The impact of regulation on innovation in the food sector

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ABSTRACT,
In this paper, the impact of regulation on innovation is discussed. The existing theory is used to help explaining the outcome of the case study. Several variables are tested by interviewing companies active in the food sector. There are some regulations that have a restrictive impact on innovation, on the other hand supportive laws are existing as well. What is the overall impact on innovative activities carried out by companies that are active in the food sector?

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1. INTRODUCTION

In 2016, the European Union published a report on science, research and innovation. The main point is that the EU needs to invest in science, research and innovation. These investments will boost economic growth and create high-quality jobs (European commission, 2016). As a result, it would be logically that countries promote innovation. The existence of incentives for innovative activities help the progress of the R&D departments. Generally speaking, most of the EU innovation-directed regulations are promoting innovation. However the variation per sector and type of innovation is huge, so the impact for every sector is different Pelkmans & Renda (2012). Furthermore, there are a lot of regulations that can have a different impact on the innovative activities a company is performing.

This paper will discuss the impact of competition law on the innovative activities of SME's operating in the food industry. The assumption that competition regulation promotes innovation in a given sector will be tested. This research will make the research already done in this field more complete. Also, it can be used as a tool for entrepreneurs to know how to cope with this kind of regulation. It will be of huge importance to know whether the competition rules have constraining or stimulating impact on innovative activities.

1.1 The importance of innovation for SME's

Innovation, in particular for SME's is important because innovation is an important characteristic of successful SME's. Furthermore, innovative SME's achieve stronger growth and are more likely to get market share (Tidd et al. 2005). Besides, SME's are of huge importance for economic development, which is widely recognised (Kumi-Ampofo & Brooks, 2009).

Due to increased safety standards in the food industry and internationalization of food firms, supermarkets etc., prices are put under pressure in the food sector. These factors pushed companies to be more efficient and develop new products (Avermaete, T., 2003). This proves that innovation in the food sector is a crucial component.

Innovative activities carried out by SME's received some attention in earlier studies (Hoffman et al., 1998; McAdam and Armstrong, 2001), but there is a general agreement that there is considerable scope for further research in this area (Oke et al., 2007; Lee and Ging, 2007).

1.2 How regulation promotes innovation

Innovative activities by SME's are thus important, not only for themselves, but also for the development of the economy. Pelkmans & Renda (2012), showed with empirical data and case studies that there are several types of regulation and that there are some innovative-specific kind of regulations which promote innovation. E.g. there exist some incentives that normally reduce the cost for innovative activities.

In the Netherlands, companies that do research & development (R&D) can make use of a law called WBSO (Wet- Bevordering Speur- en Ontwikkelingswerk). This law provides companies favourable tax advantages. It does not matter if a company is small or big. The WBSO can be applied for when a company develops something new or develops a new production process that takes place in the European Union. Conditions that must be fulfilled are that the innovation is technical new and there are some technical risks and challenges. For R&D labour costs the WBSO can be used, but also other costs like prototype costs and investments in research facilities (www.rvo.nl, 2017).

1.3 The negative effect of regulation

However, sometimes the reality reflects another truth. According to Stigler (1971), particular interest groups try to influence regulations made by the government in their own interest. E.g. they can raise rival's entry costs by creating market entry barriers (Salop & Scheffman, 1987; Swann 2000). Swann explains that even when formal standards are not mandatory, technological infrastructure can be influenced. Blind, Peterson and Riillo showed with empirical data that in low uncertain markets, firms' innovation efficiency suffers more from standards as barriers to innovation, whereas regulations have a positive influence. In the case of highly uncertain markets, this relationship is inverted. In uncertain markets, innovation efficiency suffers more, because here firms have a much better chance to influence formal standards to align with their own interest.

This information shows that some rules are not working always the same. Regulations and standards have different effects in different situations or environments. Furthermore, sometimes they have a negative effect instead of a positive effect. That these regulations can be influenced by 'the big players' in the market is something that must be considered by the government, because it will have a negative working on the smaller companies and start-ups.

1.4 What effect do regulations have?

It is recognized that regulation can stimulate innovation and entrepreneurship in society. On the other hand, it can have negative effects. Given that the content and structure of regulation is different for every sector and type of innovative activity, it is difficult to draw general conclusions. The existing literature shows that there is need for much more specific case studies on the impact of regulation on innovation. Both 'innovation' and 'regulation' are broad terms for what are in fact numerous complex and diverse activities. This is the case for public and private activities. There has not been done research yet in the Netherlands on how competition rules can have an impact on innovation activities, focusing on the food sector. Do competition rules stimulate innovation activities in the food sector or do they have a constraining effect?

