NON-FINANCIAL REPORTING AND ELEMENTS OF PERFORMANCE - ANALYSIS OF STATE OWNED ENTERPRISES IN CROATIA, SLOVENIA AND HUNGARY

UDC / UDK: 657.375:338.465:316.663
JEL classification / JEL klasifikacija: L32, H83, M14
DOI: xx
Preliminary communication / Prethodno priopćenje
Received / Primljeno: February 12, 2022 / 12. veljače 2022.
Accepted / Prihvaćeno: June 14, 2022 / 14. lipnja 2022.

Abstract

Background: Non-financial reporting in the public sector is a relatively new topic. In the European Union, through Directive 2014/95/EU, non-financial reporting of public interest entities with over five hundred employees at the reporting date was introduced. Thus, member states are obliged to incorporate non-financial reporting into their national legislation. Purpose: The paper examines the assumption that more profitable companies will publish more information in non-financial reports to show their performance. Another assumption is that more indebted companies are producing more non-financial disclosures. Therefore, the purpose of this study was to determine whether there was a relationship between the information that is made public in public sector enterprises’ (SOEs’) non-financial reports and their financial performance. Methods/Approach: The paper analyses data from publicly available non-financial reports of SOEs for the period
2017-2019. The sample consists of 27 companies, including 10 Croatian SOEs, 10 Slovenian SOEs, and 7 Hungarian SOEs. Findings: Based on the conducted research we have drawn following findings; State ownership has a negative impact on the information provided in non-financial reports, while the quantity of information provided and the number of employees are positively correlated. Profitability has a negative impact on non-financial reporting, while a higher net profit will increase non-financial disclosures. Leverage has a positive impact on the IRD index in the sample of Croatia and Slovenia that was observed.

Conclusion: Non-financial reporting has been implemented in accordance with Directive 2014/95/EU. In the examined sample of SOEs a correlation was found between non-financial reporting and the profitability and indebtedness of SOEs. Originality: Research in the paper has been made on previously unresearched examples – SOEs non-financial reporting in Croatia, Slovenia and Hungary.

Keywords: non-financial reporting, state owned enterprises, performance

1. INTRODUCTION

Nowadays in turbulent economic, financial, social, and health conditions due to coronavirus pandemic, the issue of non-financial reporting in the public sector organizations (PSOs) is becoming even more important. In other words, PSOs are under great accountability and transparency pressure from a various range of stakeholders, especially taxpayers and users of public services, to deliver quality public service and create additional value in the public sector. According to Manes-Rossi et al. (2020a) Such expectations apply to a variety of PSOs, including, for example, national and local governments, state-owned businesses, institutions of higher learning, and healthcare providers. Therefore, in order to meet increased stakeholder’s expectations in an age of resource constraints, PSOs have begun, in the first place state owned enterprises, to implement integrated way of thinking and to develop different types of integrated reports (IRs) which includes non-financial reports, because classical way of financial reporting is simply not enough (Manes-Rossi, Levy Orelli (eds.), 2020). Therefore, further in the paper the focus is primarily put on the state owned enterprises as a hybrid type of PSOs that has firstly started to develop non-financial reporting within the public sector.

IRs and integrated thinking connect financial and non-financial reporting and provides a framework for better communicating how organizations manage efficiently available resources to different stakeholders. More specifically, an integrated report offers perception into a company’s strategy and how it employs resources and connections in a comprehensive manner, demonstrating knowledge of their interdependencies and interrelatedness. (IIRC and CIPFA, 2016, 8).

Stakeholders and their informational needs in context of financial reporting are explained in Čičak (2018). The broadest and most well-known definition of stakeholder is given by Freeman (1984) who defines stakeholder as “any group or individual that can influence an organization or is affected by
achieving the goals of the organization”. Afterwards, the definition was narrowed, by emphasizing the risks borne by individuals or groups by the actions of corporations and importance individuals for the existence of the company (Kolaković et al., 2001). Non-financial reporting is expression of stakeholder theory, or stakeholder informational needs at reporting of entities, which had influenced companies at first but more and more it enters public sector entities.

In the European Union, through Directive 2014/95/EU, non-financial reporting of public interest entities with over five hundred employees at the reporting date was introduced. In aforementioned Directive It is stated that some large undertakings should prepare a non-financial statement containing information related to at least environmental matters, social and employee-related matters, respect for human rights, anti-corruption and bribery matters in order to improve the consistency and comparability of non-financial information disclosed throughout the Union (EU, 2014). The European Commission will release optional reporting rules in addition to the Directive. However, the Directive already urges enterprises to prepare and publish their responses in accordance with internationally acknowledged frameworks and standards. In that sense, The GRI Sustainability Reporting Standards (GRI Standards), published in 2016, are the most recent iteration of GRI’s sustainability reporting framework. That can be used by any type of organization. As a result, the GRI Standards and Disclosures address every disclosure requirement in the European Directive.

State-owned enterprises (SOEs), also known as government corporations, have an extremely important role in the public sector of every country whose main aim is to provide quality public service while maintaining market principles and having in mind the existence of different stakeholders. Due to that, the issue of transparency and accountability is even more highlighted for that type of PSOs. In that setting, SOEs were viewed as key players in the implementation of sustainable development (Nicolo et al., 2020) and preparing integrated reports. Only Manes-Ross et al. (2020b) have studied IR in relation to SOEs and provide a longitudinal analysis of the degree of IR disclosure made available by a sample of European SOEs between 2013 and 2017 in accordance with IR framework standards. The findings of their article demonstrate an increasing level of disclosure over the course of the observation period, demonstrating the utility of IR as a tool for accountability and transparency in the context of SOEs. Statistics demonstrate that implementation of the GRI rules, external assurance, investor protection, and government ownership have a beneficial impact on the level of IRD, whereas SOE size has a negative impact (Manes-Ross et al, 2020b).

