

Environmental Fiscal Policy for Sustainable Development: a Comparative Study

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ABSTRACT

The present paper presents a dissertation summary on a diversity of governance mechanisms for sustainability: fiscal policies, regulatory mechanisms and organizational forms. It points out that a knowledge gap of the dissertation is to have effective governance mechanisms for sustainable development, especially for corporate social responsibility and sustainable household waste management. Therefore, the combinations of fiscal, regulatory and organizational mechanisms in favour of resolving social and environmental issues are important to be taken into account. The paper emphasizes the reasons that make the dissertation important and relevant for the readers. The paper discusses the research objectives, research questions and research methods of the dissertation as well. The levels of analysis and structure of the dissertation are also presented. The paper elaborates also on the conclusions and discussions derived from the four chapters of the dissertation. Finally, the paper provides final remarks of the dissertation and its implementation for future research, policy makers and municipalities as well as for sustainable development.

Keywords: environmental fiscal policy, waste management, CSR, regulatory mechanisms, organizational forms, eco-efficiency

1. Introduction

Sustainable development is considered to be a balance between environmental, economic and social objectives (Kates, Parris & Leiserowitz, 2005; United Nations, 1987; Gechev, 2005). In this way, the present generation has to meet its needs causing little harm to the environment and letting the future generation meet its own needs (Grober, 2007; Meadows, Meadows & Randers, 2004). Moreover, sustainable development is an integral part of the global European Union (EU) political philosophy. There are a variety of initiatives and policies that contribute to sustainable development (Gechev et al., 2013; Ghisellini, Cialani & Ulgiati, 2014; Sauvé, Bernard & Sloan, 2015; Lieder & Rashid, 2015): e.g. building green cities, industries and circular economy; supporting sustainable consumptions and sustainable societies; achieving green, inclusive and smart growth. Among those, we focus on sustainable household waste management and CSR as

a research object of the dissertation (Meadows, Randers & Meadows, 2004).

The research gap addressed in this dissertation is related to the variety of effective governance mechanisms for sustainable development, given the international and complex character of the issues. In this sense, the environmental fiscal policy is one of the most significant mechanisms as well as a keystone for sustainable development (Gechev, 2005; Chiroleu-Assouline & Fodha, 2014; Scholtens, 2001; Bailey, 2002; Kunce & Shogren, 2008). Hence, our purpose is to have an in-depth discussion on this mechanism in the field of sustainable and efficient household waste management and CSR, and complement it with a variety of regulatory mechanisms and organisational forms (Albareda, 2010; Steurer, 2010; Steurer, 2011). Therefore, the dissertation claims that through applying the instruments of environmental fiscal policy and other regulatory mechanisms in household waste

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management, high (eco)efficiency and adequate CSR can be achieved. Under (eco)efficiency we understand that it leads to an optimization of the cost of household waste management and a minimization of the negative impact of waste on the environment through recycling and re-using the waste as well as through using non-recyclable waste to generate “green” energy (Yang, Zhou & Xu, 2015). Moreover, we define effectiveness to be “the degree to which something is successful in producing a desired result” (Oxford Dictionaries online). In other words, the effectiveness, in our case, is the degree to which regulatory mechanisms are effective (successful) in improving CSR and promoting sustainable development.

The remainder of the paper is organized in four sections. Firstly, we begin with a discussion on research objectives, research questions and research methods of the dissertation. The levels of analysis in the dissertation are also discussed. Secondly, we elaborate on the structure of the dissertation. Thirdly, we present the conclusions and discussion derived from the four chapters of the dissertation. Finally, we provide final remarks of the dissertation and its implementation for future research, policy makers and municipalities as well as for sustainable development.

2. Research objectives, research questions and methods

Based on the scope of the dissertation, two research objectives are encompassed: 1) to reveal the diversity of regulatory mechanisms used to stimulate CSR and promote sustainable development; and 2) to improve the (eco)efficiency of household waste management. Moreover, in the dissertation household waste management is a synonym for municipal solid waste (MSW) management, and regulatory mechanism may also stand for instruments and tools. To meet the objectives of the dissertation, three research questions are formulated:

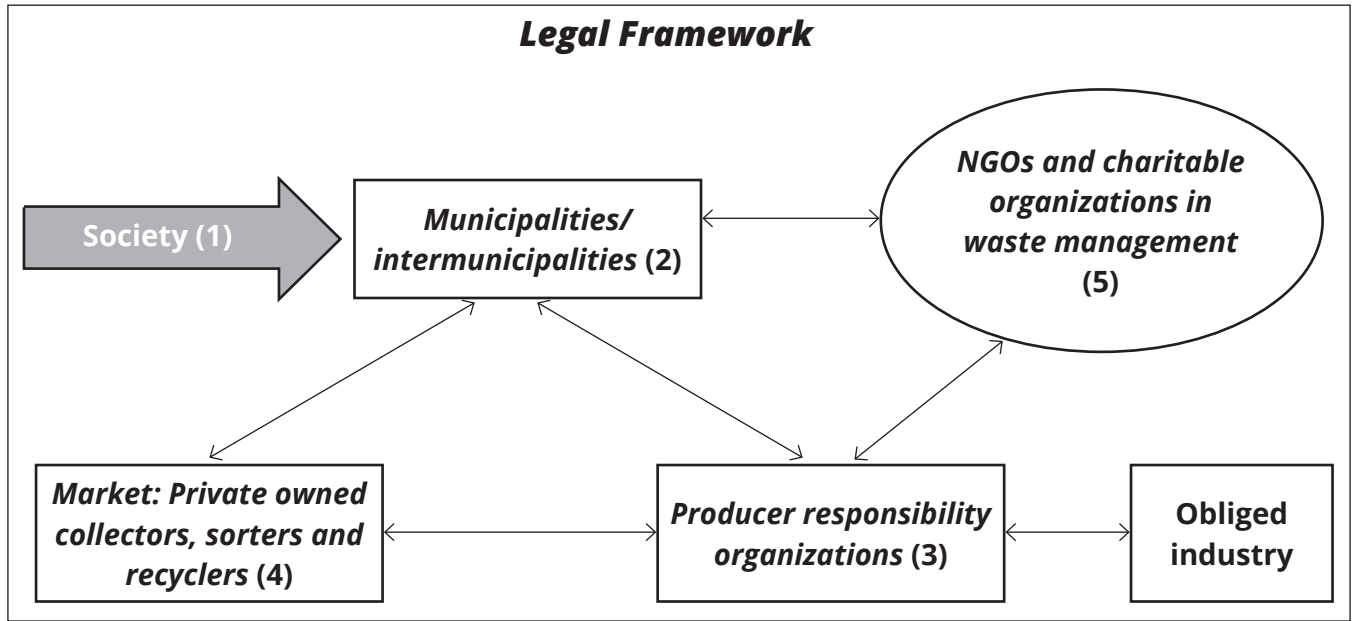
1. *Which are the main regulatory mechanisms that influence CSR and promote sustainable development?*
2. *How can the (eco)efficiency of municipal solid waste management be improved?*
3. *Why is the European Extended Producer Responsibility (EPR) scheme for e-waste management not applicable in Kenya and why a new business model is needed there?*

The first question focuses on discovering the diversity of regulatory and co-regulatory mechanisms implemented by different actors from the four societal domains: supranational unit, government, business and civil society (Stroer, 2013; Albareda, 2010; Aguilera et al., 2007; Midttun, 2008). Moreover, it raises a discussion about the effectiveness of different regulatory mechanisms used to influence CSR. This first question is related to the first objective of the dissertation, i.e. to reveal different regulatory mechanisms which can stimulate CSR and promote sustainable development. The second question addresses the possibility to improve the (eco)efficiency of household waste management mainly through proper use of environmental fiscal policy and other regulatory mechanisms as well as through choosing the right organizational form under certain circumstances. The third question is related to the inability to implement the traditional European business model for e-waste management in Kenya (Nnoroma & Osibanjo, 2008; Ongondo et al., 2011; Osibanjo & Nnorom, 2007). Hence, a new business model is applied there. The second and third research questions are both related to the second objective of this study, i.e. to improve the (eco)efficiency of household waste management. In addition, the discussion and comments related to the third question are to some extent a result of the knowledge gathered from our first and second research questions.

Four levels of analysis are considered in order to meet our objectives: national, municipal, organizational and individual (e.g. Denchev, 2009 and Gechev, 2005). They are needed due to the following three main reasons. Firstly, (eco)efficiency of household waste management can be mainly improved if (1) national governments and municipalities implement proper fiscal and economic instruments, and (2) the right organizational form is chosen under certain circumstances. Secondly, there are several main actors that play an important role in the whole system of household waste management that should be considered (cf. figure 1): municipalities (intermunicipal organizations),

“A knowledge gap of the dissertation is to have effective governance mechanisms for sustainable development”

Figure 1: The important actors in household waste management in Belgium and Bulgaria



Source: Drawn by Ivan Bozhikin based on the information gathered

producer responsibility organizations (representing obliged industry), market (private owned collectors, sorters and recyclers), NGOs and society (EIMPack, 2012; Fost Plus, 2008). Thirdly, the variety of regulatory mechanisms to stimulate CSR and sustainable development are also applied by different actors from the different societal domains (supranational unit, government, business and civil society) (Stroer, 2013). Due to all these reasons, the use of the above mentioned four levels of analysis is needed.