1.5 Background on rationale

As stated before, research has been done before on the impact of regulation on innovation. However the variation per sector and type of innovation is huge, so the impact is for every sector different. Furthermore, there exists many different kinds of regulation that can have a different impact on the innovative activities a company is performing. Due to the lack of case studies in this field, research about the effect of a more specific kind of regulation in one sector is needed. This paper will discuss the impact of competition law on the innovative activities of firms operating in the food industry. This research will make the research already done in this field more complete. Also, it can be used as a tool for entrepreneurs to know how to cope with this kind of regulation. It will be of huge importance to know whether the competition rules have constraining or stimulating impact on innovative activities.

1.6 Research objective

There is a need of case studies in this field of research, given the actual state of information available. In order to identify what effect competition regulation in the Netherlands has, different case studies must be carried out. The goal in the end is to be sure how different regulations affect different innovative activities within firms active in the food sector in the Netherlands.

2. THEORETICAL FRAMEWORK

2.1 Innovation

2.1.1. Defining innovation

In order to be able to identify the impact of regulation on innovation, the term innovation must be clear, also the measurement of this broad term is important. Bessant, Lamming, Noke & Phillips, 2005, describe innovation as "the core renewal process in any organization. Unless it changes what it offers the world and the ways in which it creates and delivers those offerings it risks survival and growth prospects". Bledow, et al., 2009, describes it as "the development and intentional introduction of new and useful ideas by individuals, teams and organizations".

2.1.2. Measuring innovation

A study done at the University of Twente in the Netherlands showed that innovation performance can be measured using three items: the existence of a research and development department, with a strong emphasis on it, the launching of many new products in a given period of time and the significant changes in products (Miller & Friesen, 1982). Another way to measure innovation performance is presented by Cooper and Kleinschmidt (1995). They present a number of measures for innovation performance at the firm level: success rate, sales percentage, profitability relative to spending, technical success rating, sales impact, profit impact, success in meeting sales objectives, success in meeting profit objectives, profitability relative to competitors, and overall success.

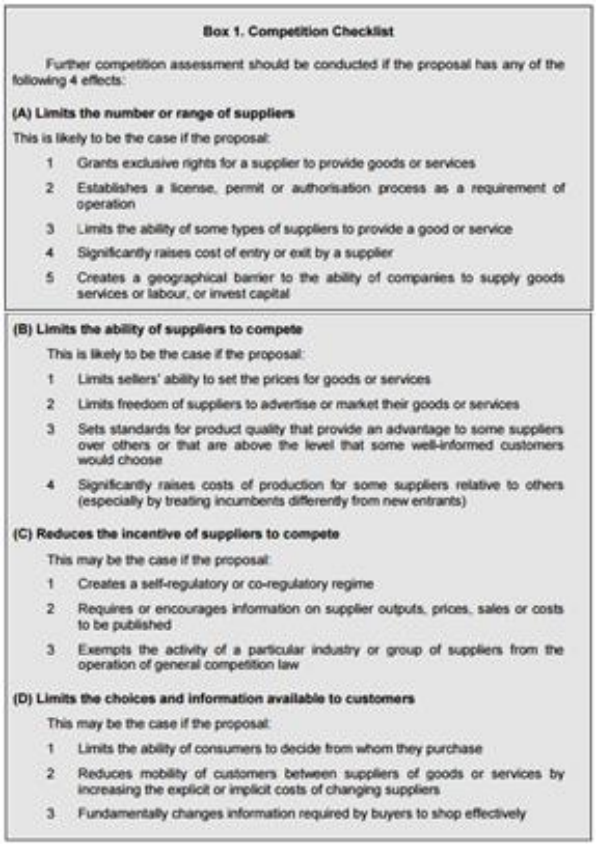
Furthermore, innovation can be measured by using several indicators that have an impact on the performance of the firm. These indicators are described in the Oslo manual (Mortensen & Bloch, 2005 pp. 53). The indicators are: "the proportion of sales due to technologically new or improved products, the results of innovation effort and the impact of innovation on the use of factors of production."