Due to small number of empirical studies on non-financial disclosures in SOEs (Manes-Rossi et al. 2020b), the purpose of our paper is to investigate the influence of six different variables for which we examine the correlation with non-financial reporting. Through correlation analysis of the following variables: IRD index, state ownership, number of employees, net profit, profitability, and leverage, the relationship with non-financial reporting is investigated. IRD index computes consists of number of items disclosed in non-financial reports. Therefore, in this
paper we have examined the publicly available reports data for selected SOEs from Croatia, Slovenia and Hungary.

There are seven sections in this paper. A brief introduction is followed by a presentation of the theoretical underpinnings of integrated reporting in the public sector and the legal frameworks for non-financial reporting in the nations under observation. The methodology, research objectives, and data sample are all described in section five, which also includes the results of the empirical investigation. The research's findings are presented in the sixth part. Final observations are provided in the last section.

2. PUBLIC SECTOR INTEGRATED REPORTING FRAMEWORK

The IR framework, which is founded on the principles and acts as a guide for the presentation of financial and non-financial information in a single document, was introduced by the International Integrated Reporting Council (IIRC) in 2013 and is primarily targeted at the private sector. However, it can be also applied by other types of organizations in the public sector, including also SOEs as organizations that are situated on the boundary between private and public organizations. An integrated report's main goal is to demonstrate to financial capital providers how a company builds value over time and how this value can benefit all stakeholders (IIRC, 2013). Recently the IIRC published revision to the IR Framework that was published in 2013 to offer more useful reporting for decisions. The Fundamental Concepts, Guiding Principles, and Content Elements that control the overall content of an integrated report are defined by the IR Framework.

The following Guiding Principles support the creation of an integrated report in accordance with the IR framework (IIRC, 2013: 4):

- **Strategic focus and future orientation:** An integrated report should provide insight into the organization’s strategy, and how it relates to the organization’s ability to create value in the short, medium and long term, and to its use of and effects on the capitals
- **Connectivity of information:** An integrated report should show a holistic picture of the combination, interrelatedness and dependencies between the factors that affect the organization’s ability to create value over time
- **Stakeholder relationships:** An integrated report should provide insight into the nature and quality of the organization’s relationships with its key stakeholders, including how and to what extent the organization understands, takes into account and responds to their legitimate needs and interests
- **Materiality:** An integrated report should disclose information about matters that substantively affect the organization’s ability to create value over the short, medium and long term
- **Conciseness:** An integrated report should be concise
• **Reliability and completeness:** An integrated report should include all material matters, both positive and negative, in a balanced way and without material error

• **Consistency and comparability:** The information in an integrated report should be presented: (a) on a basis that is consistent over time; and (b) in a way that enables comparison with other organizations to the extent it is material to the organization’s own ability to create value over time”.

Individually and together, these guiding principles are put into practice with the ultimate goal of creating an integrated report for a particular organization.

Additionally, integrated reports include the following 8 Content Elements (IIRC, 2013):

1. *Organizational overview and external environment:* What does the organization do and what are the circumstances under which it operates?

2. *Governance:* How does the organization’s governance structure support its ability to create value in the short, medium and long term?

3. *Business model:* What is the organization’s business model?

4. *Risks and opportunities:* What are the specific risks and opportunities that affect the organization’s ability to create value over the short, medium and long term, and how is the organization dealing with them?

5. *Strategy and resource allocation:* Where does the organization want to go and how does it intend to get there?

6. *Performance:* To what extent has the organization achieved its strategic objectives for the period and what are its outcomes in terms of effects on the capitals?

7. *Outlook:* What challenges and uncertainties is the organization likely to encounter in pursuing its strategy, and what are the potential implications for its business model and future performance?

8. *Basis of presentation:* How does the organization determine what matters to include in the integrated report and how are such matters quantified or evaluated?”

The structure and order of IR is not prescribed and it can only serve as a standard structure while every organization can prepare a list of content elements the way they find it most appropriate.

It is important to highlight that organizations have flexibility to choose the way through which they will present non-financial information. In other words, this means that they can choose between several guidelines. In addition to the IR Framework there are also other guidelines such as GRI Standards (2016), ISO 2600, UN Global Compact that can be a base for the preparation of relevant non-financial information. In our paper the focus is put on the IR Framework because our empirical research is based on the aforementioned content elements of IR Framework for Croatia, Slovenia and Hungary. Consequently, the 8 content aspects
of the IR Framework were used to evaluate the reports gathered for the chosen SOEs (2013). Additionally, we employ the IRD index and the IR framework (2013). In order to calculate the IRD index, we had to report on 8 elements and 31 indicators of those elements, and the quality of the reported data in the collected reports was assessed against those reporting standards.