The chosen research method should be relevant to the formulated research questions and the required levels of analysis (Creswell, 2003; Yin, 2003; Brewerton & Millward, 2001). Realizing the breadth of our first research question, we used a structured literature review. Hence, we built our research primarily on the nine general types of regulation proposed by Steurer (2013). In order to explore the variety of regulatory mechanisms, falling within these nine types of regulation, and to provide the effects of their implementation, 186 empirical papers, published in the period between 2002 and 2011, were analysed in depth. The impact of governments and non-state actors in the CSR field is mentioned in those papers. These were selected within five journals in the CSR field ("Business Ethics Quarterly", "Business Ethics: A European Review", "Business & Society", "Business Strategy and the Environment" and "Journal of Business Ethics"). The selected five journals are leaders in

the field of research (Paul, 2004; Serenko & Bontis, 2009). To approach our second and third research questions, we used an explorative case study approach (qualitative study). Hence, we interviewed 24 Bulgarian waste management experts, 21 Belgian waste management experts (11 out of them also provided information about the situation with household waste management in Africa (Kenya)) and 1 Kenyan waste management expert. We have chosen these experts from 34 organizations: 17 organizations from Belgium, 16 organizations from Bulgaria and 1 organization from Kenya. Sixteen of these 34 organizations are publicly owned organizations (8 publicly owned organizations from Belgium and 8 publicly owned organizations from Bulgaria); eleven of them are privately owned organizations (5 privately owned organizations from Belgium, 5 privately owned organizations from Bulgaria and one privately owned organization from Kenya); four of them are organizations from the voluntary sector (2 Non-Profit Organizations from Belgium and 2 from Bulgaria) and three of them are universities. We balanced the number of selected organizations from Belgium and Bulgaria in order to easily compare the results while the Kenyan case corroborates the uselessness of conventional European mechanisms in a totally different environment (Nnoroma & Osibanjo, 2008). Moreover, the introduction of Kenya in chapter 4 gives the opportunity to compare e-waste management approaches in one developing country (Kenya), one country in transition (Bulgaria) and one developed country

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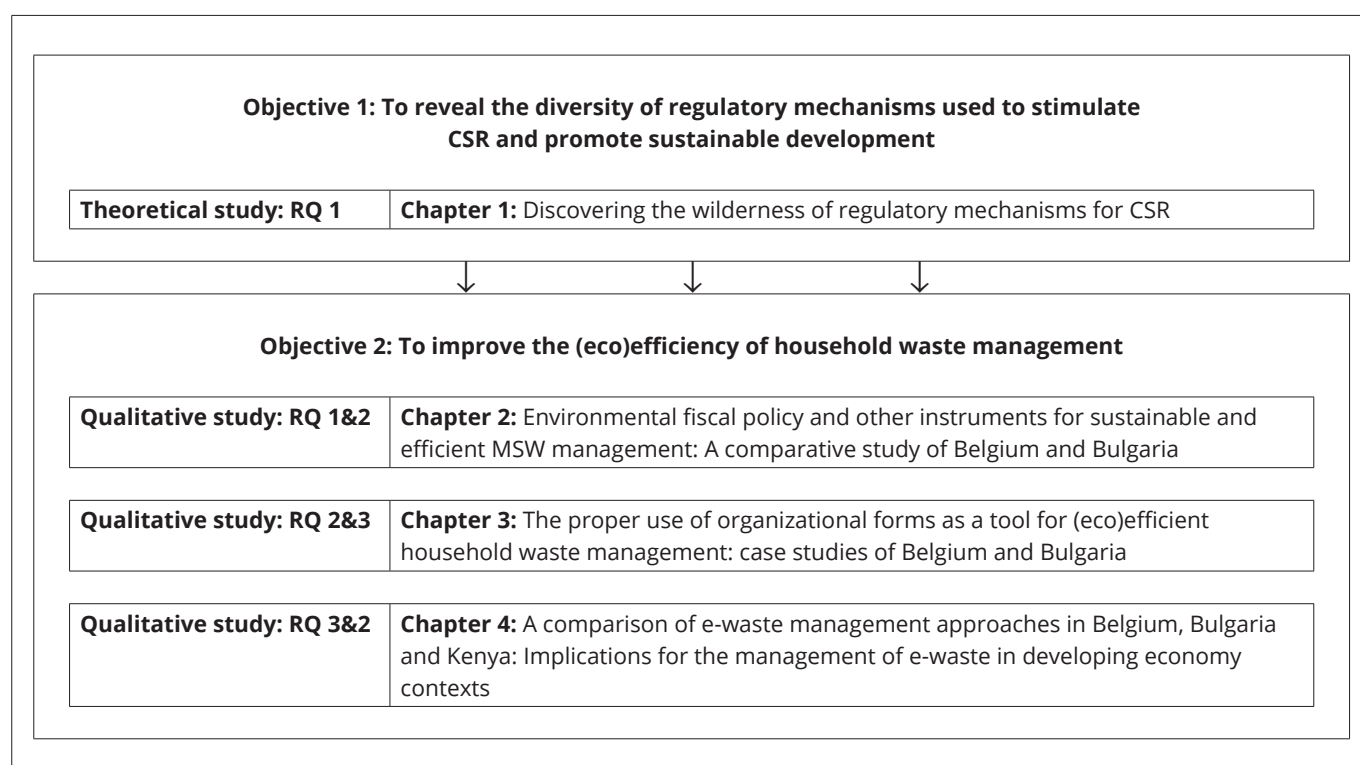
(Belgium). Thus, the Kenyan case adds value through analysing and comparing e-waste management in the three different contexts (Belgium, Bulgaria and Kenya) and enables in-depth discussions of the new model of e-waste management in the developing economy context. In addition, we selected an explorative case study approach due to the following two main reasons: 1) there is a small number of qualitative research related to household waste management in Belgium and Bulgaria; 2) it is difficult to find (reliable) data related to (eco)efficiency of household waste management, especially in Bulgaria. Overall, the explorative nature of our research questions de-

termined the design of this research as well as reflected the (lack of) knowledge in CSR and waste management literature.