2.2 Regulation

There are many different types and kinds of regulation. Also regulations can be distinguished for their purpose. E.g. there can be intervention by governments or other institutions and this can be on different levels, for example for companies, for society, etc. Therefore, this "regulation" is a broad term and as a result there exist many definitions. For this topic Pelkmans & Renda (2014) explains it in an appropriate way. "Regulation is one of the activities that governments can engage in and which can exert a profound impact on the level and direction of innovation, both in specific sectors and in the economy as a whole." (Pelkmans & Renda, 2014) Since the impact of competition regulation on innovation will be researched, the most important dimensions of these kind of regulation will be elaborated on. Public regulations, private regulations, strategic behavior and power are distinguished.

2.2.1 Public and private regulations

In order to eliminate barriers to competition, the OECD assessment toolkit is published in 2015 (Version 3). This toolkit provides a method to identify "unnecessary restraints and developing alternative, less restrictive measures that still achieve government policy objectives" (www.oecd.org, 2015). This guideline helps governments to evaluate new or existing laws. In



Box 1. Competition Checklist

Further competition assessment should be conducted if the proposal has any of the following 4 effects:

(A) Limits the number or range of suppliers

This is likely to be the case if the proposal:

1. Grants exclusive rights for a supplier to provide goods or services
2. Establishes a license, permit or authorisation process as a requirement of operation
3. Limits the ability of some types of suppliers to provide a good or service
4. Significantly raises cost of entry or exit by a supplier
5. Creates a geographical barrier to the ability of companies to supply goods services or labour, or invest capital

(B) Limits the ability of suppliers to compete

This is likely to be the case if the proposal:

1. Limits sellers' ability to set the prices for goods or services
2. Limits freedom of suppliers to advertise or market their goods or services
3. Sets standards for product quality that provide an advantage to some suppliers over others or that are above the level that some well-informed customers would choose
4. Significantly raises costs of production for some suppliers relative to others (especially by treating incumbents differently from new entrants)

(C) Reduces the incentive of suppliers to compete

This may be the case if the proposal:

1. Creates a self-regulatory or co-regulatory regime
2. Requires or encourages information on supplier outputs, prices, sales or costs to be published
3. Exempts the activity of a particular industry or group of suppliers from the operation of general competition law

(D) Limits the choices and information available to customers

This may be the case if the proposal:

1. Limits the ability of consumers to decide from whom they purchase
2. Reduces mobility of customers between suppliers of goods or services by increasing the explicit or implicit costs of changing suppliers
3. Fundamentally changes information required by buyers to shop effectively

figure 1, the toolkit can be found.

Figure 1. The OECD competition checklist

As stated before in the problem analysis, some rules have a negative effect. This checklist is created in order to examine the potential harm that might be caused to competition by some of the rules and regulations imposed by governments as well as various restrictions imposed by professional organizations. When a legislation has one of the four effects stated in the checklist, further competition assessment is necessary. Those effects are: the limitation of the number or range of suppliers, the limitation of the ability of suppliers to compete, the reduction of the incentive of suppliers to compete and the limitation of the choices and information available to customers.

2.2.2 *Strategic behavior*

This dimension focusses on the strategic behavior of other firms. How will actions of firms in the same market affects other SME's, firms or even competitors. According to Stigler (1971), particular interest groups try to influence regulations made by the government in their own interest. E.g. they can raise rival's entry costs by creating market entry barriers (Salop & Scheffman, 1987; Swann 2000). Swann explains that even when formal standards are not mandatory, technological infrastructure can be influenced. The creation of barriers will limit the number of entering (innovative) firms to the market.

However, not only 'legal' actions are taken by the big firms. Djankov, La Porta, Lopez and Shleifer (2002) show that entering

new markets is very expensive for companies that are active outside the top quartile of the income distribution. Furthermore, they find that heavy regulation for entry is associated with greater corruption and a larger unofficial economy.

According to Porter (1979), rivalry amongst firms is influenced by four forces: Threat of new entrants, bargaining power of buyers, threat of substitute products or services and bargaining power of suppliers. In the paragraphs above is illustrated how regulations can be influenced by the firms themselves in their own favor. How the bargaining power of buyers and suppliers can affect innovative activities will be explained below.

2.2.3 *Power*

According to Porter, powerful suppliers capture more of the value for themselves by charging higher prices, limiting quality or services, or shifting costs to industry participants. For small SME's this is a big problem, whereas they are often unable to afford such high prices and costs. This will lead to less innovations, because it is simply too expensive. Also, the limitation of quality and services has a negative impact on innovation, where bad inputs cause bad outputs (Porter, 1979).

