# “How can Linders Consultants use the innovationbox to their full potential”

A study of the possibilities and application of the service innovationbox at Linders Consultants


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Linders Consultants
Onderdeel van CortexCortex

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# 1. Preface

This thesis will be the final element of my master Financial Management at the University of Twente. In this assignment I looked into the possibilities of a new fiscal measure called the innovationbox.

This research was done as an assignment of Linders Consultants in order to gain more knowledge around the new fiscal measure called the innovationbox. During the time of this research I worked in a team of five graduating student who were all assigned a specific task. The overall goal of this team was to develop a new service for the organization. I would like to thank Linders Consultants for providing me with the opportunity to write this master thesis on this topic. I found it a very interesting topic, and have learned a lot from the organization. Therefore I would like to thank the director of the organization Simon Splinter.
I would also like to thank my first supervisor Reinoud Joosten for helping me with difficulties during this research, and always providing me with useful comments.

Finally I would like to thank all my friends and family for making my stay at the University of Twente such a great time.

Utrecht, February 4, 2010

Maarten Willem Bastiaan Oude Lansink

# 2. Management Summary

January 2010 the government introduced a new fiscal measure. This measure is called the innovationbox. With this measure the government tries to stimulate organizations in the Netherlands to remain innovative, and keep their research and development activities within the Netherlands. This is done by offering organizations a lower effective tax rate on profits made on innovative activities. For profits created by innovative activities the tax rate is 5% instead of the usual 20% to 25%Linders Consultants in Utrecht has been providing over 300 organizations with research and development subsidies for years and saw the opportunity to increase expand their service area by also looking into this fiscal measure. This research was done to look into the possibilities for Linders Consultants for providing this service.

The first part of this research looks into the current database of Linders Consultants to find out in what market segment the most customers currently reside. This part of the research also explains what the requirements are to apply for the innovationbox. Once these requirements are known a segmentation is created in which the most relevant segments are indicated for Linders Consultants to offer the service of applying for the innovationbox. The current customer database is then placed over the advised segments to determine what current customers would be most interested in using this service.

The innovationbox, as stated before, is created to stimulate innovative organizations in the Netherlands. By offering such a good tax rate on profits, organizations are stimulated to stay here or even move their research and development activities from other countries to the Netherlands. In order to give good advice to larger organizations, this part of the research looks into country selection. First of all, one important determinants for country selection is the fiscal climate. Therefore the first part of this segment looks into country selection based on tax criteria. But since this is never the only determinant for an organization to decide to move an entire department, the second part of this segment focuses on other determinants. In this part a MCDA is suggested to determine the most interesting country for an organization to establish their business.

In the third and final part of this research the application of the innovationbox is explained. The innovationbox procedure as it is created by taxing authorities uses two transfer pricing methods to assign profits to innovative activities. by assigning as much profit as possible to the innovationbox, this can all be taxed with the lower effective tax rate of 5%. The taxing authorities have also indicated that it is allowed to differ from the prescribed two transfer pricing methods. In this chapter a third method is determined and explained. This method is especially suitable for organizations that have been determined in the first part of this research.

This research has resulted in a clear picture of the possibilities for the service innovationbox at Linders Consultants. The advised segment are currently being provided with this service. Also the other transfer pricing method to assign profits to innovative activities has already been used in an application and been approved by the taxing authorities.

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# 3. Linders Consultants

Linders Consultants, part of "Innovatie adviseurs holding", is a subsidy advisor located in Utrecht. The company has guided, advised and supported technologically advanced organizations since 1988. They have grown since then to a medium sized enterprise with approximately 45 employees. Linders Consultants are made up out of a variety of professionals in the area of subsidies which form a tight group operating in an informal business culture. The advisors with a technical background on academic level are aware of the ongoing changing situation of the niche they work in. And are capable of speaking the same language as the technical customers that we deal with.

The primary goal of Linders Consultants is to provide subsidy services. From this perspective, it was found that there is also a demand for in depth advice when it comes to innovation management and investment. The expertise and core business of Linders Consultants is subsidy advising and service in the field of innovation and technological development.

Linders Consultants currently has a client database with over 300 organizations. Over the past years the ICT market has been growing continually. The majority of the customers of Linders Consultants comes from this ICT market. In the Netherlands the firm currently holds a market share of 12% in this particular market.

The service of Linders Consultants is focused on creating a maximal output level of subsidy, while keeping the efforts of the customers to a minimal level. They are constantly active in the field of subsidies, to be able to create as much advantage for their customers as possible.

Currently Linders Consultants is focusing on a new development in the field of tax reduction, "de innovatiebox" later referred to as innovationbox. This innovationbox is a fiscal measure introduced by the Dutch government in order to stimulate innovation in the Netherlands. The major advantage of this new measure is that it lowers the effective tax tariff. This measure is especially interesting for innovative organizations involved in "S&O activities". S&O is short for Speur & Ontwikkeling, and this the term the Dutch government uses to imply research and development. These new subsidy regulations imply for organizations involved in S&O activities that they can count on more financial support provided by the Dutch government compared to the old situation where only the financial benefits could come from the "octrooibox" and WBSO subsidy regulations.

During the past few years, the government saw the need to remain innovative as a country, which resulted in the introduction of the innovationbox. The innovationbox is the improved version of the just mentioned octrooibox. The octrooibox was introduced in 2007 and could be applied for only if an organization held a patent. This octrooibox has been expanded two years later, so that also organizations with immaterial assets could apply for the octrooibox. This mend that also organizations that held an S&O statement could apply for the octrooibox. This octrooibox has a maximum of €400,000. The other maximum that was present for the octrooibox, is that the subsidy could not be over four times the cost of producing the innovation, with a maximum of €100,000. This limits the maximum benefits of the octrooibox, making it a regulation that is not interesting for the larger organizations. If only €400,000 of the profit can be assigned to the octrooibox the advantage of the octrooibox is limited to €60,000 per organization. A short calculation will prove this.

If €400,000 of the total profit of an organization can be assigned to the octrooibox, this part is allowed to be taxed with 10% instead of the normal 25%. This leads to a net result of €62,000.

***(25%-10%)x€400,000 = €60,000***

The introduction of the innovationbox in January should lead to an increase of the use of this fiscal policy. By removing the maximum amount of €400,000 that can be assigned to innovation, the old octrooibox now referred to as innovationbox becomes interesting for larger organizations. The maximum for the creation costs of the innovation of €100,000 also disappears. In this new situation, where the maximum is erased, the costs for creation have no limit and also just an S&O statement allows for the application. So the software market becomes very interesting for the use of the innovationbox. Due to these changes, the use of innovationbox becomes a policy to take into consideration by the ICT developers. Because Linders is a large player on the subsidy market when it comes to the ICT developers, the possibilities with innovationbox is something that will be looked into in this research.

# 4. Problem Statement

On January first 2010 a new subsidy has been enacted in the Netherlands, the innovationbox. Because this type of subsidy is new, experience with it is limited. Linders Consultants has years of experience in related fields, which can be considered an advantage over the competing subsidy advisors.

Linders Consultants sees opportunities in creating more advantage for its customers in the field of (innovation) subsidies. The possibility to move parts of the process of creating the innovation in or out of the Netherlands is an area that requires attention. There is also little known about the effects of the different transfer pricing techniques with respect to the use of the innovationbox subsidy program. Under the influence of this new type of subsidy, the existing customer databases need to be revised. In order for Linders Consultants to be able to give profound advice, all new possibilities that have come up under of the innovationbox service need to be explored. This has led to the following problem statement:

***"How can Linders Consultants use the innovationbox to increase tax advantages as a result from reduction of corporate tax on profits created from innovation?"***

In order to come to a usefull answer on this problem statement, several research questions will be created. These research questions will try to provide insight into the problem statement just mentioned. By following these research questions in stepwise order, the clearest answer to this problem statement should be formed. In the following section the research questions will be addressed.

January first 2010 the Dutch government started a new subsidy program to stimulate organizations that undertake innovative activities in the Netherlands. This allows organizations to apply for a more favorable tax policy. All organizations are allowed to apply, but there is a set of requirements that has to be fulfilled for the subsidy to be granted. For Linders Consultants several aspects require further research. In order for the innovationbox service of Linders Consultants to be interesting for clients, a financial threshold should be determined. This point will serve as a general guideline with respect to how financially interesting the client is to Linders Consultants and whether it is interesting for an organization to have this subsidy application handled by Linders Consultants. This financial indication can serve as a starting point from which organizations can be regarded as interesting. It also should become clear, besides the financial constraints, what other types of constraints there are. For instance the set of requirements the government has set. This would lead to a group of clients and possible clients that are of interest for Linders Consultants with respect to the innovationbox service. From this the following research question can be derived:

*"What types of organizations are interesting for Linders Consultants when it comes to the innovationbox services?"*

Under the influence of the innovationbox it has become relevant for organizations to reconsider their placement of R&D activities. Due to innovationbox the Netherlands has become a nation where innovation is stimulated, and profits can be taxed with a favorable corporate tax when profits come from innovative activities. But an advantageous tax climate will not be the only determinant for choosing a country for R&D activities. A combination of several factors will lead to the choice for a country where the innovation should take place. Even though the EU should lead to similarity in taxes in participating countries, tax differences across countries are still large enough for organizations to move (parts of) the innovative process to other countries. In order to come to a good advice for the customers of Linders Consultants several determinants for country selection will have to be analyzed. In this research question these determinants will be addressed and explained. This leads to the following research question:

*"What country should be selected for deploying R&D activities with tax advantage as one of the determinants?"*

To use the advantages of the innovationbox organizations should try to assign as much of the profit to the innovative activities as possible. To do this, the taxing authorities have prescribed two transfer pricing methods. These methods allow organizations to assign profits that have been generated to R&D activities. These transfer pricing methods are therefore very important. The part of the profit that can be assigned to innovation, profits due to the creation of new products by the R&D department, can be taxed with the lower corporate tax rate of 5%. The rest of the profit will still be taxed with the normal tax rate between 20% and 25%. The taxing authorities prescribe two standard methods but leave the option to use another method open. Therefore research needs to be done in the field transfer pricing techniques to find out if another technique can increase the profit that can be assigned to R&D activities. This should be done keeping in mind in what segment the most customers of Linders Consultants are. In order to give profound advice to these customers, literature should indicate what type of transfer pricing technique would lead to highest advantage for the customer with respect to assigning profit to the innovationbox. This leads to the following research question:

*"Can the use of another transfer pricing technique lead to an increase in profit that can be assigned to the innovationbox?"*

# 5. What types of organizations are interesting for Linders Consultants when it comes to the innovationbox services?

On September 19th 2009 the Dutch parlement ruled in favor of implementing the innovationbox. The innovationbox is part of a new fiscal system that aims to improve the innovative activities in the Netherlands. Innovation is seen as a source of sustainable economic growth (S.L. Hart & M.B. Milstein, 2003) and contributes to the reinforcement of the competing power in terms of innovative activities. Because the Dutch government decided it is important now and in the future that the Netherlands continue to be an attractive nation for organizations to employ their innovative activities, a change was required. The government therefore decided to enlarge financial benefits for innovative organizations and therefore possibilities for innovative organizations and entrepreneurs to remain innovative.

R&D in this research is defined according to the definition of Van der Lande (2010). This indicates that R&D is based on one of the following processes:

- Development of physical products, physical processes or programming.
- Technical scientific research, defined as research that can be done in a scientific manner where the focus lies on generating new technological knowledge.
- Analysis of the technical feasibility of R&D work except analysis that are focused on the economic and financial feasibility.
- Conducting technical research that is focused on improving the production process or IT process that is being used by the organization itself.

Innovationbox lowers the effective corporate tax rate from 25% to 5 %. This tax reduction is only for that part of the profit that can be assigned to the innovative activities. Here the amount of profit that can be assigned to innovation profits has no limit. The only limit is that the tax reduction can be a maximum of €14 million. Currently there are two methods to assign "innovative profits" to the R&D department of an organization. In a later chapter these will be explained. This has advantages for innovative organizations that did not apply before. With this new type of subsidy, the government implicitly states that innovative activities are just as important as patents. Because this new type of subsidy covers both patens and innovative activities, the old name of "octrooibox" is renamed to the innovationbox.

Now the situation of 2007 and 2008 will be described. This will be done in order to provide a more complete picture of the existing subsidy structure with respect to innovative activities. Since January first 2007 organizations that have been granted a patent for inventions or technical applications can use the "octrooibox". This allows organizations to receive a subsidy. The maximum benefit of this subsidy can go up to four times the cost of producing the innovation. The effective tariff that taxes these advantages is set at 10%. The maximum amount that could be assigned to profit innovation during this period of time was €400,000.

Starting January 2008, the "octrooibox" was expanded with immaterial assets that have been granted with an R&D (S&O) statement by SenterNovem, this is an agency of the Ministry of Financial Affairs. SenterNovem is in charge of implementing government policy when it comes to innovation, energy & climate and environment & living environment. This created the possibility to apply for the "octrooibox". Due to budgetary reasons, the maximum of four times the creation costs was continued. With an absolute maximum of €400,000.

On January first 2010 the innovationbox was introduced. The innovationbox has been introduced to increase innovative activities at organizations. Profits from "octrooibox" and "WBSO-projects" are also part of the innovationbox. With the innovationbox, profits generated from the projects that fulfill the requirements set by the government for this subsidy, are taxed with 5% tax instead of the earlier taxation of 25%.
Past experience shows that the maximum tax advantage of €400,000 is almost never reached. This caused the government to remove this maximum due to high administrative costs for the applying organization and the tax collectors office. This also means that extra space is created for organizations to use the innovationbox to create more financial benefits. This also leads to the fact that the minimum of €100,000 on creation costs disappears.

The differences between "octrooibox" and innovationbox can be summarized as follows:

| | The octrooibox" '07-'08 | The octrooibox '09 | The innovationbox since '10 |
|---|---|---|---|
| Company tax on profit gained on R&D activities | 10% | 10% | 5% |
| Maximum: (maximum that can be contributed to R&D) | €400,000,- | €400,000,- | €14 million |
| Losses encountered. Creation Costs deductible against | 10% | 10% | 25% |
| Requirement for application | Patent | Patent or R&D-statement | Patent or R&D-statement |

**Table 1**. Summary of differences between old situation (octrooibox) and new situation (innovationbox).

With these changes, the subsidy will appeal to a larger share of organizations on the market. Especially the software branch becomes increasingly important compared to the old situation. This branch has never been able to use the "octrooibox" since it was unable to patent its products. Therefore no "octrooibox" subsidy could be applied for. The same goes for company secrets. If a patent was applied, this will be published. Now an R&D-statement qualifies for application for the innovationbox. There are just a few requirements an organization should satisfy, in order to apply for the innovationbox. The first large cut off for the innovationbox is that organizations listed as "eenmanszaak", "vennootschap onder firma" and "maatschap" are excluded from applying for this subsidy.