3. Structure of the dissertation

The dissertation is based on four chapters (cf. figure 2). Each chapter is developed as an independent contribution and is organized around the themes of sustainable development: CSR and sustainable waste management. A brief summary of interrelationship between each chapter and our two research objectives are presented below.

Figure 2: Dissertation Structure



The first research question is related to the first objective of the present dissertation – to reveal the diversity of regulatory mechanisms (instruments) used to stimulate CSR and promote sustainable development. This question – Which are the main regulatory mechanisms that influence CSR and promote sustainable development? – is mainly addressed in the first chapter of the dissertation that represents a literature review. The chapter – “Discovering the wilderness of regulatory mechanisms for CSR” – presents different regulatory mechanisms stimulating CSR, while discussing their effectiveness. Moreover, the chapter also shows how the effect of regulatory mech-

anisms can be improved if implemented. The second chapter – “Environmental fiscal policy and other instruments for sustainable and efficient MSW management: a comparative study of Belgium and Bulgaria” – also addresses the first research question to some extent. By analysing a bunch of important policy instruments used by the government and government authorities (actors from one societal domain), it strives to achieve sustainable and efficient household waste management.

The second and third research questions are concerned with the second objective of this study – to improve the (eco)effi-

ciency of household waste management. The second question – How can the (eco)efficiency of municipal solid waste management be improved? – is addressed in chapter two, chapter three and chapter four. An explorative case study methodology is adopted to identify how the (eco)efficiency of household waste management can be improved. Chapter two discusses environmental fiscal policy and other instruments implemented in Belgium and Bulgaria for the achievement of sustainable and efficient MSW management. Chapter three – “The proper use of organizational forms as a tool for (eco)efficient household waste management: case studies of Belgium and Bulgaria” – analyses how the (eco)efficiency of household waste management can be improved through choosing the right organizational form under certain circumstances, as it also considers what the most important factors that influence the efficient household waste management are. Chapter four – “A comparison of e-waste management approaches in Belgium, Bulgaria and Kenya: Implications for the management of e-waste in developing economy contexts” – studies the business models for e-waste management as a key tool for (eco)efficient e-waste management. Hence, three business models are discussed: two traditional European business models for (eco)efficient e-waste management and a new one implemented in Kenya. In addition, chapter four also gives an answer to the third question, e.g. Why is the European EPR scheme for e-waste management not applicable in Kenya and a new business model is needed there? Moreover, chapter four extensively analyses the new business model for e-waste management in Kenya through presenting a case study of WorldLoop. In addition, chapter two and three also contribute, to some extent, to the third research question through providing a view of the household waste management in two European countries: Belgium and Bulgaria. Thus, we have a better basis to compare the situation with household waste management in Belgium, Bulgaria and Kenya.

4. Main conclusions

The discussion of our main conclusions is organized consistently with the two objectives of the dissertation. The conclusions related to objective 1 and objective 2 of the dissertation are presented below.

4.1. Conclusions related to objective 1

The shift from government to governance in favour of sustainable development is noted increasingly (Steurer, 2013). The governance changes also need to be accepted to achieve environmental protection and sustainable development (OECD

2002; Lafferty, 2002; Jordan, 2008; Lenssen, Dentchev & Roger, 2014). The governance changes are basically related to the implementation of new modes of governance (Jordan, 2008), creation of hybrid modes of governance and the use of new environmental policy instruments (Bracke & Albrecht, 2007). Engagement of various actors (both national governments and non-state actors) in the process of governance in support of sustainable development is also necessary (Lenssen, Dentchev & Roger, 2014; Steurer, 2013, 2011). However, the national governments have to keep their leading role in steering society, business and economy towards sustainable development. Moreover, government regulation is often a prerequisite for the functioning of business self-regulation (Mathis, 2008; Short & Toffel, 2010) and in some cases, for civil society regulation success (Bell & Hindmoor, 2012: 155).

4.1.1. Conclusions derived from chapter 1

To meet our first objective in the dissertation (*to reveal the diversity of regulatory mechanisms (instruments) used to stimulate CSR and promote sustainable development*) we have addressed the question *which are the main regulatory mechanisms that influence CSR and promote sustainable development* (Chapter 1). Based on our sample of 186 empirical articles, we found 32 different regulatory and co-regulatory mechanisms implemented by different actors from the four societal domains: supranational unit (organization), government, business and civil society. We discussed the effects of their implementation by providing selected examples. Thus, we (1) supplemented the regulatory mechanisms in the CSR field and sustainable development pointed out by Steurer (2013); (2) involved the supranational unions (organizations) in the four societal domains, something missing in the article of Steurer (2013); (3) provided far more practical-oriented examples of the regulatory mechanisms, especially of those implemented by the supranational units, national governments and businesses (for which Steurer (2013) did not present examples); (4) went further from Steurer (2013) through presenting the effect of the implementation of all 32 regulatory mechanisms we found out based on our 186 empirical articles. The majority of these 32 regulatory mechanisms are implemented by national governments; firms; supranational units; civil society and industry. This further emphasized that national governments, supranational governments and civil society have a great interest in the CSR field.