Powerful customers can capture more value by forcing down prices, demanding better quality or more service (thereby driving up costs) (Porter, 1979 pp. 140). Thus, again, power has a bad influence on innovative activities. Especially small companies are affected by these phenomena, while they are unable to cope with such high costs.

In a market where power for suppliers and buyers is low, circumstances are more favorable for companies, especially for small SME's (Porter, 1979).

2.3 The link between regulation and innovation

Earlier studies give some insight in the link between regulation and innovation. Pelkmans and Renda (2014), came to the conclusion that different types of regulation have a different type of impact on innovation. Typically, rigid regulation can have a constraining effect on innovation. It will reduce the attractiveness of engaging in Research and Development activities and constrain the modes of commercialization. On the other hand, when regulation is flexible, such as in competition law, it will stimulate innovative activities. The lower the costs of compliance and the administrative burdens, the more positive is the impact on innovation. Blind (2012), also state that flexible regulation promotes innovation, while different uncertainties lead to the reduction of innovation. In his report he notes policy uncertainties and compliance uncertainties. Evidence collected shows that these kind of uncertainties cause a delay in investments. Furthermore, a distinction is made between the short-term impact and the long-term impact of regulation. Often, regulation has a negative impact on innovation on the short-term, while long-term impacts are much more favorable.

However, the assumption that flows from the well-known Porter Hypotheses (PH), shows that stricter regulation leads to more innovation. This hypotheses concerns environmental regulation. Later on, Brännlund & Lundgren (2009) and Ambec et al. (2011) came to the same conclusion by doing research in this field using empirical data.

Furthermore, Pelkmans and Renda state that the impact often is an empirical, case-by-case exercise. This said, the best option to identify the impact of competition law on innovative activities of companies active in the food sector in the Netherlands, is to carry out a case study.

The existing research shows that there are general theories about the link between regulation and innovation. However, specific ideas are still missing. The existing work can help researches like this to work towards the right direction.

2.4 Research question

As said before, the best option for this research is to carry out a case study. Given the problem statement and the information in the theoretical framework, the research question is:

What is the role of competition regulation support or constrain companies active in the food sector from successfully launching innovations?

In order to be able to answer this research question in an appropriate way, several sub-questions need to be answered in advance. Those sub-questions are:

What kind of competition law support innovative activities for companies active in the food sector?

What kind of competition law constrain innovative activities for companies active in the food sector?

What is the impact of supporting laws on innovative activities for those companies?

What is the impact of constraining laws on innovative activities for those companies?

3. RESEARCH METHODOLOGY

This research will be carried out with the help of a qualitative study. In order to select a representative sample to conduct interviews and gather data, innovative companies located in the Netherlands are selected. The companies are chosen on a basis of several criteria. First of all, the company is (still) active in the food sector and focusses on the production of food. Furthermore, the company must be small. According to Robbins and Barnwell a company is small if it has less than 300 employees. Last but not least, the company must be recognized for its innovative activities. Based on these criteria, three companies are selected, due to privacy issues their names will stay anonymous. In order to answer the research question adequately several types of research methodology will be used.

3.1 Operationalization

The companies will be interviewed based on the OECD assessment toolkit. The competition checklist consists of four topics. Each topic will be measured with the help of interview questions. Before the questions can be showed each topic will be mentioned and illustrated.

"The limitation of the number or range of suppliers." This is likely the case if the legislation grants exclusive rights in order to sell the product or establishes a license as a requirement of operation. Furthermore, geographical barriers, cost of entry and other limitations are factors that influence the number or range of suppliers.

"The limitation of the ability of suppliers to compete." This topic deals with freedom of the suppliers to offer their products or services. Also the seller's ability to determine prices and standards for product quality are an important point. Likewise, the costs of production for some suppliers are important, whereas it is difficult to compete when there are big relative differences.

"The reduction of the incentive of suppliers to compete." This may be the case when the legislation creates a self-regulatory or co-regulatory regime. The requirement of information on

supplier outputs, prices, sales or costs to be published are also a factor that influence the reduction of the incentive of suppliers to compete.

