

The Economic Influence of a Knowledge Institution on the City: Case Study Lund University



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Summary

The subject of this research is to look at the economic influence of a knowledge institution on the city. In order to gain knowledge about this subject it is very useful to use a case study, in this specific research this is Lund University. The main goal of this research is not to calculate the exact impact, but to look at the different ways in which Lund University influences the city. To gain knowledge about this it has been important to combine information from existing literature with findings at Lund University itself. The data at Lund University has been collected through in-depth interviews with the local chamber of commerce, with a spokesperson of the university-organization Venturelab and with an employee of the university's research collaboration and innovation department. Two surveys under Swedish and international students have also been used to collect more data about this subject. One of the main results of this research is that there is much university spin-off activity in Lund. For a part this is due to the active role that the university plays in stimulating this and due to the way the university is organized. There is also collaboration between the university and the local industry. Next to that the university plays a big consumer role in the local economy, mainly through the large amount of students living in the city. International students also contribute as consumers and in some cases they also start spin-off companies or stay to work in Lund. However, because the amount of international students is relatively small compared to the amount of Swedish students their influence is also smaller.

1. Introduction

1.1 Occasion

Universities are commonly seen by policy makers as being key actors in the knowledge-based Economy (Bagchi-Sen & Smith, 2012). In the modern-day society of the western world there is a growing emphasis on a knowledge based economy (Varis, 2014). Since universities are seen as key actors of this kind of economy there is reason to suggest that they play a role in the economy of the region. Even though universities themselves and also ideas that they could influence the economy have been around for a long time, it is said that research on the role of universities in local development is still in an embryonic stage (Rothaermel et al., 2007; p. 699). Many studies concerning the role of a knowledge institution on the local economy are conducted on universities in the United States (Goldstein & Drucker, 2006). Next to the many studies in the United States there have also been studies in Europe but there is still a lot of room for extra studies and research in this region and additional research in this geographical context is a valuable addition to the general views on the local economic impact of a knowledge institution.

There are differences between universities, between locations and between regions. It is reasonable to state that the significance of a knowledge institution's economic influence differs from place to place, therefore it is very valuable to research this phenomenon in location specific ways and not only in a general way. To gain knowledge about this specific influence in a region the importance of a case study cannot be overstated (Flyvbjerg, 2001). Research through case studies possesses deeper, context-dependent data which is crucial in the understanding of the role of a university on regional economic development. A single case study cannot proclaim a universal truth, but in order to come to more generalized ideas, the information from multiple case studies is essential (Flyvbjerg, 2001). It is argued that the biggest economic influence of knowledge institutions occurs in small- and medium-sized regions (Goldstein & Drucker, 2006). Because of this statement I considered it the most useful to execute a case study in a smaller region. For my case study I have chosen for the city and university of Lund. The city of Lund is a smaller city and has 82,800 inhabitants (Localities, 2010). In this city a large part of the inhabitants is related to the university, mostly because a large share of the population consists of students. Lund University has 47,700 students annually (Universitat21, 2015). These numbers suggest that Lund has a relatively large amount of students compared to the rest of the population. Not all of the students live in the city but still the students at Lund University comprise a large share of the total population in the city (Lund University, 2015a). It might be tempting to assume that this means that the economic influence on the city is also relatively large, because that the university provides more consumers for the local economy. However, since there are more ways through which a knowledge institution can influence the local economy, it is not implied that a large amount of students automatically means a large impact on the economy of the city. It is interesting to investigate if a larger share of the student population does indeed result in a more substantial impact of the university on the local economy. Since Lund University also offers over 300 courses taught in English, and has very good international relations there are 6,400 international students living in Lund (Universitat21, 2015). Because there are so many international students it is also worthwhile to investigate if, and in which ways, this has an effect on the local economy.

An essential part of the research is to find out in which different ways a knowledge institution affects the area, because economic relations are often interrelated it is extremely difficult to differentiate the exact impact of a single influence from another, but the exact impact is not of vital importance

for the research. The most important aim of this research is to find out through which different ways the local economy is influenced by the university and in general lines how big that influence is. The decision to choose Lund as a case study was based on criteria in the literature that made Lund University the most relevant. First of all because it is a European university and there has been relatively little research to this compared to American universities. It is a valuable addition to the work that has already been done in this field of research. Secondly Lund is a suitable place for the research because it is a smaller region, in the literature it is said that the economic influence on local economic development is the largest in these regions. Thirdly Lund is very interesting because there are relatively so many students compared to the total population of the city. It is interesting to see if this, together with the high amount of international students has a significant effect on the local economy. Finally Lund is interesting because it lies really close to the cooperation axis 'Hamburg-Lübeck-Copenhagen-Malmö' (Fehmarnbelt Business Council, 2007). It is very important to differentiate between the incentives from this economic axis and from the university, but at the same time keep in mind that the one can influence the other.