Based on the various regulatory mechanisms we found out in our sample (as well as their effect on improving CSR and sustainable development), we note that there is no “ideal” regulatory mechanism. This is also supported by the fact that there are so many regulatory mechanisms used by different actors

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to stimulate corporate social responsibility (CSR) and promote sustainable development. The regulatory mechanisms applied by businesses do not always contribute to sustainability and better social responsibility (Lewis, 2008). Moreover, the companies have two regulatory mechanisms (political spending and lobbying) that are usually used to achieve company's interests instead of improving its social and environmental responsibility (Tonge, Greer & Lawton, 2003). The regulatory mechanisms used by supranational units are voluntary and therefore the engagement of national governments in their implementation is a key factor for their success (Seppala, 2009; Barkemeyer, 2009). Governments enact laws and legislations in order to improve social and environmental responsibility of the companies but the result of their implementation is not always a desirable and satisfactory one (Wilson, Williams & Kemp, 2010; Haig & Guthrie, 2009). There are many reasons for this: regulatory laissez-faire approaches, the lack of monitoring of compliance with legislation, low levels of sanction for non-compliance with legislation, political spending and lobbying by companies, corruption.

Due to all reasons mentioned above, we argue that regulatory mechanisms are not so effective by themselves. To increase the effect of their implementation, the regulatory mechanisms should be considered altogether, as an orchestrated governance of social and environmental issues. Thus, the common and coordinated implementation of regulatory mechanisms in the CSR field and sustainable development would lead to better results than if different mechanisms are applied separately and uncoordinatedly. Furthermore, the devising of a holistic package of different regulatory mechanisms is needed to ensure that governance will take place in a sustainable and more effective manner. This package can be formulated by 1) different regulatory mechanisms implemented by one societal domain (environmental fiscal policy, for example, combined different governmental regulatory mechanisms to achieve sustainable development) or 2) by different regulatory mechanisms from different societal domains. The implementation of such packages can contribute to build a circular economy in EU in an efficient and effective way.

4.1.2. Conclusions derived from chapter 2

Chapter 1 provides the conclusion that devising a holistic package of different regulatory mechanisms could ensure that governance will take place in a sustainable and more effective manner. Following this idea, we decided to analyse the package of policy instruments (regulatory mechanisms)

implemented by government authorities for the achievement of sustainable and efficient household waste management in Belgium and Bulgaria (Chapter 2). Thus, we focused on different regulatory mechanisms implemented by different actors (government and municipalities) from one societal domain (government domain). As a result, we found out that when the waste policy instruments (regulatory mechanisms) are not im-

plemented co-ordinately, the effect of their use is unsatisfactory. In Bulgaria, for example, the government (through the Minister of Environment and Water) implemented different policy instruments (e.g. green subsidies, landfill taxes and EPR schemes) to stimulate sustainable and efficient household waste management. However, Bulgarian municipalities still calculate the municipal waste fees on the basis of the tax

assessment of the property for both business and citizens. This calculation of the municipal waste fees does not stimulate Bulgarian citizens to separate their waste, and therefore this policy instrument does not significantly support the sustainable household waste management. It is important the national government stimulates municipalities to implement the municipal fees that are calculated on the quantity disposed of waste and to build container parks through providing green subsidies or using other regulatory mechanisms. Municipalities should be actively involved in the process of separate collection of different municipal waste streams, i.e. in EPR schemes. Otherwise, there is no common and coordinated implementation of various fiscal and economic instruments used by government authorities. Thus, the results from MSW management are not so satisfactory (only 25 % of MSW is recycled in Bulgaria (EEA, 2015)). In contrast, in Belgium there is a common and coordinative implementation of policy instruments used on governmental and municipal level. This leads to better results in MSW management (72 % of MSW is recycled (Allen, 2012; ISWA, 2015)) and optimization of the whole system of household waste management, which improves CSR of waste companies as well.

4.2. Conclusions related to objective 2

To meet our second objective (*to improve the (eco)efficiency of household waste management*) we addressed the question – *How can the (eco)efficiency of municipal solid waste management be improved?* (Chapter 2, 3 and 4). Hence, we looked for improving the (eco)efficiency of municipal solid waste management by 1) using a bunch of important policy instruments (cf. Chapter 2); 2) proper use of various organizational forms (cf. Chapter 3); and 3) implementing the right business model corresponding to particular country context (cf. Chapter 4). In other words, we

looked for improvement of the (eco)efficiency of MSW management on the national, municipal and organizational level.