"The limitation of the choices and information available to customers." When consumers are limited in the ability to decide from whom they purchase and limited information by consumers where to shop effectively are important topics here. Besides, the limitation of choices and information is also caused by the reduced mobility of customers between suppliers of goods or services by increasing the explicit or implicit costs of changing suppliers.

The variables above are measured with the help of several interview questions, which is illustrated in the table below. Furthermore, the innovation part and the effect of X (regulation) on Y (innovation) has to be measured. Also this is showed in the table below.

Question	Variable
Which are the most important rules and regulations that you – as a company in the food sector – have to deal with?	-
Do you think the regulations you mentioned make it difficult for SMEs to enter this market?	The limitation of the number or range of suppliers.
Do you think these regulations are causing financial barriers for compliance? E.g. do companies need to have much money to step in the business?	The limitation of the ability of suppliers to compete.
Do you think these regulations are causing technological barriers for compliance? E.g. do companies need to have technological systems or knowledge to step in the business?	The limitation of the ability of suppliers to compete.
Do they restrict the type of products/services you can offer?	The limitation of the choices and information available to customers.
Does it make it difficult to access another market?	The limitation of the number or range of suppliers
Are there any licenses or permits you have to obtain in order to offer your products on the market?	The limitation of the number or range of suppliers
Do you think the big players in the market are using some regulations in their own interest? E.g. they terminate long-term contracts, making use of bonuses etc.	The limitation of the ability of suppliers to compete.
Do some regulations also support SME's to compete? if so in what way?	The reduction of the incentive of suppliers to compete.
If you weigh the supportive and restrictive regulations against each other, do you think that regulations have a positive or a negative impact on innovation activities of firms active in the food sector?	The link between regulation and innovation.
How important is innovation for your company? Why?	The importance of innovation.
Do you measure how well your company performs on innovation activities? If so, how is this done?	Measurement of innovation & Post-measure activities

Figure 2. The measurement of variables.

The research is based on a qualitative analysis. The aim as mentioned before, is to analyse to what extent competition law and regulation affects a company's innovative activities. Therefore, in depth interviews will be conducted with managers from the chosen innovative companies. In depth interviews are primary data collection methods, which are verbal. "Response set refers to the tendency of the respondent to answer items in a way conscious or unconscious, that gives a preferred image. This refers to the term social desirability which means that a person tends to answer items in a socially desirable way." Therefore, the awareness of being interviewed will be tried to be minimised in order to gather consistent and valid data. Obtrusiveness can cause a bias of the overall view, this bias can be analysed and asked further for better analysis. Furthermore, the ethical approval will allow managers to be honest, because they are anonymous. The reliability will be tested by using the alternative-form method in the surveys. Due to this alternative-form method, the data collected will be more reliable. This method simply contains: asking questions in a different way, but the same question is meant. For an efficient interview, the deductive approach will be used, i.e. starting with general questions and slowly hopping to more specific ones. Furthermore, the validity has been assured, as the companies are not randomly chosen. The companies are chosen in a given sector, i.e. the food sector. Besides, secondary data will be collected; data on the web about the companies, literature about innovation and regulation. The unit of analysis are the chosen companies, while the units of observation are the interviewed managers.

Limitations for this research could be that the managers do not want to expose classified data, which could harm the company where they work. The selection criteria used in order to compose a sample of companies could be somewhat unrepresentative for this research, due to the fact that this research tries to analyse the impact of competition regulation on innovation of SME's. There is a chance that companies do not differ from each other in terms of successfulness, because only those organizations are interviewed which were recognized for their good innovation performance. Furthermore, some companies maybe had an one-time innovation, while other companies are innovating all the time. Another disadvantage of this research is that only the active companies are interviewed, while there are many companies that went bankrupt in the last couple of years. It could be that those companies faced more difficulties with the impact of regulation. The weakest point of the research is the sample size, which is too small. This is the following of time pressure and the willingness of companies to collaborate. Due to the relatively low advantage for the companies it is not so attractive to collaborate in this research, because time is invested and no direct (financial) outcome is obtained.

4. DATA

In order to be able to draw a conclusion, all factors and their impact on innovation must be distinguished. In this section every variable is elaborated on. Furthermore, the measurement, i.e. the questions asked, and the answers on them will be showed. In the table attached in the methodology section the questions with the variables can be found. In order to be able to know what is affecting the variables, one must know the subject, i.e. the applicable regulations. Since this research is about companies active in the food industry all three companies said to be associated most with the food safety rules. In The Netherlands this rule is called "Voedsel- en Warenautoriteit". Furthermore, the WBSO (see problem definition) and some product-specific rules where named. First of all the innovation related data will be showed, then the regulation related data and at the end the data about link between these two variables.