Therefore only "naamloze vennootschap (NV)" and "besloten vennootschap (BV)" are eligible for innovationbox. This first cut off is visualized in Figure 1 indicating that if all organizations would be client of Linders Consultants this would lead to 41% of all existing organizations in the Dutch market place. After this cut off, the organizations need to meet the other requirements on order to be able to apply for the innovationbox. These requirements are set by the taxing authorities. If these requirements are met, the organization qualifies for application of the innovationbox. These requirements are the following:

- The organization should own an immaterial asset.
- The immaterial asset should have been produced by the organization itself.
- The organization should hold a patent, plant variety right or an R&D statement.
- The organization should enjoy benefits from the immaterial asset.
- These benefits should come primarily from the patent, plant variety right or R&D statement.

The first organizational characteristic is that organizations should be listed as "NV" or "BV". Data from CBS Statline can be used to get an indication of what percentage of the total market can belong to this group. In Figure 1, the heading referred to as "overig" stands for: "cooperative vereniging", "vereniging of stichting", "overheid" and "overige rechtsvormen".

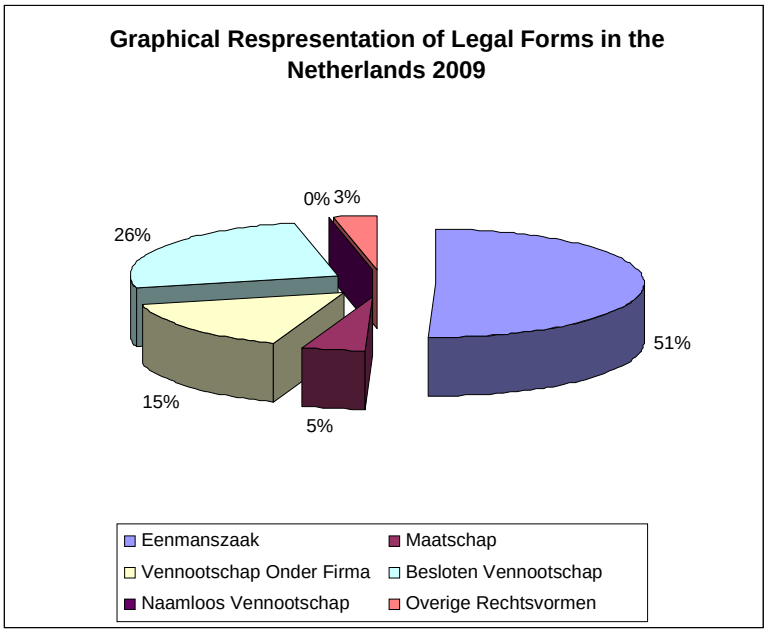


**Figure 1.** Graphical Representation of Legal Forms in the Netherlands 2009. (Source: CBS Statline)

The entire clientele of Linders Consultants qualifies for the first requirement, meaning that all the clients are listed as "BV" or "NV".
When an organization meets this set of requirements, it is possible to apply for the innovationbox.

The last criterion that is set for organizations to apply for the innovationbox is a financial one. To apply for the innovationbox, the organization in question needs to meet a certain threshold. This threshold is there to make sure that only corporations that are actually making a profit out of innovation can apply for this fiscal measure.
To calculate the threshold, all the costs that are made for creating an innovation are combined. All these costs together are referred to as "voortbrengings kosten". This means as much as all the costs that are made to come to the new product or service. These costs are seen as the threshold that needs to be met to apply for the innovationbox. Costs that are attributed to this are for instance the following:

- Technical Research
- Market Research
- Technical Possibility Research
- Prototyping Costs
- Costs for New Machinery
- Labor Cost for the Staff

This is a measure to make sure that the organizations profits are actually (at least partially) caused by the innovation. But there is a way to make this threshold relatively low. Since all costs should be taken into account, this has to be measured by the taxing authorities. This is done by means of the S&O statement. When an organization creates a S&O statement to do a lot of research, these costs are assigned to all the projects, that do not necessary lead to innovative new products. When the possibility to create a product or service that can be sold is there, a new S&O statement can be written, therefore making all the earlier research sunk costs. In this case the sunk costs are seen as costs of a historical nature and therefore irrelevant to future decisions and can be ignored (Berry&Jarvis, 2003).


**Figure 2.** Graphical Representation of Threshold

Looking at Figure 2, it can be seen that when after the exploratory research another S&O statement is written, this can reduce the threshold substantially. But for most organizations this is something that is not very relevant. This due to the fact that usually when organizations are applying for the innovationbox, they are profitable and this profit usually is caused by the innovation.

In the following chapters, a selection will be made of organizations which require special attention with respect to the innovationbox. The problem with these criteria is that they cannot be measured without having insight into the financial data of the organization. These criteria can therefore only be measured once contact has been established.

### 5.1 Customers of Linders Consultants

Looking at the present customer database of Linders Consultants, they are assigned to several categories. These categories already exist within the internal structuring of the customers of Linders Consultants. These categories are based on the produced. The organizations are placed into the categories, based on the product and/or service they provide. When all customers are placed into these categories, this is compared with the data retrieved on the specific criteria from the CBS Statline website. This will provide useful information regarding innovative activities of the category as determined by Linders Consultants. The number of patents this category usually applies for, and this can act as a way to narrow the scope of this research, ensuring that the end result will be useful for Linders Consultants. The customers that are categorized below, are all listed as BV, the number might be somewhat misleading in the fact that some BVs are part of a larger BV, but for application of the innovationbox this would not lead to a problem, therefore these data can be used.

| | Number of Clients |
|---|---|
| Category | |
| | |
| ICT | 32 |
| Industry | 43 |
| Media & Entertainment | 19 |
| Telecom | 16 |
| Business Services | 85 |
| Marketing, Communication & Advertisement | 13 |
| Wholesale & Retail | 25 |
| Transport & Logistics | 20 |
| Food | 4 |
| Energy | 3 |
| Construction | 18 |
| Detachment | 4 |
| Government, Non-Profit & Education | 42 |
| Healthcare & Wellbeing | 30 |
| Agrarian Sector | 8 |
| | |
| Total | 363 |
| | |
| *based on all separate BV's | |

**Table 2**. Categorization of existing customers of Linders Consultants

### 5.2 Segmentation of the customers of Linders Consultants

In order to create a useful advice about innovation policies under influence of innovationbox, the customers of Linders Consultants should be segmented. These segments will consist of existing customers and prospects. By means of this segmentation the customers should be identified as groups with homogeneous characteristics and behaviors (Anderson et al. 2009). With this segmentation, it becomes possible to assign certain characteristics found in transfer pricing methods and placement issues to particular segments, and create a general advice for a segment and/or category based on the found characteristics for the segment. The rational approach to segmenting a market is to segment the market based on the characteristics industry, customer size, customer behavior and geography.

Another approach to segmentation of the market is to look at the capabilities of the customer. Do they have the ability to comprehend the explanation of the innovationbox or are they just interested in the end result of the service. This kind of market segmentation has strong ties with the customer business priorities. In the phase that the segmentation is based on how the customer sees its priorities towards the supplier of the service. Does a customer only want the bare product or a complete solution, and to what extent do they see the supplier of the service as a strategic partner.

In the case of Linders Consultants, the segmentation will be on other characteristics. For our research it is relevant to find the segment in which most innovations take place. In order to look into this, the segmentation will be compared upon the amount of Euros invested into innovation. The other aspect which contributes to the relevance of this segment is the success rate of the innovations. The innovators will only be capable of using the innovationbox if the innovation actually takes shape, and is sold. Therefore these two criteria seem the most valuable on the selection of the segment.

The customers that have been identified for Linders Consultants need to be assigned to segments in the market. The organizations are placed into the segments identified by the CBS on innovative segments. The segmentation as defined by the CBS will be applied. The segments as identified by the CBS provides Linders Consultants with a fit for their existing customers, as well as that the characteristics for this segmentation are known. The characteristics are therefore easily measurable since the CBS uses the same, which can save Linders Consultants a lot of time. First the segments as defined by the CBS will be explained. After this is done it will be indicated how the categories as identified by Linders Consultants will fit into the ones indicated by the CBS. The segments will be compared based on a list of characteristics:

- Number of innovative organizations in the segment.
- Innovation expenditures.
- In-House research.
- Presence of R&D.
- R&D present on a permanent basis.
- Purchasing of external knowledge.
- Lack of financial resources leads to a decrease in innovation.
- Too high innovation costs doesn't limit innovation.
- Innovation financed with government subsidy.

When this is done, data collected by CBS can be used to analyze how innovative the segment is. The categorization that is done based on the customer database, placed in segments, based on market segmentation by de CBS. This leads to the following segments:

- D Industry
- 5000f Services
- 0100d Other
- 0000b Agriculture, forestry, fishing
- C Mining
- E Enegry, gas and water
- F Construction

*Industry*
Industry consists of mechanical, physical or chemical processing of materials, substances or parts until a new product is created. The used materials, substances or parts are resources coming from agriculture, foresting, fishing, mining as well as half product from the industry. A new industrial product is an end product that is ready for consumption or is a half product ready for use on another production process. It can sometimes be difficult to distinguish industry from other sections, but therefore the guideline is used that industry creates something useable out of raw material.

*Services*
This segment is a combination of service providers. All the organizations that are part of the segment service are therefore known for intangible output. The largest share of the customers of Linders Consultants are in this segment. These customers specialize in service providing using new technologies. The most largest part of this segment are the ICT firms. This segment is a combination of the following categories:

- Catering
- Transport, storage and communication
- ICT
- Financial institutions
- Renting and trade in real estate
- Environmental services
- Other services

*Other*

- Mining of fossil fuel
- Mining of sand, gravel, clay salt and other
- Mining and distribution of water

*Agriculture foresting, fishing*

- Agriculture, hunting and services for agriculture and hunting
- Forestry and services for foresting
- Fishing and fish cultivation

*Mining*
This segment consists of mining resources from present sources in nature. These are materials in solid shape, such as coal and ore, in liquid form like oil and gas state such as gas. This mining comes from underground mining and drilling. This segment also consists of additional processes that come along with this, such as the transportation and sales of the minerals, or the grinding washing, drying, sorting or etching of ore, liquefying of gas and making briquettes from solid fuel. This section does not include the purifying of water.

*Energy, gas and water*

- Production, distribution and trade in electricity, gas, steam and hot water
- Mining and distribution of water

*Construction*

This segment encompasses specialized constructive and civil technical works, this type of installation and finishing of buildings as well as new building projects, repairs on and in construction places, the creation of prefabricated buildings or temporarily constructions. Under general construction we understand the creation of homes, offices, shops, agriculture related buildings and other forms of civil and utility related builds. As well as heavy construction projects such as roads, streets, bridges, tunnels, railways, airports harbours and other water related construction works, irrigation units, sewages, and sports facilities.

Now the 15 categories, in which the customers of Linders Consultants have been placed, will be categorized into the corresponding segments as created by CBS. Then the data provided by CBS Statline can be used to indicate the use of innovation among the different segments.

| | Number of clients | % of total clients |
|---|---|---|
| D Industry | 43 | 11.8 |
| 5000f Services | 283 | 77.7 |
| 0100d Other | 4 | 1.1 |
| 0000b Agriculture, foresting, fishing | 12 | 3.3 |
| C Mining | 0 | 0 |
| E Energy, gas and water | 3 | 0.83 |
| F Construction | 18 | 4.9 |
| | | |
| Total | 363 | 100 |

**Table 3**. Segmentation of current clients

This segmentation indicates that most of the current customers come from the segment labelled Services. The following table will indicate what segment, is the segment in which most of the innovation takes place according to CBS Statline.

Furthermore almost 60% of the organizations that are listed as innovative are service organizations. But comparing this with amount of Euros invested in innovation, which is just as relevant, the segment Industry is very large as well with a total of 64% of the total amount of Euros invested into innovation. To find out which segment should be regarded as the most important, the subjects over which the segments are compared will be given a certain factor in accordance with their importance to the innovationbox. This importance is indicated by the given weight to the characteristic. These weights are given on a scale of 0 to 10. These weights have been chosen after consulting with the head of the firm. I explained the method that will be used, and after discussion the weights as presented in table 4 have been selected. This will result in a weighted average for each segment. This weighted average will act as a way to create a formal ranking.

| Characteristic | Weight | Segments in % of total market→ | Industry | Services | Other | Agriculture, Mining, Fishing | Mining | Energy, Gas and water | Construction |
|---|---|---|---|---|---|---|---|---|---|
| # of Innovative organizations | 7 | | 26 | 53 | 10 | 3 | 1 | 1 | 6 |
| Innovation Expenditures | 8 | | 65 | 25 | 7 | 2 | 0 | 0 | 1 |
| In-House Research | 7 | | 73 | 21 | 4 | 1 | 0 | 0 | 1 |
| R&D Department | 5 | | 29 | 13 | 7 | 5 | 10 | 16 | 17 |
| Permanent R&D basis | 6 | | 53 | 34 | 17 | 15 | 21 | 48 | 17 |
| Purchasing external knowledge | 5 | | 62 | 61 | 26 | 1 | 0 | 0 | 7 |
| Lack of financial resource causes decrease innovativity | 5 | | 31 | 41 | 36 | 29 | 36 | 56 | 39 |
| Too high innovation costs doesnt limit innovativity | 6 | | 38 | 46 | 43 | 46 | 51 | 56 | 41 |
| Innovations financed with government subsidy | 6 | | 44 | 38 | 8 | 3 | 1 | 1 | 5 |
| | | | | | | | | | |
| Total Points | | | 21,23 | 15,62 | 4,62 | 3,13 | 3,15 | 4,37 | 3,52 |
| Ranking | | | **1** | **2** | 3 | 7 | 6 | 4 | 5 |

**Table 4**. Ranking of Segmentation

From these weighted averages, it can be found that the industry and service segments of the market are the most influential when it comes to innovation. This of course, is only interesting for Linders Consultants' innovationbox service, if the investments in innovation also create value for the organizations. Therefore, data are collected again from the CBS Statline database, to gain insight into the success rate of the investments in these segments. Looking back at the current customers of Linders Consultants the service segment also contains the largest proportion of customers. Followed by the industry segment, but the contrast between these two remains large.

To create an output that can be worked with, the two segments that are mentioned here, need to be refined, and compared with the success rate of innovations in their specific category. This can be done, again using the categorization created by Linders Consultants. First this categorization was put into the segments for the analysis, so now this can be reversed, which would lead to more specific clients and markets to focus on.

| | Succes rate Innovation | Expenditues on Innovation |
|---|---|---|
| Category of Customers | % of total | Mln Euro |
| | | |
| Industry | 40 | 6 588 |
| ICT | 53 | 499 |
| Business Services | 18 | 446 |
| Telecom | 19 | 462 |
| Wholesale & Retail | 30 | 675 |
| Transport & Logistics | 44 | 267 |
| | | |

**Table 5**. Success Rate of Innovation based on total expenditures CBS Statline

Looking at the success rates of innovation, and the amount of money invested in these categories, the logical choice to investigate the innovationbox usefulness would appear to be the industry, ICT and wholesale & retail. Success rate here is measured as innovations that lead to an increase in turnover or a decrease in cost. Another remark about this table is that even the most successful categories have a large amount of innovation that do not succeed. This would imply that there are a lot of failed innovations "on the shelf". This is something that should be looked into by Linders. This will be addressed in a later chapter.