1.2 Research Problem Definition

The purpose of the research is to determine the types of economic effect of a knowledge institution, in this case Lund University in Sweden, on the surrounding region.

In order to achieve this goal, the following questions need to be answered:

Main question:

- In which ways does Lund University affect the economy of the city Lund?

Sub questions:

- 1. A. What types of collaboration do there exist between the university of Lund and local businesses?
- 1. B. To what degree do knowledge spillovers exist?
- 2. Has Lund University created spin-offs in the local economy?
- 3. In what ways does the local economy benefit from consumer spending by Lund University, its employees and students?
- 4. In what ways does the local economy benefit from the participation of international students at Lund University?
- 5. In what ways are the (types of) economic effects of Lund University comparable with the economic effects that have been established by other studies for other universities?

1.3 Definitions

Knowledge institution: A knowledge institution is an institution that provides services that create knowledge (Bagchi-Sen & Smith, 2012). In many cases a knowledge institution refers to a school of higher education or a university. A knowledge institution provides services and education and in that way increases the availability of knowledge in a region.

Knowledge Spillovers: An exchange of ideas among individuals (Carlino, 2001). Universities and other Knowledge institutions create knowledge. Because of contact between individuals the knowledge that is created at the university might be used in the local business community.

Small- and medium-sized regions: Regions containing fewer than 200,000 nonfarm jobs (Goldstein & Drucker, 2006).

University Spin-offs: Created businesses that use and transform technological inventions developed from university research that are likely to remain unexploited otherwise (Shane, 2004). Spin-offs are often innovative and high tech and can have a positive impact on the local economy.

2. Theoretical framework

2.1 Theory from the Literature

There are different theories and ideas concerning the role and influence of a university on the local economic development. Throughout the literature there is a broad consensus that a university has a positive influence on the region, the discussion though is mostly about the magnitude of this influence and even more frequently about the ways through which this influence is exerted.

One of the theories that address the functions of a university leading to economic development is the one from Goldstein, Maier, and Luger (1995). They state that there are eight different ways in which a university affects the economic development of a region. These ways are: (1) through the creation of knowledge, (2) through human capital creation, (3) through the transfer of existing knowhow, (4) through technological innovation, (5) through capital investment, (6) through regional leadership, (7) through influencing the regional milieu and (8) through the production of knowledge infrastructure. The first seven of these are mainly self-explanatory and require no additional explanation. The last one however might be a little more unclear. By the production of knowledge infrastructure is meant that the presence of an institution like a university offers extra connections with other knowledge facilities in different regions, but also, and maybe even more important, it means that the presence of a university works as an incentive for other institutions and knowledge related businesses to settle in the same region.

Apart from these ways, there are also other manners of economic influence described in the literature. According to Bagchi-Sen and Smith in their article 'The Role of the University as an Agent of Regional Economic Development' from 2002 there is evidence of two main types of regional development activities by universities. Namely, '*academic entrepreneurship and commercialization of university intellectual property and university-industry collaboration*' (Bagchi-Sen & Smith, 2012; p450). These activities are said to have a large impact on the regional development, but this is not unconditionally and also not in every case the same. In spite of many researches, there is still a lot unclear about the exact impact that these activities have. In the case of academic entrepreneurship there also has to be attention for certain preconditions, for example entrepreneurship education can be seen as an important factor, but in most research this is not included. Apart from the role that a university plays, local factors play a role as well. Local need for university input in industrial problem solving is seen as an essential issue as well (Anselin et al. 1997; Bruneel et al. 2010). Also the formation of spin-offs relies on the motivation of an individual faculty, the tech transfer structure of a university and the possibilities offered by the local region (Di Gregorio and Shane 2003; Golob 2006).