4.1 Innovation

The three companies is asked how important they think innovation is for their company and if they measure their innovation performance. Not surprising, all companies came with similar answers. The manager of company 2 said: "I think innovation is essential in our branch, losing market share as a result of a lack of innovation is totally not surprising." Furthermore, they recognized process innovation as a core method to reduce operating costs. Also this was very important to stay in business, according to company 2 and 3. Company 1 said innovation can also function as a marketing tool, where new products make the company and their existing products popular. Every company had their own type of measurement for innovation. Company 1 measures time to sell a new product. E.g. if a product is being sold less than an adjusted time frame, the company keeps selling it. If not, further evaluation/improvement is necessary. Company 2 said to work with several benchmarks, mostly they try to find how long their innovations keep existing. But also sales are analysed, not only the quantity but also the quality is looked at. If the results are positive, maybe a follow-up product can be realised with the help of re-investments. Company 3 works with expectations. For every innovation a result is measured, then there will be analysed how it satisfied expectations. Sometimes a product needs improvement, but sometimes a product has no future. When this is the case, investments are not done anymore in order to cut loses.

4.2 Regulation

4.2.1. The limitation of the number or range of suppliers

In order to measure this variable, three questions were asked. The first question is: "Do you think the regulations you mentioned make it difficult for SMEs to enter this market?" Company 1 and 2 responded in a more neutral way. They said that rules are necessary for companies operating in the food sector. However, company 2 said that wild ideas can cause difficulties to enter the market, but when normal food is being produced, entering this market is achievable. Company 3, in contrast answered that it is very difficult to enter their market, because it costs much money to participate. The manager of company 3 explained a law, which is called novelfood. This law is very strict and makes it very difficult before you can actually bring the product to the market. In the Netherlands, most of the time a specialist is necessary to cope with this law. Furthermore, information about the end product must be available at the beginning of the process, this is very difficult in the food sector. One possible solution the manager told is to adjust regulation to the industry.

The second question asked is about the entering of new markets. The managers were asked if it was difficult for their company to enter new markets. Their answer was the same on this question. Due to the similar rules and regulations in the European Union, other countries can be achieved simply, because there is already appropriate existing knowledge and technology. However, when other countries than the EU are targeted, new knowledge and technologies are necessary to cope with those standards.

The last question concerning this variable is: "Are there any licenses or permits you have to obtain in order to offer your products on the market?" Also here the answers where corresponding. The managers did not know if there are some licenses necessary for some products, but until now they did not face any difficulties with this law.

4.2.2. The limitation of the ability of suppliers to compete

The first question asked about this variable is about the financial barriers the rules are causing to compete in the industry. All three companies recognized this barrier. Company 1, said that of course food safety is important in the food sector and food testing systems are not cheap, however in the beginning many things can be outsourced. This may be expensive on the long-run, but to get market share this could be a solution. Company 2 said that there are some laws that help them financially, incentives are given for new product or process innovations (WBSO law). However, the safety standards and demands make it expensive to bring your products to the market. Company 3, answered very negative. In order to receive this incentives the company must meet several requirements and all information about the end product must be available before developing the product. Most of the time a company needs to hire a specialist in order to fulfil this demand, which is very expensive. On the other hand, there are existing laws that provide incentives (WBSO). However, when a company is a little too big (as company 3), it is very difficult to meet those requirements. There is another option to receive incentives, this is via patents, but this cannot be realized by such small companies. Such companies are stuck in the middle. This caused a huge financial barrier for them. The second question asked is about technological barriers. Company 1 said that there is no knowledge required, but the company must own technologies to meet the standards. Company 2 thinks that there is no need for technological knowledge and thus no barrier. Company 3 state that the technological barrier is a result of some legislations. The manager of this company said that there are many technologies necessary to be able to cope with the law. The last question concerning this variable is: "Do you think the big players in the market are using some regulations in their own interest? E.g. they terminate long-term contracts, making use of bonuses etc." Company 1 did not know a answer on this question, because they did not face such situations until now. However, company 2 and 3 said that this is the case. Company 3 gave the example of a firm that buys all available …(a raw material)… in Europe, with the help of long-term contracts. This causes a rise in the price of the product.

