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## Research Articles

## HOW EXPENSIVE TRANSPARENT LOBBYING IS

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### Abstract

Strengthening the transparency of the legislation and decision making process should contribute to the reduction of negative impacts often connected with lobbying. The aim of the article was to determine options for lobbying transparency increase and their evaluation from the viewpoint of regulatory costs. Cost Benefit Analysis (CBA) which is the core method of Regulatory Impact Analysis (RIA), is used. The basic options were determined. Zero option was defined as the preservation of the current legislation and non-transparent lobbying. Option I is the possibility of increasing the transparency of lobbying by introducing measures related to lobbyists. Option II represents an increase of transparency in terms of lobbying targets. Option III is defined as an increase in lobbying transparency by means of sunshine principles; the increase of lobbying transparency by monitoring and sanctions is included in Option IV. Regulatory costs, specifically the compliance costs and other regulatory costs, have been defined for all five options.

### Keywords

Transparency; Lobbying; Regulatory impact analysis; Cost benefit analysis; Regulatory costs.

### Introduction

The article has been written as an integral part of the evaluation of the project focused on lobbying transparency increase as part of the GAČR grant “Impact of Transparency of Lobbying on Democratization and Its Consequences”. The aim of the article is to identify the costs associated with transparent lobbying: to determine options for lobbying transparency increase and their evaluation from the viewpoint of regulatory costs.

Lobbying as a term can be defined in various ways. In essence, however, it always involves advancing of interests of a particular interest group in the course of a decision making process. A definition which is often considered as the most precise is that by L. Graziano [1:248]:

*“Lobbying is a specialised and professional representation of interests by means of a wide variety of tools which in principle eliminate a corruptive change of services. It is by its nature very different from a general non-specialised representation provided by elected representatives. As a representative of particular interests a lobbyist provides information and technically-professional expertises which can be useful and sometimes decisive for defining legislative and administrative regulation.”*

In addition to this, there is Van Schendelen’s [2:210] definition stating that

*“Lobbying refers to the various types of unconventional behaviour of interest groups focused on achieving requested results.”*

In 2006, the European Commission (further just as Commission) issued a document called Green Book - European Transparency Initiative. This document [3:5] formulates a relatively broad definition of lobbying as

*“all activities carried out with the objective of influencing the policy formulation and decision-making processes of the European institutions.”*

Š. Laboutková and M. Žák [4:2] delimited the basic attributes of lobbying when they stated that

*“Lobbying is first of all focused on advancing interests, it is an indispensable source of information and the biggest problem is to distinguish lobbying from corruption.”*

## **1 Aims of the Research**

Lobbying helps to articulate and advance interests of various parts of society and it is at the same time an information channel by means of which the knowledge of the public authorities about decisive facts is improved. Affecting representatives of public authorities with the aim to influence their decisions is not always transparent and according to clear rules, which brings the risk of the public interests being manipulated in favour of hidden partial interests. Strengthening the transparency of the legislation and decision making process helps to reveal the influence and the relations between lobbyists and interest groups on the one hand and public entities on the other hand to public control, which should contribute to the reduction of negative impacts often connected with lobbying, such as corruption, conflict of interests, protection and clientelism. According to OECD [5], creating limits for transparent lobbying is also essential for the integrity of the public decision making process.

Š. Laboutková a P. Vymětal [6] proposed a catalogue of currently used measures dealing directly or indirectly with lobbying regulation that support the transparency principle in general. All measures are grouped in four logical categories, see Tab. 1.

An important reason for improving the tools for the lobbying transparency increase is the dynamics of lobbying regulatory activities, especially in Europe. According to current tendencies within European countries, very dynamic regulatory activities of lobbying can be expected. Regulation can be supportive of market transactions and may result in significant economic, social and environmental benefits. At the same time, ill-designed regulations can have considerable economic costs, resulting in the concept of the “regulatory burden”. The aim of the article is to identify the costs associated with transparent lobbying: to determine options for lobbying transparency increase, their evaluation and comparison from the viewpoint of regulatory costs.

**Tab. 1:** Main categories on lobbyists' transparency

| Category                                   | Chapter | Data / Information                                 | Number of indicators |
|--|---------|--|----------------------|
| <b>Lobbyists</b>                           | 1       | Register   | 14                   |
|  | 2       | Codes of Conduct                                   | 8                    |
|  | 3       | Disclosure of activities                           | 7                    |
|  | 4       | Open calendars                                     | 2                    |
| <b>Targets of lobbying</b>                 | 5       | Codes of Conduct                                   | 14                   |
|  | 6       | Revolving doors                                    | 7                    |
|  | 7       | Conflict of interests                              | 5                    |
|  | 8       | Disclosures of politicians/senior public employees | 3                    |
|  | 9       | Appointment diaries                                | 9                    |
| <b>Sunshine principles / sunshine rule</b> | 10      | Rules on legislative process                       | 17                   |
|  | 11      | Rules on decision-making                           | 6                    |
|  | 12      | Rules on consultations                             | 10                   |
|  | 13      | Legislative footprint                              | 6                    |
|  | 14      | Open Government Data                               | 12                   |
|  | 15      | Political parties funding                          | 9                    |
|  | 16      | Freedom of information                             | 10                   |
| <b>Monitoring and sanctioning</b>          | 17      | Oversight  | 7                    |
|  | 18      | Sanctions  | 13                   |

Source: [6]

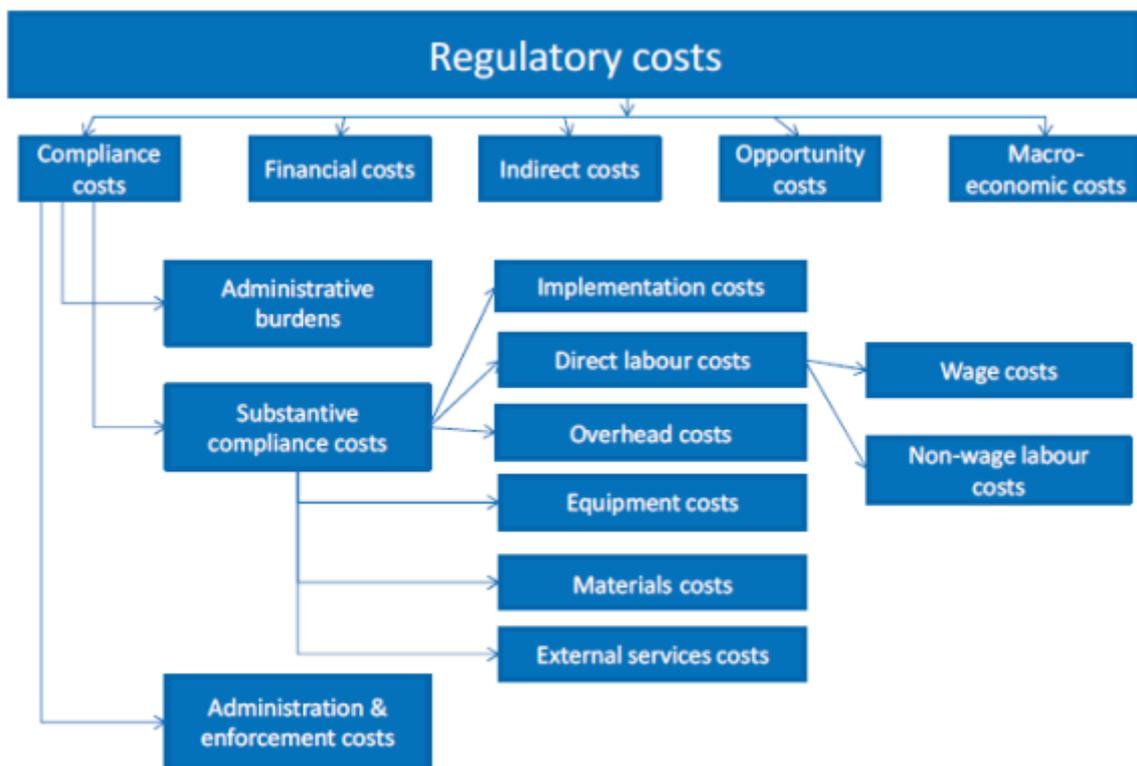
## 2 Methods of the Research

As far as the evaluation of the lobbying transparency increase is concerned, the most commonly used are input-output methods that include economic analyses, specifically Cost Benefit Analysis (CBA), which is the core method of Regulatory Impact Analysis (RIA). RIA is a systemic approach to critically assessing the positive and negative effects of proposed and existing regulations and non-regulatory alternatives. The economic rationale for the use of RIA derives from its expected impact on increasing the effectiveness and efficiency of regulatory interventions and thus economic welfare. The economics of regulation presents three different dynamics that explain the rationale for the adoption of RIA. The first is *delegation*. Regulatory intervention is characterised by a problem of delegation when a principal (the parliament or other legislative authorities) delegates authority to produce regulation to an agent (i.e. a ministry or other agencies). In rational choice theory [7, 8] the principal-agent model helps in understanding the rationale for RIA. Once power has been delegated, information asymmetries produce agency dominance, and agencies may produce rules that do not reflect the approach adopted (or outcome sought) by the principals. However, the likelihood that agencies will develop rules that are consistent with the views of the principals is enhanced if proper administrative procedures (such as RIA) are introduced [9]. Posner [10] suggests that CBA should be used to control agency behaviour, minimising error costs under conditions of information asymmetry. Thus, the use of RIA limits the potential influence of self-seeking interest groups by reducing the principal-agent slack and in assuring that agencies are responsive to the principal's interest. The second is *democratic governance*. Neo-pluralist theory [11, 12] suggests that regulatory policy tools (such as RIA) should be used to change the framework in which actors (the executive, agencies, and the pressure

groups, including civil society associations) interact so that the rulemaking process is more open to diffuse interests and more accountable to citizens. RIA is adopted to help to ensure that all the major interested parties are heard in the policy-making process. The third is *rational policy making*. The adoption of RIA helps in fostering regulations that increase the net welfare of the community [13]. This perspective is consistent with the civic republican theory [14, 15] which argues that, under proper conditions, actors in the regulatory system are able to systematically pursue the broader community interest. Thus, the use of RIA ensures the engagement of public interest groups, civil society organisations and citizens and enhances the likelihood that regulatory outcomes will be consistent with the requirements of the normative theory of regulation.

The aim of the RIA [16] is to determine the best option to achieve the objective of a rulemaking activity while minimising potential negative impacts. According to the Recommendation of the Council on Regulatory Policy and Governance [17], RIA is both a tool and a decision process for informing political decision makers on whether and how to regulate to achieve public policy goals. As a tool supporting decision making, RIA focuses on ensuring that a systematic and rigorous process of identification and assessment of the potential impacts of government actions is undertaken and on quantifying the expected costs and benefits of a regulatory measure; on assessing the effectiveness of the measure in achieving its policy goals; and on determining whether there are superior alternative approaches available to governments. As a decision process RIA complements other key elements of regulatory policy, such as public consultation, by developing a better understanding of the likely impact of regulatory options and communicating this information to policy makers, at a time and in a form that can be used to guide regulatory decision-making in relation to both proposed and existing regulations [18]. The Recommendation of the Council on Regulatory Policy and Governance [17] recommends that RIA be integrated into the early stages of the policy process in the formulation of new regulatory proposals and that ex ante assessments of regulatory costs, benefits and risks should be quantitative wherever possible.

RIA consists of a series of five logical steps that structure the analysis [16] problem identification, objective definition, option development, impact analysis and option comparison. Compliance cost assessment (CCA) is a significant element of Regulatory Impact Analysis (RIA), which is the broader analysis of all of the benefits and costs of a proposed regulatory initiative (or of existing regulations). The term “regulatory costs” as used by the OECD [19] embraces all of the costs attributable to the adoption of a regulatory requirement, whether direct or indirect in nature and whether borne by business, consumers, government and its respective authorities (i.e. taxpayers) or other groups. Fig. 1 sets out taxonomy of regulatory costs.



Source: OECD [19:11]

**Fig. 1:** Taxonomy of regulatory costs

### 3 Results of the Research

In connection with the determination of regulatory costs of the increase in lobbying transparency by means of the proposed measures (see Tab. 1), the basic project options are defined. The option with the most suitable solution should set such conditions for the performance of lobbying which will significantly contribute mainly [20:19]:

- to the definition of the term “lobbying”,
- to the determination of a circle of people involved in lobbying (lobbyists) and of public officers whose conduct lobbyists influence,
- **to setting up rules for transparent lobbying,**
- to the general increase in the transparency of the decision-making and legislative process.

#### 3.1 Option 0 – Non-Transparent Lobbying

The zero option represents a situation of the existence of non-transparent lobbying without adopting any measures for the increase in decision-making and legislative process transparency. The risk arising from retaining the non-transparency state is a negative impact on the creation of public policies and adoption of decisions from the view point of potential advancing of hidden interests or giving preference to certain interests over others and also on the public whose confidence in these processes decreases. Public decisions or activities of public institutions then lose their legitimacy. Other risks include democracy erosion, decrease of citizens’ confidence in politicians, political parties and institutions. It can be assumed that the problems of the current condition will become worse and deeper, namely [20]:

- persisting low transparency of the legislative process which will lead to a gradual deterioration in the quality of legislation;

- pressure coming from interests groups and aiming at reaching such legislation which would be advantageous mainly for the groups themselves;
- consequently to this, the quality of business environment will deteriorate. as well as the attractiveness of the CR not only for foreign investors (including the risk of international arbitrations due to breaches of agreement on the mutual protection of investments), but also for Czech companies (including the outflow of Czech companies headquarters out of the Czech Republic);
- low level of decision-making processes transparency (strategic planning, awarding tenders, etc.) in public administration (state administration and public corporations);
- low level of control over the influence on decision making of public authorities.

The costs of the zero option (see Tab. 2) can be quantified only with difficulty because in the environment of non-transparent lobbying it is only possible to indirectly quantify costs which are connected with advancing partial interests in legislation colliding with the public interest because such an activity remains hidden. The costs arising from this activity for the public sector can be quantified only by means of expert estimation. Direct costs would arise in the case of unsuccessful international arbitrations, in the case of reduced tax revenue caused by the outflow of businesses from the country, if a small business became more difficult to run or if the rating and evaluation of the country by the World Bank and the International Monetary Fund worsened, which would lead to the reduction of international investments. Giving up the efforts to make lobbying transparent would also mean disregarding the recommendation of international organizations (OECD, GRECO and The Council of Europe).

**Tab. 2:** *Costs connected with Option 0 – non-transparent lobbying*

|                 |   |
|-----------------|---|
| <b>Option 0</b> | <p><b>Compliance costs</b></p> <ul style="list-style-type: none"> <li>• retaining costs arising from the existing regulation (or their absence) which are a result of lobbying for partial interests which are in contradiction with the public interest,</li> <li>• costs and sanctions in the case of unsuccessful international arbitration,</li> <li>• reduction of tax revenue, limitation of (foreign) investments.</li> </ul> <p><b>Other regulatory costs</b></p> <ul style="list-style-type: none"> <li>• retaining the existing level of (non)transparency of lobbying activities and gradually deteriorating quality of legal regulations as a result,</li> <li>• failure to take into account recommendations of international organizations, deterioration of the country's rating.</li> </ul> |
|-----------------|---|

Source: Author, [20]

### 3.2 Option I – Increase in Lobbying Transparency on the Part of Lobbyists

This option represents adoption of measures for the increase in lobbying transparency which are performed on the part of lobbyists. Lobbyists are persons who systematically and in an organized way endeavour to influence the legislative process and decision-making of public officials [20]. They are entities (legal or natural persons) focusing primarily on lobbying (**professional lobbyists** include lobbyist consultants and associations, and legal counsels and law firms) and entities involved in lobbying as in supporting activities for the purpose of support of their main activity or business (**in-house lobbyists**, thus e.g. professional associations, non-profit organizations, etc.).