In these two segments that have been identified as the two segments with the largest potential for positioning the innovationbox service in, another separation must take place, in the sense that in each segment there is also a difference in the end products that the organizations create. Meaning that for the segment industry, a part of the clients of Linders Consultants works in these segments, but does not create a tangible product, but an intangible or information technological product. Especially the segment with intangible assets is of relevance for Linders Consultants with respect to the innovationbox. This is due to the change in the application rules for the subsidy. With the previous measure the octrooibox, it was not possible to apply for any subsidy, if the product was not patented. Now, it is possible to get an S&O statement for software, which is sufficient to apply for the innovationbox. Since this is has only been possible since the coming of the innovationbox as a subsidy measure, this would mean that the potential in this market should be significantly larger than the market of tangible assets. This of course only refers to the use of the innovationbox. Therefore, in order to see the most important categories for Linders Consultants, the selected categories need to be reviewed again, but now to see how large the potential is with regard to the aspect of intangible assets, since this market can be regarded as new.

In the previous part, it has been concluded that industry, ICT and wholesale & retail should be regarded as the most important markets for Linders Consultants. Now for these three categories, it is also important to find out if these categories also house the growth potential in the IT or intangible asset area.
For Industry 56% of the customers have an intangible outpout. For Wholesale & Retail this percentage is 92% and for ICT this percentage is 100%. This implies for these three segments a great potential with respect to the new innovationbox.

Previous sections indicated that the segments of Industry, ICT and Wholesale & Retail would prove to be the most interesting for Linders Consultants with respect to the innovationbox. Especially the ICT aspect would be influential since the innovationbox makes it possible to apply for subsidies for immaterial assets which previously was not possible. Therefore for future clients, the focus should remain on the categories that are already large, with special attention for the ICT. This leads to the following list of customers.

| **Industry** | |
|---|---|
| Computer Solutions BV | |
| Pantheon Automatisering BV | Van Meijel Development BV |
| Everett Holding BV | Van Meijel Group BV |
| Ortec BV | Pantheon Automatisering Holding BV |
| Three C. Holding BV | Computer Solutions Logistics BV |
| Three C. Technology BV | Tenict BV |
| C. Nelemal Holding BV | Greenroads Holding BV |
| Vermeijs Holding BV | Beesd Automotive & Automatisering BV |
| Koopman Automotive Solutions BV | Everett NL BV |
| Koopman Car Terminal BV | Tenict Infrastructure Management BV |
| **ICT** | |
| Stabiplan | Saya Holding BV |
| Card Services | Keycruit BVRisa it BV |
| Memocom BV | M. Malmberg Holding BV |
| Memocom Beheer BV | Corn Group BV |
| Myrpa Consulting Services BV | P. & A. Software BV |
| Iconsultancy | Tenict BV |
| Qics BV | M. Velthuijsen Beheer BV |
| Us Media BV | Reisalp Beheer BV |
| WTOP BV | Adlantic Online Advertising BV |
| Mysolutions BV | Quoteunquote BV |
| Xls Global BV | Tenict Infrastructure Management BV |
| Elements | P. & A. Software Solutions BV |
| Infopart Automatisering BV | P. & A. Group BV |
| PST Business Solutions BV | |
| **Wholesale & Retail** | |
| Pantheon Automatisering BV | Commit Workgroup BV |
| Memocom BV | Zoranet Connectivity Services BV |
| Memocom Beheer BV | P.S. Services BV |
| Telecom Bedrijfscommunicatie BV | PST Business Solutions BV |
| K. V. van Alphen Automatiseringsdiensten BV | Pantheon Automatisering Holding BV |
| Qics BV | Centerone Group BV |

**Table 6.** Customers of Linders Consultants by category

# 6. What country should be selected with tax advantage as one of the most important determinants?

The fiscal policy a nation has is considered an important factor in stimulating capital goods and research and development (Hall, 1993). The innovationbox should stimulate innovative activities among Dutch entrepreneurs. The basis for this type of measure is the fact that organizational productivity and R&D activities increase through encouragement by financial measures (Hall & Van Reenen, 2000). Tax incentives are especially important for small to medium sized entrepreneurs, because of more complex and fixed financial constraints (Michealas et al., 1998). For these types of organizations tax incentives prove to increase the innovative activities dramatically (Michealas et al., 2000).

In order to come to a model to evaluate the options for the customers of Linders Consultants, there are two important sides to review. Of course it is important to determine the financial benefits of tax incentives, this part is focused on describing how this can be done. Other important aspects in determining the attractiveness of a country should also be evaluated. These aspects should be based on, for instance, how the economy is doing, the economic freedom that an organization has in the specific country and how corrupt a nation is. Therefore the second part of this question is created to provide Linders Consultants with theory of how such criteria should be evaluated.

## 6.1 Country selection based on tax criteria

Looking into the history of tax incentives research and the outcomes of these studies, one of the first researches concerning tax incentives for innovative activities was done in 1967. This research by Hall and Jorgensen was a formal analysis of the relationship between tax credits and capital investments. They based their research on the fact that decision makers base their decisions on the present value. Of course, as long as the NPV of any investment opportunity is equal to or exceeds zero the investment can and should be made. The net present value is provided with the following formula:

$$NPV = -Co + \sum_{t=0}^{n} \frac{(Benefits - Costs)_t}{(1+r)^t}$$

Where Co = Investment Value
(Benefits – Costs) = Cash Flow of the Year
r = Discount Rate
t = year
n = time horizon

This type of selection is also based on the assumption that the innovation will succeed, and lead to continuous cash flows for a certain period. Based on this type of investment decision, reducing the tax incentives in a country, would lead to an increase in investments, since reducing corporate tax rates would have a positive effect on the cost of capital. This because reducing the corporate tax rates will have a positive effect on the discount rate. The discount rate is calculated with the following formula:

**R = Real Discount Rate = (1+Nominal Discount Rate)/(1+Inflation Rate)-1**

According to Auerbach (1984) tax policies should be considered to have an impact on investment decisions, since taxes can create variations in the cost of capital across the different financing sources. When a fiscal policy is constructed in a way that it gives tax credits, the cost of capital will decrease and therefore resources will be directed to the activities where the cost of capital is lower. This is represented by the formula of the weighted average cost of capital (WACC) as presented by McGraw&Hill (2006).

$$WACC = R_d(1-T_c)D/V + R_e\, E/V$$

Where Rd = Cost of Debt
Re = Cost of Equity
Tc = Marginal Tax Rate
D = Market Value of Debt
E = Market Value of Equity
V = D+E = Market Value of the Firm

This formula indicates that when the authorities of a certain country choose to stimulate innovation through decreasing the marignal tax rate, this will have a positive effect on the WACC. The cost of capital will decrease for organizations, making it more appealing to invest in R&D activities.

Looking at the innovationbox, this would increase innovative activities because the cost of capital for innovation would decrease. Also the effect of tax policies for R&D investments is perceived to be more influential than other capital investments (Hall, 2002). Due to the fact that the R&D is most commonly expensed as the costs are accounted, the effective tax rate on R&D assets is lower than that on fixed assets such as plants or equipment (Chittenden & Derrigia, 2010). This means that the economic depreciation incurred for R&D is considerably lower, which in turns leads to a lower required rate of return, implying that an investment

opportunity is more likely to be accepted due to this lower required rate of return (Hall, 2002). In the situation that there are even more tax credits, the after tax cost of capital can be reduced even further, and with this the innovativity can increase even more (Hall & van Reenen, 2000).

Looking at SME's research indicates that tax incentives do have a positive effect on the R&D spendings. For instance Hall (1993), Hines (1993), Mamuneas & Nadiri (1996) and Bloom et al. (1999) indicate that there is evidence to assume a positive impact of tax incentives on R&D expenditures. Griffith et al. (2001) show that in the United Kingdom the cost of R&D capital declines from 0.386 to 0.379 if the tax credits change by 1.9%. The impact of decreasing the user cost of R&D by 1.9% leads to a growth rate of R&D intensity of 0.23%. This is quite a large change, since the annual growth rate of R&D is around 1% a year, measured from 1973 to 1997 (Chitterden & Derrigia, 2010).

**(0.386-0.379)/(0.386) = 0.007/0.386 = < 2%**

But this research is not focused on measuring the effectiveness of a certain tax incentive for R&D. Based on previous research as indicated above, it is asumed that in most OECD countries innovative activities are seen as something that is vital to the economy. Therefore, in order to provide the customers of Linders Consultants with the most solid advice, our research will focus on analyzing the differences between the nations. Due to the change in the Dutch taxing climate, more organizations see that tax is an important determinant in choosing a location for new business. Under the influence of globalization, it is not as important to locate your organization in a country where the organization is originally from, so the different tax regulations can be used to a maximum advantage.

In knowledge based economies like the Netherlands, business performance on all levels of economic growth is increasingly dependent on the development and exploitation of intellectual assets. This is also one of the main reasons that in the Netherlands the innovationbox principle has been initiated. In order to increase knowledge, innovation and stimulate the development of immaterial assets. This type of incentive to increase the innovation in the Netherlands, is not only present in the Netherlands, but in a lot of other European countries. There are a number of OECD countries that offer tax incentives to encourage and reward business expenditures on intellectual assets, meaning that there are different ways in which governments of countries increase innovation in their countries. The following section will try to indicate that although tax incentives have, up until now, in general favored R&D expenditures, they are gradually embracing other types of intellectual assets (Warda, 2006). This is especially true in countries that provide more generous tax treatment of R&D. For instance in the year 2005 nineteen OECD countries had specific tax treatments to increase innovation in their country, this number has grown by another three in the last five years. Cross-country differences in corporate tax rates and specific tax incentives lead to considerable differences in the generosity of tax regimes to expenditures on intellectual assets.

| Country | R&D | Patents | Training of Human Resources | Computer Software | Organizational Change |
|---|---|---|---|---|---|
| Austria | Volume and Incremental Allowance or Alternative Tax Credit | - | Addional Allowance or Alternative Tax Credit | | |
| Belgium | Investment Deduction | Investment Deduction | - | - | |
| Finland | - | - | | - | - |
| France | Volume and Incremental Tax Credit | - | Incremental Tax Credit | - | - |
| Germany | - | - | | - | - |
| Greece | - | - | | - | |
| Italy | Volume-Based Tax Credit for Small Firms | - | - | | - |
| Netherlands | Volume-Based Credit on Research Wages and Profits | Investment Deduction | Additional Allowance | - | Deduction of Effective Tax Rate when Resulting in Profits |
| Poland | Tax Credit | - | | - | - |
| Slovak Republic | | - | | | |
| Sweden | - | - | - | - | - |
| Switserland | - | - | | - | - |

**Table 7.** Comparative Review of Tax Treatments

For countries, a stable and competitive tax policy can be an effective tool for promoting innovation, and can be used to create an innovation friendly business environment. This means that creating such a climate would increase the attractiveness of a nation for organizations that wish to invest into innovation. An example of this is the introduction of the innovationbox tax treatment here in the Netherlands.

One of the findings by Warda (2006) is that most OECD countries have specific tax incentives in place for R&D investments. Some of these tax incentives relate to the total level (the volume) of R&D expenditures, other incentives relate to incremental increases in expenditures, others combine these two measures.

It was also found that spending on most intellectual assets is treated as a revenue expense that can be deducted in the year incurred, in contrary to most R&D, training, software, organizational change and start ups, that can be changed in the year the costs are made.

Up until now, studies regarding tax treatment have mainly focused on R&D, trying to establish a solid base for comparison among countries. This is of course one of the most important aspects, but this needs to be extended in order to come to a good comparison. This can be done by also focusing on other vital ingredients in the innovation process. This also implies that for organizations, countries should be analyzed in order to find the most attractive country. To find out the most attractive country in terms of tax incentives, the OECD has identified five categories of corporate investments in intellectual assets that can be compared which are also very interesting for this research because these categories all refer to the creation of intangible assets. The driving force behind all this is that "governments recognize the potential of R&D in their countries, and see that R&D does not operate in a vacuum". These five categories are the following (Warda, 2006):

- *Research and Development*
  This category will revise on selective tax incentives for R&D and their generosity is calculated in some of the OECD countries.

- *Patents*
  In this category the relative generosity of countries with respect to the tax treatment associated with the acquisition and creation of patents. Also income related licensing revenues will be addressed.

- *Training of human resources*

In this segment a measure will be pointed out, that will measure the relative generosity of tax systems to investments in corporate training. It focuses on the tax treatment of corporate expenditures and on worker training.

- *Computer software*
  In this section, an attempt is made to distinguish tax treatment of costs associated with internal development of software, externally purchased software, stand alone software and software that is bundled with hardware. Here a measure will be described how the relative generosity can be calculated.

- *Organizational change*
  Finally, a section will be created that discusses the treatment of business expenditures relating to establishing new firms. This will include the costs of starting up new organizations, continuing operations and restructuring. Again a measure of relative generosity will be laid out and calculated to find the best country

*Tax treatment of research and development*
In this segment, the following components of R&D tax treatment are considered: the corporate income tax rate, R&D tax credits, special R&D allowances from taxable income and tax depreciation of capital assets used in the R&D process. Using the B-index "methodology" will provide the research with a uniform approach to comparing the countries as well as a best case scenario in which firms are indefinitely profitable and an unlimited amount of R&D tax incentives can be granted. The B-Index will be explained later in this chapter.
Incentives for R&D expenditures consist of two main categories in OECD countries; R&D tax credits and R&D allowances. The difference between these two is that tax credits the tax an organization has to pay to the government, and tax allowances represent an additional deduction taxable income of the organization. The latter directly lowers the amount of tax an organization owes the government. Since 2009 there are 19 OECD countries that offer R&D tax credits. There are also 9 countries that offer credits based on the total volume or the level of the firms investments in the R&D. Countries such as for instance the United States and Ireland uses systems purely based on incremental tax credits. From this the amount of credit is based on the increase a firm has made in the R&D spending over the concerned period of time. Countries as for instance France and Spain use a combined system. In this system volume based tax credits are combined with incremental tax credits. The international trend is that the incentives are volume based. All the introduced incentives since the year 2001 have been volume based, except for Ireland. Warda (2006) indicates that in that point of time, R&D allowances have become less popular than tax credits. At that point in time, only seven OECD countries were offering R&D allowances. There is a third type of incentive; depreciation allowances. In general, depreciation for tax reasons only contains an incentive component if its present value of written off assets over time is accelerated or higher than the present value of depreciation write-offs for accounting purposes.

*Tax treatment of patents and patent rights*
Here the tax treatment of costs associated with patents is discussed. This can mean a discussion regarding the costs that are made with producing the patent yourself or costs for acquiring the patent. Here again the B-index will be used to draw comparison among nations, and see which is would present itself as the best option for moving the business to.