Apart from this there are also informal ways through which knowledge can spill over. If companies lie in close proximity to a university or university campus then it is possible that knowledge is spilled over through informal everyday contacts (MacPherson, 1998). The impact of these knowledge transfers is impossible to measure exactly but they are definitely existent and they do play a role in the influence that a knowledge institution exerts on the city (MacPherson, 1998).

Another theory that is forthcoming in the literature is that the university activities of research, teaching and technology development are a way of increasing the average regional earnings (Goldstein & Drucker, 2006). The main line throughout the literature though is that all these effects are the most substantial in small- and medium-sized regions (Goldstein & Drucker, 2006). It is presumed that, because a university is responsible for a smaller part of the total innovative activities in larger regions, that is a reason why they are not as essential in larger regions as they are in small-

and medium-sized region (Lendel, 2010). A critical note to this is that the supply of a highly educated workforce must match the skill demand from the local area and local market, this should be taken into account in the teaching functions of a university (Goldstein & Drucker, 2006).

Finally one of the most present theories in the literature about the economic impact of a university on a region is through spin-off activity (Bagchi-Sen & Smith, 2012; O'shea et. al., 2007; Shane, 2004). Through the creation of spin-offs university technology gets transformed and through the startup of new local businesses these university based technological innovations are brought to the market. The creation of these new companies is source for more jobs and also more economic development in the region (Varga, 1998). The new spin-off businesses are usually innovative and high-tech and with that they expand the diversity of both the production and the labor market. The creation of these spin-offs makes the city also more attractive for companies from elsewhere and has in that way an extra economic effect (Florax, 1992).

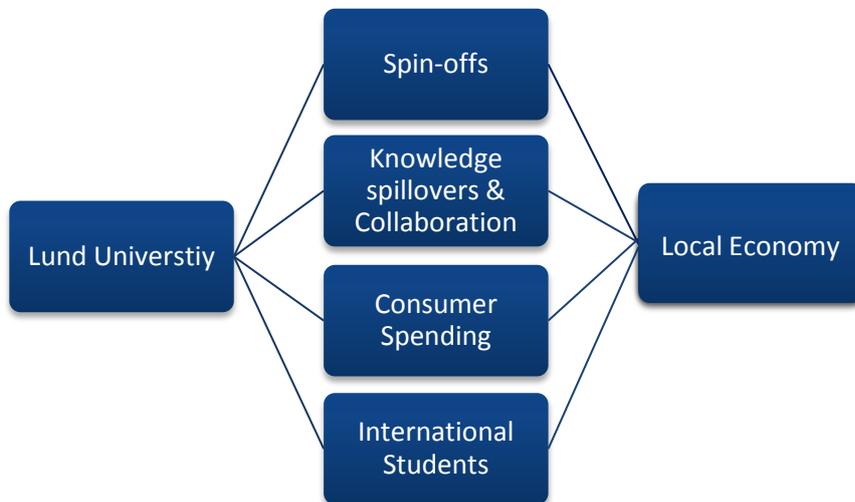
In the literature there is not much attention paid to the consumer role of a university. It can be expected that in a small region, with a large share of the population existing of students, there is also an impact through the consumer role. The local economy can benefit from the consumer role of a university through the money that is spent in the region by students, staff, visitors and also by the purchase of services and materials which a university needs to provide their tasks and education (Vickers & Bekhradnia, 2007). An additional effect of a university on the region can be the attraction of international students, both degree seeking students and exchange students, to the region. The theory that exists behind their influence is that it can have positive effects on the local economy. The magnificence of this effect depends for a large part on the amount of students that come to the university (Vickers & Bekhradnia, 2007). It is said that the main ways in which the presence of international students affects the regional economy is through the direct cash that is invested in the region through costs of housing and living and tuition fees (Vickers & Bekhradnia, 2007). But there are also other benefits such as tax benefits and insertions to the local BNP when international students later stay in the area to work (Vickers & Bekhradnia, 2007).

It has been stated before that the impact of a university on the region is larger in small- and medium-sized regions (Goldstein & Drucker, 2006), but in addition to this it is also argued that the engagement in regional development is higher when there is only one single university in a city in a more peripheral area (Boucher et al., 2003). Lund University does not lie in a peripheral area because of the proximity of Copenhagen and Malmö, but it is still good to keep this in mind since it is the only University in its region in South Sweden in a radius of 75 kilometers. Apart from the size and location of the city, the founding vision and organizational culture of a university also have an influence on how much a university contributes to the city's economic development (Feldman & Desrochers, 2003). For example the way a university stands towards patenting and industry-sponsored research plays a role as well in how much a university is involved in the economic and sometimes political structure of a city (Feldman & Desrochers, 2003).