The proposed measures (see Tab. 1, measures 1 – 4) include Register, Codes of Conduct, Disclosure of activities and Open calendars. The individual measures can be realized by means of legislative regulations (legally binding and enforceable measures), or they may be left to the discretion of stakeholders (non-legislative measures). These measures belong

among the most frequently used tools ensuring public control over lobbying activities and increasing lobbying transparency. The costs connected with Option I are summarised in Tab. 3.

**Tab. 3:** *Costs connected with Option I – increase in lobbying transparency on the part of lobbyists*

|                 |  |
|-----------------|--|
| <b>Option I</b> | <p><b>Compliance costs</b></p> <ul style="list-style-type: none"> <li>• costs of the establishment and operation of a register of lobbyists (in relation to the definition of lobbying, definition of a lobbyist, extent of data and number of lobbyists),</li> <li>• financial and administrative costs of getting acquainted with the regulation, the preparation and collection of data and their entry into the register,</li> <li>• costs of the collection of data for reports on activities and time for their entering into the system (depending on the frequency and extent of the data),</li> <li>• costs of the establishment of an open diary (depending on the frequency and extent of the data),</li> <li>• cost of the preparation, processing and provision of information in the open diary (depending on the frequency and extent of the data).</li> </ul> <p><b>Other regulatory costs</b></p> <ul style="list-style-type: none"> <li>• low frequency of reporting, providing out-of-date information,</li> <li>• possibility of inconsistent provision of data to the open diary,</li> <li>• the failure to impose complementary obligation on the subjects of lobbying so that they had to report contacts with lobbyists,</li> <li>• limited ability of the supervisory authority to obtain knowledge of breaches of regulation,</li> <li>• interference with the privacy of individuals by disclosing their data in the register of lobbyists,</li> <li>• legal non-enforceability of compliance with codes and their rules (N),</li> <li>• possible origination of formalistic and complicated ethical codes (N),</li> <li>• weakening will to comply with the regulation, especially if not observed collectively (N),</li> <li>• - time-consuming process of creating and approving codes (N).</li> </ul> |
|-----------------|--|

Note: (N) Measures of a non-legislative nature.  
 Source: Author, [20]

**3.3 Option II – Increase in Lobbying Transparency from the Point of View of Lobbying Targets**

The second option is focused on the increase in lobbying transparency on the side of lobbying targets. These are mainly the subjects of lobbying, i.e. **public officers** who include members of parliament, government members, high officials but also **advisors and assistants of public officers** (mainly of parliament members and senators) can be included. Depending on the width of the conception of lobbying also **representatives of local governments**, i.e. of municipalities and regions, could be included as subjects of lobbying who are also involved in decision making about significant issues of the public interest, e.g. public tenders, landscape planning, etc. [20].

Increase in lobbying transparency can be achieved by adopting measures 5 – 9 (see Tab. 1), which are Codes of Conduct, Revolving doors, Conflict of interests, Disclosures of politicians/senior public employees, Appointment diaries. The individual measures may again

take the form of legislative or non-legislative measures. In Tab. 4 the costs connected with Option II are defined.

**Tab. 4:** *Costs connected with Option II – increase in lobbying transparency from the point of view of lobbying targets*

|                  |  |
|------------------|--|
| <b>Option II</b> | <p><b>Compliance costs</b></p> <ul style="list-style-type: none"> <li>• costs of the establishment and operation of a register (in relation to the definition of lobbying, definition of a subject of lobbying, frequency and extent of data),</li> <li>• costs of the collection of data and entering the data into the system,</li> <li>• cost of establishing a public diary,</li> <li>• costs of the preparation, processing and provision of information into the public diary,</li> <li>• costs of the preparation, processing and provision of information into reports on contacts,</li> <li>• costs of establishing and functioning of a register of gifts under the Act on Conflict of Interest.</li> </ul> <p><b>Other regulatory costs</b></p> <ul style="list-style-type: none"> <li>• high demands regarding the moral integrity of public officers,</li> <li>• possibility of provision of irrelevant and incomplete data into the public diary,</li> <li>• possibility of provision of irrelevant and incomplete data into the reports on contacts,</li> <li>• limitation of the efficiency of measures in the area of political and decision-making processes in the case of a narrow definition of a subject of lobbying,</li> <li>• limited ability of the supervisory authority to obtain knowledge of breaches of regulation,</li> <li>• legal non-enforceability of compliance with codes and their rules (N),</li> <li>• possible origination of formalistic and complicated ethical codes (N),</li> <li>• weakening will to comply with the regulation, especially if not observed collectively (N),</li> <li>• - time-consuming process of creating and approving codes (N).</li> </ul> |
|------------------|--|

Note: (N) measures of a non-legislative nature

Source: Author, [20]

### **3.4 Option III – Increase in Lobbying Transparency by Means of Sunshine Principles**

In case of the third option, the increase in lobbying transparency is achieved by means of so called sunshine principles in legislative or non-legislative form. By means of adopting and complying with these rules, an increase in transparency is achieved in all decision-making and legislative processes in the whole society. Sunshine principles are defined in Tab. 1. They are measures 10 – 16, i.e. Rules on legislative process, Rules on decision-making, Rules on consultations, Legislative footprint, Open Government Data, Political parties funding and Freedom of information. The costs connected with Option III are given in Tab. 5.

**Tab. 5:** *Costs connected with Option III – increase in lobbying transparency in accordance with increase in transparency of decision-making and legislative processes*

|                   |   |
|-------------------|---|
| <b>Option III</b> | <p><b>Compliance costs</b></p> <ul style="list-style-type: none"> <li>• administrative costs of public officers when collecting and entering data constituting the basis of a legislative footprint,</li> <li>• the administrative costs of collecting and publishing open government data,</li> <li>• costs associated with creating and enforcing rules for consultations,</li> <li>• costs associated with creating and enforcing rules for decision-making and legislative processes,</li> <li>• administrative costs associated with collecting and publishing information on political party funding.</li> </ul> <p><b>Other regulatory costs</b></p> <ul style="list-style-type: none"> <li>• low information value of the legislative footprint in the case of a mere unstructured list of persons,</li> <li>• formality and low information value of the information included in the legislative footprint,</li> <li>• possibility of providing irrelevant and incomplete information within open government data,</li> <li>• possibility of providing irrelevant and incomplete information which concerns political party funding,</li> <li>• legal non-enforceability of sunshine principles if they are in non-legislative form (N),</li> <li>• legal non-enforceability of rules for consultations, for decision-making and legislative processes (N),</li> <li>• weakening will to comply with the regulation, especially if not observed collectively (N),</li> <li>• - time-consuming process of setting up and functioning of sunshine principles.</li> </ul> |
|-------------------|---|

Note: (N) measures of a non-legislative nature

Source: Author, [20]

### **3.5 Option IV – Role of Monitoring and Sanctions in the Increase of Lobbying Transparency**

In the fourth option, the costs of an increase in lobbying transparency are connected with functional monitoring and sanctions, i.e. measures 17 and 18 (see Tab. 1). Oversight and Sanctions are mainly connected with the adoption of legislative measures and the costs are connected with establishing and functioning of an inspection authority and with imposing and enforcing sanctions laid down in the event of a breach of the rules. A certain level of control can also be performed even in the case of measures on non-legislative nature – costs are thus mainly spent on searching for and collecting information and its subsequent evaluation and publication. These costs are listed in Tab. 6.

**Tab. 6:** Costs connected with Option IV – role of monitoring and sanctions in the increase of lobbying transparency

|                  |  |
|------------------|--|
| <b>Option IV</b> | <p><b>Compliance costs</b></p> <ul style="list-style-type: none"> <li>• costs associated with the oversight of compliance with the measures and the related administration (depending on the definition of lobbying, the definition of a lobbyist, the definition of a subject of lobbying, the frequency and extent of the data),</li> <li>• costs of comparing data from large databases needed to identify breaches of regulation,</li> <li>• the costs of imposing sanctions,</li> <li>• the costs of enforcing sanctions.</li> </ul> <p><b>Other regulatory costs</b></p> <ul style="list-style-type: none"> <li>• limited ability of the supervisory authority to obtain knowledge of breaches of regulation,</li> <li>• possibility of providing irrelevant and incomplete information,</li> <li>• - legal non-enforceability in the case of non-legislative type of regulation.</li> </ul> |
|------------------|--|

Note: (N) measures of a non-legislative nature

Source: Author, [20]

## Conclusion

The aim of the article was to determine options for lobbying transparency increase and their evaluation from the viewpoint of regulatory costs. As far as the evaluation of lobbying transparency increase is concerned, the most commonly used is Cost Benefit Analysis (CBA) which is the core method of Regulatory Impact Analysis (RIA). RIA is a systemic approach to critically assessing the positive and negative effects of proposed and existing regulations and non-regulatory alternatives. The used CBA method was specified on the basis of the delimitation of characteristics and attributes of transparent lobbying which are: 1) Direct rules focusing on lobbyists in term of lobbying activities, both legal and self-regulation, 2) Indirect rules targeting subjects of lobbying 3) Sunlight principles and/or anti-corruption tools and 4) The monitoring and sanctioning system. The individual measures may take the form of legislative or non-legislative measures.

First, **Option 0** was defined as the existence of the current legislation and non-transparent lobbying. The costs of the zero option can be quantified only with difficulty because in the environment of non-transparent lobbying it is only possible to indirectly quantify costs which are connected with advancing partial interests in legislation colliding with the public interest because such an activity remains hidden. **Option I** is the possibility of increasing the transparency of lobbying by measures introduced on lobbyists. There are compliance costs and other regulatory costs related to the establishment and operation of Register, Codes of Conduct, Disclosure of activities and Open calendars. **Option II** represents an increase of transparency in terms of lobbying targets. Regulatory costs are associated with the implementation of Codes of Conduct, Revolving doors, Conflict of interests, Disclosures of politicians/senior public employees, Appointment diaries. **Option III** is defined as an increase in lobbying transparency in accordance with the increase in transparency of decision-making and legislative processes. The measures applied include Rules on legislative process, Rules on decision-making, Rules on consultations, Legislative footprint, Open Government Data, Political parties funding and Freedom of information. A large number of other regulatory costs are associated primarily with non-legislative measures. High administrative costs represent the largest component of compliance costs. In **Option IV**, the costs of an increase in lobbying transparency are connected with Oversight and Sanctions. The costs are connected

with establishing and functioning of an inspection authority and with imposing and enforcing sanctions laid down in the event of a breach of the rules.

The proposed measures of lobbying transparency increase can work individually or in mutual combination, which can intensify their effects in practice. With regards to national specificities and historical approach it is necessary to thoroughly consider which of the possible measures should be applied and in what forms so that the expected results were ensured. The selection of the most suitable option (categories) will be done in relation with the presupposed acquired quantifiable and non-quantifiable benefits of lobbying transparency increase.

### Acknowledgements

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## NÁKLADY TRANSPARENTNÍHO LOBBINGU

Zvyšování transparentnosti legislativního a rozhodovacího procesu včetně lobbistické činnosti snižuje riziko nepřijatelného chování a omezuje negativní dopady, které mohou s lobbingem souviset. Cílem článku je stanovit varianty zvyšování transparentnosti lobbingu a vymezit související regulační náklady, tj. komplexní náklady na přijetí legislativních, případně nelegislativních opatření. K hodnocení nákladů je využita metoda Cost-benefit analýzy (CBA), která je základním nástrojem Hodnocení dopadů regulace (RIA). Nulová varianta představuje situaci existence netransparentního lobbingu, první varianta přijetí opatření ke zvýšení transparentnosti, která jsou realizována na straně lobbistů. Druhá varianta je zaměřena na zvyšování transparentnosti na straně cílů lobbingu. V případě třetí varianty dochází ke zvyšování transparentnosti lobbingu na základě tzv. sunshine principles a zvyšování transparentnosti lobbingu prostřednictvím fungováním monitoringu a sankcí zahrnuje čtvrtá varianta. Pro jednotlivé varianty jsou definovány regulační náklady.

## KOSTEN FÜR TRANSPARENT LOBBYISMUS

Die Steigerung der Transparenz des legislativen und Entscheidungsprozess inklusive der lobbyistischen Tätigkeit senkt das Risiko unzulässigen Verhaltens und begrenzt die negativen Auswirkungen, welche mit dem Lobbyismus zusammenhängen können. Das Ziel des Artikels besteht darin, Varianten der Steigerung der Transparenz des Lobbyismus festzulegen und die damit in Zusammenhang stehenden Regulierungskosten zu definieren, d. h. die komplexen Kosten zur Annahme legislativer bzw. nicht legislativer Maßnahmen. Zur Bewertung der Kosten kommt die Methode der Cost-benefit-Analyse (CBA) zur Anwendung, diese ist das Grundinstrument der Bewertung der Auswirkungen der Regulierung (RIA). Die Nullvariante repräsentiert die Existenzsituation des intransparenten Lobbyismus, die erste Variante die Ergreifung von Maßnahmen zur Steigerung der Transparenz, welche aufseiten der Lobbyisten umgesetzt werden. Die zweite Variante konzentriert sich auf die Steigerung der Transparenz aufseiten der Ziele des Lobbyismus. Im Falle der dritten Variante kommt es zu einer Steigerung der Transparenz des Lobbyismus auf Grundlage der sog. sunshine principles. Die Erhöhung der Transparenz des Lobbyismus durch das Funktionieren des Monitorings und der Sanktionen ist in der vierter Variante enthalten. Für die einzelnen Varianten werden die Regulierungskosten kalkuliert.

## KOSZTY TRANSPARENTNEGO LOBBINGU

Zwiększanie transparentności procesu legislacyjnego i decyzyjnego, w tym działalności lobbingsowej, zmniejsza ryzyko niedopuszczalnego zachowania i ogranicza negatywne skutki, jakie mogą być związane z lobbingiem. Celem niniejszego artykułu jest określenie możliwości podnoszenia transparentności lobbingu oraz ustalenie związanych z tym kosztów regulacyjnych, tj. kompleksowych kosztów przyjęcia działań legislacyjnych bądź też nielegislacyjnych. Do celów oceny kosztów wykorzystano metodę analizy kosztów i korzyści (CBA), będącą podstawowym narzędziem oceny skutków regulacji (RIA). Wariant zerowy oznacza sytuację istnienia nietransparentnego lobbingu, wariant pierwszy – przyjęcie działań na rzecz zwiększenia transparentności, realizowanych po stronie lobbystów. Drugi wariant dotyczy podnoszenia transparentności po stronie celów lobbingu. W przypadku wariantu trzeciego transparentność lobbingu rośnie na bazie tzw. sunshine principles, a czwarty wariant obejmuje zwiększanie transparentności lobbingu poprzez funkcjonowanie monitoringu i sankcji. Dla poszczególnych wariantów zdefiniowano koszty regulacyjne.