The treatment of a patent expense is based on how an organization has come to this particular patent, and how it is exploited. It is for instance possible to use a particular patent in the development of other products, so keeping the patent in-house. Another option is to sell the patent, and alongside this, it is possible to sell licenses of a particular patent so it can be used by a multitude of organizations. In every possible option, it remains possible for the holder of the particular patent, to exclude others from using the patent (Warda, 2006).

Following what has just been said, it is possible to create two sections when it comes to patenting:

- Self developed patents
- Licensing of patents

Therefore the focus will be on the remaining two aspects. For self developed patents the tax treatment is affected by the rules that apply to depreciation as well as by rules that are applied to R&D tax incentives. For the licensing of patents there are different rules.

For the self-developed patens as stated before, the depreciation is a major component of the tax treatment. The depreciation can commonly be claimed when the patent in question is incurring income, or the patent is incorporated in something that is incurring income. The depreciation rate that is used should be based on and in accordance with the generally accepted accounting standards of tax authorities. An important aspect to take into account is, according to the OECD guidelines, the costs of the R&D development that has led to the patenting of a certain invention are not included in the depreciation for the self developed patents.

It is possible that additional tax benefits for patenting are channeled through R&D tax incentives. For the self developed patents, this means that the costs of R&D that are contributed to the patented invention can generally qualify for the available R&D tax incentives, even if the costs incurred while creating the invention are taken out.
In the countries that have been mentioned in the previous analysis, the royalties that are paid for the right to use a license are also considered to be tax deductible. Royalties are considered ordinary business income and are also taxed in this way. But, only in a small number of countries measures are incorporated to encourage the exploitation of patents. This means that in such nations for instance royalty tax incentives are given in the form of tax reduction. These types of royalty tax incentives can differ among nations, which leads to two types:

- complete exclusion of income tax
- partial exclusion or reduction of the income tax

When this is taken into consideration, the patent B-index needs to be recalculated, since this can be affected by the amount of royalties that are going to be paid to the firm.

Because patents as stated before are usually depreciated, and there are only a few nations that offer tax incentives such as tax credits or taxable income allowances. The aforementioned patent B-index is almost always greater than is implied in a particular tax cost. Therefore this means that less than 100% of the patent expenditures can be deducted effectively against the taxable income in the year of forthcoming. This because the patents are seen as depreciable assets as a whole, and not as current ongoing expenses. It is important in this saying to keep in mind that a capital asset, from which the cost is deductable on a standard timeline through depreciation, will always have a present value that is less than one. Under the condition that the value of time is positive and that the aforementioned asset can't be deducted in the year the costs are made. It was already found, that for looking at the patent B-index, there is currently just one country that has a

value below 1, which is 0,97 for the Netherlands. This results in a positive tax subsidy of 0,03 in the case of small firms for a 25% investment allowance.

The B-Index is calculated according to the following formula as presented by the OECD (Warda, 2006). In a later segment of this chapter the B-Index formula will be explained in more detail.

***B-Index = (1-A)/(1-T)***

Where

A = the net present discounted value of depreciation allowances, tax credits and other tax incentives available and the numerator (1-A) is the after-tax cost of the patent)

T = Statutatory Corporate Income Tax Rate

| | SMEs | Large Firms |
|---|---|---|
| Austria | -0,011 | -0,011 |
| Belgium | -0,012 | -0,012 |
| Finland | -0,008 | -0,008 |
| France | -0,189 | -0,189 |
| Germany | -0,03 | -0,03 |
| Greece | -0,011 | -0,011 |
| Italy | -0,023 | -0,023 |
| Luxembourg | -0,014 | -0,014 |
| Netherlands | 0,02 | 0,03 |
| Poland | -0,022 | -0,022 |
| Slovak Republic | -0,008 | -0,08 |
| Sweden | -0,015 | -0,015 |
| Switserland | -0,01 | -0,01 |

**Table 8.** B-Index, 2007-2008, Source OECD

All the numbers that are provided in this table, are not the B-Index numbers jet. In order to come to the B-Index, one last calculation has to take place. The B-Index is 1 minus the number in the table. This will lead to a B-Index larger than 1 for all countries except for the Netherlands.

*Tax treatment of corporate training-and-education expenses*

In general, there are two types of investors in corporate training-and-education expenses, corporations and individuals. For this research, since its focus is on where companies should establish R&D activities, only the corporate side is interesting. Therefore the focus will be on the tax treatment of expenditure on intellectual assets, especially the corporate side of these expenditures. This can take shape in the form of allowances from the taxable income of an organization, depreciation allowance or tax credits against such types of spending.

This section provides a comparative review of the country tax treatment of individual investments. This will be embedded in the personal tax system and related systems like capital gains taxation. The next logical step now is to expand the analysis to innovations that are related to intangible investments. To be able to do this, the tax instruments of the expenditures on training and education will be examined. This is consistent with the rest of this section, which is also solely focused on corporate tax. This leads to the identification, analysis and comparison between the generosities of the particular systems used of corporate training among nations. In order to come to this comparison, again the B-index will be used in order to come to a uniform comparison among the nations in question.

When analyzing taxing policies among different nations regarding education and corporate training, three general observations can be made. First that the most common method of tax treatment is to allow a full deductibility of training expenses in the year that these training expenses took place. Warda (2006) found that from the 18 OECD countries he examined, 17 used this measure. The only exception is Ireland, where it can be deducted, but only over a period of three years time. The second is that corporate training is, after R&D, the only area that is being targeted by credit based fiscal incentives. This type of tax instrument is not very common, but for instance in use by Korea, Australia, France, Japan, Spain and the Netherlands. Third is that most of these types of incentive schemes are based on enhancing the training capacity of small corporations. This again fits well within our research, since the current database of customers of Linders Consultants is mainly small to medium size organizations. In most countries, the tax advantages for small corporations is 40% in comparison with larger organizations who have an advantage of "just" 20%.

*Tax treatment of software*
In contrast to the previously mentioned aspects for country selection, this criterion lacks clarity, because it is less consistent across countries. There are a few reasons that create this discrepancy occurring across nations. Therefore, according to Warda (2006) for organizations that are listed as creating tangible assets without incorporating IT this aspect can be eliminated in the comparison.

Primarily there is the fact that software consists in hardware as part of the innovative product, and as standalone product. So software is both a tangible and intangible good. In addition to this, software can, like patents, be licensed as well.
The second problem with this is that the classification of software is depending on the country the classification is made in. It depends too much on the features of the nation.
As a third difficulty with this category it was found that there is also a disconnection between the dynamics of software technologies and the dynamics of rules and regulations reflecting the changes in the software. It becomes increasingly difficult to create and find distinctions between types of software available due to increasingly fast cycle times. An example of this is that different versions are not seen as different types, but continuous improvement. Therefore these do not qualify as innovative activities.
The last argument why it is difficult to assess is that software can be delivered through various channels. Because each channel can enjoy a different tax rate, it is difficult to determine a standard tax rate for software.

As with all the other categories in this segment, for the tax treatment of software again the B-index is used. To come to the right tax treatment, nations largely base their tax treatment upon the types of software and method of delivery. The types of software are the following:

- In-house developed software
- Purchased standard software
- Custom software
- Leased software

*Tax treatments of organization & start up expenses*
In terms of cost accounting, organizational expenses can include various categories of expenses that have been made in establishing a new entity of your existing organization, or acquiring one. Among most nations they are treated and therefore taxed differently, and have the tendency to be the subject of ruling in court. The following two expenses are the main categories:

- Organizational costs
  These are costs which include things as the legal and accounting costs necessary to organize the existence of a new entry in another country. Things as the required legal documents and other regulatory paperwork at all levels of the nation. Also costs that will be incurred for something as a temporary director, cost of organizational meeting and incorporation fees.

- Start up expenses
  This type of costs, are for instance the costs for training new staff, making analysis of the new market or travel costs for made by looking at new sites, contractors and others. This type of costs are costs for creating an active trade or business.

By comparing these five categories among OECD countries, Linders Consultants can create a valuable analysis for (future) clients with respect to what country they should move with respect to the relative tax advantages. This analysis should be able to report on the status of tax treatment in OECD countries and provide a simple yet reliable way to compare the tax climates of these countries. Therefore a quantitative indicator is applied of the relative generosity of the tax systems towards investments in intellectual assets. This is made possible with the use of the B-index of R&D tax expenditures. This index has been used by the OECD since 1996 and is used to produce comparison among the tax treatments of the R&D investments. This B-index measures the present value of the before tax income that a firm needs to cover the cost of investing one unit of the currency they work with in an intellectual asset (referring to R&D, patents, software, training or organizational change) and to pay the applicable corporate income tax. This is represented by the following mathematical calculation (OECD Science, technology, and Industry scoreboard, 2009):

***B-Index = (1-A)/(1-T)***

Where

| | |
|---|---|
| A | = the net present discounted value of depreciation allowances, tax credits and other tax incentives available and the numerator (1-A) is the after-tax cost of the patent) |
| T | = Statutatory Corporate Income Tax Rate |

Without taxation; $A = t = 0$. The B-Index is equal to one and no research project with a cost-benefit analysis smaller than one will be conducted. Hence, the B-index will be smaller or larger than one depending on the degree of deductibility of R&D expenditures, meaning that partial deductibility implies B>1. So, larger tax incentives lead to a lower B- Index.
The OECD measures the amount of taxation incentives as one minus the B-Index and therefore the measure increases with rising tax incentives. The indicators are published separately for small, medium and large enterprises because it is widely assumed that tax incentives mainly influence investment decisions of large companies. Due to data availability problems, we only use the most year in our sample, 2004, for the second stage regressions so far. Furthermore, real GDP in PPPs is used to control for size effects across economies.

The influence is investigated of R&D tax treatment on research efficiency. A "B-Index methodology" approach as suggested by Warda (2001) is used since it allows comparing the importance of R&D taxation incentives across different tax laws and jurisdictions. The B-Index is part of the Science, Technology and Industry Scoreboard, published by the OECD, and captures the generosity of the tax system with respect to R&D. Mathematically spoken is the B-Index given by the ratio between the after-tax cost of R&D expenditures of €1 and one minus the given corporate income tax rate. This index indicates that the lower the B-index the greater the incentive for an organization to invest in said immaterial asset.

## 6.2 Country selection based on other criteria

As stated before, there are other aspects that should be taken into account when making an assessment of the attractiveness of certain countries for the customers of Linders Consultants. In the previous section, only the taxation of countries has been evaluated. In this section other aspects will be addressed that all together determine the attractiveness of nations for the customers of Linders Consultants.

The first step in order to find the optimal location to locate research and development, information should be gathered on the potential locations that have to be evaluated under several criteria (Beim & Lévesque, 2006). Most of the time, these kind of decisions are made in an ad hoc fashion, but a more formalized way can assist the people who make these decisions in a great way. To be able to make these kinds of decisions, the literature describes the use of a multiple criteria decisions analysis (MCDA). This involves measurement, articulating the knowledge about the decisions process and explores the possible outcome. Which in return provides the organization with a stable and consistent approach, allowing transparency of the decision making process and in which it creates an easy way to justify the outcome of the result to stakeholders. In this case, the term stakeholders has been selected instead of shareholders, due to the fact that the placement issues affect all the people who are affected by the organization (Mitchel, 2010).

The original motivation to develop the MCDA was the realization that decision makers need tools beyond pure financial analysis to assist them in finding solutions between various interests and goals. The creators of the MCDA argued that not all the interests and goals that have been set can and should be expressed in financial terms. One of the most important contributions of the developed MCDA is that it helps decision makers organize and process information of a complex and conflicting nature by taking explicit account of intangible criteria (Belton & Stewart, 2002). The aim of MCDA is to aid the decision makers in the understanding of the trade-offs they have to make. This results in the ranking of alternatives when this is possible and eliminating the clearly inferior ones. This leads to results that are better, less controversial and easier to defend. The MCDA method also does not propose to decide for the decision maker, but presents the decision maker with a clearer picture of the situation. Therefore the output of the MCDA method should not be seen as an answer to the problem of the decision maker. It only hands the decision maker a clear picture of the consequences of selecting a certain country. It helps the decision maker with understanding and communicating the trade-offs that have to be made when selecting a certain country, based on economical, social, environmental and other criteria. Therefore indicating good decision-making and with this decreasing the resistance to the decision.

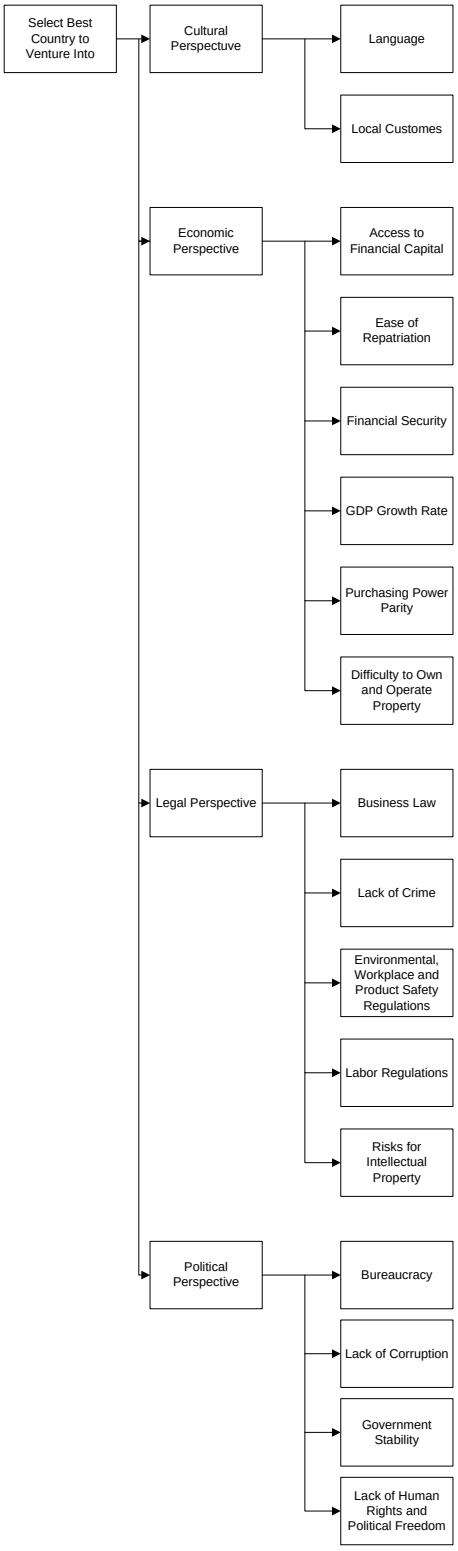


**Figure 2.** Hierarchical Structure of the Country Selection Problem, Beim & Levesque (2006)

If you look at it closely, almost every decision is a multiple criteria decision. But of course it would be unlikely that every decision in an organization would lead to an MCDA analysis. So for the simple, unimportant and quick to make decisions organizations should not use it. Belton and Stewart (2002) advise that organizations apply MCDA to explore decisions "that matter", in other words can be identified by looking at the level of conflict and disagreement between the stakeholders as to the relative importance of criteria.