3. LITERATURE REVIEW OF INTEGRATED REPORTING IN SOES

Integrated reporting that except financial reporting also includes non-financial reporting in the public sector is a relatively new topic. However, due to its relevance for public sector entities, the literature on this topic is progressively increasing in number (Bartocci and Picciaia, 2013; Cohen and Karatzimas, 2015; Guthrie et al., 2017; Manes-Rossi, 2018; Montesions and Brusca, 2018; Montecalvo, 2018; Biondi and Bracci, 2018, …). A structured literature analysis of non-financial reporting forms in public sector organizations has been created by Manes-Rossi et al. (2020a). Their in-depth review of the literature reveals that the majority of previous studies have ignored the healthcare industry in favor of focusing on sustainability reporting in local governments, state-owned businesses, and higher education institutions.

Since the practical implementation of non-financial reporting in EU SOEs only started with the publication of Directive 2014/95/EU, generally known as the Non-Financial Reporting Directive, our article focuses on SOEs (NFRD). This Directive establishes guidelines for big public-interest businesses with more than 500 employees on the sharing of non-financial and diversity information.

Any corporate body recognized as an enterprise under national law, as defined by the Organisation for Economic Co-operation and Development (OECD), in which the state exercises ownership (OECD, 2015). This covers partnerships with a share-based limit, limited liability businesses, and joint stock companies. Additionally, statutory corporations, whose legal personalities are constituted by particular laws, ought to be regarded as SOEs if their objectives and operations, or a significant portion of their activities, are primarily economic in nature (OECD, 2015). In the literature, SOEs are very often mentioned as a hybrid organization (Bruton et al., 2015) as they include on one hand some aspects of private organizations, and on the other hand, some aspects of public organizations. Therefore, they are extremely exposed to the new accountability challenges in the context of integrated reporting.

Few authors have looked into how SOEs really use the IR Framework so far. Farneti et al. (2019) focused on 3 social capitals in SOEs in the international IR framework (intellectual, human, and social and relationship capital) in order to evaluate how social disclosures are changed by the adoption of IR. The main contribution of their paper is to demonstrate that the IR framework encouraged a materiality assessment approach h with stakeholders, which reduced the amount of
social disclosures, whereas the materiality focus resulted in the disclosure of social matters that were more pertinent to stakeholders (Farneti et al., 2019).

The study by Nicolo et al. (2020) is the first to examine the factors that influence SOE disclosure in IRs using a sample of 34 SOEs from 12 different countries (Austria, Finland, France, Germany, Italy, The Netherlands, Poland, Russia, Sweden, Switzerland, UK, Ukraine). Their research shows how SOEs attempt to boost their credibility by providing information on both financial and non-financial matters. The aforementioned authors have shown that our SOEs rarely addressed categories more closely related to the IRF, such as performance and outcomes and future outlook despite the fact that these categories had high compliance scores for organizational overview, business model, governance, and opportunities and risks. They deduced from this that SOEs struggle to quantify information about strategic objectives, generate precise key performance indicators, and are reluctant to share sensitive forward-looking information since it could jeopardize business secrecy (Nicolo et al., 2020).

For SOEs, Tirado-Valencia et al. (2020) investigated an integrated style of thinking. Their paper's primary goal, to put it more accurately, was to look into any contextual elements that might have an impact on how integrated thinking is portrayed in the reports of public sector organizations. Their paper's most significant finding was that institutional and contextual factors had minimal bearing on the degrees of integrated thinking attained. The findings show that there is limited integrated thinking, which is characterized by weak information connectivity, a lack of a distinct connection between materiality analysis and strategy, and a lack of sufficient forward-looking perspective. (Tirado-Valencia et al., 2020).

According to the standards of the IR framework, Manes-Rossi et al. (2020b) examined the amount of IR disclosure offered by a sample of European SOEs. In addition, they performed an analysis of the potential explanatory factors that influence the amount of IR disclosure, with particular focus on the impact of public ownership on the level of IR disclosure provided by SOEs. It is crucial to emphasize that this is the first article to examine IRD by European SOE through a thorough, longitudinal analysis over a five-year period, from 2013 to 2017. Profitability, leverage, investor protection, and government ownership were used as explanatory variables in this study, and the authors looked at how they might have a positive or negative impact on the amount of IR disclosure supplied by SOEs. Size and adaption to GRI guidelines were two additional control variables. The findings of their article demonstrate an increasing level of disclosure over the course of the observation period, demonstrating the utility of IR as a tool for accountability and transparency in the context of SOEs. Statistics demonstrate that implementation of the GRI rules, external assurance, investor protection, and government ownership have a beneficial impact on the level of IRD, whereas SOE size has a negative impact (Manes-Ross et al, 2020b).

Their study confirms “IR as a useful tool to embrace the multiple and often conflicting interests existing within SOEs by providing holistic financial and non-
financial information illustrating the public value-creation process” (Manes-Rossi et al., 2020b). Our empirical research is based on this paper.

Redmayne et al. (2021) most recently looked at the use of non-financial reporting, particularly IR Framework-based reporting by state-owned businesses in Southeast Europe, specifically Croatia, Slovenia, and Serbia. Since Serbia is not a member of the EU and does not apply EU directives requiring non-financial reporting, research in this article demonstrates that Serbian state-owned firms generally do not have any non-financial reporting at all in their reports. Slovenia has the strongest non-financial reporting implementation, and although Croatian companies that have been studied do include non-financial reporting in their reports, this reporting frequently does not take the form of the IR Framework. The level of non-financial reporting by the studied state-owned firms and each country's EU membership are correlated. This is due to the linked EU directives on public sector reporting and the EU membership of each country.