## APPROACH OF SELECTED BUSINESS ENTITIES TO GDPR IMPLEMENTATION

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### Abstract

Personal data protection represents an issue which began to be dealt with in the context of religious conflicts and came to the fore after the Second World War when possible negative consequences of the misuse of personal data were made visible. Personal data protection is currently mentioned in relation with the implementation of General Data Protection Regulation (GDPR) by EU member countries. The objective of this article is to evaluate attitudes of further specified research sample consisting of entrepreneurial entities doing business in the Czech Republic to the changes set by the new legislative regulation of data protection. This article presents mainly the results of quantitative research based on data gathered through a questionnaire survey processing, identifies the weak areas of GDPR implementation process and proposes possible improvements leading to a more comfortable transition of business entities to the current legislative conditions in the area of personal data protection set by the European Parliament and the Council of the European Union.

### Keywords

Business entities; GDPR; Personal data protection; Data protection; General regulation.

### Introduction

The tendency to protect personal data arose in relation to religious conflicts that led to the persecution of people with different religious beliefs. The need for personal data protection conduced to greater caution and efforts to protect privacy. The need to protect personal data came to the fore after the Second World War that showed the negative consequences of personal data misuse, in this case in the form of genocide [1], [2].

The first written document dealing with privacy protection is said to be the French Declaration of the Rights of the Man and of the Citizen of 1789 [2]. The first tendencies to protect privacy are, according to Weibull [3], also visible in regulation of access to public records in Sweden in 1766.

Table 1 summarizes written documents which include references to privacy protection (personal data protection).

**Tab. 1:** *Written documents dealing with privacy protection*

| <b>Document creation</b> | <b>Title of the document</b>   |
|--------------------------|--|
| 1789                     | Rights of the Man and of the Citizen   |
| 10. 12. 1948             | Universal Declaration of Human Rights  |
| 4. 11. 1950              | European Convention on Human Rights  |
| 16. 12. 1966             | International Covenant on Civil and Political Rights   |
| 28. 1. 1981              | Council of Europe Convention No. 108 on data protection  |
| 24. 10. 1995             | Directive 95/46/EC of the European Parliament and of the Council   |
| 25. 5. 2018              | Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) |

*Source: Own with respect to [2], [3], [4], [5], [6] and [7]*

The development of human rights protection in the Czech Republic was different from the development of human rights protection in other states in Western Europe. It was caused by the differences in governing regimes. Personal data protection started to be solved in the Czech Republic since the 90s of the 20th century. The first adopted legislative regulation was the Act No. 256/1992 Coll. on personal data protection in information systems. Next adopted legislative regulation was the Act No. 101/2000 Coll. on personal data protection that was prepared and implemented with respect to the application of the Czech Republic for European Union membership. This regulation included the principles of Council of Europe Convention No. 108 on data protection and Directive 95/46/EC of the European Parliament and of the Council. As visible from the Table 1 above, the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) are currently in force. The last mentioned regulation had to be implemented by all member states of the European Union till 25. 5. 2018. Despite this regulation, some businesses in the Czech Republic were not interested in the issue. The reasons and impacts of their behavior are described in more detail in the following chapters.

## **1 Main Objectives and Principles of GDPR**

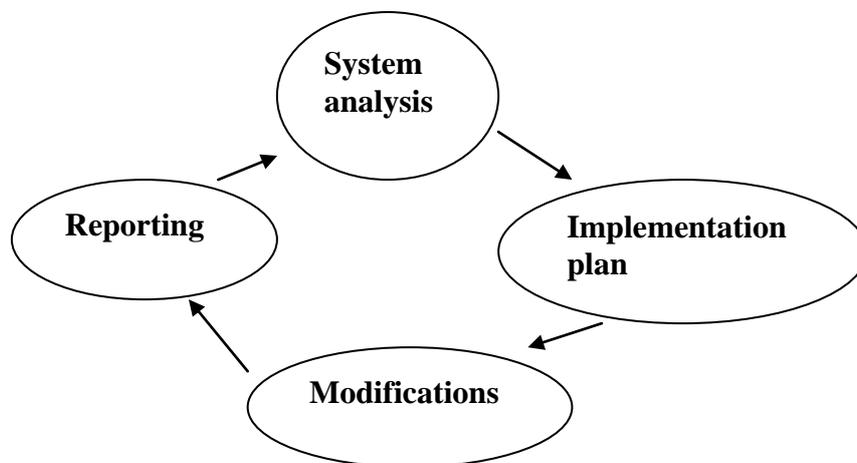
GDPR can be defined as the legislatively given guidance for personal data processing in all countries belonging to the EU. GDPR is obligatory, but selected areas may be further regulated by individual states, for example the level of sanctions resulting from the infringement of the Regulation [8]. Four main objectives of GDPR are defined by Navrátil [1] as:

1. The adaptation of legal regulation and personal data protection to current conditions.
2. Standardization of data protection in all European Union countries and other states participating on GDPR.
3. Strengthening the rights of privacy of all subjects of personal data protection and achieve the unified interpretation of GDPR by supervisory authorities of European Union countries.
4. Strengthening the credibility of the European Union and its Member States (and other countries covered by the GDPR) for other countries interested in trade relations with the European Union and related transfer of personal data between the countries.

GDPR is said to be based on six principles [9]:

1. Transparency of the personal data processing.
2. Limitations of personal data processing only for legitimate purposes.
3. Limitation of personal data collection and storage only for intended purposes.
4. Possibility to make changes in personal data by their subject or to remove them completely.
5. Data storage limits only for the time necessary relating to the given purpose.
6. Ensuring adequate privacy of personal data by effective procedures.

GDPR was set on 24 May 2016, but it came into force in 2018 and the possibility of its effective enforcement was postponed to May 25, 2018 [10]. Preparation of GDPR implementation is usually divided into several parts visible in Figure 1.



*Source: Own*

**Fig. 1:** GDPR implementation preparation phases

The system analysis tries to answer six questions:

1. Why? – The purpose of personal data processing.
2. About whom? - Identification of the subject of data.
3. What? - Personal data type, source and legislative purpose for their gathering.
4. When? - Date and frequency of data gathering, archiving time.
5. How? - Method of data processing.
6. Who? - Identification of people processing and accessing the data [11].

The Ministry of Education, Youth and Sports developed the methodics for GDPR implementation which can be used with small changes also for the business sector. This methodics is based on set activities that have to be ensured in relation to GDPR implementation and is available on the web pages of the Ministry of Education, Youth and Sports.

The following parts of this article are focused on analyzing attitudes of selected business entities in the Czech Republic to GDPR and on identification of weak areas in the process of GDPR implementation.

## **2 Research Objectives**

The main objective of this article and the conducted research was to analyze, assess and summarize expected effects of GDPR implementation from the point of view of business entities doing business in the Czech Republic and having something in common with the new Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) [7] and to propose possible improvements leading to more comfortable transition of business entities to the current legislative conditions in personal data protection set by the European Parliament and the Council of the European Union. The main objective was subdivided into several individual sub-objectives:

1. To identify and describe the historical milestones of personal data protection in Europe and in the Czech Republic with respect to international legislative framework in this area.
2. To conduct quantitative research of readiness of selected business entities in the Czech Republic for GDPR implementation.
3. To propose possible improvements of weak areas identified during the analysis of the current situation in personal data protection with respect to the necessity of GDPR implementation.

## **3 Research**

### **3.1 Research Methods**

Based on the identification and description of the main historical milestones related to personal data protection, the fundamental reasons leading to the need of change in legislative framework for this area were explained. Detailed document analysis (literary research), participating observations and non-standardized conversation were used as the methods leading to questionnaire creation. These activities were followed by the executive phase represented by analyzing the data and their evaluation. Based on the analysis, six hypotheses were evaluated:

1. Half of all respondents have not started preparation for GDPR implementation.
2. At least one third of respondents who started the process of GDPR implementation preparation used the help of a partner.
3. There is a relationship between legal subjectivity and starting the process of GDPR implementation preparation.
4. The main problem for business entities will be lack of availability of information relating to this issue.
5. There is a relationship between legal subjectivity and selection of partner for GDPR implementation preparation.
6. Entities already preparing for GDPR expected higher costs than those entities who are just preparing for starting the preparation for GDPR implementation.

### **3.2 Research Background**

After creation of a questionnaire consisting of 16 questions, the own data gathering started. The research was conducted from January 2018 to March 2018 with the intention to prepare

the submitted article and also the diploma thesis dealing with the GDPR issue. This article therefore uses the same database as the diploma thesis listed in the literature [12].

The used questionnaire was in electronic form and was created on the platform [www.vyplnto.cz](http://www.vyplnto.cz). The request for completion was sent to selected business entities.

The gathered data were evaluated during April 2018 and the results were summarized in the final report at the end of April 2018. Data evaluation was performed using methods of statistical analysis; the subject of the research was the frequency of the responses and the relationships between them.

The questions used in the questionnaire were modified to meet primarily the descriptive function. They were divided to three parts. The first part of the questionnaire was focused on general information about analyzed business entities, the second part divided business entities to those who were already preparing for GDPR implementation and others, and the last part dealt with the process of GDPR implementation phases and expected costs related to this process. Individual questions are summarized in Table 2.

**Tab. 2:** *Questions used in the questionnaire survey*

| Question No. | Specification  |
|--------------|--|
| 1            | Legal form of business.  |
| 2            | Branch of business.  |
| 3            | Size of the enterprise.  |
| 4            | Do you prepare your company on GDPR implementation?                                      |
| 5            | At what stage of preparation for GDPR implementation is your company?                    |
| 6            | Was your GDPR implementation preparation done in cooperation with any partner?           |
| 7            | What were your estimated costs associated with GDPR implementation?                      |
| 8            | What time requirements related to GDPR implementation preparation do you expect?         |
| 9            | What are your current total costs associated with GDPR implementation?                   |
| 10           | How long in total does/did your preparation for GDPR implementation take?                |
| 11           | What was the most significant expected problem related to GDPR implementation?           |
| 12           | What was the real most significant problem during GDPR implementation?                   |
| 13           | Are you planning any preparation for GDPR implementation?                                |
| 14           | Which costs associated with GDPR implementation do you expect?                           |
| 15           | What time requirements related to GDPR implementation do you expect?                     |
| 16           | What is currently your most significant expected problem related to GDPR implementation? |

*Source: Own*

### 3.3 Research Sample

Research sample used for the quantitative research consisted of business entities doing their business in the Czech Republic regardless of their location. This specification takes into account the fact that GDPR has an area scope of the entire Czech Republic. Some respondents were also asked to participate in expert interviews conducted with the aim to analyze the information provided in the questionnaire survey in detail. The final amount of respondents included in the questionnaire survey was 75 business entities located in the Czech Republic.

The respondents were divided to three different legal forms of business. 38 (50.67%) respondents belonged to self-employed persons, 34 (45%) respondents belonged to limited liability companies (Inc.) and 3 respondents (4%) represented joint stock companies. The most often selected branch of respondents' business was photography, video and graphics. Other respondents came from the areas like manufacturing, mechanical engineering, software and IT services, crafts, construction or hospitality services.

The respondents most often belonged to the group of micro enterprises (54 respondents), 12 respondents represented small enterprises and 6 respondents came from the group of large enterprises. The rest, 3 respondents, were from medium-sized enterprises.

#### 4 Research Results

This part of the article deals with the evaluation of responses to all questions asked. Individual questions were analyzed in a comprehensive way and selected questions for various sizes of enterprises and various legal subjectivity individually. The authors also used the Fisher's exact test which enabled them to evaluate responses to questions 4 and 6. Linear regression was used to determine the type of relationship between the gathered data.

The gathered data outlined the fact that only 49% of the respondents deal with the preparation for GDPR implementation. Preparation for GDPR implementation was declared by 37 respondents. This result supports the first set hypothesis. Responses to question number 4 are summarized by Table 3 and Table 4.

*Tab. 3: Relation between the size of the enterprise and preparation for GDPR implementation*

|                            | <b>Micro enterprise</b> | <b>Small enterprise</b> | <b>Medium-sized enterprise</b> | <b>Large enterprise</b> |
|----------------------------|-------------------------|-------------------------|--------------------------------|-------------------------|
| <b>Preparation started</b> | 37%                     | 75%                     | 67%                            | 100%                    |
| <b>No preparation yet</b>  | 63%                     | 25%                     | 33%                            | 0%                      |
| <b>Total</b>               | 100%                    | 100%                    | 100%                           | 100%                    |

Source: Own

*Tab. 4: Relation of legal subjectivity of the enterprise and preparation for GDPR implementation*

|                                 | <b>Legal subjectivity</b>   |                                  |                            |
|---------------------------------|-----------------------------|----------------------------------|----------------------------|
| <b>Preparation</b>              | <b>Self-employed person</b> | <b>Limited liability company</b> | <b>Joint stock company</b> |
| <b>Yes (number of subjects)</b> | 10                          | 24                               | 3                          |
| <b>No (number of subjects)</b>  | 28                          | 10                               | 0                          |

Source: Own

Data summarized by Table 4 were used as the basis for Fisher's exact test [13]. Null hypothesis was defined as "Preparation for GDPR implementation is independent of legal subjectivity." *P*-value was calculated as 0.0001; therefore the null-hypothesis was rejected. This result confirms set hypothesis which states that there is a relationship between legal subjectivity and starting the process of GDPR implementation preparation.

The fifth question already concerns only the respondents who started their preparation for GDPR implementation. Within the question number five was studied the relationship between company size and phase of preparation for GDPR implementation. Results show that the greatest amount of companies is currently in the phase of system analysis. Results are summarized in Table 5.

*Tab. 5: Relation of company size and phase of preparation for GDPR implementation*

|                            | <b>Micro enterprise</b> | <b>Small enterprise</b> | <b>Medium-sized enterprise</b> | <b>Large enterprise</b> |
|----------------------------|-------------------------|-------------------------|--------------------------------|-------------------------|
| <b>System analysis</b>     | 55%                     | 44.5%                   | 100%                           | 50.0%                   |
| <b>Implementation plan</b> | 20%                     | 11.1%                   | 0%                             | 16.6%                   |
| <b>Modifications</b>       | 10%                     | 33.3%                   | 0%                             | 16.7%                   |
| <b>Company is prepared</b> | 15%                     | 11.1%                   | 0%                             | 16.7%                   |
| <b>Total</b>               | 100%                    | 100.0%                  | 100%                           | 100.0%                  |

Source: Own

Answers to question number six confirmed the second research assumption, because 42% of respondents that were preparing for GDPR implementation answered positively. It means that at least one third of the respondents who started the process of GDPR implementation preparation used the help of a partner. Table 6 brings more detailed information about this issue and Table 7 was prepared as the basis for Fisher's exact test. Null hypothesis was defined as "Selecting preparation for GDPR implementation with partners' help is independent of legal subjectivity." P-value was calculated as 0.5144; therefore the null-hypothesis could not be rejected. This result did not confirm set hypothesis which states that there is a relationship between legal subjectivity and selection of partner for GDPR implementation preparation.