4.2.1. Conclusions derived from chapter 2

In chapter 2, we looked for improvement of the (eco)efficiency of MSW management on the national and municipal levels. Hence, the chapter discusses a bunch of important fiscal and economic instruments for sustainable and efficient MSW management implemented both in Belgium and Bulgaria. These important instruments are the following: 1) landfill and incineration taxes; 2) green subsidies; 3) prohibition of landfilling compostable waste and prohibition on incineration recycling waste; 4) Pay-As-You-Throw (PAYT) system; 5) EPR schemes and eco-fees; 6) information campaigns and communication; 7) re-used centers, and 8) recycling/container parks of (inter) municipalities. We compared how the policy instruments for sustainable and efficient household waste management are implemented in Bulgaria (one of the least efficient countries in sustainable MSW management in European Union (EU)) and in Belgium (one of the most efficient countries in sustainable MSW management in EU). As a result, we found out different obstacles for the successful implementation of some policy instruments in Bulgaria as opposed to Belgium where these obstacles are absent and the policy instruments achieve big results in efficient and sustainable MSW management. Based on that, we identified nine success factors for the effective use of policy instruments that contribute to more efficient and sustainable MSW management: 1) proper legal framework; 2) strong control; 3) common and coordinated use of fiscal and economic instruments; 4) the cooperation and partnership between municipalities, 5) active involvement of municipalities (intermunicipal organization) in separate collection of household waste as well as 6) the active involvement of all other actors (e.g. citizens, private collectors and recyclers, obliged industry) in the process of household waste management; 7) the existence of only one PRO for every household waste stream that only organizes the whole system; 8) limited number of scavengers (or organized collectors) that duplicate the existing system of household waste collection; 9) coordinated and prolonged implementation of information campaigns for sustainable household waste management. From them, the proper legal framework, the strong control and common and coordinated use of fiscal and economic instruments are key-stones for the successful use of all policy instruments in the MSW management. Following the nine success factors, we provided the several recommendations for more effective use of policy instruments in Bulgaria as well as for more efficient and sustainable MSW. These recommendations are the following:

a) The poor control regarding household waste management is a barrier for the successful implementation of some of the policy instruments and for the achievement of an efficient and sustainable MSW management. Hence, the control on all levels in waste management could be enhanced. This can be achieved by: a) exercising control over control. The control can be carried out parallel by several departments from several ministries during the year; b) combining the national control with control exercised by large international auditing companies; c) municipalities, citizens and NGOs more actively participating in the process of controlling; d) increasing the wages of supervisory bodies, especially the wages of regional inspectors.

b) The introduction of different landfill tax rates for different residual waste disposal on the landfills. For example, the residual waste that comes on the landfill from sorting facilities should be charged less than the residual waste that comes directly from citizens. In addition, the revenue from landfill tax (deduction) can be used also to build municipal container parks and prepare information campaigns related to waste prevention and separate collection. In addition, municipalities could introduce stimulus for their citizens that encourage them to separate their waste.

c) Municipalities could be included in the process of separate collection of packaging waste as PROs can finance them to collect this waste stream. In Belgium, for example, the (inter) municipalities are legally responsible for separate collection of packaging waste and Fost Plus finances them for this activity. In this case, Bulgarian municipalities will have a better stimulus to strongly control the process on separate collection of packaging waste as well as to promote separate collection and conduct lengthy information campaigns. Moreover, the collection of packaging waste at the source (households) will be more achievable. Thus, the current theft from the coloured containers on the streets will be diminished and the quality of collecting packaging waste could be better.

d) The creation of a stronger form of cooperation and partnership between municipalities will increase the efficiency of MSW management. It will be a wise initiative if municipalities in every one of the 55 regional municipal associations further join forces and create their intermunicipal organizations just the way it is done in Belgium. Thus, the intermunicipal organization, for example, can organize tenders in the name of all of its small municipalities. Therefore, the intermunicipal organization can negotiate in a stronger position and get better price and conditions from private waste companies. Moreover, it will be much easier for PROs to cooperate with intermunicipal organizations than with every single municipality in the country.

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e) Solving the current problem with the scavengers (organized private collectors) requires the involvement of various national institutions and cooperation between them: Ministry of Interior, Ministry of Labour and Social Policy, Minister of Environment and Water, the municipalities, PROs. Some of the scavengers can be involved legally in the waste management system: e.g. in the collection process and sorting process. Others can be employed in the future municipal container parks and re-use centres. The rest of them can be involved in other sectors in the country.

f) The information campaigns related to sustainable MSW management should be increased. These campaigns should be more prolonged and coordinated between the government, regions, municipalities and PROs. All actors in the waste system could be more actively involved to achieve sustainable and efficient MSW management and build circular economy.

g) It would be in benefit to have an online system that shows the performance in waste management of all municipalities or 55 regional associations. For this purpose one organization could collect all data of cost, environmental results and the quality of service from all municipalities (or from 55 regional municipal associations). And after that, the data should be introduced in the online system. Thus, the performance of different municipalities (or 55 regional municipal associations) can be compared by citizens and municipalities anytime. Hence, the system would lead to more efficient and sustainable MSW management. This will not be done today but we hope that such a system can be started in the future.