In the data-analysis of the research to Lund University it is very useful to see if the ways and amount of influence of the university on the region are indeed the same as they are suggested in the literature. In this field of research there are many differences between the knowledge institutions, local area demands, policies and other circumstances. It is therefore very reasonable to assume that the main lines of the research to Lund University will fit to the theory in the literature, but that there can occur specific differences as well. Due to local circumstances and the structure of the university it is possible that some methods of influence will not be present in Lund, where other ways that are

not or very rarely mentioned in the literature can show to be a valuable influence on the local economic development in the context of Lund.

2.2 Conceptual Model



2.3 Hypotheses

- Spin-off activities have an impact on the local economic development, especially in innovative, high tech sectors.
- Knowledge Spillovers and University-Business collaboration have an important influence on the local economy.
- The largest influence on the local economy is due to the consumer role of the university, especially through expenditures made by the substantial amount of students.
- International students have some impact, but it is relatively small compared to the overall impact.
- There are other influences, but these influences are not substantial and only of limited importance.
- All in all, the university plays an essential role in the local economy.

3. Methodology

Research methods

In this research there are a number of different ways in which it is possible for the university to influence the local economy. Because there are different ways there were also different ways of research needed. The main purpose of this research was not to find out what the exact economic impact is expressed in euro's, but the main purpose was to investigate in which ways the university influences the local economy of the city. Because of this purpose it is more useful to gain information through in-depth interviews rather than only through large surveys. It is not solely a literature

research but also an empirical one. The information in the literature is used as a basis but the main conclusions will be drawn on the practical part of the research. To gather the right information it is of vital importance that the correct people are interviewed, so the people who have specific knowledge about these issues. For this research I have interviewed the vice-president of the regional chamber of commerce, an employee of the university's research collaboration and innovation department and an employee of the organization Venturelab, a university organization that assists students that have entrepreneurial ideas. These three people have good knowledge about the field of study and they are all connected with the economic impact of the university in a different way. Their different views and knowledge combined have given a good understanding about the economic influences of the university, especially about the university's consumer role, the creation of spin-offs and about university-industry collaboration. In order to gain information about the consumer spending of Swedish and international students it was more appropriate to conduct surveys. In this way the data is less profound but it is also better able to represent the large amount of students.

Quality of the data

The survey under international students has been conducted online. Through various different contacts and Facebook-groups of international students this has resulted in 93 responses. After checking the responses for unlikely results, four responses have been filtered out because they were not filled out seriously and one has been filtered out because all fields were left blank. This has resulted in 88 useful responses that have been analyzed and this was enough to get significant results. The survey under Swedish students has also been conducted online but this only resulted in 22 responses. Because this was not enough to be representative for the whole student population the survey has also been conducted on paper at the university. To get a more representative image the decision was made to survey students from different faculties, so the survey has been conducted at the faculties of Social Sciences, Mathematics, Physics and Human Geography. In total the survey under Swedish students has resulted in 40 responses and they were all filled out correctly. This amount of responses was also high enough to get representative results.

The interviews with the employees of Venturelab and the department of Research Collaboration and Innovation have been recorded and transcribed so this data is easy to check. The vice-president of the chamber of commerce however preferred that the interview would not be recorded so for this interview there is only a summary available. The answers from the interviews are all given by professionals so it is reasonable to assume that this data is correct.

Ethical issues

There are almost no ethical issues in this research, the only ethical issue is that the researched population of students can be uncomfortable with questions in the survey about their expenses. This issue is handled by making sure that the survey was anonymous and by stating very clear that it was anonymous and that all questions in the survey were voluntary to answer.

4. Results

Types of collaboration between Lund University and the local industry

There are a number of different ways in which the university of Lund and local businesses collaborate. The interview with Ms. Östberg showed that one way is through the organization Venturelab. This organization is a part of the university and their main purpose is to help and guide students who want to start a business. When students come to this organization with an idea, Venturelab can help them to start their own business with this idea. However, in many cases it also happens that they bring students in contact with business who are working in a similar direction. Through this way the university collaborates with local companies.