*Tab. 6: Relation between size of the entity and selection of partner for GDPR implementation preparation*

|                                  | <b>Micro enterprise</b> | <b>Small enterprise</b> | <b>Medium-sized enterprise</b> | <b>Large enterprise</b> |
|----------------------------------|-------------------------|-------------------------|--------------------------------|-------------------------|
| <b>We use the partners' help</b> | 35%                     | 33%                     | 50%                            | 83%                     |
| <b>We solve GDPR ourselves</b>   | 65%                     | 67%                     | 50%                            | 17%                     |
| <b>Total</b>                     | 100%                    | 100%                    | 100%                           | 100%                    |

Source: Own

*Tab. 7: Relation of legal subjectivity of the enterprise and selection of partner for preparation for GDPR implementation*

|                                 | <b>Legal subjectivity</b>   |                                  |                            |
|---------------------------------|-----------------------------|----------------------------------|----------------------------|
| <b>Partner</b>                  | <b>Self-employed person</b> | <b>Limited liability company</b> | <b>Joint stock company</b> |
| <b>Yes (number of subjects)</b> | 3                           | 11                               | 2                          |
| <b>No (number of subjects)</b>  | 7                           | 13                               | 1                          |

Source: Own

Question number seven deals with the estimated costs related to GDPR implementation by business entity. The results showed that 76% of respondents expected the cost ranging from 1 to 50,000 CZK, 19% of respondents selected the option 50,000 to 150,000 CZK and the possibility 150,000 to 400,000 CZK was selected by 5% of respondents. The most often estimated time requirements for GDPR implementation preparation were in the range of 0 – 1 month (46% of respondents), 27% of respondents selected the option 2 – 4 months, 22% of respondents thought it will be 1 – 2 months and finally 5% of respondents selected the option 4 months and more. The greatest amount of analyzed business entities (84% of respondents) stated that their costs related to GDPR implementation preparation were till the day of questionnaire survey in the range of 1 – 50,000 CZK, only 16% of respondents selected range 50,000 – 150,000 CZK. Only 13% of respondents that started the preparation for GDPR implementation were in the final phase of preparation. This may have led to distortion of conclusions. Business entities were not able to quantify the costs, because they were still expecting their increase.

Based on the research results, only 5 respondents (from the total amount of 75 respondents) completed the preparation for GDPR implementation. Preparation took maximally 2 months. Because of such a low amount of respondents with finalized preparation for GDPR implementation the answers to question number 10 had no adequate informative value.

Questions 11, 12 and 16 were open questions. The authors had expected different experience of respondents in the area of GDPR implementation preparation. The research identified lack of information to GDPR issue and particular solutions that would be sufficient for potential control as the most often expected problematic factors. To other mentioned problems belonged concerns about data security, publishing photos, internal standards and processes adjustments, IT solutions, administrative burden or consent to personal data processing. These expectations were confirmed by the responses of the respondents who were already preparing the GDPR implementation to question number 12. The answers highlighted the lack of information to GDPR issue, or the existence of various interpretations of the issue.

Question number 13 surveyed the respondents' plans in the area of preparation for GDPR in the near future. 42% of respondents selected the answer "We want to start the preparation for GDPR implementation when it comes into force". 32% of respondents selected the answer "No, we will not start the preparation for GDPR". 26% of respondents selected the answer "We want to start the preparation for GDPR implementation before it comes into force". Preparation for GDPR implementation is most often omitted by self-employed persons.

Questions 14, 15 and 16 were prepared for business entities that had had no experience with GDPR implementation preparation before the date of the survey conduction. These respondents most often (76% of such respondents) expected that the time requirements of GDPR implementation preparation would be in the range 0 – 1 month. The most significant problems defined by these business entities were described as lack of information about GDPR issue and excessive time demands of GDPR implementation preparation. Responses to question number 14 are summarized in Table 8.

**Tab. 8:** *Estimates of regression coefficients and standard deviation of linear regression analysis (in CZK)*

| <b>Partner</b>                | <b>Readiness for GDPR</b> | <b>Joint stock company</b> | <b>Self-employed person</b> | <b>Absolute term</b> |
|-------------------------------|---------------------------|----------------------------|-----------------------------|----------------------|
| <b>Regression coefficient</b> | 10,268                    | 117,078                    | -2,768                      | 30,987               |
| <b>Standard deviation</b>     | 8,177                     | 18,859                     | 8,177                       | 7,854                |

Source: Own

Expected costs associated with the GDPR implementation by business entities were analyzed using the linear regression including information about the legal forms of the business entities and information about the phase of business entity preparation for GDPR implementation. Estimated cost intervals have been adjusted to mean values for these intervals. This may cause variations in calculation. Estimates of regression coefficients and standard deviation are shown in Table 8. Absolute term indicates the average estimated cost of the company, which corresponds to the basic categories. Calculation was used by a company with legal subjectivity – limited liability company (Inc.), which was not prepared for GDPR implementation. The remaining values in the first line of the Table 8 represent differences in the average estimated costs of other legal entities compared to the absolute term. The first column of the Table 8 indicates the difference between the entities that have started the preparation for GDPR implementation and those who have not started their preparation yet.

The entities under preparation for GDPR implementation estimate their costs about 10,000 CZK higher than the entities which have not started preparation for GDPR implementation. Due to insufficient amount of data, general conclusions cannot be made. The regression coefficient is not statistically significant.

The above mentioned results should not confirm the sixth expectation that entities already preparing for GDPR expected higher costs than those entities who are just preparing for starting the preparation for GDPR implementation. By contrast, the hypothesis number 4 that the main problem for business entities will be the lack of availability of information relating to this issue was verified by answers to questions number 11 and 16.

#### **4.1 Proposals based on research results**

Conducted research led to setting two proposals:

1. Creation and management of an internet portal, which would deal with the issue of GDPR. This portal should be under the auspices of the Office for Personal Data Protection and should inform about current problems related to this issue. It should be taken as guidance for GDPR implementation with available sample documents (consents to personal data processing or amendments to contracts).
2. Realization of regional seminars or workshops that would provide a comprehensive and clear picture of personal data protection. This proposal was defined in accordance with the finding that the preparation for GDPR implementation is most likely to be delayed by micro-enterprises mainly represented by self-employed persons.

The above mentioned proposals were set during the gathered data evaluation that was done before the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) came into force. The current situation has changed, therefore the first proposal should be considered once more, using the results of further research (qualitative or quantitative) in the area of personal data protection regulation.

#### **Conclusion**

This article provides an insight to the personal data protection issue. Significant historical milestones identifiable in this area are introduced in the first sections of the article. These milestones are represented by issuing documents that govern the protection of privacy and personal data. Next sections of the article are devoted to the quantitative research conducted in the area of personal data protection regulation. Data analysis including the Fisher's exact

test and linear regression analysis confirmed set hypothesis number 1, 2, 3 and 4. Hypothesis number 5 and 6 were not confirmed. Individual findings are mentioned in more detail in the section Research Results. Two proposals designed as solutions of problematic issues were explained in the section 4.1. Personal data protection and its regulation are the issues that need to be further examined. Further research results should enable to improve the designed proposals and to verify the results of the research conducted by the authors of this article.

## Acknowledgements

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## PŘÍSTUP VYBRANÝCH PODNIKATELSKÝCH SUBJEKTŮ K IMPLEMENTACI GDPR

Ochrana osobních údajů je tématem, které začalo být řešeno v souvislosti s náboženskými konflikty. Do popředí se dostalo po druhé světové válce, která zviditelnila možné negativní důsledky zneužití osobních údajů. V současnosti je ochrana osobních údajů zmiňována v souvislosti s implementací nového Nařízení Evropského parlamentu a Rady EU členskými státy EU. Cílem předkládaného článku je vyhodnotit postoje dále specifikovaného výzkumného vzorku podnikatelských subjektů, které vykonávají svou činnost v České republice, ke změnám stanoveným prostřednictvím nové právní úpravy ochrany osobních údajů. Příspěvek prezentuje zejména výstupy provedeného kvantitativního výzkumu založeného na sběru dat prostřednictvím dotazníkového šetření, identifikuje slabá místa procesu zavádění GDPR a navrhuje možná zlepšení vedoucí ke komfortnějšímu přechodu podnikatelských subjektů na současné legislativní podmínky v oblasti ochrany osobních údajů stanovené Evropským parlamentem a Radou EU.

## DER ANSATZ AUSGEWÄHLTER UNTERNEHMERISCHER SUBJEKTE ZUR IMPLEMENTIERUNG DER DATENSCHUTZVERORDNUNG

Der Schutz der persönlichen Daten ist ein Thema, das bereits im Zusammenhang mit religiösen Konflikten gelöst wurde. In den Vordergrund rückte es nach dem zweiten Weltkrieg, welcher allfällige negative Konsequenzen des Missbrauchs persönlicher Daten sichtbar machte. In der Gegenwart findet der Schutz der persönlichen Daten Erwähnung im Zusammenhang mit der Implementierung der neuen Verordnung des Europäischen Parlamentes und des Europäischen Rates durch die Mitgliedsstaaten der EU. Das Ziel des vorliegenden Artikels besteht in der Auswertung der Haltung des weiter spezifizierten Forschungsmusters von Unternehmenssubjekten, welche ihre Tätigkeit in der Tschechischen Republik ausüben, zu den durch die neuen rechtlichen Regelungen zum Schutz der persönlichen Daten festgelegten Veränderungen. Der Beitrag präsentiert besonders die Ergebnisse der quantitativen Untersuchung, welche auf einer Fragebogenumfrage basiert, identifiziert die Schwachstellen des Prozesses der Einführung der Datenschutzverordnung und schlägt Verbesserungsmöglichkeiten vor, welche zu einem bequemerem Übergang der Unternehmenssubjekte zu den gegenwärtigen legislativen Bedingungen im Bereich des Schutzes persönlicher Daten führen, welcher vom Europäischen Parlament und vom Europäischen Rat festgelegt wurde.

## PODEJŚCIE WYBRANYCH PODMIOTÓW GOSPODARCZYCH DO WDROŻENIA RODO

Ochrana danych osobowych to zagadnienie, którym zaczęto się zajmować w związku z konfliktami religijnymi. Pojawiło się po drugiej wojnie światowej, która uwidoczniła możliwe negatywne skutki nadużycia danych osobowych. Obecnie ochrona danych osobowych omawiana jest w związku z wdrożeniem nowego Rozporządzenia Parlamentu Europejskiego i Rady Unii Europejskiej przez państwa członkowskie Unii. Celem niniejszego artykułu jest ocena podejścia określonej próbki badawczej podmiotów gospodarczych, prowadzących działalność w Republice Czeskiej, do zmian określonych w nowej regulacji prawnej dotyczącej ochrony danych osobowych. W artykule zaprezentowano przede wszystkim wyniki przeprowadzonych badań ilościowych opartych na gromadzeniu danych w ramach badań ankietowych, zidentyfikowano słabe punkty procesu wdrażania RODO oraz zaproponowano możliwe udoskonalenia prowadzące do bardziej komfortowego dostosowania się podmiotów gospodarczych do obecnych warunków prawnych w zakresie ochrony danych osobowych określonych przez Parlament Europejski i Radę UE.

## DOES THE PRESSURE ON INCREASING WAGES THREATEN THE PROFITABILITY OF CZECH BAKERY?

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### Abstract

This study describes the application of sensitivity analysis when determining the influence of wage growth on profitability of products made by a bakery in the Czech Republic. Sensitivity analysis of the profit was conducted for three best-selling products of the bakery: the loaf of bread, the roll and the bun using cost calculation of the products together with information about their sales and purchase prices of inputs in the production process in 2009 – 2017. The results of the study show that wage growth was not the factor with the greatest impact on profitability of any of the three products. The most significant factors linked with the three products were their selling prices and flour purchase prices. Furthermore, it was proved that wage growth did not threaten any of the analyzed products in terms of their profitability.

### Keywords

Sensitivity analysis; Food economics; Baking industry; Profitability analysis; Cost calculation.

### Introduction

The baking industry in the Czech Republic currently faces a lack of qualified labor. The main reason is the direct wages that have been below-average in this industry for a long time: in 2017 they were around 18 thousand CZK/month [1]. The dynamics of direct wage growth has followed the development of the minimum wage (see [2]). Sales of bakeries are almost exclusively given by the demand in chain stores that try to push selling prices as low as possible [3]. By contrast, sales of bakery products in bakery-owned shops contribute to total sales only very little [4]. Additionally, the baking industry faces noticeable fluctuations of input purchase prices. This concerns particularly the purchase price of flour [5]. The above stated factors have fundamental impact on the profitability of bakery products.

In order to assess the impact of various factors on profitability, we can use sensitivity analysis [6]. The general procedure to be followed when conducting sensitivity analysis is stated in [7]. One-way sensitivity analysis is based on the presumption that in order to assess the sensitivity of the results it suffices to change only one factor, which is repeated with all other factors [8]. One-way sensitivity analysis can be applied in two ways [9]. The purpose of the first way is to find out how the value of the results is influenced by a change in one risk factor (e.g. by 10%) and whether negatively or positively. The amount of the percentage is usually given by an expert estimate. Values of the results are subsequently repeated for all risk factors under all absolute and relative changes. The drawback of this procedure is the possibility that the amount of uncertainty in the risk factors used may actually differ to a great degree. The second way consists in compiling pessimistic and optimistic scenarios. Such scenarios are estimates of the actual *status quo* that are to be exceeded with preselected probability. This way allows for taking into account the different degree of uncertainty linked to various risk

factors. The drawback is the necessity to quantify pessimistic and optimistic scenarios. Regardless of the way of sensitivity analysis it is apparent that significant risk factors will include absolutely big factors and very uncertain factors with a rather extensive interval of possible values [8]. The use of sensitivity analysis in food industry can be found, for instance, in [10] or [11].

## 1 Goals of the Research

1. To determine what influence direct wage growth has on the profitability of products made by a bakery in the Czech Republic. These products are a loaf of bread, a roll and a bun.
2. To compare the influence of direct wage growth has on the profitability with the influence of other factors such as selling prices of products, sold amounts of products and purchase prices of inputs including various types of flour and fuels.
3. To assess which factors can cause possible loss of the products profitability.

## 2 Materials and Methods

### 2.1 Input Data for the Study

According to [4] a typical representative of the Czech bakery market is a bakery whose annual turnover exceeds CZK 100 million and the number of its employees is between 100 and 500.