4.2.3. The reduction of the incentive of suppliers to compete

In order to measure this variable, information about incentives are important to know. The managers of the three companies is asked how regulation promotes SME's to compete. All three managers recognized that there are some rules that provide incentives, in particular tax advantages for SME's. The manager

of company 1 remarked that these days many new (small) firms are rising very fast. "These companies come up with an innovation that is very successful. I think this companies are stimulated by laws that provide financial incentives to grow their company fast." As mentioned before, there exists a law for small companies that provide a subsidy and tax advantages, named WBSO. This law can be used by small companies.

4.2.4 The limitation of the choices and information available to customers

To get a view of how customers are limited in their choices, the managers are asked if the laws are working restrictive in relation to their product offerings. The managers of company 1 and company 2 did not face difficulties with bringing products to the market. The only thing that company 2 is struggling with, are some product-related laws which restrain them from using a specific kind of product. Company 3, emphasized that the laws existing do not specifically limit their product offerings, but they slow down their process. The manager said that they need to have all information about the end product before they start to develop the product. This is very difficult, because during the process there are always things that they want to change. In order to cope with this law, a specialist is very useful. However, this is expensive, in particular for small companies. Furthermore, also this company struggled with some product-specific regulations.

4.3 The link between regulation and innovation

The question asked to measure this variable is: "If you weigh the supportive and restrictive regulations against each other, do you think that regulations have a positive or a negative impact on innovation activities of firms active in the food sector?" Company 1 experienced mostly positive impact of regulations for their activities, but for future actions there might be some regulations that can restrict them. Company 2 thinks that the regulations have a restrictive working overall, but they work in a healthy way. The manager of this company said that the rules are not there for nothing, they help companies to provide high-quality products and services. Company 3: "The overall working of regulations is restrictive, due to the broadness of them. The impact will be more and more negative for future activities. One possible solution is to adjust the rules for the different branches."

5. ANALYSIS

This research showed that innovation is a crucial component for survival for SME's in the food sector. Tidd et al. (2005), also recognized innovation as an important characteristic for successful SME's.

Pelkmans & Renda (2012), showed that there are some innovation-specific kind of rules that promote innovation, this is also recognized by the interviewed companies, for example the WBSO rule. However, there are also regulations that restrict the companies from being innovative. Regulations like the novelfood rule are causing financial barriers to compete. Furthermore, the WBSO law is not applicable for every company, since some companies are a little too big. The problem with those companies is that they find themselves stuck in the middle. Besides the financial barriers that are caused, technological knowledge is necessary to actually be able to produce the new product. Also the entering of new markets (outside the EU) is difficult, because there is a need for new knowledge and technologies in order to cope with the different standards. Furthermore, the interviewed companies recognized that there are some big companies that make use of long-term contracts in order to make it more difficult for smaller companies to compete. Stigler (1971), also explains this phenomena.

It seemed that the companies do not have any problems with permits and licenses. The theory existing shows that in the food sector, there are many forms existing of patent rights etcetera. However, the outcome of this variable is maybe biased due to the limitations in the research methodology, since the sample is not optimal representative (limitations research methodology).

Another restriction to the innovative activities that the companies encounter are product-specific rules. Some rules do not allow companies to use several raw materials for specific products.

The overall working of regulations on innovation is somehow restrictive, according to the interviewed companies. The companies name the positive rules, but also recognize many restrictive regulations. This is in line with the theory explained in the theoretical framework. There are theories that emphasize the positive effect of regulation on innovation, but there are also some theorists say that the rules are working negative or can be used by other companies to have a negative working on other companies. A possible solution that the companies came up with is the adjustment of the regulations to the branch.

The outcome of the research is for almost all variables in compliance with the existing theory. Some variables have a different outcome, this can be the following of the limitations in the research methodology.

6. CONCLUSION

The theory shows that regulation can have a positive and a negative impact on innovation. The impact depends on the kind of innovation and the kind of regulation. The study done in this paper is in accordance with the theory explained in the theoretical framework. The impact of (product-specific) regulations depends on the type of product/innovation and the type of regulation. The overall impact of regulation can be labeled as slightly negative. A way to change the negative impact on innovation is to adjust the regulations to the branch. Furthermore, the government can control the market by punishing firms who make use of regulations, e.g. long-term contracts, in order to strengthen their position.

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