses financial reporting matters and external audit reports and brings the decision of adopting financial reports" as the Law prescribed, while a higher women participation on boards would contribute to forming a society which would respect more the attitudes of women and men.

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