### 4. LEGISLATIVE FRAMEWORK FOR NON-FINANCIAL REPORTING IN CROATIA, SLOVENIA AND HUNGARY

The EU state members ratified the Non-Financial Reporting Directive 2014/95/EU in December 2014. It was modified in line with the EU's policy on corporate social responsibility, which includes aiding in inclusive, smart, and sustainable growth in order to meet the EU goals by 2020 as well as reporting on it. The directive (Directive 2014/95/EU, Article 19a) states that non-financial reporting will be required for public interest entities with more than 500 employees beginning on January 1, 2017. The regulation required European state members' legal frameworks to include non-financial reporting.

In accordance with the Directive and the Croatian Accounting Act, Official Gazette 120/16 (2016), large public-interest entities in the Republic of Croatia that employ more than 500 people on average per year are required to include non-financial reporting in their official statements. The non-financial report must include all the information required to comprehend the company's development, its position, and its business results, as well as the effects of actions taken in connection with social, environmental, and employee issues, as well as the protection of human rights and the fight against bribery and corruption. Paragraph 21a of ZOR (2016) states that public-interest entities are required to include in their non-financial report a brief description of their business model, a policy description that includes the steps taken during the analysis, the results of the analysis, as well as business risks and key performance indicators.

The Companies Act (ZGD-1J) governs non-financial reporting in the Republic of Slovenia (2017). A big public-interest entity must disclose the non-financial information in their official statements if their average staff count on the reporting date was greater than 500, as required by the Act. Such public-interest
entity's non-financial report must include a succinct overview of its business model, a description of its policies with performed analysis and findings, key risks, and non-financial key performance indicators (Companies Act 2017, para. 71c).

In the Republic of Hungary, non-financial reporting is governed by Act C of 2000 on Accounting (2016), which stipulates that big public-interest businesses with more than 500 employees on average in a given fiscal year are required to do so. In order to understand the company's performance, development, position, and impact of its activity related to, at the very least, social, environmental, and employee matters, with respect to human rights, anti-corruption, and bribery, these public-interest entities shall publish the information to the extent necessary. The non-financial statement must, at a minimum, include a brief description of the business model, a description of the company's policies relating to environmental, social, and employee matters, a description of the policies' results, a description of the main risks associated with those matters and a description of how the company manages those risks, as well as pertinent non-financial key performance indicators.

In accordance with the aforementioned legal frameworks, if a corporation chooses not to implement any of the policies pertaining to environmental, social, or personnel issues, it is required to give a justification. When the disclosure of such information, in the justifiable judgment of the members of administrative, management, and supervisory bodies, would be seriously harmful to the commercial position of the company, it may be omitted. Additionally, a subsidiary company shall be excused from the requirement to submit non-financial reporting if the consolidated non-financial report includes information pertaining to that subsidiary company.

Following table summarises main requirements from the mentioned legislative frameworks in the analysed countries.
Legislative requirements in Croatia, Slovenia, and Hungary

<table>
<thead>
<tr>
<th></th>
<th>Croatia</th>
<th>Slovenia</th>
<th>Hungary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Applies to</strong></td>
<td>Large public interest organizations that employ more than 500 people</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Public-interest entities</strong></td>
<td>- credit institutions, insurance and reinsurance firms, stock exchanges, investment firms, leasing and factoring firms, pension funds, and other organizations of a similar nature</td>
<td>- Credit institutions as outlined in the banking legislation - insurance providers as outlined by the insurance regulations</td>
<td>-credit institutions, insurance companies, investment service providers and asset management companies</td>
</tr>
<tr>
<td><strong>Large entities</strong></td>
<td>- Total assets 20,000,000.00 EUR -Revenue 40,000,000.00 EUR -250 or more employees in average</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Total balance sheet 17,000,000.00 EUR -Net turnover 34,000,000.00 EUR -250 or more employees in average</td>
</tr>
<tr>
<td><strong>Annual report content</strong></td>
<td>Information on future developments, subsidiaries, R&amp;D initiatives, financial instruments used by the business, financial risk management goals and policies, credit exposure, price, liquidity risk, and cash flow</td>
<td>Information on personnel issues, investments made to protect the environment, a brief description of business operations and organizational structure, and a presentation of growth and financial results are all included.</td>
<td>Environmental considerations, projects and measures taken for environment protection, employment policy</td>
</tr>
<tr>
<td><strong>Non-financial report content</strong></td>
<td>Brief description of the business model, description of the undertaking's policies including the procedures of thorough analysis carried out, results of these policies, underlying risks related to the undertaking's business, non-financial key performance indicators</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: the author's work based on legislation in the region under observation and Redmayne et al. 2021

From the observed table it is evident that large public interest organizations that employ more than 500 people in all three countries need to apply Directive 2014/95/EU. The only difference is in the criteria for large entities and annual report content while non-financial report content is the same in all three countries.

5. RESEARCH METHODOLOGY AND RESEARCH QUESTIONS

Our empirical study used publicly available SOEs reports data from Croatia, Slovenia, and Hungary that had more than 500 employees. These businesses are subject to the NFR requirements of Directive 2014/95/EU. Small-economy nations are affected, and the research is comparable to that done by Manes.
Rossi et al. (2020b) on 18 enterprises. 27 businesses make up our sample, comprising 10 SOEs from Croatia, 10 SOEs from Slovenia, and 7 SOEs from Hungary.