It is stated by Pomerol and Barba-Romero (2000) that some managerial and strategic decision situations are based on MCDA application, but none of those applications relate to the stage in the decisions making process where the decision maker must select a country in which to establish a new business. It is proposed by Kasanen et al. (2000) that the reason for this is that relative few MCDA models have been used in practise is because the theory of the MCDA model might oversimplify the real world decision process. This has been examined by Beim and Lévesque (2006) in which they come to the conclusion that MCDA has the potential to improve the decision making process in cases where the managerial decisions look at all the options. So the argument that the MCDA would oversimplify the real world is not the case according to these authors. The fact that the real world is simplified, would lead to a great potential in usage of this model in the case of Linders Consultants. This increases the accessibility of the model to the customers due to the easy access of the model even by organizations that are not familiar with the use of MAVT models.

The MCDA that is chosen here is known as a value measurement model which is based on the multi attribute value theory (MAVT) established by Keeney and Raiffa (1976). This theory developed in the late 1960's by Keeney and Raiffa (1976) underlies many commercial available software packages that give each option a score on an individual criterion. This MAVT is one of the most commonly used MCDA methods in practice and is according to Beim & Lévesque (2006) easily understood by individuals who are part of the business world (Belton & Stewart, 2002). This should lead to a careful development of the scales on which the criteria are evaluated. These value functions try to translate the relationship between certain evaluation. From this point the general importance of all the criteria is analyzed, and then an overall score for each alternative is developed. In general the road to creating the MCDA model is represented by taking six steps (Hobbs & Meier, 2000).

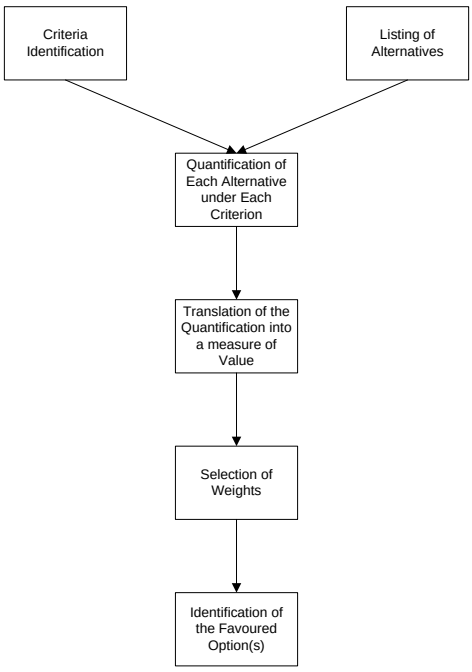


**Figure 2.** Graphical Representation of MCDA Analysis

In the following section, the six steps that need to be taken to come to the right alternatives to measure will be discussed here. The steps will be addressed in the order that they need to be undertaken in order to come to valuable criteria. Therefore the first step that has to be addressed by the MCDA modeller, is the step of criteria identification

*Criteria Identification*
The decision maker has a certain hierarchy of the criteria at hand, or value tree with which the alternatives are evaluated. The MCDA modelers are interacting with the decision makers to reveal these criteria which may be measurable on a numerical scale or are quantifiable on a categorical scale. The criteria that are selected need to be non-redundant as well as judgmentally independent. This should take care of the fact that trade-offs between two criteria cannot depend on the level of a third criterion. Several researches, such as Zopounidis (1999) differ with respect to the identification between a bottom-up and top-down approach. The latter begins with an overall goal, which is then expanded into an overall goal perspective and further breaks each perspective into more detailed subcriteria until measurable criteria start to emerge. These subcriteria can also be referred to as measures. The bottom-up approach on the other hand has a different focus, and starts with evaluating the pros and cons of each alternative in the equation. Taking the advice of authors such as Hobbs & Meier (2000), the way to take decisions should be in a top-down manner.

*Listing of Alternatives*
The decision makers can sometimes be confronted with a set of alternatives too large to manage. This could mean that they develop a set of alternatives that is not too comprehensive, or may list alternatives that are overlapping. In order to eliminate clearly inferior alternatives, the decision makers also use pre screening methods. Overlapping should be avoided in this stage; to make sure that a set of alternatives is created that is independent of each other.

*Quantification of each alternative under each criterion*
The assessment of the criterion in question can be an undisputable, measurable quantity or a subjective qualitative evaluation. The quantification is commonly performed by the MCDA modelers and experts on the subject at hand. When looking at value measurement models, the performance is analyzed on an interval scale of measurement containing minimum and maximum reference points. It is of course also sometimes possible that an evaluation is done based on a subjective description, which is then later converted into a numerical value in relation to the specified reference points.

*Translation of the quantification into a measure of value*
Given the alternative A combined with a lowest level criterion (on a hierarchical scale) i with i = (1,...,I), then let Zi(a), Zi be a measure of performance of alternative A with respect to the just mentioned criterion i. Here I is the number of criteria under which alternatives are evaluated and Zi the set of possible scores for criterion i. Here Zi(a) may be defined on a natural cardinal scale, on a constructed ordered categorical scale, or on an ordinal scale. Also the axioms of the MAVT state that there is a value function of v(zi(a)) such that a is preferred to a' on criterion i if and only if:

**v(zi(a)) > v(zi(a'))**

Taking this into account, the origin and scale of v(zi(a)) are arbitrary but the two reference points must be defined. The just mentioned reference point may refer to local measures of performance and can be set to worst and best measures of performance, as well as that they may refer to global measures. The use of a common unit allows MCDA modellers to average the value functions of each criterion into an overall value function, making it a decision with good underlined measurable data.

*Selection of Weights*
As stated before, in an MAVT analysis, not all criteria have to carry the same weight. It is an often debated subject, because there does not appear to be a descriptive model for assigning weights to each of the criterion. Also the mathematical interpretation of the weight of criteria varies with the MCDA used in the specific case. This means that a method of elicitation that may provide mathematically correct weights for MAVT cannot be directly applied to elicit weights to be used in another method. Research by Beim & Levesque (2006) has indicated that "people often think that valuing something is an easy task". But when people are actually involved in the process of assigning weights, it appears to be more difficult than thought. Therefore it is easy to use the swing weight method by Stewart (1992). Here the decision maker is asked about the relative importance of an improvement from worst to best level in one criterion relative to others. In the MAVT models, the weight of the criterion has a direct influence on the relationships between the scores in that criterion and scores on all other criteria. The determination of the weights involves interaction between MCDA modelers and decision makers. If this process is followed through properly, this will result in weights that are valid and represent trade-offs that decision makers are willing to make.

*Identification of the favored options*
When the criteria weights are identified, the MCDA modeler aggregates value functions for each criterion in an attempt to create a configuration are based on the preference of all the criteria. The simplest approach to do this is to just take the sum of all the values. Even though more complicated aggregation procedures are sometimes proposed, the additive function is very intuitive and widely used and mathematically sound, provided that the criteria are properly defined and scoring process is understood by the decision maker.

The MCDA will provide a country ranking, but in addition to this ranking MCDA helps decision makers eliminate inferior country alternatives. It also obtains the relative importance of criteria to be used in these country selection decisions and along with this allows the decision makers to defend and explain the country selection choice to the stakeholders of the organization. Another advantage of the MCDA method is that this method in the case of Linders Consultants is that MCDA facilitates the inclusion of subjective aspects in the decision process, this decision process can be customized for every industry and easily replicated by entrepreneurs. This allows the advice to be given to customers who can then use it to their own extend. Due to the applicability to each industry it can be given to all the customers on request. The MCDA method in this study will be used on the Industry and ICT segment as defined in the previous chapter. This will be used as a general guideline for all customers of Linders Consultants in this segment.

In the late eighties, a prescriptive model was developed by Meyer-Ehrman & Hamburg (1996). This model was developed to help firms identify a subset of countries for manufacturing investments. This model incorporated both the highest mean scores and highest variance scores, which is seen as a measure of risk for each individual indicator. This country ranking was based on an aggregate measure of the weighted probability that each indicator scores above a preset threshold. This prescriptive model also highlighted the importance of economic and cultural indicators, but when compared with the MCDA method this method is inferior due to the fact that the MCDA method allows for sensitivity analysis to be performed first. This allows decision makers to observe the implication of their decisions from changes in the relative importance of criteria. Looking at these two examples, it can be stated that a MCDA method has several advantages over regression-based methods.

The proposed MCDA method is based on the work of Zhao & Levary (2002) which is based on economic and political indicators, and ranks countries for FDI in the e-retail industry. This is not the industry the customers of Linders Consultants are in. The MCDA method is

accessible to almost all industries, with just minor adjustments. This should provide a good framework on which a good MCDA method can be created to rank the most interesting countries. The additions to this model will allow the general model to be customized for any industry (Beim & Levesque, 2006) and proposes a more rigorous methodology for obtaining the weights of criteria used in the country evaluation. The MCDA method that will be suggested, will try to eliminate inferior countries, consider financial risk as well as legal and cultural constraints. This type of framework will try to include the subjective aspects in the decision making process. When creating the MCDA there are a few aspects that should be taken into account. First redundancy should be avoided; a lack of independence and extreme complexity should be kept at a minimum while being comprehensive and sensitive to criteria relevance.

First, the long list of countries needs to be reduced. Since the MCDA analysis is specific for each industry, it is impossible to make an analysis that is valuable for all the organizations. This is one of the main advantages of the MCDA analysis, in the sense that it is applicable to more than one organization. Even if these organizations are in different industries. Therefore to limit the amount of information in this research, only a few countries will be compared.

The measurement criteriacan be found in publicly available indices. These indices are always and everywhere available to everyone. These indices are used to reflect the performance of countries under each of the measures. In practice, it is advisable to organizations to not only rely on the public data, but also on information about the institutional context of each country.

Because there is a large group of clients that Linders Consultants serves that are part of a larger multinational network, it is advisable to establish criteria that can be measured in a large number of countries. Since the innovationbox is designed by the government to stimulate innovation in the Netherlands this type of advise is very suitable. When the Netherlands are compared on these criteria, it provides organization a more solid ground to choose for the Netherlands as home base for research and development. The role of Linders Consultants in this case is to increase awareness of these companies, and try to convince the organization in question to move their research and development activities to the Netherlands.

The next step is to establish the afore mentioned criteria that can be measured objectively, and can be found for each country, this has led to the following list of criteria, suggested by Beim & Lévesque (2006). In the list that has been suggested, there are three criteria that are remarkably alike. These three categories are economic freedom of the world index, index of economic freedom and freedom house country rates. In order to come to a conclusion that weighs all effects equally it is important that none of the criteria overlap. To make sure that a certain effect is not measured three times, two of these three categories will be removed from this list. The most easy to measure, complete and also reliable to its data retrieval from the international monetary fund is the economic freedom of the world index. Therefore this one is selected to remain, and the others will be deleted.

- *Economic freedom of the world index*

  This index ranks 123 countries, and on each component the range goes from value 0 (low) to 10 (high). The input for most of the data here is collected from the published data of the International Monetary Fund (IMF) and the World Economic Forum (WEF). The components that are being used for this research are restrictions in foreign capital market exchange index of capital controls among 3 IMF categories, extension of credit, impartial courts and law and order.

- *Growth of real gross domestic product (GDP)*

  The GDP that was obtained was from the year 2009, and in this report that was published by the World Bank, the growth rate of the economy for 2010 is estimated. The average annual growth is given in per cent, and can vary from for instance -11.9 to 7.8.

- *Purchasing power parity (PPP)*

  PPP is the per capita gross national product, but this is adjusted by the purchasing power. This is based on the cost of living in Europe, meaning the average of all costs of living for all the nations in the EU combined.

- *Doing business*

  This index is published by the World Bank Group, and offers two indeces. First an index of labour regulations is constructed by checking the detailed provisions in the labour laws as the sum of the employment laws index and the industrial relations law index. This index has a scale from 1 to 6, where higher values on the scale imply more rigid regulations. Second, the index of entry regulations that take into account all the cost and time required to complete all the procedures that are required to complete all the procedures required to establish and legally operate a business in a given country.

- *Corruption perception index*

  This index is published on an annual base by Transparency International. This index is based on fourteen polls and surveys from seven independent institutions.

- *The world bank institute worldwide governance research indicators dataset*

  This government indicators dataset reflects a compilation of responses given by a large number of enterprises, citizen and expert survey respondents in industrial and developing countries. The scale of these indicators range from worst (-2.5) to best (2.5).

- *Piracy rates*

  The piracy rates are published by the Business Software Alliance (BSA). This software piracy is measured as the amount of applications, created by the members of the BSA that are being installed without a licence. The values are in percentage. These software piracy rates are considered to be a good measure for the protection of all types of intellectual property.

All the listed criteria, can be used to create an analysis of the countries that organizations might want to relocate to. This MCDA is quite an extensive process to complete, and will therefore also not be done here. But in order to give a profound advice to the larger customers of Linders Consultants, it is advised to go through this analysis ones a year. When this is done on a yearly basis, this analysis can be used for the rest of the year. Also when it is know where all the data comes from, after the first time, it will be less time consuming to redo the analysis.

# 7. Can the use of another transfer pricing technique lead to an increase in profit for Linders Consultants' customers?

When organizations are selected to implement the innovationbox, they first should meet the requirements that have become apparent in the first research question. When these requirements are met, the organization in question is making a profit. Normally the organization is required to pay a corporate tax of 20% over profits up to €200,000. When this threshold is exceeded, the organization is required to pay corporate tax over profit of 25%. With the introduction of the innovationbox, it is possible to reduce the taxation to only 5%.

When an organization is profitable, not all of this profit can be attributed to the innovationbox and is allowed to be taxed with this lower tax of 5%. The calculation of the innovationbox in practice is not based upon the gross profit, but it is based on operational revenues of an organization before deduction of interest and taxes (van der Lande, 2010). This is more commonly known as the Earnings Before Interest and Taxes (EBIT).

Basically there are two approaches when it comes to determining the advantages of the innovationbox. The distinction between these two approaches is based upon how important the innovation process is to the organization in question. The first type of organization is one where innovation is seen as a core activity. This means that innovation is considered to be a part of the organization with the same matter of importance as for instance production, marketing, sales distribution or service, depending on the organization in question. The common denominator here is that the products that are produced by the organization get their market value from being innovative and unique. One of the indicators for innovation as a core competence is that if one looks objectively at the organization, its right of existence should partially be attributed to the innovative activities.
The second type that of organization that can be distinguished, is of course an organization where the innovation cannot be seen as a core function. This implies that the development of an immaterial asset is not attributed to standard R&D work, but something that has come along with the normal basic activities of the organization. This can for instance be a hotel that has developed a new booking system. The booking system that is developed can lead to advantages for the organization, and qualifies for the innovationbox requirements, but isn't part of the daily operations of the hotel.
These two types of organizations, use innovation in a completely different way. In order to assign profits in the right manner, these different types of organizations use different methods to assign the profits. To assign these profits in a correct manner, two transfer pricing methods are advised by the government.

In the following section, the two transfer pricing methods that are currently in use to assign profits to the innovationbox will be explained. These two methods will be analyzed and based on this it should be possible to find a new transfer pricing method.