4.2.2. Conclusions derived from chapter 3

In chapter 3, we looked for improvement of the (eco)efficiency of MSW management on the organizational level through proper use of various organizational forms. Therefore, we discuss main organizational forms available to (inter)municipalities for (eco)efficient MSW management in Belgium and Bulgaria: a) to do everything by themselves (through their publicly owned company); b) to sign contracts for waste services with privately owned company; c) to choose public-private partnership (creation of hybrid organization) or d) cooperation. Moreover, we studied whether the ownership is a factor for efficient household waste management in Belgium and Bulgaria. As a result of our study, we found out the following:

1) The company ownership is not a factor for efficient household waste management in Belgium, whereas in Bulgaria it is. In addition, other important factors for efficient household waste management were noted by our waste experts from Belgium

and Bulgaria. They are as follows: partnership between actors in the waste sector, control and legal framework, transparency, management and organization in the company, people behind the company, knowledge about waste management, freedom of choice of municipalities, hybrid market, demographic, geographic and political factors.

2) There are several circumstances under which it is especially difficult and non-efficient for Belgian and Bulgarian municipalities to sign contracts for waste services with private companies. Eight out of them were pointed out both in Bulgaria and in Belgium. These 8 circumstances are the following: 1) monopolistic or oligopolistic situation (lack of competition on the waste market); 2) weak competence in the administration that is an obstacle to write good contracts; 3) prolonged tender procedure; 4) privately owned companies do not provide the service they promised; 5) when the tendering process is not transparent; 6) municipalities have a lot of expertise and resources in running their own waste collection scheme; 7) long-term period of contract for the collection of household waste (more than 5 years); 8) possibility for a persistent conflict between municipalities (inter-municipalities) and privately owned companies (waste remaining on the streets would be the worst scenario for the public authorities). When the circumstances pointed out by our respondents appear, it would be especially difficult and non-efficient for municipalities (inter-municipalities) to sign contracts for waste services with a privately owned company in Belgium and Bulgaria, and this would lead to increased transaction costs. In addition, almost all waste experts from Belgium and Bulgaria noted that strategic choice and waste policy cannot be outsourced to the privately owned companies.

3) Partnership and cooperation are important organizational forms for the eco-efficiency improvement of household waste management. Based on the case studies of Belgium and Bulgaria, we can come to the conclusion that public-private partnership (and the creation of hybrid organizations) can increase the eco-efficiency of household waste management when the best of both organization forms (public and private) is combined. This conclusion is valid for Belgium, as well as for Bulgaria. Moreover, for the success of this partnership and the improvement of the eco-efficiency of household waste management, some crucial circumstances, noted by our respondents from Belgium and Bulgaria, need to be fulfilled. Most of these circumstances pointed out by the waste experts in Belgium were also noted by the Bulgarian ones, which confirms the importance of successful public-private partnership in the household waste management. If most of these circumstances are fulfilled, the decrease of transaction cost will be a fact as well. In addition, our respondents from Belgium, as well as those from Bulgaria noted that public-private partnership would be

more necessary when one of the parties needs financial potential, expert capacity, technical capacity. In these cases, the public-private partnership would be the better option from various organizational forms. Although it was pointed out that public-private partnership can increase the eco-efficiency of household waste management, it is implemented much more in Belgium than in Bulgaria. The majority of our respondents from Bulgaria stated that such partnership is quite rare in the household waste management. They noted the following reasons for that: municipalities use European funds for the implementation of their projects in household waste management; lack of traditions in public-private partnerships (PPPs) and underdeveloped waste sector; cumbersome bureaucratic system; existing barriers in the law for PPPs; lack of state authority to control these partnerships; unwillingness of the mayors to share the management of household waste with private companies as well as their inactivity in the household waste management; the lack of fiscal stimulus to create such partnership.

Overall, we displayed the contingencies in which various organization forms can be used in order to be achieved more efficient and sustainable household waste management. We state that one of the manners to enhance the (eco)efficiency and decrease transaction cost in household waste management is to compare on the all possible organizational forms (e.g. partnership, cooperation, publicly owned or privately owned companies) and to choose the best one of them in particular contingencies.

“We displayed the contingencies in which various organization forms can be used in order to be achieved more efficient and sustainable household waste management”

4.2.3. Conclusions derived from chapter 4

Chapter 4 analysed and compared different business models for eco-efficient e-waste management: the traditional business model implemented in Belgium and Bulgaria, and the new business model applied in Kenya (and many other countries from Africa). We found that there are some essential differences between the traditional business model applied in Belgium and Bulgaria: 1) in Belgium, there is only one producer organization that organizes the whole process of collection and recycling of e-waste whereas in Bulgaria there are six; 2) the producer organization in Belgium does not have its own tracks for e-waste collection or its own recycling facilities (e-waste collection and recycling is contracted out) which is the opposite in Bulgaria; 3) the producer organization in Belgium was set up by producers, whereas in Bulgaria it was built up by recyclers; 4) municipalities in Belgium play a very important role in e-waste collection, whereas municipalities in Bulgaria are only involved to some extent in the organization of e-waste collec-

tion; 5) the producers and importers of electrical and electronic equipment pay visible fees to the producer organization in Belgium, while producers and importers pay fees to producer organizations that are not written on the sales invoice (to inform consumers). These differences reflect on the results that are achieved by Recupel in Belgium and producer organizations in Bulgaria. Moreover, there are conditions that allow to implement the traditional business model for e-waste management in these two countries despite the differences above. These conditions are as follows: well-established policies and legislations for sustainable management of waste electrical and electronic equipment (WEEE); WEEE take-back obligation was also implemented; well-developed recycling infrastructure and recycling sector.