Next to this, the interview with Ms. Hjorth showed that there is offered the option for students to write their thesis at a company. Through mycareer.lu.se students are offered a list of possible thesis subjects at different companies in and around Lund. It is also possible to get internships at local companies. This kind of collaboration leads to a connection between certain students and local companies. Often this connection has also lead to further connections and also to jobs for students at those companies.

The university also closely collaborates with the business sector though adapting study programs to the needs of the industry and the business sector (Lund University, 2015c). So are for example Sony and Tetra Pak offering financial support to the Economics and Management department, 'to support the schools international efforts and continuous development' (Lund University, 2015c). Through this cooperation the university benefits but these companies also get the chance to recruit the best and most qualified students (Lund University, 2015c). This collaboration benefits the economy of the city. In Lund there exists an area with many companies called Ideon Science Park, which was started 28 years ago to make use of the knowledge that is available at Lund University (Ideon Science Park, 2015). A lot of the companies situated here collaborate with the university. Until now over 900 companies have operated at Ideon Science Park, and over three-quarter of them were connected to Lund University (Ideon Science Park, 2015). At the moment there are 330 companies at Ideon Science Park and together they account for 2500 employees (Ideon Science Park, 2015).

The existence of knowledge spillovers

Through the ways the university collaborates with local businesses, there are a lot of opportunities created for the exchange of knowledge. When students write their thesis or do an internship at a company then both the student and the company can learn something from it. But there are also other ways through which knowledge spills over, one of them is through conferences. In the interview with Ms. Hjorth I was told that the university has a Research Collaboration and Innovation department and a conference service. Together they organize approximately 17 conferences per year. These conferences can vary in content and the people that participate in these conferences can vary as well. It can be for example high level European Union ministers or local businesses and entrepreneurs. In many of these conferences students also participate. The students develop themselves and gain valuable experience through these conferences and this will benefit the local economy after they graduate. But not only the students gain experience, also the businessmen and politicians who attend the congresses can benefit from the knowledge that the students already possess and use this for their companies or organizations. Apart from the conferences there are also career seminars, job fairs, company presentations and other events on the campus (Lund University, 2015b). On these events students also connect with the local businesses and future employers. This

does not directly benefit the local economy but in the long run students can be inspired by these events and come to work at the companies that were there.

There are many different knowledge spillovers from the university into the local economy. The local businesses have benefitted a great deal from the research done at Lund University and the spillovers of this research have led to revolutionary discoveries like Bluetooth, Ultrasound and dialysis (Lund University, 2015c). 'Innovation activities are an increasingly important aspect of the University's work. Business developers offer support and resources to those researchers who want to convert their results into commercial products' (Lund University, 2015c).

Another major way through which knowledge spills over is through everyday contact between students and university personnel and local businesses. The university is relatively large and is spread out through the city, local businesses and companies are often situated near the university, students come in contact with local businessmen and through informal meetings many spillovers take place (MacPherson, 1998). The university of Lund also tries to stimulate these informal contacts. The interview with Ms. Östberg showed that for example Venturelab organizes a weekly breakfast where students and employees of nearby situated companies both join and talk about what they are doing. In this way knowledge from the university is transferred on into the local economy. In the literature informal meetings are also mentioned as a way of transferring knowledge and in Lund this plays a large part (MacPherson, 1998).

The creation of spin-offs

From the interview with Ms. Östberg it became clear that Lund University actively stimulates entrepreneurship. She told that Venturelab is one organization where 300 students annually come with their ideas to start a business. Venturelab has 20 free-of-rent offices for students who want to start up their own company and per year an average of 14 out of 20 actually do start up a business. Through this way many spin-offs are created.

Ms. Hjorth told that Lund University also has the Sten K. Johnson Center for Entrepreneurship. This center offers lectures and courses in entrepreneurship for students. By educating students it makes it easier for them to start up spin-off companies and this better education improves the chances of a spin-off to be successful. In the interview with Mr. Tryding he told that there are many companies in Lund that have been started up from research at Lund University. Many of these companies are located at Ideon Science Park. This park was especially created for companies based on knowledge from Lund University and is also among others run by Lund University. Currently there are 330 companies at the park and the interview with Mr. Tryding showed that a large share of them are spin-offs from Lund University.