Due to small economies we could not divide sample by the industries and get data to statistically analyse it. According to Čičak et al. (2021), a 2019 national study on NFR in Croatia for 2017 and 2018 was released by the Ministry of Finance of the Republic of Croatia (https://mfin.gov.hr). According to the study, in Croatia there were 67 entities required to produce NFR in 2017 and 69 entities required to compile a non-financial report in 2018. 13 corporations voluntarily accepted the non-financial reporting, while 61 enterprises subject to NFR submitted a report on it. When we pull out SOEs from the total number of companies it is very small number of SOEs per state in different industries (mostly monopolies in each industry) so analysis by industry is not applicable in this research.

The 8 content aspects of the IR Framework were used to evaluate the reports gathered for the aforementioned companies (2013). The framework, according to ACCA (www.accaglobal.com), does not call for distinct parts to be assembled in the report but rather a high level review to guarantee that all pertinent factors are covered. Although the material pertinent to each organization might change due to the links between the content parts, a good report should nevertheless include answers to the questions posed by the IR Framework regarding the content aspects (2013). We utilized a non-weighted methodology to analyze the reports, focusing largely on whether each item was present or absent in accordance with the chosen disclosure checklist (Greiling et al., 2015; Setia et al., 2015; Kilic and Kuzey, 2018a, 2018b; Manes Rossi et al. 2020b). A disclosure check list is displayed in Table 2 below. Research on the quality of NFR is conducted by Kilic and Kuzey (2018a, 2018b) and Manes Rosi et al. (2020b) using the Integrated Reporting Disclosure Index (IRD index). We employ the IRD index, which is based on the 31 variables listed in Table 2. The quality of the reported data in the gathered reports was assessed using the IR framework (2013) and it is based on 8 components and 31 indicators of the elements overall as follows (Manes-Rossi et al., 2020b):

1. “Organizational overview and operating context
   a. Reporting boundary
   b. Mission and value
   c. Business overview
   d. Operational context
   e. Summary statistics

2. Governance
   a. Governance structure
   b. Governance strategy
   c. Remuneration and performance
   d. Governance and others

3. Risks opportunities
   a. Risks
   b. Opportunities
4. Strategy and resource allocation  
   a. Strategic objectives  
   b. Links between strategy and other Elements  
   c. Competitive advantage  
   d. Stakeholder consultations  
5. Business model  
   a. Business model description  
   b. Links between business model and Others  
   c. Stakeholder dependencies  
6. Performance and outcomes  
   a. KPIs against strategy  
   b. Explanation of KPIs  
   c. Stakeholder relationship  
   d. Past, current and future performance  
   e. Financial implications of other capitals  
   f. Supply chain performance  
   g. The quality of quantitative indicators  
7. Future outlook  
   a. Anticipated changes  
   b. Potential changes  
   c. Estimates  
8. Other elements  
   a. Conciseness and link  
   b. Materiality determination process  
   c. The board sign-off’.

A score of (1) was given specifically if the SOE reported a particular item that was on the disclosure checklist in the non-financial report; otherwise, a score of (0) was given.

The IRD index was calculated using this method in the manner shown below:

\[ \text{IRD} = \frac{\sum_{i=1}^{m} di}{m} \]

Where \( \sum_{i=1}^{m} di \) = represents the number of items disclosed by each SOE, and \( m \) represents greatest possible number of items (31).

In order to investigate NFR in SOEs, we developed five research questions:
RQ1: How state ownership affects information provided in non-financial reports?  
RQ2: Is number of employees related to non-financial reporting?  
RQ3: How profitability affects non-financial reporting?  
RQ4: Is the amount of net profit correlated to non-financial reporting?  
RQ5: How leverage affects information provided in non-financial reports?

Overall, we want to examine situation in the observed sample of three Southeast (SE) European countries and development of NFR in SOEs. We compare our findings with previous similar research studies: Kilic and Kuzey (2018a,
2018b), Farneti et al. (2019), Argento et al. (2019), and especially Manes Rossi et al. (2020b). Based on research questions and findings in previous research, we formulated the following hypotheses:

H1: State ownership positively affects the information provided in non-financial reports.
H2: The number of employees is in positive correlation with the amount of information provided in non-financial reports.
H3: Profitability positively affects the amount of information provided in non-financial reports.
H4: Higher net profit will increase the non-financial disclosures.
H5: Higher leverage will result in more information disclosed in the non-financial reports.

The IRD index takes into account all elements of the IR Framework, and then the IRD index is compared with the constructs listed in the research questions and the hypotheses derived from them.

6. RESULTS

The primary criterion used to choose the companies for analysis was whether they complied with the aforementioned requirements of the Directive 2014/95/EU on Mandatory Non-Financial Reporting.