In contrast, the situation with e-waste management in Kenya is very different than this one in Belgium, Bulgaria and other countries from the European Union. First of all, in Kenya, there is not any well-established legislation for sustainable e-waste

management. In this country, there is not any specific legislation for e-waste management and therefore the polluter-pays-principle and take-back obligation are illegally implemented. The producers and importers of electronic and electricity appliances do not pay any fees for the organization of collection, sorting, dismantling and treatment of e-waste.

They do not have any legal obligation to set up their producer organization (or organizations) to create a system for sustainable e-waste management. Moreover, there are not any provided-by-the-government financial incentives for the collection and treatment of non-valuable materials (and in most of the cases – dangerous materials) from e-waste. Kenya does not have state-of-the-art recycling technologies which can process the hazardous fragments from electrical or electronic appliances in an ecological way. Moreover, the recycling sector in Kenya still is not developed; the number of recycling facilities is very limited and municipalities do not play any significant role in e-waste management. The business climate in the e-waste sector in Kenya and in most of the African countries is not very developed either.

Keeping the whole presented situation with e-waste management in Kenya in mind, the traditional business model for e-waste management implemented in Belgium and the rest of the EU is not applicable in Kenya (as in most African countries). Therefore, the new business model is implemented in Kenya by WorldLoop to create accessible, environmentally sound, socially responsible and sustainable e-waste recycling solutions. Moreover, WorldLoop, together with some e-waste companies from Belgium and East Africa, facilitates the better collection,

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dismantling and recycling of valuable material from e-waste in Kenya and many other countries in Africa.

5. Final remarks

The dissertation has at least three main contributions. Firstly, we show that there is a broad variety of 32 regulatory mechanisms for stimulating CSR and sustainable development. The above-mentioned regulatory mechanisms are discussed in-depth and the effect from their implementation is presented based on our sample of 186 empirical articles. Thus, the dissertation challenges the principle of voluntarism in CSR (Dahlsrud, 2006; Carroll, 1979; Carroll & Shabana, 2010) and also indicates the necessity of a combination of regulatory mechanisms when approaching sustainability problems. Secondly, we have detected several success factors for effective use of important fiscal instruments for sustainable and efficient household waste management. Based on the detected nine success factors, we have discussed some practical suggestions for the improvement of household waste management in the Bulgarian context. Thirdly, this dissertation discusses the value of various organizational forms (publicly owned company, privately owned company, public-private partnership and cooperation) for sustainable and efficient household waste management (Massoud, El-Fadel & Malak, 2003; Obirih-Opareh & Post, 2002; Forsyth, 2005; Ahmed & Ali, 2006). These organizational forms were discussed throughout the dissertation in three different contexts: Bulgaria, Belgium and Kenya. Thus, we further strengthen our knowledge regarding the contingencies and mechanisms behind sustainable and efficient household waste management.

Our findings in the dissertation have at least two implications for future research in the field of CSR and sustainable MSW management. As to the first implication, we think that the devising of holistic packages of different regulatory mechanisms for improving CSR and sustainable MSW management are a fertile ground for future research. It could be studied how a bunch of different regulatory mechanisms from different societal domains can support the improvement of sustainable MSW management and building of circular economy in EU as well as can stimulate CSR of waste companies. Moreover, it could be studied what part of our 32 regulatory mechanisms for stimulating CSR and promoting sustainable development are implemented in the waste sector in Belgium and Bulgaria as well as what the result is of their implementation in both countries. The gathered information about Belgium and Bulgaria could be compared. Thus, the waste management and CSR literature could be enriched. The comparative case studies, structure literature review and meta-analysis seem to be

adequate research methods for the above-mentioned possible future researches. The second implication is related to the (eco)efficiency of MSW management and the circular economy. It would be useful if similar studies like the ones in chapter 2 and 3 are conducted in other countries of Western and Eastern Europe. Thus, the generalizability of our findings will be assessed further in this paper. In addition, the studies that focus on 1) the creation of a circular economy model for Belgium and Bulgaria, 2) the assessment of the impact of transition to circular economy on the economy in Bulgaria and Belgium as well as 3) what type of instruments can be used to facilitate that transition, it will also be necessary in the future.

BIOGRAPHY

Ivan Bozhikin holds a Ph.D. in Economics (Joint Ph.D. programme between VUB and UNWE). His thesis is entitled "Environmental fiscal policy for sustainable development: a comparative analysis". Ivan has a Bachelor's degree in Business Administration (University of Plovdiv, Bulgaria); a Bachelor's degree in Macroeconomics (University of Plovdiv, Bulgaria), a Master's degree in Business and Finance (Nottingham Trent University, The United Kingdom) and a Master's degree in Macroeconomics (The University of National and World Economy (UNWE)). He lectures courses in Macroeconomics at UNWE. His main research interests include: Environmental Fiscal Policy, Sustainable Development, CSR, and Sustainable Waste Management. He is the author of nine research papers.

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