*Tab. 1: Cost calculation for the loaf of bread, the roll and the bun*

| Category: Costs   | <i>i</i> | Cost item $c_i$              | Product <i>j</i>   |               |               |
|---|----------|------------------------------|--------------------|---------------|---------------|
|   |          |                              | 1<br>Loaf of Bread | 2<br>Roll     | 3<br>Bun      |
| Direct material   | 1        | Wheat bread flour            | 2 986              | 0             | 0             |
|   | 2        | Rye bread flour              | 1 886              | 0             | 0             |
|   | 3        | Wheat plain flour            | 0                  | 5 552         | 5 777         |
|   | 4        | Other ingredients            | 1 186              | 2 308         | 2 694         |
| Direct wages  | 5        | Direct wages                 | 1 495              | 2 990         | 2 990         |
| Other direct costs  | 6        | Other direct costs           | 507                | 1 015         | 1 015         |
| Production overheads  | 7        | Electricity                  | 210                | 419           | 419           |
|   | 8        | Gas                          | 698                | 1 397         | 1 397         |
|   | 9        | Other production overheads   | 1 420              | 2 840         | 2 840         |
| Administration overheads  | 10       | Administration overheads     | 3 081              | 6 162         | 6 162         |
| Distribution overheads  | 11       | Gasoline                     | 705                | 1 405         | 1 405         |
|   | 12       | Petrol                       | 144                | 286           | 286           |
|   | 13       | Other distribution overheads | 2 415              | 4 814         | 4 814         |
| <b>Total full costs of a performance [CZK / t of a Product]</b> |          |                              | <b>16 732</b>      | <b>29 187</b> | <b>29 798</b> |

Source: Own

The input data for the study were provided by a bakery carrying out its business in the Czech Republic for 3 products with the highest impact on the revenues (i.e. 80% of total amount of products sold and 60% of total revenues). These products are a loaf of bread, a roll and a bun. The input data contain sold amounts of products and their selling prices, purchase prices of wheat plain flour, wheat bread flour, rye bread flour, diesel, petrol, gas and electricity.

Furthermore, the development of the direct wages for each product was provided. All input data cover the time period 2009 – 2017. For the loaf of bread, the roll, and the bun, the bakery provided a cost calculation structured in Table 1. The production capacity of the bakery was considered to be 2 880 tons of loaves of bread per year, 620 tons of rolls per year and 450 tons of buns per year.

## 2.2 Sensitivity Analysis of the Profit

We applied one-way sensitivity analysis described in [12] to assess the influence of different factors on the profit of the loaf of bread, the roll and the bun. These factors and their average ( $AVGf_k$ ), minimum ( $MINf_k$ ) and maximum ( $MAXf_k$ ) values are shown in Table 2.

**Tab. 2:** Factors used in the sensitivity analysis of the profit

| $k$ | Factor $f_k$                                | $MINf_k$ | $AVGf_k$ | $MAXf_k$ | $min\Delta f_k$<br>% | $max\Delta f_k$<br>% | $\Delta f_k$<br>% |
|-----|---|----------|----------|----------|----------------------|----------------------|-------------------|
| 1   | Purchase price of wheat plain flour [CZK/t] | 5 534    | 6 959    | 8 504    | 20                   | 22                   | 25                |
| 2   | Purchase price of wheat bread flour [CZK/t] | 4 940    | 6 633    | 8 267    | 26                   | 25                   | 30                |
| 3   | Purchase price of rye bread flour [CZK/t]   | 5 288    | 7 049    | 8 636    | 25                   | 23                   | 25                |
| 4   | Purchase price of diesel [CZK/l]            | 24.7     | 32.0     | 37.2     | 23                   | 16                   | 20                |
| 5   | Purchase price of petrol [CZK/l]            | 25.2     | 34.2     | 40.1     | 26                   | 17                   | 25                |
| 6   | Purchase price of electricity [CZK/MWh]     | 2 505    | 2 672    | 2 894    | 6                    | 8                    | 10                |
| 7   | Purchase price of gas [CZK/MWh]             | 737      | 857      | 1 002    | 14                   | 17                   | 20                |
| 8   | Selling price of a loaf of bread [CZK/pc]   | 19.2     | 21.2     | 22.6     | 10                   | 6                    | 10                |
| 9   | Selling price of a roll [CZK/pc]            | 1.4      | 1.5      | 1.6      | 8                    | 8                    | 10                |
| 10  | Selling price of a bun [CZK/pc]             | 1.2      | 1.6      | 1.7      | 22                   | 9                    | 20                |
| 11  | Amount of loaves of bread sold [t]          | 1 649    | 2 190    | 2 676    | 25                   | 22                   | 25                |
| 12  | Amount of rolls sold [t]                    | 516      | 550      | 595      | 6                    | 8                    | 10                |
| 13  | Amount of buns sold [t]                     | 355      | 393      | 433      | 10                   | 10                   | 10                |
| 14  | Direct wages – loaf of bread [CZK/pc]       | 1.68     | 2.00     | 2.62     | 16                   | 31                   | 25                |
| 15  | Direct wages – roll [CZK/pc]                | 0.12     | 0.14     | 0.19     | 16                   | 31                   | 25                |
| 16  | Direct wages – bun [CZK/pc]                 | 0.14     | 0.17     | 0.22     | 16                   | 32                   | 25                |

Source: Own

The average, minimum and maximum values of the factors were obtained from the input data for the study provided by the bakery. Using the average and minimum values of the factors we determined their relative change ( $min\Delta f_k$ ) as:

$$min\Delta f_k = \frac{AVGf_k - MINf_k}{AVGf_k} \cdot 100\% \quad (1)$$

Similarly, we used the average and maximum values of the factors to determine their relative change ( $max\Delta f_k$ ) as:

$$max\Delta f_k = \frac{MAXf_k - AVGf_k}{AVGf_k} \cdot 100\% \quad (2)$$

Using  $min\Delta f_k$  and  $max\Delta f_k$  we determined  $\Delta f_k$  for each  $f_k$  as:

$$\Delta f_k = \frac{min\Delta f_k + max\Delta f_k}{2} \quad (3)$$

The value of  $\Delta f_k$  was rounded up to the nearest multiple of 5% following a recommendation stated in [9].

The initial value of profit  $z_j$  for  $j^{\text{th}}$  product was obtained as:

$$z_j = Q_j \cdot (p_j - \sum_{i=1}^{13} c_{ij}) \quad (4)$$

where  $p_j$  is the average selling price of  $j^{\text{th}}$  product in 2009 – 2017 and  $Q_j$  is the average annual amount of  $j^{\text{th}}$  product sold in the same period. We assumed 1 pc of the loaf of bread to weigh 1.2 kg, 1 pc of the roll 0.043 kg and 1 pc of the bun 0.05 kg.

We used  $\Delta f_k$  values to define scenarios to be tested in the one-way sensitivity analysis of the profit. Every tested scenario consisted in increasing the  $k^{\text{th}}$  factor by  $\Delta f_k$  and calculating the profit change  $\max \Delta z_j$  as compared with the initial value of the profit  $z_j$ . In case of factors derived from cost items (i.e. factors  $f_1 - f_7$  and  $f_{14} - f_{16}$ )  $\max \Delta z_j$  was calculated as:

$$\max \Delta z_j = Q_j \cdot (p_j - \sum_{i=1}^{k-1} c_{ij} - (1 + f_k) - \sum_{i=k+1}^{13} c_{ij}) - z_j \quad (5)$$

In the case of factors derived from the selling prices of products (i.e. factors  $f_8 - f_{10}$ )  $\max \Delta z_j$  was calculated as:

$$\max \Delta z_j = Q_j \cdot [(1 + f_k) \cdot p_j - \sum_{i=1}^{13} c_{ij}] - z_j \quad (6)$$

In the case of factors derived from the amount of products sold (i.e. factors  $f_{11} - f_{13}$ )  $\max \Delta z_j$  was calculated as:

$$\max \Delta z_j = (1 + f_k) \cdot Q_j \cdot (p_j - \sum_{i=1}^{13} c_{ij}) - z_j \quad (7)$$

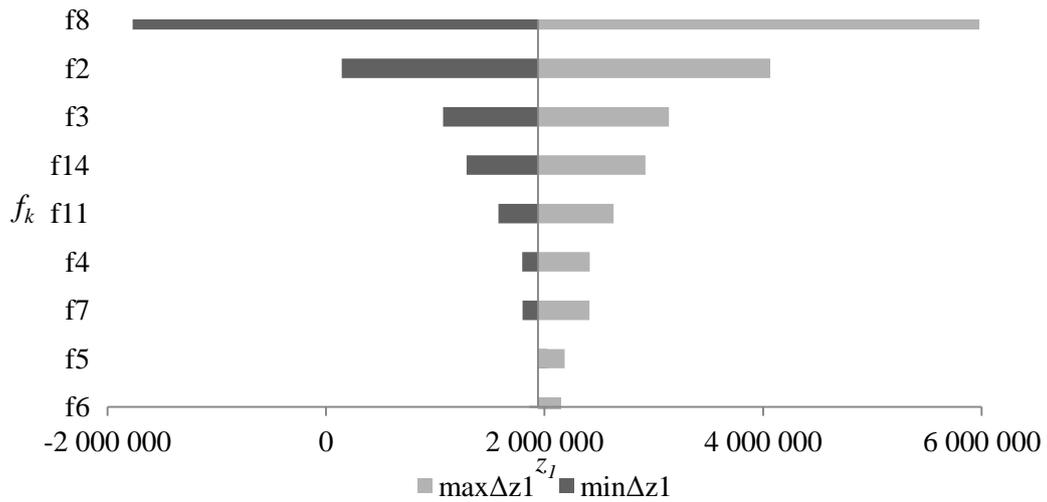
Using  $\max \Delta z_j$ , the value of  $\min \Delta z_j$  was calculated for every scenario as:

$$\min \Delta z_j = z_j - \max \Delta z_j \quad (8)$$

For the loaf of bread, 9 different scenarios were tested differing in that always just one factor out of the factor group  $f_2 - f_8$ ,  $f_{11}$  and  $f_{14}$  was changed. For the roll, 8 scenarios were tested differing in that always just one factor out of the factor group  $f_1$ ,  $f_4 - f_7$ ,  $f_9$ ,  $f_{12}$  and  $f_{15}$  was changed. Finally for the bun, 8 scenarios were tested differing in that always just one factor out of the factor group  $f_1$ ,  $f_4 - f_7$ ,  $f_{10}$ ,  $f_{13}$  and  $f_{16}$  was changed.

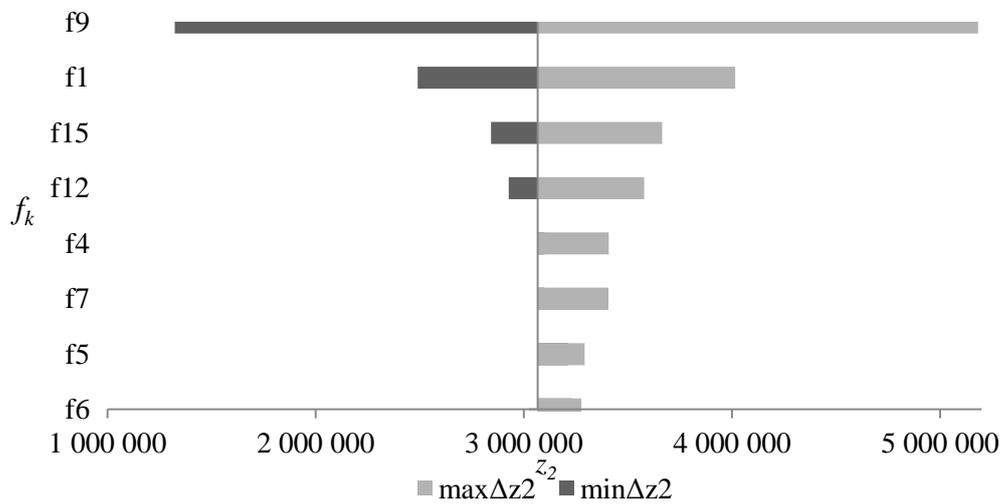
### 3 Results and Discussion

Based on the values of  $\max \Delta z_j$  and  $\min \Delta z_j$ , Fig. 1, Fig. 2 and Fig. 3 show the sensitivity of the profit for the loaf of bread, the roll and the bun.



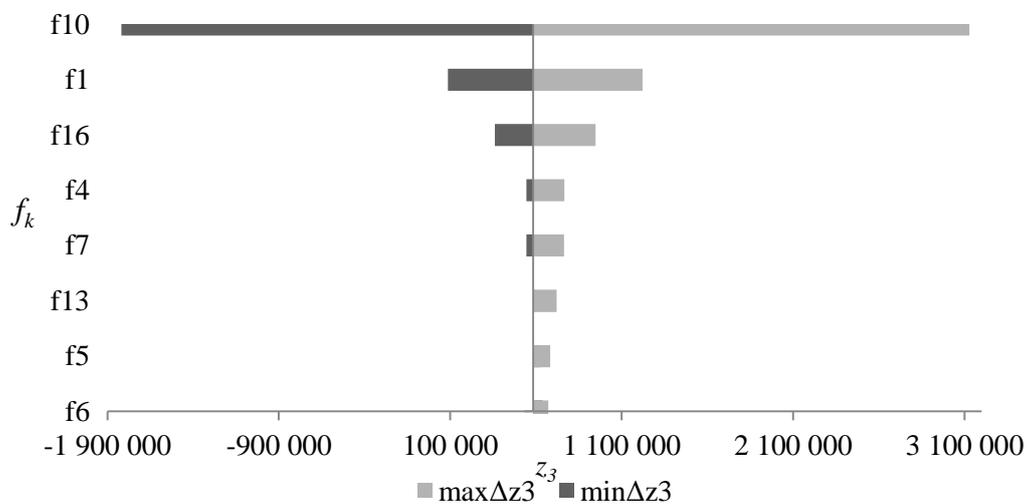
Source: Own

**Fig. 1:** Sensitivity analysis of the profit – the loaf of bread



Source: Own

**Fig. 2:** Sensitivity analysis of the profit – the roll



Source: Own

**Fig. 3:** Sensitivity analysis of the profit – the bun

In case of the loaf of bread the factor with greatest influence on profit is the selling price of the product followed by the purchase prices of wheat and rye bread flour. This is in accordance with [13]. Direct wages have similar impact on profitability as the price of rye flour. The amount of the product sold is of much less importance, while other considered factors only have marginal influence. In the case of selling price of the product and purchase price of wheat bread flour, a negative change in these factors to values around  $\Delta f_k$  leads to possible loss of the product profitability.

Similarly, also in the case of the roll the factor that has the most significant impact on profitability is the selling price of the product followed by the purchase price of wheat plain flour. Also in this case the results are in accordance with [13]. Unlike in the case of bread, the less significant factors influencing profitability of the roll are direct wages together with the amount of the product sold. None of the other factors can be expected to have negative impact on profitability. A percentage growth or drop in the values of the other tested factors did not result in values anywhere near  $\Delta f_k$  or in possible loss of the product profitability.

Finally, in the case of the bun the factor that has the most significant influence is again the selling price of the product. Also in this case the most significant factor is in accordance with [13]. What may have certain influence on profit can be the purchase price of wheat plain flour and direct wages. Other marginal factors influencing profitability of this product can also be the amount of the product sold. In the case of the selling price of a bun, a percentage growth in the product price leads to a percentage growth of this factor to values around  $\Delta f_k$  and to possible loss of the product profitability.

## Conclusion

1. In all observed products, i.e. the loaf of bread, roll and bun the direct wage growth is not the most significant factor in terms of its influence on profitability.
2. The percentage growth of direct wages to values around  $\Delta f_k$  does not threaten any of the products from the perspective of their profitability.
3. The biggest threat that may hinder bakeries from achieving satisfactory effectiveness lies in maintaining acceptable selling prices of the products.