This research found that while there are some significant disparities among the observed Slovenian, Croatian, and Hungarian SOEs, certain characteristics of their performance are identical. Because different results have varying probabilities statistically, we examined each nation separately before comparing the outcomes. Here, in Table 3, is a list of the companies that were examined.
Table 3

List of analysed companies

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>COMPANY</th>
<th>STATE OWNERSHIP</th>
<th>NUMBER OF EMPLOYEES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Croatia</td>
<td>INA</td>
<td>45%</td>
<td>10.579</td>
</tr>
<tr>
<td>Croatia</td>
<td>Hrvatska Pošta</td>
<td>100%</td>
<td>10.082</td>
</tr>
<tr>
<td>Croatia</td>
<td>HEP</td>
<td>100%</td>
<td>11.520</td>
</tr>
<tr>
<td>Croatia</td>
<td>HPB</td>
<td>74%</td>
<td>1.252</td>
</tr>
<tr>
<td>Croatia</td>
<td>Jadrolinija</td>
<td>100%</td>
<td>1.777</td>
</tr>
<tr>
<td>Croatia</td>
<td>HAC</td>
<td>100%</td>
<td>2.728</td>
</tr>
<tr>
<td>Croatia</td>
<td>Croatia Airlines</td>
<td>97%</td>
<td>1.021</td>
</tr>
<tr>
<td>Croatia</td>
<td>Hrvatska Lutrija</td>
<td>100%</td>
<td>1.452</td>
</tr>
<tr>
<td>Croatia</td>
<td>Hrvatska kontrola začne plovilde</td>
<td>100%</td>
<td>749</td>
</tr>
<tr>
<td>Croatia</td>
<td>HŽ Putnički prijevoz</td>
<td>100%</td>
<td>1.855</td>
</tr>
<tr>
<td>Slovenia</td>
<td>Elektro Ljubljana</td>
<td>80%</td>
<td>846</td>
</tr>
<tr>
<td>Slovenia</td>
<td>Elektro Celje</td>
<td>80%</td>
<td>705</td>
</tr>
<tr>
<td>Slovenia</td>
<td>Telekom Slovenije</td>
<td>73%</td>
<td>3.429</td>
</tr>
<tr>
<td>Slovenia</td>
<td>Elektro Maribor</td>
<td>80%</td>
<td>832</td>
</tr>
<tr>
<td>Slovenia</td>
<td>DARS</td>
<td>100%</td>
<td>1.257</td>
</tr>
<tr>
<td>Slovenia</td>
<td>Slovenske železnice</td>
<td>100%</td>
<td>7.329</td>
</tr>
<tr>
<td>Slovenia</td>
<td>Pošta Slovenije</td>
<td>100%</td>
<td>7.306</td>
</tr>
<tr>
<td>Slovenia</td>
<td>Zavarovalnica Triglav</td>
<td>64%</td>
<td>2.253</td>
</tr>
<tr>
<td>Slovenia</td>
<td>INTEREUROPA</td>
<td>91%</td>
<td>1.293</td>
</tr>
<tr>
<td>Slovenia</td>
<td>Luka Koper</td>
<td>70%</td>
<td>1.703</td>
</tr>
<tr>
<td>Hungary</td>
<td>Magyar Posta</td>
<td>100%</td>
<td>28.743</td>
</tr>
<tr>
<td>Hungary</td>
<td>MAV-Start</td>
<td>100%</td>
<td>13.979</td>
</tr>
<tr>
<td>Hungary</td>
<td>MOL</td>
<td>25.24%</td>
<td>26.046</td>
</tr>
<tr>
<td>Hungary</td>
<td>MVM</td>
<td>100%</td>
<td>8.044</td>
</tr>
<tr>
<td>Hungary</td>
<td>RÁBA Jármiüpari Holding</td>
<td>74,35%</td>
<td>1.541</td>
</tr>
<tr>
<td>Hungary</td>
<td>Szerencsejáték</td>
<td>100%</td>
<td>1.669</td>
</tr>
<tr>
<td>Hungary</td>
<td>HungaroControl</td>
<td>100%</td>
<td>735</td>
</tr>
</tbody>
</table>

Source: author’s work

Tables 4, 5, 6, and 7 show the descriptive statistics and correlation analysis (Pearson correlation) of the examined variables for each country. We examined 6 variables, state ownership, number of employees, net profit, profitability, leverage, and IRD index. Profitability and leverage was calculated the same way as it was done in Kilic and Kuzey (2018a, 2018b), and Manes Rossi et al. (2020b). Profitability is calculated as net profit divided by the value of all assets. Based on the proportion of total liabilities to total assets, the leverage is determined.
Table 4

Descriptive statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net Profit</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Croatia</td>
<td>29</td>
<td>297,196,28</td>
<td>480,152,73</td>
</tr>
<tr>
<td>Hungary</td>
<td>20</td>
<td>484,109,13,80</td>
<td>1033,810,34,00</td>
</tr>
<tr>
<td>Slovenia</td>
<td>30</td>
<td>372,04,87</td>
<td>422,06,36</td>
</tr>
<tr>
<td><strong>Profitability</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Croatia</td>
<td>29</td>
<td>7,68</td>
<td>14,70</td>
</tr>
<tr>
<td>Hungary</td>
<td>20</td>
<td>6,00</td>
<td>8,72</td>
</tr>
<tr>
<td>Slovenia</td>
<td>30</td>
<td>3,54</td>
<td>2,59</td>
</tr>
<tr>
<td><strong>Leverage</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Croatia</td>
<td>29</td>
<td>0,44</td>
<td>0,23</td>
</tr>
<tr>
<td>Hungary</td>
<td>20</td>
<td>0,42</td>
<td>0,20</td>
</tr>
<tr>
<td>Slovenia</td>
<td>30</td>
<td>0,39</td>
<td>0,19</td>
</tr>
<tr>
<td><strong>IRD Index</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Croatia</td>
<td>30</td>
<td>0,52</td>
<td>0,16</td>
</tr>
<tr>
<td>Hungary</td>
<td>21</td>
<td>0,40</td>
<td>0,08</td>
</tr>
<tr>
<td>Slovenia</td>
<td>30</td>
<td>0,52</td>
<td>0,08</td>
</tr>
<tr>
<td><strong>State Ownership</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Croatia</td>
<td>30</td>
<td>91,59</td>
<td>17,68</td>
</tr>
<tr>
<td>Hungary</td>
<td>21</td>
<td>85,66</td>
<td>26,85</td>
</tr>
<tr>
<td>Slovenia</td>
<td>30</td>
<td>83,72</td>
<td>12,82</td>
</tr>
<tr>
<td><strong>Number Of Employees</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Croatia</td>
<td>30</td>
<td>422,40,00</td>
<td>4228,42</td>
</tr>
<tr>
<td>Hungary</td>
<td>21</td>
<td>118,43,10</td>
<td>110,57,56</td>
</tr>
<tr>
<td>Slovenia</td>
<td>30</td>
<td>261,79,7</td>
<td>2404,98</td>
</tr>
</tbody>
</table>