## 7.1 Profit methods that are currently used

The first type of organization that is addressed, is the organization that uses innovation as a core function. The method that is prescribed by the taxing authorities to assign profits to innovationbox for organizations that use innovation as a core function is called "the afpel method". This method is a kind of split profit method, and consist of elements of the residual profit method (OECD guidelines for transfer pricing). Also when this is compared with relevant literature on transfer pricing methods, the "afpel" method is similar to the residual profit split method.
In general profit split methods address circumstances in which two or more members of a group own valuable intangible property. When it comes to innovationbox, valuable intangible assets are the assets that are considered in this context.

*Residual Profit Spilt Method*
The residual profit split method in Dutch innovationbox context know as the "afpel method", will be referred to as RPSM in the rest of this research, is the academic name for the transfer pricing method known as "afpel" method in the innovationbox context. According to the textbook definition of the RPSM it should be applied in several discrete steps (King, 2009). The first step in this process is that each member of a controlled group engaged in a joint endeavor is allocated a portion of combined before-tax operating income. When it comes to applying this in the innovationbox, the member of this controlled group, are considered to be the departments of the organization that contribute to the creation of the immaterial asset. This means that these allocations are generally quantified by allocation of the CPM; the members of the group get a certain mark up over the costs incurred or tangible assets for their routine functions. These routine functions are functions such as sales, manufacturing functions and marketing. These mark ups are created using the arms length principle, therefore it is important not to fluctuate too much from the other organizations in the same business.
In the second step of RPSM, the income "that is left" is quantified by reducing adjusted operating profits by each entity's returns to routine functions as determined in step one. The adjusted operating profits are then computed through eliminating deductions for investments in intangible assets from combined reported operating profits and imputing deductions for the amortization of such assets. With this confirming the accounting treatment of intangible assets to that of tangible assets.
Finally the residual income is allocated among group members based on the relative value of intangible property that they each contribute to the joint endeavor, in the case of innovationbox this is limited to the project that their applying for. Practitioners of the RPSM generally determine the relative value of intangible assets by capitalizing and amortization of intangibles creating expenditures. This type of procedure requires:

- Identifying all expenditures that give rise to intellectual property.
- Estimating the lag between the outlay and realization of benefits (improved processes, technologies and product features) from the resulting intellectual property.
- Estimating the economically useful lives of the individual intangible assets.

In the case of applying this transfer pricing method to the innovationbox, it is required to have the following financial information about the organization (in addition to the profit and loss sheets):

- Direct costs incurred for the innovation.
- Overhead costs.
- Specific costs of all departments.

This transfer pricing method is based on distributing the total profit. The total profit can then be distributed to the departments that have "earned" this profit in creating the innovation. To determine this, specific percentages are required to be created to reward the departments parts of the overall profit. Determining these percentages needs to be done according to the guidelines the taxing authorities have set.

To calculate the tax advantage, first the EBIT needs to be calculated. This first EBIT is the starting point for other calculations. Then the different routine functions are rewarded to their own extent. This encompasses for instance production, R&D costs that have not led to new innovative products and a standard reward for R&D. These are then subtracted from the EBIT, which in turn leads to the "first left over EBIT".
The second step is determining the rewards that should be granted to the core competences of the organization. One aspect of this is always entrepreneurship, this can also include marketing, sales and R&D. Again percentages are awarded to these departments, and are subtracted from the "first left over EBIT" which in turn leads to the contribution of R&D to the profit. This number is the profit over which an organization is allowed to pay only 5% corporate income tax. In order to make a more clear, a numerical representation is provided here.

| | | | |
|---|---|---|---|
| Organization X | Year 1 | | |
| Total Sales | € 150 K | | |
| Cost of Goods | € 60 K | | |
| | | Gross Margin | € 90 K |
| Overhead | € 10 K | | |
| R&D Costs | € 25K | | |
| Sales Costs | € 25 K | | |
| | | EBIT | € 30 K |

**Table 9.** Afpel method

| | | | | |
|---|---|---|---|---|
| Standard Functions (Reward) | Year 1 | | | |
| Production | 10% | € 6 K | | |
| R&D Costs (do not lead to innovation) | 25% | | | |
| R&D Standard Reward | 10% | €0,625 K | | |
| | | | EBIT after first reward | € 23,38 K |

**Table 10.** Afpel method

The percentages chosen here are chosen on basis of guidelines presented by the taxing authorities in the Netherlands. These percentages are the average indications as provided by the taxing authorities. The reward for standard R&D comes from a combination of the R&D costs that do not lead to innovation with the R&D standard reward. This leads to this calculation:

**R&D Standard Reward =** *10% x (25% x R&D Costs) = €625*

Also in the other calculation methods in this chapter, the percentages that are chosen are in accordance with the guidelines as provided by the taxing authorities in the Netherlands.

| Core Competences (Reward) | Year 1 | |
|---|---|---|
| Entrepreneurship | 20% | € 4,68 K |
| Sales | 40% | € 9,35 K |
| R&D | 40% | € 9,35 K |
| | | |
| Total profit assigned to innovationbox | | € 9,35 K |

**Table 11.** Afpel method

This final amount that can be assigned to the innovationbox can be taxed with 5% corporate tax. This would only lead to an increase in the total profit of 15% of €9,350= €1402.50.
This seems very small, but so are the total sales of €150,000.

*Cost-plus method*
The other transfer pricing method prescribed by the taxing authorities in the Netherlands is the cost-plus method. This method is to be applied when organizations are not focusing on innovations as a core process. This means that they do not need innovation to survive, and they came across the innovation that the innovationbox is applied for was "found by accident".

The cost-plus method is a transaction-based method that is listed a proper method by the OECD (King, 2009). This method can be applied according to the literature under the following fact patterns:

- A single manufacturer sells similar products to both affiliated and unaffiliated distributors.
- A single distributors sources similar products from both affiliated and unaffiliated suppliers.
- A single services provider renders similar liaison or agency services to both affiliated and unaffiliated organizations and if possible uses the same intangible assets.
- Two or more manufactures sell similar products in one instance to affiliated distributors and in other instances to unaffiliated distributors.
- Two or more distributors source similar products in one instance from affiliated suppliers in the other instance from unaffiliated suppliers.
- A group member performs routine manufacturing or distribution functions and licenses intellectual property from another group member.

Usually the choice between the resale price method and the cost-plus method depends on whether one of the group members engages in internal arm's length principle, and whether the affiliated manufacturer or distributor is the least complex entity. The main difference between the two methods is therefore whether or not the organization produces its own products, or just sells them with a mark up like a distributor. When it comes to the innovationbox of course, it concerns newly develop products and services and therefore the choice for the cost-plus method is understandable.

The cost-plus method when it is applied in the innovation box is rather straight forward. In order to assign profits to the immaterial asset, the following financial data should be available:

- Cost of the innovation.
- Total turnover of the organization.

To assign profit to the innovationbox using the cost-plus method, a risk percentage must be assigned to the project that was undertaken. This percentage needs to be valid, and constructed with proper arguments. The determined percentage is taken from the total cost of the innovation, which then delivers the profit that can be assigned to the innovationbox.

To make it a little more clear, a short calculating example with respect to the use of cost-plus method is provided here.

| | | |
|---|---|---|
| Organization X | | |
| Turnover | | € 150 K |
| Total Cost | | € 120 K |
| | | |
| Risk Percentage | | 12% |
| | | |
| Profit to be assigned to innovationbox | | € 14,4 K |

**Table 12.** Cost-Plus method innovationbox

In this case, €14,000 can be assigned to the innovationbox and be taxed with 5% corporate tax instead of 20%. This will result in an net advantage of 15% of €14,400= €2160.

### 7.1.1 Differences between cost-plus and afpel method

When these two methods are applied, the major distinction that has to be made is whether the innovation came from a core competence of an organization, or that the innovation was found by accident. In the previous numerical example, it is visible that the profit to be assigned to the innovationbox is larger when using the cost plus method in comparison with the afpel method. Looking at a single one time innovation, the profit to be assigned to innovationbox is higher when using the cost-plus method. But when organizations have R&D as a core competence the profit that comes from this, compared to a one time only innovation will most likely be higher, and therefore the afpel method can and should be used.

## 7.2 New transfer pricing method for innovationbox

In this segment of the research, we provide a description of a possible alternative that can be used for the allocation of profit to the innovationbox. There are a lot of transfer pricing methods currently available. It is an ongoing process of development, and most new methods differ only minor from existing ones (King, 2009).

For a method to the applicable to the case of innovationbox, it is important to take into account. The innovationbox is created to value and assign the profit of valuable intangible assets that is created by an organization to R&D activities. It is therefore important that this is taken as one of the most important determinants for the choice of the transfer pricing method.

To be able to use a method, it is also important to make sure that this method is reliable. A lot of data is accessible, but this does not make these types of data reliable. This in turn can lead to an unreliable transfer pricing method. To make sure that the selected method is also reliable, the following factors should be taken into account (Markham, 2005). The factors that influence the selection of a particular method include:

- The use of uncontrollable transactions and their degree of comparability with the tax taxpayer's transactions under review.
- The quality; the completeness and accuracy of the underlying data.
- The reliability of the assumptions used in the analysis.

One method that appears to be suitable is the required return method (King, 2009). This method is developed for more complex cases of transfer pricing. It is also suitable for valuing unique intangibale property. In this method, one can in principle determine the individual members' tax liabilities by assuming that they will earn their estimated required return on debt and equity capital per year. When this method is applied, one is required to have access to the following data:

- A fair market value of the organizations equity capital.
- The required return on this equity capital.
- The arms length cost of debt.
- Estimated beta, along with the risk-free rate and the estimated price of risk.

Due to the fact that the data requirements, the application of this method is quite labor intensive. Therefore it is not one of the most popular ones these days. Another disadvantage of this method is the fact the required return method may also produce a wide range of results, and that these variations should be bounded by agreed-on conventions (King, 2009). Finally some of the standard valuation methods cannot be used. These methods include for instance the discounted cash flow method to value the organizations market value, because these types of valuations incorporate potentially non-arms length principles of transfer pricing.

However in circumstances where an organization has a measure of its fair market value and cost of capital, that is close to the reality, or if taxing authorities can agree on the use of valuation methods that do not reflect transfer pricing, and certain conventions that may reduce the scope for subjective judgment, the method of required return may prove to be viable. Also the required return analysis has a more theoretically constructed basis than other existing transfer pricing methods. Finally the required return methodology is applicable in situations where the organization uses unique intangible assets, inasmuch as the value of these assets will be reflected in the equity capital of the organization.

## 7.3 Going into the transfer pricing method of required return on debt and equity capital

Generally it is assumed by economists that individual firms have reasonably quantifiable risk-adjusted required rates of return on equity capital. Which is also defined as shareholders' opportunity costs. With this is mind, the firms arms length cost of debt at a point in time equals the yield to maturity (YTM) on its outstanding debt, reduced by the debt tax shield. Usually therefore the individual firm's after-tax free cash flows must be at least equal to the returns that all contributors of capital must receive, starting with the risk they bare in order to retain the use of their funds.

When it comes to the aspect of transfer pricing, the organizational departments can be used to estimate the required return on equity capital and their market-determined cost of debt to derive their taxable income. This type of procedure incorporates applying an appropriate required rate of return on equity to the estimated fair market value of an individual departments equity capital and adding to this the departments arms length market determined cost of outstanding debt. The required rate of return in this case also needs to be adjusted for the risks present. The EBIT can be computed using some of the results that have been obtained in the previous steps, by adding back the tax shield on debt, deducting interest expenses, adding investment in tangible and intangible assets and changes in working capital, deducting depreciation and dividing the resulting magnitude by (1-t).

This method provides a way to calculate the before-tax net income. This is the amount that needs to be calculated. From this number, it can be established how much of the additional profit can be contributed to the innovationbox. The use of the innovationbox is, as stated before, only interesting when an organization is profitable. The use of this new transfer pricing method does not make this any different. This new method can only be applied when a profit is realized. Anothter aspect to take into account, is that this transfer pricing method is based on an organization that is lending money to invest in the innovative product that their trying to sell. This transfer pricing method will only maximize the result for the organization in question, when they have some sort of outstanding debt.

This in turn leads to an increase in the consulting possibilities for Linders Consultants. Linders Consultants sees the opportunities that the innovationbox brings along, this will be explained in a later section of this chapter. The next segment will explain how the required rate of return can be put to use in assigning progfit to R&D activities.

First, the after-tax free cash flow will be determined. To be able to determine this, the following calculation needs to be made. This of course implies that all the variables for this calculation are known.

***After-tax free cash flow = FCF – (Re x E + Rd(1-t) x D)***

Where Re = required return on equity
E = fair market value of equity
Rd = before-tax cost of debt
t = combined statutory tax rate
D = value of debt

Also the interest expenses need to be calculated. These are costs that of course effect the profit directly. These costs can also be used to determine the tax shield, that will be calculated in the next step. The interest costs can be calculated in the following manner:

***Interest expense deductions = Rd x D***

*Where Rd = before-tax cost of debt*
*D = value of debt*

Using this method, allows the organization in question to take advantage of the tax shield on debt ( Mc Graw & Hill, 2006). This is an advantage over the other two methods that have been described. Since the other two methods do not take advantage out of this, organizations who use external funds to pay for their innovation will be able to maximize the use of the innovationbox by applying the required return method of transfer pricing. The advantage of the tax shield in this calculating method can be described with the following formula:

***Tax Shield = t x Interest Expense Deductions***

Where t = combined federal and statutory tax rate
Rd = before-tax cost of debt
D = value of debt

In addition to these two previous calculations, also the actual investment in tangible and intangible assets and changes in the working capital needs to be added. The non-cash charges then in turn need to be deducted.
Deduct by the statutory tax rate. The sum of all the just mentioned factors then needs to be deducted by the statutory tax rate.

***Statutory tax rate = (1-t)***

Where t = combined tax rate

Calculating this allows us to calculate the before-tax net income specifically for a certain investment and certain innovative product. In the other methods percentages were required in order to come to a proportion of the profit that could be assigned to the innovationbox. This method does not require any estimations, but calculates the profits on a specific investment just on numbers. This is one of the main benefits of this method. It also uses the tax shield, so especially for organizations that have a large amount of debt, this method will most likely be useful. When this is calculated, an exact number will follow that is directly attributable to the innovationbox and can be taxed with the favorable 5% corporate tax rate.

The required return method is advised especially for larger organizations to tax the first €200,000 profit that cannot be assigned to the innovationbox with 20%. The Dutch government indicates that the first €200,000 should be taxed with 20% and the rest with 25%. After the first €200,000 is taxed with 20% the rest of the profit will be taxed with 25%. By stating that the profit coming from innovation is additional, the tax advantage is not just 20%-5% = 15% but 25%-5% = 20%. Again this will most likely only affect the larger organization, because smaller organizations will struggle to create net profits of over €200,000.

In the following section an calculation example is provided. A few numbers will have to be assumed, but also some are taking from the same calculations as cost-plus and residual profit spilt method.