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## OHROŽUJE TLAK NA RŮST MEZD ZISKOVOST PRODUKTŮ PRŮMYSLOVÉ PEKÁRNY PODNIKAJÍCÍ V ČESKÉ REPUBLICE?

V této studii popisujeme aplikaci analýzy citlivosti při stanovení vlivu růstu mezd na ziskovost produktů průmyslové pekárny podnikající v České republice. Analýza citlivosti zisku je provedena pro 3 nejprodávanější výrobky průmyslové pekárny, kterými jsou bochník chleba, rohlík a houska s využitím nákladových kalkulací výrobků a také informací o prodejích výrobků a nákupních cenách vstupů do výrobního procesu v období 2009 – 2017. Výsledky studie ukazují, že u všech zkoumaných výrobků nepředstavuje růst mezd nejvýznamnější faktor z hlediska vlivu na ziskovost. Nejvýznamnějšími faktory u všech zkoumaných výrobků jsou jejich prodejní ceny a také nákupní ceny mouky. Dále bylo prokázáno, že růst mezd neohrožuje žádný ze zkoumaných výrobků z pohledu jejich rentability.

## BEDROHT DER DRUCK AUF DIE LÖHNE DIE RENTABILITÄT VON PRODUKTEN EINER IN TSCHECHIEN TÄTIGEN INDUSTRIEBÄCKEREI?

Diese Studie beschreibt die Anwendung der Sensitivitätsanalyse bei Ermittlung des Einflusses der Lohnsteigerung auf Rentabilität von Produkten einer in Tschechien tätigen Industriebäckerei. Die Sensitivitätsanalyse wurde bei den drei meistverkauften Produkten der Industriebäckerei – Laib Brot, Hörnchen und Brötchen – durchgeführt. Dabei wurden die Kostenkalkulationen einzelner Produkte herangezogen und auch Informationen über die Verkaufszahlen der Produkte und über die Einkaufspreise der Inputs, die in den Jahren 2009 – 2017 in den Produktionsprozess eingingen. Die Ergebnisse der Studie zeigen, dass die Lohnsteigerung bei den geprüften Produkten aus Sicht des Einflusses auf ihre Rentabilität nicht den wichtigsten Faktor darstellt. Die wichtigsten Faktoren bei allen geprüften Produkten sind ihre Verkaufspreise sowie die Einkaufspreise von Mehl. Ferner wurde nachgewiesen, dass die Lohnsteigerung die Rentabilität keines der drei geprüften Produkte bedroht.

## CZY PRESJA NA WZROST PŁAC ZAGRAŻA RENTOWNOŚCI PRODUKTÓW PIEKARNI PRZEMYSŁOWYCH, DZIAŁAJĄCYCH W CZESKIEJ REPUBLICE?

W niniejszym opracowaniu opisujemy stosowanie analizy wrażliwości podczas określania wpływu wzrostu płac na rentowność produktów piekarni przemysłowej, działającej w Czeskiej Republice. Analiza wrażliwości zysku przeprowadzona została w przypadku 3 najlepiej się sprzedających produktów piekarni przemysłowej, którymi są bochenek chleba, rogalik i bułka z wykorzystaniem kalkulacji kosztów produktów oraz informacji o sprzedaży produktów we wstępnych cenach zakupu do procesu produkcji w okresie lat 2009 – 2017. Wyniki badań pokazują, że u żadnego z badanych wyrobów wzrost płac nie przedstawia najważniejszego czynnika z punktu widzenia jego wpływu na rentowność. Najważniejszymi czynnikami u wszystkich badanych wyrobów są ceny ich sprzedaży oraz ceny zakupu mąki. Wykazano poza tym, że wzrost płac nie zagraża żadnemu z badanych wyrobów z punktu widzenia jego rentowności.

## SENSITIVITY CURVE OF DECISION-MAKING PROCESS OF THE COMPANY

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### Abstract

This article focuses on the issue of the sensitivity curve as an indicator of risk during decision-making process. The aim of this article is to present the measurement capabilities for sensitivity of the decision-making process within the issue of the use of quantitative methods in managerial decision making. The approach that is presented in the article uses the measurement of the sensitivity of the decision-making model to its input parameters. The whole decision-making process is a multiple-criterion and to determine a compromise variant there is Weighted Sum Approach (WSA) method used. This article uses the coefficient that determines the percentage change that is necessary to choose the second best option. In addition this approach is supported by formation of sensitivity curve. This curve represents the change in value of the output (using method WSA) when changing the selected input parameter of decision-making process. To build a sensitivity curve there is probabilistic simulation approach (Monte Carlo method) used.

### Keywords

Sensitivity curve; Risk analysis; Monte Carlo simulation; Multiple-criteria decision making.

### Introduction

The article focuses on an alternative method of sensitivity determination in decision-making processes of manager's decision making. Given the importance of the problem solution, the whole process is based on multi-criteria decision making. Weighted Sum Approach (WSA) is used primarily for selected multi-criteria decision-making process [1], [2]. To measure, the sensitivity of decision-making process in this article, the authors use a risk indicator. The riskiness of the decision-making process focuses only on the riskiness of individual variants. This is measured for example by probability, statistical characteristics or at-risk type of indicators. The lastly mentioned group is considered in the contemporary literature as the group that best describes the risk indicators of the individual variants. The most commonly used indicator is Value-at-Risk (VaR), but many others can be found such as Profit-at-Risk, Earnings-at-Risk, Cash Flow-at-Risk, etc. [3], [4], [5]. For the use of the VaR indicator, the basic statistical characteristics of the mean value, variance, standard deviation and variation coefficient are sufficient. The risk of the decision-making process is measured in this article by coefficient  $\alpha$ , which represent the percentage change in the inputs (criteria) needed for choosing another variant. This problem illustrates multiple-criteria decision analysis (MCDA) [6], [7].

## 1 Research Objective

The objectives of this article can be divided into two main aims. The first aim is to determine the coefficient  $\alpha$  in general. This coefficient can be used as alternative methods for measuring the risk of the decision-making process. The second aim is focusing on setting the sensitivity curve. This curve combined percentage change in input (criteria) and percentage change in output (measured by WSA utility function).

## 2 Research Methods

This article uses multi-criterion decision-making approaches and also probabilistic simulation represented by Monte Carlo simulation approach. The WSA method, which is chosen for the multi-criterion evaluation of the variants, was chosen mainly because it uses the utility function that maximizes its value as a rating criterion. The utility function is linear and is compiled at interval  $[0, 1]$ . The predicted linearity of the output utility function as an evaluation criterion is appropriate for measuring its sensitivity. The WSA assumes the use of a criteria matrix whose elements are replaced by the utility value of the  $X_i$  while evaluating based on criteria of the  $Y_j$ . The output function of the utility should then have the form for the maximization criteria shown in Formula (1)

$$u(X_i) = \sum_{j=1}^k v_j \times \frac{y_{ij} - D_j}{H_j - D_j}, \quad (1)$$

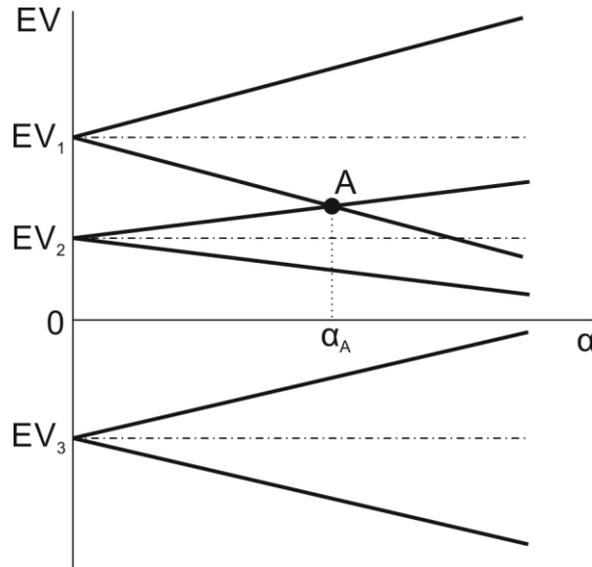
where  $Y$  represents the criteria,  $D$  is the lowest and  $H$  is the highest value of the criterion  $Y$ ,  $v$  represents the weight of the given criterion. Index  $i$  represents the row and index  $j$  represents the column in the criterion matrix.

### 2.1 Risk Measurement

The risk of decision-making process is then performed using sensitivity analysis by the coefficient  $\alpha$ . This represents the desired percentage change of the input criteria when the value of the utility function  $u(X_i)$  compromise variant reaches the level of the second worse variant in the decision-making process. This is a condition shown in Formula (2)

$$\Delta u(X) = u(X_1) - u(X_2), \quad (2)$$

where index 1 means chosen variant (based on WSA) and index 2 represents the second worse variant in the decision-making process. The difference in the utility function of two alternative variants is equal to the desired change in the value of the utility function. In the mono-criterion decision-making process, a non-negation condition would still have to be given, but it is irrelevant given the nature of the function using the WSA method. Graphically, we can simply interpret this problem by using Figure 1.



Source: Own

**Fig. 1:** Sensitivity measured by  $\alpha$

In Figure 1 the vertical axis shows the utility function value (measured by expected value ( $EV$ ) of three different options) and the horizontal axis the value of the coefficient  $\alpha$ . Then the value of  $\alpha_A$ , represents the situation where the decision-maker, based on the utility function  $u(X_1)$  and  $u(X_2)$ , is in a situation of the same utility value for those two variants. The higher  $\alpha_A$  value then means the choice of option 2, because  $u(X_2)$  is greater. The whole issue is therefore concentrating on looking for the coefficient  $\alpha$ , where for the first criterion (compromise variant) the condition (3) applies

$$\alpha_1 \times (v_{1j} * \frac{y_{1j} - D_1}{H_j - D_j}) + \sum_{j=2}^k v_i \times \frac{y_{ij} - D_i}{H_j - D_j} = u(X_2), \quad (3)$$

where  $y$  are the individual criteria and  $v$  marks the weighting of these criteria if  $i = 1$  means the best option.

## 2.2 Monte Carlo Simulation

This article uses the probabilistic simulation called Monte Carlo. This kind of simulation could be used for risk analysis [8] or it is also used in process management [5], [9]. This simulation approach generates a high number of scenarios based on probabilistic distribution. The great advantage of this approach is that we can determine our own probabilistic distribution based on different kinds of inputs [10]. Simulation process is based on congruent generator (4)

$$X_{n+1} = (aX_n + c) \bmod m, \quad (4)$$

where  $\bmod m$  is an integer residue after division;  $a$ ,  $c$ , and  $m$  are selected constants. The number of simulation cycles is set to 1 000 000 trials.

## 2.3 Application

In order to determine the coefficient  $\alpha$ , the simulation approach uses the Monte Carlo probability method. Within this approach, the properties of the solved model were set as follows. First, the calculation of the WSA's final utility function was compiled. This function

was then multiplied by the coefficient  $\alpha$ , which has the basic value  $\alpha = 1$  and does not affect the resulting value of  $u(X_1)$ . Crystal Ball software has been used to solve the problem. Within the probability simulation, the uniform distribution was set for the coefficient value. In this case the value is 0.2, see Figure 2.

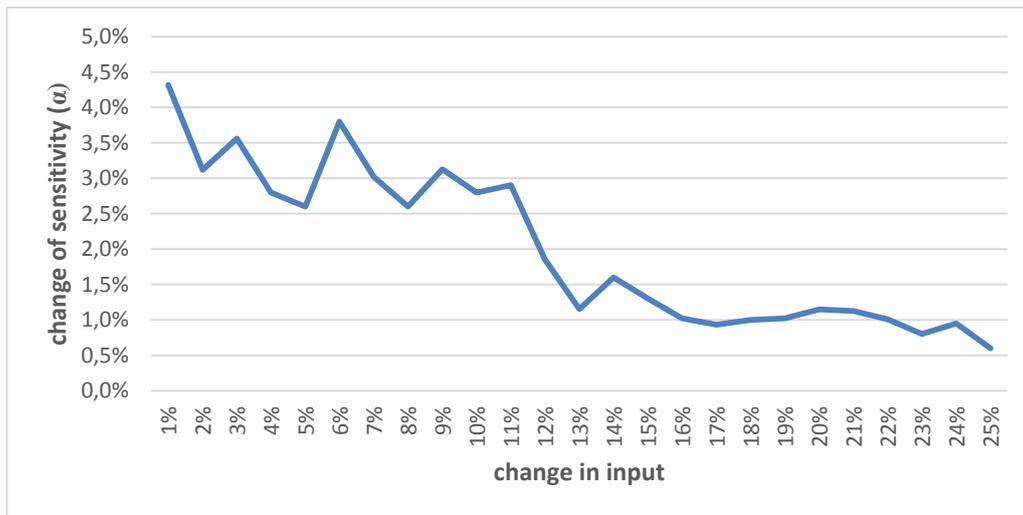


Source: Own

**Fig. 2:** Using simulation to determine  $\alpha$

The perceived percentage change of the input criteria (coefficient  $\alpha$ ) is basically the probability value at which the value of the WSA utility reaches values in the interval  $[0; u(X_2)]$ . In our case, this probability is  $1 - \text{certainty}$ , which means that  $\alpha = 1 - 0.703 = 29.7\%$ .

This means, that probability of choosing another then the best option is 29.7%. Additional approach of risk measuring lies in a simple sensitivity analysis with the use of Crystal Ball software. In this article, one-factor sensitivity analysis is used, with the help of the Monte Carlo simulation approach. These outputs then represent the sensitivity of the individual criteria to the output evaluation function of  $u(X_i)$ . The article also focuses on how this sensitivity changes with a change in the value of each criterion. This change was always one percentage point, and its output was both a new utility feature and a new percentage representation of the sensitivity of the individual entry criteria. Measurements were made on twenty decision-making processes with the different number of criteria (from 3 to 6) and with different characteristics of these criteria. The evaluation was always based on the WSA method. The output values of the change in sensitivity were always followed for the criterion on which the chosen variant was the most sensitive. The main result is represented in the chart shown in Figure 3.

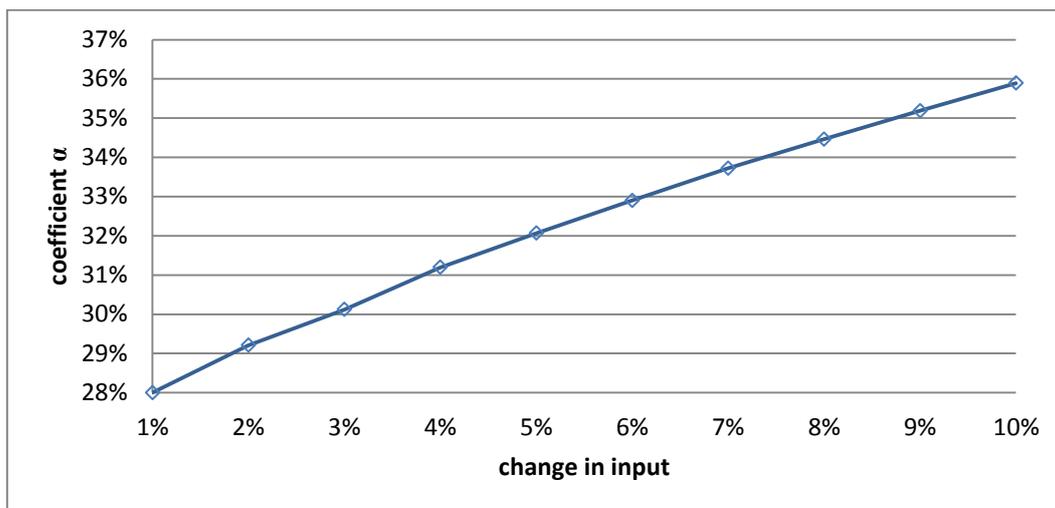


Source: Own

**Fig. 3:** Relation between change in  $\alpha$  and change in input

In the chart in Figure 3 we can see that with greater change in input (it means criteria) the change in the sensitivity is decreasing but it is still positive. The total sensitivity with the change in input is therefore increasing but this sensitivity curve will be concave.