Source: author's work

Table 5

Correlation analysis Croatia

<table>
<thead>
<tr>
<th>Variable</th>
<th>STATE OWNERSHIP</th>
<th>NUMBER OF EMPLOYEES</th>
<th>NET PROFIT</th>
<th>PROFITABILITY</th>
<th>LEVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. STATE OWNERSHIP</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>2. NUMBER OF EMPLOYEES</td>
<td>-0.376 *</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>3. NET PROFIT</td>
<td>-0.382 *</td>
<td>0.751 ***</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4. PROFITABILITY</td>
<td>0.156</td>
<td>0.074</td>
<td>0.057</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>5. LEVERAGE</td>
<td>-0.313</td>
<td>0.298</td>
<td>-0.352</td>
<td>-0.277</td>
<td>—</td>
</tr>
<tr>
<td>6. IRD INDEX</td>
<td>-0.477 **</td>
<td>0.403</td>
<td>0.511 *</td>
<td>-0.420</td>
<td>0.254</td>
</tr>
</tbody>
</table>

Notes: *p<0,05; **p<0,01; ***p<0,001

Source: author's work
Our findings show that the connection between the observed SOEs in each country is negative, in contrast to the conclusion by Manes Rossi et al (2020b) that a higher amount of state ownership has a beneficial effect on the quality of reports in terms of non-financial reporting. The sample of Croatian SOEs has the highest negative correlation (-0.477, p<0.01). This indicates that we were unable to support H1, which states that state ownership has a favorable impact on the information contained in non-financial reporting. Our analysis supports that of Argento et al. (2019), who looked into the sustainability disclosures of hybrid enterprises (Swedish SOEs). According to Argento et al. (2019), state ownership has a negative impact on SOEs' sustainability reporting; in other words, as the share of state ownership rises, so does the amount of sustainability data that is disclosed.

The number of employees has positive correlation with the IRD index in samples of all three countries. With that finding we had confirmed H2 that the number of employees is in positive correlation with the amount of information provided in non-financial reports. That finding goes with the role of employees in the firm and confirms that employees influence the non-financial reporting. Also
we have confirmed that higher number of employees positively affect NFR, which goes along with the conclusion of Ferneti et al. (2019) who conclude that stakeholders influence NFR in general, and bigger influence of the stakeholders will result with more information in integrated reports.

When we look at the correlation analysis, net profit and profitability in the context of IRD index are uniform in all three countries. Profitability has negative correlation in all three samples and it is statistically significant (p<0.05) in Croatia and Slovenia, which means that we did not confirm H3 Net profit has positive correlation with IRD index and it is statistically significant only in Croatia but it is positive in all three countries, which confirms H4, Higher net profit will increase non-financial disclosures. Profitability is calculated as net profit divided by total assets, hence it follows that a high total asset count has a negative impact on NFR.

Regarding H5 we can conclude that leverage has positive correlation with IRD index in observed sample of Croatia and Slovenia. Correlation is statistically significant in Slovenia (p<0.001), but in the Hungarian sample correlation is negative although statistically insignificant.

Figures 1, 2, and 4, each present: state ownership, profitability and leverage relation with IRD index for the period 2017 – 2019 in all three countries. Figure 3 presents the correlation between net profit and IRD index in the Croatian and Slovenian sample. We see that there are not significant changes in NFR when we track those four indicators in the period. Below are the scatter plots where correlation for each country is presented.

![Figure 1 State ownership and IRD index](source: author's work)

As it is visible on Figure 1, Croatian sample has significant negative correlation between state ownership and IRD index, while in Slovenian and Hungarian sample it is not significant and it is almost a straight line through the observed period. It would be interesting to make deeper research about the influence of state ownership on NFR in Croatia. A larger level of state ownership, according to Manes Rossi et al. (2020b), has a beneficial impact on the caliber of
reports in terms of non-financial reporting. According to the Kopri (2018) research, the level of transparency in the Croatian public sector is low. Although Croatia has made great steps to increase the openness and transparency of its government, Kopri (2018) found that there are still problems, some of which are also evident in our sample of SOEs.