When the innovationbox advantage is calculated for the same organization as just mentioned above, some of the numbers involved in the calculation will have to be estimated. The following numbers will be chosen to work with:

| | |
|---|---|
| Re | 9.02% |
| E | 55,000 |
| Rd | 4.46% |
| t | 19%[1] |
| D | 145,000 |
| Inv. | 15,500 |
| Non Cash Charges | 12,800 |

**Table. 13**

This will lead to the following calculation of profit that can be assigned to the innovationbox using the required return method.

| After-tax Free Cash Flow | | |
|---|---|---|
| Organization X | | |
| *Re x E* | 0.0902 x 55 | 4,961 K |
| *Rd (1-t) x (D)* | 0.0446 (1-0.19) x 145 | 5,238 K |
| | | + |
| *Total After Tax Free Cash Flow* | | 10,199 K |

**Table 14.** Required Return Method

In order to find the before-tax net income for this specific R&D project, the above described calculations need to take place. This will result into the following calculations.

| Calculations | | | |
|---|---|---|---|
| Tax Shield on Debt | *t x Rd x D* | 0.19 x 0.0446 x 145 | 1,228 K |
| Interest Expenses | *Rd x D* | 0.0446 x 145 | 6,467 K |
| Investments in (in)tangible assets and change in working capital | | | 15,5 K |
| Non-cash charges | | | 12,8 K |
| Statutory tax rate | *(1-t)* | (1-0.19) | 0.81 % |

**Table 15.** Required Return Method

[1] See Appendix B

The calculations above, lead to the before-tax net income for the specific R&D project.

| Before-tax Net Income | | |
|---|---|---|
| After-tax FCF | 10.119 K | |
| | | |
| Tax Shield | 1.228 K | + |
| Interest Expenses | 6.467 K | - |
| Investments | 15.5 K | + |
| Non-cash Charges | 12.8 K | - |
| | | |
| Total | 7.58 K | |
| | | |
| Before-tax Net Income | | |
| | | |
| Total / (Statutory tax rate) | | |
| | | |
| Total | 7.58 K | |
| Statutory Tax | 0.81 % | |
| | | / |
| Before-tax Net Income | | 9.358 K |

**Table 16.** Required Return Method

It is important to note that when during the period that is being calculated, that any principal or borrowed money that is repaid during the period should be factored in the analysis. It is for the ease of use in the method now assumed that this is not the case. This then prescribes the arm's length before-tax net income, prior to factoring any firm-specific carry forwards and credits.

The potential to maximize the net earnings of this transfer pricing method will be greatest when an organization is playing break even without the sales that can be attributed to innovationbox.

## 7.4 Possibilities due to innovationbox service at Linders Consultants

Providing the innovationbox service has opened a door for Linders Consultants. As stated before in this research, application for the innovationbox is based on either a patent, "kwekersrecht" of a "WBSO verklaring". The market that the innovationbox is aiming for, is a market that consists out of a lot of organizations that are doing R&D. The majority of this market, is able to perform their R&D activities because the WBSO subsidy. When this subsidy is granted, this means that when the innovation is profitable, it is also eligible for the innovationbox service.

This is where Linders Consultants have a competitive edge. The innovationbox service, is actually a purely accounting service, and can also be done by the accountants that most organizations already employ. Due to the mandatory requirement that a WBSO statement, kwekersrecht or patent is required, the options for Linders Consultants to compete with the standard accountant based on the fact that the standard accountant is out of his field of expertise when it comes to WBSO applications.

Linders Consultants has been a subsidy advisor since the early 90's. During this period, an incredible amount of WBSO statements have been written, and numerous organizations have been given custom advice on how to deal with this type of subsidy. This experience on writing these statements gives Linders Consultants an additional advantage over accountants when it comes to giving advice on innovationbox. Since the largest share of innovationbox applicants will come out of the WBSO segment, having experience with writing WBSO applications is a great plus. For organizations, applying for WBSO and innovationbox has numerous advantages. With the most important advantage that when writing the WBSO application, the fact that this specific application is destined to used in the innovationbox can be taken into account. With this in the back of the mind of the persons writing the application, this can lead to additional gains.

This can of course be combined with the standard consulting options that Linders Consultants offers. This means that actually all the services that Linders Consultants currently offers can be combined and the innovationbox service can be added to the array of services.

The combination of these factors can be used by Linders Consultants to increase their market share when it comes to WBSO customers, consulting customers and create the needed market share for the innovationbox. When these services all well aligned, this should lead to an increase in the turnover of Linders Consultants. The way this should be aligned, marketed and sold is something that goes beyond the scope of this research. My advice here is of course to look into the option of combining these three services and find a way to use the experience that has come from the WBSO subsidy to Linders Consultants' advantage.

# 8. Conclusion and recommendations

The first part of this research was conducted in order to determine what market segment could benefit the most from the innovationbox. The following research question is answered in this part:

*What types of organizations are interesting for Linders Consultants when it comes to the innovationbox services?"*

To be able to answer this question, the organizations would have to fulfil several criteria. The first criteria that should be met by the organizations are the criterion as prescribed by the government. Then the existing customers were assigned to several different categories. These categories were then placed into different segments that were identified by the CBS. These segments were then compared based on a list of characteristics. Each of these characteristics was assigned a weight between zero and ten. Ten being the most important and zero the least. This meant that the segments "industry" and "ICT" should be regarded as the most important.

As part of this analysis an analysis was also done on the success rate of innovation in each of these segments. In the two segments that were marked as the most interesting segments the success rate of innovation was still 'only' 40% for industry and 53% for ICT. This implies that there are a lot of activities and ideas that do not lead to new innovation. These unsuccessful innovations have cost money for the organizations in question, and are now lying on the shelf collecting dust or just taking up space on servers. My advice to Linders Consultants with respect to this is that additional research is required in the field of unsuccessful innovations.

In the second part of this research the focus lies on how an organization should select a country of residence. This part would answer the following research question:

*What country should be selected for deploying R&D activities with tax advantage as one of the determinants?*

With the innovationbox as a new fiscal measure the Netherlands has become an interesting option for organizations to establish their research and development department. In comparison with other European nations the Netherlands is now one of the most interesting nations when it comes to innovative activities. This can be found in the first part of the research which focuses only on tax criteria as a determinant for country selection. The use of the B-Index has led to the conclusion that the Netherlands is the most favourable country to deploy R&D activities.

But taxing issues are not the only reason for an organization to move their R&D department. Therefore this chapter of the research is dedicated on finding other determinants for organizations to move some of their work to another facility and country.This resulted in an extensive MCDA form. There are a lot of criteria that should be taken into account for a decision, and the most important ones are all listed in this process. When larger customers come to Linders with the question on whether they should move their R&D department to the Netherlands, this MCDA tool should be used to motivate them in an additional manner then the fiscal policy here. The disadvantage of this measure is that it requires a lot of time to

configure it the first time. But when this is done once, it can be used for a longer period of time.

In this case my advice to Linders Consultants would be to invest the time in creating this MCDA analysis once, for all important economies. During this process it should be well documented where the information comes from, how often this information can and should be updated and of course the sources should be of sufficient quality.

In the final chapter of the research the different transfer pricing techniques are discussed. In this chapter the final research question is answered:

*Can the use of another transfer pricing technique lead to an increase in profit that can be assigned to the innovationbox?*

To answer this question first a description is given of the existing methods. It is also discussed how they work, and when each method is supposed to be used. This in combination with the interview is regarded as the starting point for the new transfer pricing technique. This combined with the literature on available on transfer pricing has led to the choice for the required return method for transfer pricing. This method is especially suitable for organizations that spend a lot of time and money on the development of new intangible assets. In these organizations the research& development is seen as a core activity. Because the selected customers of Linders Consultants are all customers that are currently using the WBSO subsidy. Because they are all using this subsidy, they can be defined as customers that see innovation as a core activity.

This method is advised when working with larger organizations. In this context large implies that they have a balance sheet that exceeds €10 million. For smaller organizations the process is too long and complicated compared the existing ones. Also it only becomes interesting when large investments are made so the tax shield can be applied better then with smaller investments. Therefore the new transfer pricing method is a useful one, since it can lead to a net advantage for some organizations. But it should only be applied when working for organizations with a larger budget and larger investments in R&D.

When looking back at the problem statement that was presented:

***How can Linders Consultants use the innovationbox to increase tax advantages as a result from reduction of corporate tax on profits created from innovation?***

These three research questions have provided us with a good view of how the innovationbox can be used by Linders Consultants to get the best possible results. Firstly they should focus their attention on the industry and ICT market. These markets invest the highest amounts of money into innovation and can benefit the most from the innovationbox. Secondly when working with larger firms that are struggling with placement issues, for the industry and ICT market the MCDA method should be run through at least one time. This allows it to be used for an entire year and when well documented it can be adjusted accordingly to the market. Third the current transfer pricing methods should be applied for the larger share of the customers that Linders Consultants currently serves. But for the larger customers they already have, and may bind in the future, the required return method is a good alternative.

I would also advise Linders Consultants to took a good look at how the pricing of this new service should look like. Mainly because it builds upon the WBSO customers, it should be sold as something that comes forth out of WBSO. Linders Consultants could choose to create an entire package deal for WBSO and innovationbox, but it could also choose to sell them as separate services.

When looking into this it is also worth doing a little research into the possibilities to give even more advise the existing customer when it comes to innovative activities. With this I aim for giving advice on investment decisions and giving advise based on market research that could also be carried out by Linders Consultants. So the additional research should focus on the potential to expand their consulting activities to more than the current "simple" advise on WBSO and innovationbox.

# Appendix A

**Datum: 14-10-2010**
**Plaats: Utrecht**
**Naam interviewer: Maarten Oude Lansink**
**Naam geïnterviewde: Dhr. G.J. De Keizer**
**Onderwerp: Vragen omtrent ontwikkeling nieuwe verrekenmethode voor de innovatiebox**

De innovatiebox in de vorm zoals deze op dit moment is, bestaat uit een tweedeling van rekenprocessen. Om tot een juiste verrekenmethode te komen, dient er grondig onderbouwt antwoord gegeven te worden op de vraag of er sprake is van een eenmalige innovatie of dat er continu geïnnoveerd wordt door het betreffende bedrijf. Wanneer een bedrijf afhankelijk is van innovatie om te blijven bestaan, kan er gesproken worden van innovatie als kernfunctie. Wanneer er eenmalig geïnnoveerd is, wordt er niet gesproken van R&D als kernfunctie van het betreffende bedrijf. De cost-plus methode word gebruikt wanneer er geen sprake is van innovatie als kernfunctie. De afpel methode wordt gebruikt indien er wel sprake is van innovatie als kernfunctie.

Naar aanleiding van een gesprek met Dhr. Derksen en Dhr. Vermeulen van de belastingdienst Utrecht (dd 24-03-'10), kwam naar voren dat het mogelijk is om een derde alternatieve methode met betrekking tot het verrekenen van winsten toe te passen op de regeling innovatiebox. Om een zo passend mogelijke oplossing te vinden voor onze klanten, is het voor ons interessant de mogelijkheden omtrent deze additionele rekenmethode te verkennen. Om een juiste invulling te kunnen geven aan een eventueel additionele verrekenmethode, is het noodzakelijk een volledig inzicht te krijgen in de mogelijkheden betreffende het toeschrijven van winsten en de beweegredenen achter de huidige twee methoden. Op basis hiervan, zijn er enkele vragen opgesteld om hier meer inzicht in te krijgen.

Om een duidelijk beeld te schetsen van de situatie, zal iedere vraag kort ingeleid worden, waarna vervolgens de concrete vraag aan bod komt.

De cost-plus methode zou volgens literatuur  omtrent verrekenprijzen gebaseerd moeten worden op het winstpercentage bovenop de kostprijs op basis van arms length met de concurrent op basis van een vergelijkbare positie.
Bij de afpel methode, wordt er wederom in eerste instantie gebruik gemaakt van de cost-plus methode, waarna er vervolgens specifiek kosten toegeschreven worden aan afdelingen.

*1.1 Op basis van welke factoren is er besloten om voor deze twee methoden te kiezen?*

Laat duidelijk zijn dat er niet slechts twee, verplichte, methoden bestaan om innovatiewinst te berekenen. De wet spreekt over "voordelen uit immateriële activa". In principe is geen enkele berekeningsmethodiek uitgesloten.

Natuurlijk zoekt de praktijk naar standaardisatie. In de praktijk wordt daarom gebruik gemaakt van de afpel- dan wel de cost plusmethode. Maar nogmaals: nergens is opgenomen dat er niet meerdere methoden mogelijk zijn.

*1.2 Welke elementen dienen zeker meegenomen te worden in het ontwikkelen van een additionele derde methode om de innovatiebox winsten te verrekenen?*

Hier zijn geen harde gegevens voor. In het verleden is wel eens aangesloten, in een specifieke situatie, om een bepaald bedrag per verkocht product in de innovatiebox te verantwoorden. Alhoewel dit vaak geen goede methode zal zijn kan het in sommige gevallen wellicht een oplossing zijn.

Er is bepaald door de Hoge Raad ( HR 30 mei 1956) dat de constante kosten van de algemene bedrijfsvoering niet meegenomen dienen te worden in de verrekenprijs methode. Hierbij mogen alleen uitgaven welke bepaaldelijk door de vervaardiging van deze goederen worden opgeroepen toegeschreven worden aan de prijs van het goed. Deze kosten mogen dan ook direct ten laste gelegd worden van de winst bij het gebruik van de innovatiebox.

*2.1 Is het mogelijk om een procentueel deel van de overheadkosten wat toerekenbaar is aan de ontwikkeling van het betreffende immateriële activum toe te schrijven aan de innovatiebox?*

De strekking van uw vraag is mij niet geheel duidelijk. Alle voortbrengingskosten mogen vanaf 2007 ineens ten laste van het fiscale resultaat gebracht worden (artikel 3.30 lid 3 Wet IB). Als het gaat om de bepaling van de hoogte van de voortbrengingskosten voor de drempel: ook indirecte kosten horen daar toe (BNB 1966/52). Afhankelijk van de feiten en omstandigheden van het geval kan ik me voorstellen dat indirecte kosten via een percentage worden bepaald.

Voor het bepalen van de nettowinst, dienen de kosten die gepaard gaan met leningen van de winst afgetrokken te worden.

*3.1 Is het mogelijk om kosten welke gepaard gaan met leningen ten behoeve van het ontwikkelen van een immaterieel activum onder te brengen in de innovatiebox?*

Ook rentekosten kunnen behoren tot de voortbrengingskosten (BNB 1969/108).

Er bestaan in de literatuur verschillende methoden betreffende verrekenprijzen. Iedere methode heeft andere eigenschappen met betrekking tot de manier van winst verrekening.

*4.1 Dient de gekozen verrekenprijs methode te voldoen aan de eisen zoals opgesteld in the"OECD transfer pricing guideliness 2009"?*

Elke methode om tot een innovatiebox winst te komen moet gebaseerd zijn op de realiteit. Dit laat onverlet dat er, gefundeerde, aannames gemaakt mogen worden. Maar (een goede benadering van) de realiteit blijft het uitgangspunt. Wat wel belangrijk is om op te merken dat binnen de innovatiebox er over het algemeen volstaan wordt met een redelijk rudimentaire functionele analyse. Er worden dus geen dikke transfer pricing rapporten gevraagd.