The last result of this article is the average sensitivity curve based on twenty different decision-making processes shown in Figure 4.



Source: Own

**Fig. 4:** Sensitivity curve

The chart in Figure 4 represents the final sensitivity curve based on average value of coefficient  $\alpha$  which the article uses for measuring the risk of decision-making process.

## Conclusion

The article presents two problem solutions, which are related. Firstly, it presents an alternative approach to measuring the risk of the entire decision model and further solves the sensitivity of the model on its input criteria. All investigations are conducted on decision-making processes that are evaluated using the WSA utility function. One of the main results of this article is coefficient  $\alpha$  which has been computed using Monte Carlo simulation approach. With the help of Crystal Ball software, this article presents computation of this coefficient in twenty different decision-making processes. This coefficient measure the risk of this process

by the probability, which is needed for choosing another (not the best) option. This article also works more with this result. There is also analysis of this coefficient made and the conclusion from this analysis says that sensitivity is not the same for the different percentage change of criteria. If we increase the change in the input the change of the sensitivity is decreasing. Therefore the sensitivity curve is upward sloping but concave function.

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## CITLIVOSTNÍ KŘIVKA ROZHODOVACÍHO PROCESU PODNIKU

Příspěvek se zaměřuje na problematiku využití citlivostní křivky jako ukazatel rizikovosti rozhodovacího procesu. Cílem článku je prezentovat možnost využití měření citlivosti rozhodovacího procesu v rámci problematiky využití kvantitativních metod v manažerském rozhodování. Přístup využívá měření citlivosti rozhodovacího modelu na jeho vstupní parametry. Celý rozhodovací proces je vícekritériální a pro určení kompromisní varianty je využíván přístup pomocí Weighted Sum Approach (WSA). Měření citlivosti poté probíhá tak, že je hledán koeficient alfa, který určuje procentní změnu nutnou k volbě druhé nejlepší alternativní varianty. Kromě koeficientu alfa příspěvek sestavuje citlivostní křivku. Tato křivka představuje změnu hodnotu výstupní funkce (s využitím metody WSA) při změnách vybraných vstupních parametrů rozhodovacího procesu. Pro sestavení citlivostní křivky je využit simulační přístup pomocí pravděpodobnostní simulace metodou Monte Carlo.

## DIE EMPFINDLICHKEITSKURVE DES ENTSCHEIDUNGSPROZESSES DES UNTERNEHMENS

Der Beitrag konzentriert sich auf die Verwendung der Empfindlichkeitskurve als Indikator für das Risiko des Entscheidungsprozesses. Ziel des Artikels ist es zu präsentieren, wie man die Möglichkeit des Messens der Empfindlichkeit des Entscheidungsprozesses im Rahmen der Problematik der Verwendung der quantitativen Methoden in Management-Entscheidungen ausnutzt. Dieses Verfahren nutzt die Messung der Empfindlichkeit des Entscheidungsmodells in Bezug auf seine Eingabeparameter. Der gesamte Entscheidungsprozess ist multikriteriell und das Verfahren Weighted Sum Approach (WSA) wird genutzt, um die Kompromissvariante zu bestimmen. Das Messen der Empfindlichkeit besteht im Suchen des Koeffizienten Alpha. Neben dem Koeffizienten Alpha wird auch die Empfindlichkeitskurve in dem Beitrag aufgebaut. Diese Kurve repräsentiert die Veränderung des Wertes der Ausgangsfunktion (mit Verwendung des WSA), wenn die ausgewählten Eingabeparameter des Entscheidungsprozesses geändert werden. Der Wahrscheinlichkeitssimulationsansatz der Monte-Carlo-Methode wird genutzt, um die Empfindlichkeitskurve aufzubauen.

## KRZYWA WRAŻLIWOŚCI PROCESU DECYZYJNEGO W PRZEDSIĘBIORSTWIE

Niniejszy artykuł skupia się na kwestii wykorzystania krzywej wrażliwości jako wskaźnika poziomu ryzyka procesu decyzyjnego. Celem opracowania jest przedstawienie możliwości wykorzystania pomiaru wrażliwości procesu decyzyjnego w ramach stosowania metod ilościowych w podejmowaniu decyzji zarządzających. Zaprezentowane rozwiązanie wykorzystuje pomiar wrażliwości modelu decyzyjnego na jego parametry wejściowe. Proces decyzyjny jest wielokryterialny i w celu wybrania wariantu kompromisowego stosowana jest metoda Weighted Sum Approach (WSA). Pomiaru wrażliwości dokonuje się poprzez poszukiwanie współczynnika alfa, który określa procentową zmianę niezbędną do wybrania drugiej najlepszej alternatywnej opcji. Oprócz współczynnika alfa w opracowaniu zbudowano krzywą wrażliwości. Krzywa ta przedstawia zmianę wartości funkcji wyjściowej (za pomocą metody WSA) w przypadku zmian wybranych parametrów wejściowych procesu decyzyjnego. Do budowy krzywej wrażliwości wykorzystano rozwiązanie symulacyjne przy pomocy symulacji prawdopodobieństwa metodą Monte Carlo.

## Miscellanea

## THE SUCCESSION IN FAMILY BUSINESSES IN THE CZECH REPUBLIC

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### Abstract

This paper is focused on the topic of family business. The aim of this paper is to discuss the situation of family business in the Czech Republic in details, mainly the question of succession. Firstly, there is a theoretical part that concentrates on a definition of family business in general. Further, the theoretical part discusses succession in family businesses. Secondly, there is the practical part that concentrates on family business in the Czech environment. The analysis is conducted on the basis of a questionnaire survey among a sample of Czech family businesses. The results of the practical part indicate the current situation of succession in this specific segment of entrepreneurial area.

### Keywords

Family business; Family members; Succession; Questionnaire survey.

### Introduction

The purpose of this paper is to define the current situation of family business on the market. Family business is referred to as an economical phenomenon and currently more attention is being paid to this topic than in previous years. For example, during the years 2016 and 2017 a project called “Family Enterprise – Resolving Social and Economic Disparities of Municipalities” took place at the Technical University of Liberec [1]. The Association of Small and Medium Enterprises and Tradesmen of the Czech Republic declared 2018 as the Year of Family Business. To get a deeper understanding of this topic, a theoretical discussion about this type of business is opened in the first part of the article. Further, the author analyses selected data from her own questionnaire survey which was carried out in the spring of 2017. Family business in the Czech territory has been influenced by historical development which created its basic milestones and obstacles. The development of family business was significantly influenced by the aftermath of the totalitarian regime after the Second World War during which private business was restricted. Private ownership was nationalized, private business was suppressed, and the economy was centrally planned. After the Velvet Revolution in 1989, the first free government of Czechoslovakia was elected, which decided to re-establish a free market economy. Therefore it was necessary to quickly transfer state-owned properties and businesses into private hands [2], [3]. The subsequent political and economic development in the 1990s boosted the establishment of new family businesses in the Czech Republic. Private business was stabilized during the Millennium [4]. Three decades after the Velvet revolution a term “generation exchange in the family business” is discussed. This term has been included among the barriers to this type of business.

The term “generation exchange” is understood as handing over the family business by the current owner to their successor. This concept is discussed because the life cycle of one generation is estimated at around 25 years [5]. Czech family businesses have already reached

or, in the near future, will reach a point at which they will have to decide whether to keep the company for the future generation or to sell it [4], [5]. For this reason, the purpose of this paper is to focus on the process of planning succession in family businesses.

## **1 Theoretical Framework**

Family businesses make a significant contribution to the economy and bring long-term stability [6]. According to the Association of Small and Medium-sized Enterprises and Tradesmen of the Czech Republic, their 30% share of Gross Domestic Product is estimated [7]. The estimation of their share is due to the fact that this area of business is not defined in the legal framework of the Czech Republic. The definition of family business is still inconsistent. Selected concepts which are related to family business are given below.

### **1.1 Definition of Family Business**

Astrachan et al. [8], Gómez-Mejía et al. [9], or Abdellatif et al. [10] state that the single definition of family business remains a major challenge for researchers. However, such a situation is typical not only in the area of family business, but also in other entrepreneurship disciplines [11]. In 1989, Handler [12] drew attention to the fact that the fundamental task for researchers is to define the concept of a family business. Defining the area of family business is difficult. Many authors view this area from different points of view, primarily from three aspects - in terms of content, purpose and form. Some authors define a family business in terms of the percentage of the family owned or the intention to transfer the family business to the next generation or the number of family members working in the enterprise [3]. There is a variety of definitions and criteria for determining a genuine family business, which is a big problem. Joaquín de Arquer [13] is often cited. This author regards a family business as an enterprise that is in the hands of one person or a group of people who are in a family business. This definition provides an opportunity to focus on small businesses and micro-enterprises where a group of people co-operates with their family members [14]. Leach [15] considers that it is a family business if the family members own at least 50% of the enterprise. Another definition was created by Villalonga and Amit [16], who think that it is a family business if the founder or a family member is the director or owner of five percent of the enterprise. The European Commission [17] defines a family business, regardless of its size, as one which works with the issue of voting rights and the involvement of family members in corporate governance. Petlina and Koráb [14] assume that the family business is owned and controlled by family members or selected members on the assumption that it will be passed on to the next generation in the future.

Astrachan et al. [8] draw the attention to the fact that the inconsistency of family business definitions leads to methodological problems. For example, in identifying the right research sample, creating appropriate groups for comparative purposes, or setting up tools for statistical measurement purposes. It is also complicated to compare the results of various family business surveys. In particular, it is difficult to compare statistical data on family businesses outside the Czech Republic.

### **1.2 Succession in Family Businesses**

Generally, the concept of succession focuses on how to replace people in key positions in the enterprise. This term is often associated with the succession planning process which includes several phases that are discussed below. Of course, it should be noted that this process is not only in family businesses. This process should be planned in all types of enterprises [18]. But some specifics of succession do exist in the family businesses; such as nepotism, sibling rivalry and relationship between father and son [3], [19].

Succession is one of the most complicated periods of family business. During this period, the family business must be passed on to the next generation to survive. A false presumption is based on the fact that handing over the enterprise to the next generation is only a one-time act. This would mean that the succession of ownership and placement in the control function is performed at the same time. However, it is important to know that generational exchange represents a complex issue for many years. Successful generational exchange requires years of thorough preparation. This preparation can take more than 10 years and significantly influences the future development of family business – for example, in which direction the company will evolve [3]. Therefore, it is not possible to talk about the moment of handover of the family business to the next generation. It is necessary to mark this act as a process that consists of several phases [19].

Numerous models representing the succession process can be found in literature, for example Murray [20], Gersick [21]. This process is often divided into two or three phases [22]. These phases are shown in Table 1.

**Tab. 1:** *Phases of the succession process*

| Phase        |  |
|--------------|--|
| First phase  | <ul style="list-style-type: none"> <li>• creating and communicating the basic rules associated with the succession process,</li> <li>• identifying potential prospective successors,</li> <li>• creating a succession plan.</li> </ul> |
| Second phase | <ul style="list-style-type: none"> <li>• assessing the capabilities of identified potential successors,</li> <li>• providing the necessary education and training to potential successors.</li> </ul>                                  |
| Third phase  | <ul style="list-style-type: none"> <li>• handover of management to the selected successor,</li> <li>• leaving the founder out of the management function.</li> </ul>   |

Source: [23]

The generational exchange must be planned at three levels [24; 25]. These levels are presented in Table 2.

**Tab. 2:** *Levels of the succession process*

| Level               |  |
|---------------------|--|
| Business management | transferring managerial powers and responsibilities to either a family member or an outsider.  |
| Ownership           | the transfer of property to members of the family, when the future owner of the business, the method and the period of transfer shall be determined. |
| Family harmony      | the mutual agreement of the individual members of the family with the generational change plan so that family relationships are not disturbed.       |

Source: [24], [25]

It is important that the individual steps of handing over the family business should be balanced to avoid negative impacts on family, ownership, employees or business. It is also advisable to concentrate on solving any problems that may arise during the transfer process [25].

A timely solution of succession can help the enterprise find a consensus on everything in which the views of the two generations might be different [3]. The issue of generational exchange and the related demise of family business are represented by the following data:

- one-third of first-generation of family businesses successfully pass generational exchange and the family business will be in the hands of the second generation [3], [26],
- one half of the second-generation of family businesses successfully pass the second generational exchange and the family businesses will be in the hands of the third generation [3].

Other issues related to succession include, for example, intra-family conflicts through a revival of business, family reluctance to take over a family business, or inadequate succession planning [3]. Even Ernesto J. Poza [26] states that the greatest drawbacks are seen in the planning of business handover. A sudden need for generational change due to sudden death or serious illness of a family member in the leading position of the business would not be dangerous if the family members strategically planned succession in their business [27]. Handing over family business is accompanied by limited amounts of potential successors. This is due to the size of the family and the frequent complications of personal and impersonal relationships between the family members who hand over the company, such as successors and other family members [23]. Generational exchange is important for all family businesses and is often referred to as the biggest test of management skills of the owners' generation leaving the family business [3]. The entire enterprise could be damaged if the product quality will be destroyed by the generation exchange [28].

In study Miller, Steiner and Le Breton-Miller [29] three patterns of ineffective succession were identified. These patterns are listed below.

- **Conservative:** the family business and its strategies are locked in the past.
- **Rebellious:** overreactions on control of previous generation destroy traditions, legacies, business model and its secret of success.
- **Wavering:** the next generation is not able to adapt the business to current conditions.

It was mentioned that these patterns were observed many times at family businesses at the end of this study. And it is probable that these problems could arise during the handover of a family business to the next generations [29].

## 2 Research

The aim of this paper is to draw attention to the issue of family business. Through literary research the key concepts of family business –family business and generation exchange –are discussed. The secondary data are available from world and domestic studies and articles, for example [30], [31], [32], [33] and [34] that produced a good information base for the implementation of the questionnaire survey. The primary data obtained from our own questionnaire survey are used to achieve the set goal. The questionnaire survey was aimed at identifying which generations of owners own family businesses and whether these owners are planning to hand it over to the next generation. It was carried out in the spring of 2017 and had several sections. For the purposes of this article selected facts following the established

theoretical basis are discussed. Hypotheses are verified on the basis of the questionnaire survey.