![Figure 2 Profitability and IRD index](source: author's work)

![Figure 3 Net profit and IRD index Slovenia and Croatia](source: Author)

Figure 2 shows profitability and IRD index correlation scatter plots for the observed period. In all three countries, negative correlation is visible through all three years. Our opinion is that profitability is not a good variable when it is about SOEs in observed countries. The result is different than one given by Manes Rossi et al. (2020b) who have found positive correlation between profitability and IRD. For the SOEs in SE Europe it is characteristically that in ratio to net profit they operate with big amount of total assets. Although it has sense to take total assets in concern when research is about NFR due to stakeholder’s informational needs, our opinion is that net profit better describes relation between profit and NFR in the observed region. Net profit correlation to IRD index is presented on Figure 3. It is
presented for Croatia and Slovenia, while in Hungarian case it is even graphically insignificant. It is visible that in both samples higher net profit brings more information in the company’s reports.

Figure 4 Leverage and IRD index

Source: author's work

From Figure 4 we can also draw conclusions. It is visible that leverage positively correlates with IRD in Croatian and Slovenian sample of SOEs while in Hungarian sample it has negative correlation with increasing trend to positive correlation in the future. So, generally we can conclude that leverage positively affects NFR in observed sample and it is visible that same as in Manes Rossi et al. (2020b) leverage is a variable which increases information provided in reports. That finding is consistent with H5, and we have also confirmed that greater leverage will lead to additional information being revealed in non-financial reporting.

7. CONCLUDING REMARKS

When it is about non-financial reporting, situation with legislative requirements is clear in the EU countries. Regulations for major public interest enterprises with more than 500 employees' publication of non-financial and diversity information are outlined in Directive 2014/95/EU. When it is about public sector, application of non-financial reporting is expected only in SOEs which complies with Directive 2014/95/EU requirements. Based on previous research, especially Manes Rossi et al. (2020b), we had developed our research of non-financial reporting in three selected SE European countries, Croatia, Slovenia, and Hungary.

Our research is focused on influence of six different variables for which we examine correlation with non-financial reporting. Through correlation analysis of the following variables: IRD index, state ownership, number of employees, profitability, net profit, and leverage, the relationship with non-financial reporting is investigated. IRD index computes consists of number of items disclosed in non-financial reports.
We draw few concluding remarks from the provided research. First of all, when it is about state ownership impact we draw conclusion similar to Argento et al. (2019). We found that state ownership negatively affects information provided in SOEs’ non-financial reporting. When it is about number of employees, conclusion goes along with stakeholder influence in the company, which implies that greater stakeholder influence will lead to more information being reported in company reports, and research show that bigger number of employees will increase information provided in the reports.

We found that profitability correlation to IRD index is negative in the observed sample while net profit correlation to IRD index is positive. Our opinion is that net profit better describes earnings effect on non-financial reporting in our sample. Profitability is calculated as ratio of the net profit and total assets, and when we know that SOEs in those countries operate generally with big amount of total assets, we can conclude that correlation of profitability and IRD index better reflects impact of total assets on non-financial reporting then earnings effect on non-financial reporting.

Leverage positively correlates with IRD in Croatian and Slovenian sample of SOEs while in Hungarian sample it has negative correlation with increasing trend to positive correlation in the future periods. So, at all we can conclude that leverage positively affects NFR in observed sample, and this conclusion also goes along with stakeholder theory as through leverage we can observe influence of the creditors on non-financial reporting.

SOEs as hybrid organisations enable indirectly, through non-financial reporting, the possibility to examine the influence of state ownership in comparison to others. In fact, all aspects of stakeholder’s theory can be examined through information provided in non-financial reports, which is why research in this field should be more interdisciplinary. Stakeholders are users of the entities reports who are affected or are affecting entity through financial and non-financial reports. From our research it is can be concluded that creditors and employees positively affect the quality of non-financial reporting in the observed sample while state ownership in the observed area of three selected countries has negative effect on information provided in non-financial reports. Furthermore, it is necessary to increase awareness all stakeholders about non-financial reporting and information they can experience through non-financial reporting.

Acknowledgement
The Croatian Science Foundation's “Research Cooperability Program”, which is sponsored by the European Union through the European Social Fund and is a part of the operational program Efficient Human Resources 2014–2020, has provided full support for this effort.

REFERENCES


Dr. sc. Martina Dragija Kostić
Izvanredna profesorica
Sveučilište u Zagrebu
Ekonomski fakultet
E-mail: mdragija@efzg.hr
Orcid: https://orcid.org/0000-0003-0131-0345

Dr. sc. Josip Čičak
Sveučilište u Rijeci
Ekonomski fakultet
E-mail: josip.cicak@efri.hr
Orcid: https://orcid.org/0000-0001-6090-7278

Matko Ljubić, MEcon
Sveučilište u Zagrebu
Ekonomski fakultet
E-mail: mljubic1@efzg.hr
Orcid: https://orcid.org/0000-0002-3478-5868

NEFINANCIJSKO IZVJEŠĆE I ELEMENTI USPJEŠNOSTI – ANALIZA PODUZEĆA U DRŽAVNOMVLASNIŠTVU U HRVATSKOJ, SLOVENIJI I MAĐARSKOJ

Sažetak
Direktivom 2014/95/EU. U ispitivanom uzorku poduzeća u državnom vlasništvu utvrđena je korelacija između nefinancijskog izvješća i profitabilnosti i zaduženosti državnih poduzeća. Izvornost: Istraživanje je provedeno na dosad neistraženim primjerima – nefinancijskim izvješćima poduzeća u državnom vlasništvu u Hrvatskoj, Sloveniji i Mađarskoj.

**Ključne riječi:** nefinancijsko izvješće, poduzeća u državnom vlasništvu, uspješnost.

**JEL klasifikacija:** L32, H83, M14.