In theorie zouden de interne prijzen tussen afdelingen kunstmatig hoog gehouden kunnen worden. Wanneer deze prijzen hoger gehouden worden dan vastgesteld wordt via het arms length principe, zouden de voortbrengingskosten van een innovatie erg hoog zijn. Op deze manier zou, mits te drempel gehaald wordt, er meer kosten verhaald kunnen worden op de innovatiebox regeling.

*5.1 In hoeverre is het toegestaan om interne verrekenprijzen af te laten wijken van de prijzen zoals die bepaald kunnen worden met behulp van het arms length principe?*

Dit is niet toegestaan. Kunstmatig hoge prijzen zijn niet in overeenstemming met de werkelijkheid.

Ten slotte zijn er nog een tweetal vragen om met betrekking tot het verreken van winsten in het buitenland. Deze hebben geen directe betrekking op het ontwikkelen van nieuwe verrekenprijs methodieken, maar kwamen wel naar voren bij het opstellen van deze vragen.

Ondernemingen met een afzetmarkt in het buitenland. Zullen in het buitenland ook belasting afdragen op de producten. Het zou voor deze bedrijven dus mogelijk kunnen zijn belasting in het buitenland te betalen. Het zou voor dit soort bedrijven dus mogelijk zijn de ontwikkeling van immateriële activa in Nederland te doen, maar dit niet als afzetmarkt te gebruiken.

*6.1 Is het mogelijk voor bedrijven welke belasting in het buitenland hebben afgedragen, alsnog innovatiebox aan te vragen in Nederland?*

Eerste vraag die beantwoord moet worden is in welk land dit bedrijf winstbelasting verschuldigd is. Dit is een te algemene vraag om zomaar te beantwoorden. Dit hoeft overigens niet het land te zijn waar de producten verkocht worden. Als de conclusie is dat de winst buiten Nederland aangegeven moet worden is de innovatiebox (uiteraard) niet te benutten. Als de winst aan Nederland toe te rekenen is in beginsel wel, ook als de producten in het buitenland verkocht worden.

Het zou in theorie mogelijk zijn om een onderneming in Nederland op te zetten, met alleen een postbus. Op deze manier zou een bedrijf dus wel Vpb betalen, en zou het ook mogelijk zijn om vanuit Nederland de innovatie in het buitenland te financieren.

*7.1 Is het mogelijk gebruik te maken van innovatiebox als de onderneming alleen op papier in Nederland gevestigd is?*

Nee. Om gerechtigd te zijn tot de winst dient de Nederlandse vennootschap te beschikken over de economische eigendom van immateriële activa. Economisch eigendom houdt ook in dat de activa gemanaged worden. Hiervoor is substance (menskracht) vereist en dat is in een brievenbus niet aanwezig.

# Appendix B

Beta per industry group

| *Industry Group* | *Number of firms* | *Beta* | *D/E Ratio* | *Tax rate* | *Unlevered beta* | *Cash/Firm value* | *Unlevered beta corrected for cash* |
|---|---|---|---|---|---|---|---|
| Advertising | 54 | 0,64 | 41,96% | 21,30% | 0,48 | 9,11% | 0,53 |
| Aerospace/Defense | 33 | 0,72 | 41,59% | 15,00% | 0,53 | 15,59% | 0,63 |
| Air Transport | 30 | 0,92 | 109,80% | 15,23% | 0,47 | 15,63% | 0,56 |
| Apparel | 93 | 0,79 | 24,56% | 9,61% | 0,65 | 4,06% | 0,67 |
| Auto & Truck | 17 | 1,14 | 258,65% | 9,57% | 0,34 | 15,13% | 0,40 |
| Auto Parts | 39 | 1,09 | 82,26% | 7,94% | 0,62 | 10,24% | 0,69 |
| Bank | 93 | 1,08 | 596,74% | 14,24% | 0,18 | 10,62% | 0,20 |
| Banks (Regional) | 81 | 0,46 | 749,28% | 15,03% | 0,06 | 2,36% | 0,06 |
| Beverage | 7 | 0,41 | 39,73% | 24,49% | 0,32 | 4,14% | 0,33 |
| Beverage (Alcoholic) | 45 | 0,55 | 55,06% | 14,30% | 0,38 | 2,94% | 0,39 |
| Biotechnology | 98 | 0,71 | 9,79% | 2,64% | 0,65 | 10,20% | 0,72 |
| Broadcasting | 24 | 0,87 | 33,75% | 16,48% | 0,68 | 4,43% | 0,71 |
| Brokerage & Investment Banking | 61 | 0,65 | 269,47% | 13,00% | 0,19 | 7,20% | 0,21 |
| Building Materials | 64 | 0,75 | 46,06% | 19,63% | 0,55 | 5,81% | 0,58 |
| Business & Consumer Services | 156 | 0,72 | 26,50% | 18,44% | 0,59 | 6,37% | 0,63 |
| Cable TV | 8 | 0,74 | 62,27% | 21,21% | 0,49 | 0,72% | 0,50 |
| Chemical (Basic) | 31 | 0,77 | 28,54% | 10,74% | 0,61 | 5,62% | 0,65 |
| Chemical (Diversified) | 7 | 0,96 | 42,51% | 10,66% | 0,69 | 8,26% | 0,76 |
| Chemical (Specialty) | 64 | 0,83 | 26,28% | 15,59% | 0,68 | 8,15% | 0,74 |
| Coal & Related Energy | 13 | 0,50 | 34,54% | 7,41% | 0,38 | 7,47% | 0,41 |
| Computer Services | 168 | 0,69 | 16,35% | 14,86% | 0,60 | 10,32% | 0,67 |
| Computer Software | 203 | 0,65 | 8,38% | 12,59% | 0,61 | 7,46% | 0,66 |
| Computers/Peripherals | 32 | 0,86 | 5,43% | 10,42% | 0,82 | 14,11% | 0,96 |
| Construction | 34 | 0,91 | 81,42% | 13,79% | 0,54 | 6,68% | 0,57 |
| Diversified | 42 | 0,84 | 28,27% | 9,35% | 0,67 | 8,98% | 0,73 |
| Educational Services | 4 | 0,52 | 16,72% | 15,49% | 0,46 | 4,63% | 0,48 |
| Electrical Equipment | 94 | 1,05 | 21,70% | 13,30% | 0,88 | 9,41% | 0,97 |
| Electronics | 111 | 0,81 | 25,96% | 11,54% | 0,66 | 10,18% | 0,74 |
| Electronics (Consumer & Office) | 23 | 0,91 | 94,57% | 13,96% | 0,50 | 12,37% | 0,57 |
| Engineering | 135 | 0,92 | 109,02% | 19,78% | 0,49 | 10,49% | 0,55 |
| Entertainment | 69 | 0,52 | 45,46% | 10,93% | 0,37 | 2,27% | 0,38 |
| Environmental & Waste Services | 41 | 0,71 | 46,35% | 16,95% | 0,51 | 6,62% | 0,55 |
| Farming/Agriculture | 34 | 0,62 | 39,40% | 14,16% | 0,46 | 10,39% | 0,51 |
| Financial Svcs. | 57 | 0,72 | 671,87% | 14,45% | 0,11 | 29,09% | 0,15 |
| Financial Svcs. (Non-bank & Insurance) | 17 | 1,13 | 797,64% | 13,88% | 0,14 | 5,48% | 0,15 |
| Food Processing | 117 | 0,58 | 21,82% | 15,93% | 0,49 | 3,88% | 0,51 |
| Food Wholesalers | 9 | 0,66 | 366,01% | 20,10% | 0,17 | 9,76% | 0,19 |
| Furn/Home Furnishings | 43 | 0,86 | 35,27% | 17,38% | 0,66 | 10,49% | 0,74 |
| Healthcare Services | 29 | 0,55 | 43,48% | 15,74% | 0,40 | 2,16% | 0,41 |
| Heathcare Information | 51 | 0,64 | 30,88% | 11,43% | 0,50 | 9,38% | 0,55 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| and Technology | | | | | | | |
| Heathcare Products & Services | 95 | 0,67 | 16,65% | 15,40% | 0,58 | 4,36% | 0,61 |
| Heathcare Services | 20 | 0,72 | 87,31% | 22,64% | 0,43 | 7,92% | 0,47 |
| Heavy Construction | 37 | 1,01 | 90,04% | 12,92% | 0,56 | 6,20% | 0,60 |
| Homebuilding | 28 | 1,02 | 56,18% | 7,27% | 0,67 | 8,86% | 0,74 |
| Hotel/Gaming | 77 | 0,67 | 51,63% | 12,89% | 0,46 | 8,23% | 0,50 |
| Household Products | 54 | 0,61 | 11,18% | 14,49% | 0,56 | 2,69% | 0,57 |
| Information Services | 16 | 0,71 | 13,27% | 15,57% | 0,64 | 19,07% | 0,79 |
| Insurance (General) | 34 | 0,85 | 53,43% | 21,98% | 0,60 | 33,63% | 0,91 |
| Insurance (Life) | 19 | 1,14 | 115,80% | 14,93% | 0,58 | 26,09% | 0,78 |
| Insurance (Prop/Cas.) | 16 | 0,74 | 22,12% | 16,89% | 0,62 | 15,52% | 0,74 |
| **Intenet software and services** | **114** | **0,73** | **19,35%** | **19,44%** | **0,62** | **10,20%** | **0,69** |
| Investment Co. | 77 | 0,65 | 23,44% | 7,03% | 0,53 | 39,79% | 0,88 |
| Machinery | 179 | 0,90 | 26,98% | 14,01% | 0,73 | 8,65% | 0,80 |
| Metals & Mining | 84 | 0,98 | 21,57% | 7,38% | 0,82 | 4,22% | 0,86 |
| Office Equipment & Services | 34 | 0,56 | 23,05% | 17,22% | 0,47 | 15,10% | 0,56 |
| Oil/Gas (Integrated) | 14 | 0,86 | 26,13% | 40,54% | 0,74 | 5,75% | 0,79 |
| Oil/Gas (Production and Exploration) | 96 | 1,20 | 26,47% | 6,32% | 0,96 | 5,35% | 1,02 |
| Oil/Gas Distribution | 23 | 0,97 | 102,49% | 9,93% | 0,50 | 8,53% | 0,55 |
| Oilfield Svcs/Equip. | 84 | 1,02 | 38,34% | 10,89% | 0,76 | 9,62% | 0,84 |
| Packaging & Container | 36 | 0,72 | 95,12% | 15,25% | 0,40 | 7,75% | 0,43 |
| Paper/Forest Products | 41 | 0,89 | 102,87% | 8,81% | 0,46 | 6,95% | 0,49 |
| Pharma & Drugs | 77 | 0,70 | 20,41% | 10,90% | 0,59 | 4,11% | 0,62 |
| Power | 94 | 0,72 | 63,87% | 14,60% | 0,46 | 3,88% | 0,48 |
| Precious Metals | 55 | 0,81 | 10,22% | 2,12% | 0,74 | 5,20% | 0,78 |
| Publshing & Newspapers | 99 | 0,71 | 54,64% | 13,59% | 0,48 | 4,94% | 0,51 |
| R.E.I.T. | 32 | 0,57 | 93,43% | 0,64% | 0,30 | 2,27% | 0,31 |
| Railroad | 6 | 0,67 | 113,03% | 22,08% | 0,36 | 6,98% | 0,38 |
| Real Estate | 48 | 0,71 | 294,44% | 6,85% | 0,19 | 2,71% | 0,19 |
| Real Estate (Development) | 27 | 0,89 | 208,45% | 6,58% | 0,30 | 3,96% | 0,32 |
| Real Estate (Operations & Services) | 113 | 0,66 | 172,44% | 4,88% | 0,25 | 4,50% | 0,26 |
| Recreation | 53 | 0,52 | 79,86% | 16,20% | 0,31 | 5,94% | 0,33 |
| Reinsurance | 4 | 1,08 | 68,49% | 19,13% | 0,69 | 37,01% | 1,10 |
| Restaurant | 30 | 0,83 | 87,66% | 22,36% | 0,50 | 6,56% | 0,53 |
| Retail (Automotive) | 15 | 0,95 | 76,73% | 5,10% | 0,55 | 8,31% | 0,60 |
| Retail (Building Supply) | 13 | 0,78 | 44,52% | 29,92% | 0,60 | 16,17% | 0,71 |
| Retail (Distributors) | 95 | 0,81 | 71,72% | 14,80% | 0,50 | 8,09% | 0,55 |
| Retail (General) | 16 | 0,85 | 80,72% | 27,87% | 0,54 | 6,86% | 0,58 |
| Retail (Grocery and Food) | 21 | 0,60 | 50,12% | 25,64% | 0,44 | 6,58% | 0,47 |
| Retail (Internet) | 20 | 0,64 | 7,52% | 14,92% | 0,60 | 5,49% | 0,64 |
| Retail (Special Lines) | 73 | 0,77 | 8,85% | 17,43% | 0,71 | 6,48% | 0,76 |
| Rubber& Tires | 5 | 1,27 | 96,19% | 4,52% | 0,66 | 7,83% | 0,72 |
| Semiconductor | 29 | 1,05 | 19,88% | 4,76% | 0,88 | 17,25% | 1,07 |
| Semiconductor Equip | 10 | 0,99 | 7,41% | 11,57% | 0,93 | 9,46% | 1,03 |
| Shipbuilding & Marine | 64 | 0,98 | 74,31% | 7,50% | 0,58 | 4,22% | 0,60 |
| Shoe | 4 | 0,85 | 1,16% | 26,57% | 0,85 | 9,13% | 0,93 |

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|---|---|---|---|---|---|---|---|
| Steel | 37 | 1,26 | 47,33% | 5,71% | 0,87 | 10,32% | 0,97 |
| Telecom (Wireless) | 12 | 0,86 | 49,98% | 9,21% | 0,59 | 3,57% | 0,61 |
| Telecom. Equipment | 61 | 0,92 | 23,81% | 10,60% | 0,76 | 14,77% | 0,89 |
| Telecom. Services | 60 | 0,73 | 80,02% | 15,81% | 0,43 | 6,24% | 0,46 |
| Thrift | 8 | 0,92 | ####### | 27,61% | 0,06 | 3,44% | 0,06 |
| Tobacco | 5 | 0,42 | 37,68% | 24,39% | 0,33 | 3,23% | 0,34 |
| Tranportation | 39 | 0,62 | 88,11% | 21,25% | 0,37 | 5,28% | 0,39 |
| Trucking | 19 | 0,86 | 103,39% | 14,66% | 0,46 | 5,41% | 0,48 |
| Utility (General) | 18 | 0,61 | 84,05% | 26,88% | 0,38 | 8,07% | 0,41 |
| Utility (Water) | 17 | 0,66 | 121,45% | 19,93% | 0,34 | 10,51% | 0,38 |
| Total Market | 4788 | 0,78 | 132,62% | 13,19% | 0,36 | 10,17% | 0,40 |

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