For the target group of respondents owners or managers active in Czech business entities which can be described as family businesses were selected. This stratified random selection included potential respondents according to the indirect classification criteria, such as the owner considers their enterprise to be a family business, the owner intends to pass on the business to a close relative or another family member works as a regular employee. It is a family business if it meets at least one of these criteria. The author of this paper agreed with the definition that was accepted in 1997 by Massachusetts Mutual Life Company [35].

The MagnusWeb database from Bisnode Czech Republic a.s. has been used as a source for contacts with representatives of businesses that can be described as family businesses.

An electronic form of a questionnaire was used and a link to the completed questionnaire was to 550 respondents' email addresses. They were randomly selected by the author from a pre-created stratified sample.

The questionnaire survey was actively attended by 76 respondents who represented family businesses in the Czech Republic. The return on valid questionnaires in relative terms is 13.8%.

Obviously, there are limitations of the questionnaire survey, such as an absence of the uniform definition of family business which is connected with ignorance of the actual number of family businesses in the Czech Republic, the electronic form of the questionnaire survey etc.

## **2.1 Structure of the Sample**

The introduction of the questionnaire survey focused on obtaining basic data of the structure of the sample such as size, legal form, year of establishment, main business activity according to CZ NACE classification. The next section was focused on succession in Czech family businesses. This section was concentrated on the generation of owners, involvement of offspring and handing over the business to the next generation.

The sample consists of 76 respondents. The respondents are owners or managers of Czech family businesses. A significant majority of respondents represent micro-enterprises (43) or small enterprises (23). On the contrary, medium (7) and large enterprises (3) are limited.

In terms of legal form of business, data are most often obtained from a limited liability company (in 43 cases) and from self-employed persons who are represented by 24 respondents. Other legal forms are represented by less than 7 respondents.

In 3 cases the participants responded that their business was established before the Second World War and their business was suspended by the suppression of private business during the totalitarian regime. These respondents started to do business again after 1989. Only one respondent had started business during the totalitarian regime when only small businesses could be created. The remaining 72 respondents started business after 1989.

The area of agriculture, forestry and fishing is represented by 20 respondents in the main business activity according to CZ NACE classification. Furthermore, wholesale and retail trade, repair of motor vehicles and motorcycles and other service activities are represented by just 11 respondents. Other areas of business activity are represented by less than 10 respondents. More details can be found in *The Reality of Family Business in the Czech Republic* [36].

The number of respondents is not high but it is sufficient to produce the basic conclusions. The sample includes companies of various sizes and legal forms operating in different areas of activity according to CZ NACE classification. These monitored categories are not evenly distributed in the sample. It is a limitation of this research.

## 2.2 Generation of Owners

One of the main pitfalls in family business can be the question of handing over the family business to the next generation. The succession is currently one of the most frequently discussed topics. The first generation of owners (also known as ‘founders’) is represented by 55 respondents. Representatives of the second generation of owners are in the sample 17 times. Representatives of the third and next generation are in the sample only 4 times [36].

## 2.3 Involvement of Offspring

The phenomenon which is associated with family business is the involvement of offspring in the running of family business. The data obtained through the questionnaire survey indicate that 54 of the respondents have their own offspring involved in the family business. The remaining 22 of respondents said that their children have not worked in the family business yet [36]. The reason for choosing a negative answer can include the possibility that respondents do not have any children yet or their offspring are too small. The reason for this argumentation is that the negative answer is chosen primarily by representatives of enterprises established after 2000. It is a limitation of this research.

### 2.3.1 Chi-Square Independence Test

Chi-Square independence test is used to assess a relationship between two qualitative variables measured on elements of the same selection. This test is one of the most frequently used Independence Tests in the pivot table.

Its principle is to assess the difference between empirical and theoretical frequencies. Empirical frequencies are obtained from the pivot table, while the theoretical frequencies have to be calculated.

The assumption of the chi-square of the independence test in the inconsistent table is that the null hypothesis (also known as “ $H_0$ ”) is valid. This means that there is no relationship between these two monitored variables. On the other hand, the alternative hypothesis (also known as “ $H_A$ ”) asserts that there is a relationship between these two variables [37].

The test criterion Chi-square is possible to calculate using Formula (1) [38]:

$$\chi^2 = \sum_{i=1}^r \sum_{j=1}^s \frac{(n_{ij} - n'_{ij})^2}{n'_{ij}}, \quad (1)$$

where  $n_{ij}$  is the empirical frequency of the  $i$ -th category and  $n'_{ij}$  is the theoretical frequency of the  $i$ -th category.

Furthermore, the critical value and the field of admission must be determined. These fields are divided by a critical limit.

The CHIINV function syntax has the following two arguments [39]:

- a probability associated with the chi-squared distribution (level of significance),
- the number of degrees of freedom.

The number of degrees of freedom is possible to calculate using Formula (2) [38]:

$$v = (r - 1)(s - 1), \quad (2)$$

where  $r$  is the number of rows in the pivot table and  $s$  is the number of columns in the pivot table.

### Decision on Null Hypothesis

- Test Criterion  $\chi^2 \leq \text{Critical Value}$  – The null hypothesis that there is no relationship between these two monitored variables is not rejected.
- Test Criterion  $\chi^2 > \text{Critical Value}$  – The null hypothesis that there is no relationship between these two monitored variables is rejected. There is a significant difference between empirical and theoretical frequency [37].

Independence test in the pivot table can only be used when:

- A maximum of 20% of the theoretical frequencies may be less than 5.
- Not one theoretical frequency may be less than 1.
- Observations that are summarized in the PivotTable are independent [36].

It is also possible to measure the likelihood of the eventual dependence by means of dependence coefficients. Cramer coefficient is determined by Formula (3) [38]:

$$V = \sqrt{\frac{\chi_p^2}{n(q-1)}}, \quad (3)$$

where  $q = \min \{r, s\}$ .

The Cramer coefficient can take values  $<0; 1>$ . The higher the value of the Cramer coefficient, the stronger the dependence of the characters. Now, the null hypothesis can be verified.

Based on the generation of owners and the involvement of offspring in the family business, it can be verified whether there is a relationship between these two characters. The relationship of these two characteristics is researched on the basis of the author's assumption that owners of family businesses of second and other generations want to pass family businesses to the next generation due to their family tradition. That is why their offspring are involved in family business more often. Chi-square of the Independence Test is used here. Hypotheses are set out below:

***H<sub>01</sub>***: *There is no relationship between the generation that the enterprise owns and the involvement of offspring in a family business.*

***H<sub>A1</sub>***: *There is a relationship between the generation that the enterprise owns and the involvement of offspring in the family business.*

The data in the PivotTable were needed to meet chi-quadratic independence conditions.

It is necessary to group rows that represent the second and next generation of owners. These changes are listed in Table 3. Table 3 represents the involvement of offspring in the family businesses.

**Tab. 3:** *Involvement of offspring in the family businesses*

|                                       | YES       | NO        | SUM       |
|---------------------------------------|-----------|-----------|-----------|
| First generation of owners            | 34        | 21        | 55        |
| Second and other generation of owners | 20        | 1         | 21        |
| <b>SUM</b>                            | <b>54</b> | <b>22</b> | <b>76</b> |

Source: Own questionnaire survey, 2017

On the basis of the adjusted empirical frequencies, the Chi-square test criterion and the critical values at 5% and 10% significance levels plus the Cramer coefficient were found. The values found are shown in Table 4, based on  $H_01$ .

**Tab. 4:** *The results of  $\chi^2$*

|  |      |
|--|------|
| Test criterion $\chi^2$                | 8.25 |
| Critical values $\chi^2$ (1 – 0.05); 1 | 3.84 |
| Critical values $\chi^2$ (1 – 0.1); 1  | 2.71 |
| Cramer coefficient                     | 0.32 |

Source: Own questionnaire survey, 2017

During testing it was found out that the value of the chi-quadrature test criterion was higher than the critical values at 5% and 10% significance levels. Null hypothesis on the generation that the enterprise owns and the involvement of offspring in a family business is denied. Alternative hypothesis which assumes that there is certain dependence between characters is accepted. However, according to the Cramer coefficient this dependence can be labeled as weak.

## 2.4 Handing Over the Family Business to the next Generation

The survey shows that 64 respondents are planning to hand over their family business to the next generation. Only 12 respondents said they did not plan to pass the business to the new generation. Only respondents who said that they planned to hand over their family business to the next generation were part of this section. Of these 64 respondents, only 20 respondents are planning active handover. It is possible to assume that family businesses that have already undergone generational exchange have gone through greater respect for this process and are already actively planning to hand their business over to the next generation.

**$H_02$ :** *There is no relationship between the generation that owns the company and active planning for the transfer of a family business.*

**$H_A2$ :** *There is a relationship between the generation that owns the company and active planning of the transfer of the family business.*

The data in the pivot table were needed to meet Chi-quadratic independence conditions.

It is necessary to group the rows that represent the second and the next generation of owners. These changes are listed in Table 5. Table 5 represents active planning for the handover of a family business.

**Tab. 5:** *Active planning for the handover of the family business*

|  | YES       | NO        | SUM       |
|--|-----------|-----------|-----------|
| First generation of owners             | 11        | 32        | 43        |
| Second and other generations of owners | 9         | 12        | 21        |
| <b>SUM</b>                             | <b>20</b> | <b>44</b> | <b>64</b> |

Source: Own questionnaire survey, 2017

On the basis of the adjusted empirical frequencies, the Chi-square test criterion and the critical values at 5% and 10% significance levels plus the Cramer coefficient were found out. The obtained values are shown in Table 6, based on  $H_02$ .

**Tab. 6:** *The results of  $\chi^2$*

|  |       |
|--|-------|
| Test criterion $\chi^2$                | 1.96  |
| Critical values $\chi^2 (1 - 0.05); 1$ | 3.84  |
| Critical values $\chi^2 (1 - 0.1); 1$  | 2.71  |
| Cramer coefficient                     | 0.175 |

*Source: Own questionnaire survey, 2017*

During the test it was found that the value of the Chi-square test criterion was lower than the critical values at 5% and 10% significance levels. The null relationship between the generation owning the company and the involvement of the offspring in the family business is not dismissed. According to Cramer coefficient, it can be called a very low dependence.

From the data obtained from the questionnaire survey referred to in this paper, it is obvious that family business will also play a significant role in the future because of the fact that the respondents are planning to pass their business on to the next generation.

### **Conclusion**

Although the family business is a highly discussed concept, especially within the professional sphere, there has not yet been a uniform definition of this concept created. What is more, there is no current national legal framework for family business. The basic definitions of the family business are defined and the process of handover of the family business is based on a literary overview. The author believes that businesses that solve or eventually resolve succession should create a concrete action plan that will continue. This will ensure a clear definition of the role of all stakeholders. The most important thing is to clarify the succession plan for all family members. This should contribute to a smooth transition from the current owner to their successor. Business transfer is one of the most complex times for a company. An improperly elected successor or improperly transferred business may even cause business damage that will be irreversible. According to literature [3], it is advisable to take over the leadership position gradually, respectively to gradually become a successor of the business, so that the transfer was smooth. At the same time it is advisable for the original owner to stay in touch with the business, for example as an advisor. However, it should not interfere with the decisions made by the new owner (the successor) to reduce their authority, or if there were no family and work problems, family harmony was maintained. These problems could negatively affect the future prosperity of the business, as well as family relationships. At the same time, legal considerations must not be overlooked. The process of handover of a family business is not fully mapped in the Czech Republic. However, it can be argued that in many cases it is not resolved in time. This may also be related to the fact that part of the family businesses will not survive the generational exchange [3].

The data from the questionnaire survey show that more than four fifths of respondents plan to pass the business on to the next generation, but only a third of them plan the transfer process actively. Thus, it is possible to conclude that there is or will be a generation exchange in the near future in these enterprises. The process of handover is actively planned by the first and second generations of family businesses.

This can be surprising because the transfer of family business is referred to as a very complex process. But Czech family businesses do not pay enough attention to it. These businesses are often overwhelmed by bureaucracy and other necessary activities, so the process of passing on a business is often resolved at the "last minute". This is probably the reason why only one third of the sample respondents are actively planning the business transfer process.

According to data obtained from the questionnaire survey, it can be stated that in two-thirds the offspring are involved in the business. It is important to mention that dependence between the generation that owns an enterprise and the involvement of offspring in a family business was found out. The author considers the existence of family relationships within the company as a key feature of a family business. Family business is a real topic that can be a source of further exploration.

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## NÁSTUPNICTVÍ V RODINNÝCH PODNICÍCH V ČESKÉ REPUBLICE

Tento příspěvek je zaměřen na téma rodinného podnikání. Cílem tohoto příspěvku je diskutovat o situaci rodinného podnikání v České republice, především se zaměřením na nástupnictví. Nejprve je zde uvedena teoretická část, ve které je soustředěna pozornost na definici rodinného podnikání obecně. Dále je zde popsána generační výměna v rodinném podniku. Poté následuje praktická část, která se soustředí na tuto oblast podnikání v rámci tuzemska. Analýza je provedena na základě dotazníkového šetření, které bylo provedeno mezi vzorkem českých rodinných podniků. Výsledky praktické části naznačují současnou situaci v oblasti nástupnictví v českých rodinných podnicích.

## DIE NACHFOLGERSCHAFT IN FAMILIENBETRIEBEN IN DER TSCHECHISCHEN REPUBLIK

Dieser Beitrag konzentriert sich auf das Thema Familienunternehmen. Ziel dieses Beitrags ist die Diskussion über die Situation des Familienunternehmens in der Tschechischen Republik unter besonderer Berücksichtigung der Nachfolgerschaft. Zunächst kommt der theoretische Teil, worin die Aufmerksamkeit auf die Definition des Familienunternehmertums im Allgemeinen gerichtet wird. Weiter wird hier der generationsbedingte Austausch im Familienunternehmen beschrieben. Dann folgt der praktische Teil, welcher sich auf diesen Unternehmensbereich innerhalb des Landes konzentriert. Die Analyse wird auf Grundlage einer Fragebogenumfrage durchgeführt, und zwar unter Berücksichtigung tschechischer Familienunternehmen. Die Ergebnisse des praktischen Teils weisen auf die gegenwärtige Situation im Bereich der Nachfolgerschaft in den tschechischen Familienunternehmen hin.

## SUKCESJA W FIRMACH RODZINNYCH W REPUBLICIE CZESKIEJ

Niniejszy artykuł poświęcony jest przedsiębiorczości rodzinnej. Celem opracowania jest omówienie sytuacji przedsiębiorczości rodzinnej w Republice Czeskiej, przede wszystkim przy uwzględnieniu sukcesji, czyli następstwa prawnego. Pierwsza część jest teoretyczna i skupiono się w niej na definicji przedsiębiorczości rodzinnej jako takiej. Następnie opisano wymianę pokoleniową w przedsiębiorstwie rodzinnym. W dalszej części, praktycznej, opisano ten rodzaj przedsiębiorczości funkcjonujący w warunkach krajowych. Analizy dokonano na podstawie badań ankietowych, które przeprowadzono na próbie czeskich firm rodzinnych. Wyniki części empirycznej wskazują na obecną sytuację w zakresie sukcesji w czeskich przedsiębiorstwach rodzinnych.

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