Impact of Lund University as a consumer in the local economy

There are different ways through which the city benefits from direct spending of Lund University. The most influential one of these is through spending of students in the local economy. Lund University has 47.700 students annually (Universitat21, 2015) and the survey under Swedish students shows that 90% of them live in the city (table 1). In the city Lund with 82,800 inhabitants (Localities, 2010) this is more than half of the city's total population.

Did you already live in Lund before your studies?

	Frequency	Percent
No, I moved to Lund to study here	32	80,0
No, I still don't live in Lund	4	10,0
Yes, I lived in Lund my whole life	4	10,0
Total	40	100,0

Table 1: Swedish students; Living in Lund

The survey also shows that a student averagely spends 7063sek (€766) per month (table 2). With so many students this contributes to a large amount of the local economy. Another important result of the survey under Swedish students is that 80% of the students did not live in Lund before but came here to study (table 1). All the money that is spent in the city by these students results from the presence of the university and would not be available without the university.

Average spending Swedish Students in Lund

	N	Minimum	Maximum	Mean
How much money did/do you spend per month on housing in Lund?	40	0	5000	3016,48
How much money did/do you spend per month on foodstuff in Lund?	40	100	3500	1675,00
How much money did/do you spend per month on public transport in Lund?	40	0	1100	293,00
How much money did/do you spend per month on clothing and accessories in Lund?	40	0	2000	426,75
How much money did/do you spend per month on free-time activities and recreation in Lund?	40	0	2300	721,25
How much money did/do you spend per month on other things in Lund? (if any, specify on what)	40	0	5000	366,25
How much money did/do you roughly spend per month in Lund in total?	40	300	13500	7063,00

Table 2: Swedish students; Spending in Lund (in Swedish Crownes)

Many students only stay in Lund for their education and leave again after they graduate. This means that they only spend money in the local economy for a few years. But the survey shows that 20% of the students intend to stay in Lund after they graduate (table 3). So for a part of the students the spending in the local economy will not be limited to their university years and will have a longer lasting influence on the local economy. Moreover, each year new students enroll in programs at Lund University. It can be assumed that they have the same spending behavior as present students, this also makes the spending of students a long lasting influence.

Intention to stay in Lund after study

	Frequency	Percent
No	32	80,0
Yes	8	20,0
Total	40	100,0

Table 3: Swedish students; Intention to stay

Next to direct impact of the presence of students, Lund also benefits economically from the spending of university staff and employees. Ms. Hjorth told in the interview that the university has 7500 employees. Lund benefits economically from the salary that these employees spend in the city. According to Ms. Hjorth Lund also benefits from the taxes that these employees have to pay. A large part of the city’s inhabitants consist of students and employees of the university and therefore a large part of the taxes come from these groups. The tax system in Sweden requires inhabitants to pay income taxes, tax on business activity, social fees and value added taxes (Skatteverket, 2015). The main part of the tax income goes to the national government but in the Swedish system there is also a part that goes directly to the local municipality (Skatteverket, 2015). From this part of the tax money there is a direct benefit for Lund.

Finally the city benefits from expenses that the university has to make in order to perform their teaching and research activities. Study material, building maintenance, cafeteria food and many other things have to be bought and Ms. Hjorth pointed out that most of this is purchased in the city itself. Also for other activities there are many additional expenses that benefit the local economy. In the interview with Ms. Hjorth she told that in the last year the university has hosted congresses and booked over 200 hotel rooms and reserved dinners for the guests of these congresses. Mr. Tryding explained that without the university, Lund would be comparable to for example Eslöv, which is a much smaller city in the region with a much smaller economy. He told that the presence of the university is essential to the economy of Lund.

Influence from the participation of international students at Lund University

Lund university is internationally orientated and has over 300 courses in English (Universitat21, 2015). There are 6400 international students in Lund and they also have an influence on the local economy in different ways. Since studying at Lund University does not cost a tuition fee this does not influence the local economy, but international students spend a lot of money in the city while during their stay. The survey under international students showed that over 80% of the questioned international students spend more money in their time in Lund than they would at home (Table 4). On average they spend 50% more than they would have in their home country (Table 5). But even

though they spend a lot more in their time abroad, their average expenses are only slightly higher than the spending of the Swedish students (Table 2 & 6) so this can for a part also be a result of other reasons like the price difference between countries. But still almost all the money that the international students spend comes into the local economy of Lund. An important note to this is that most international students only stay for one or two semesters (Table 8) and therefore they only spend money for a short period of time. But the number of 6400 international students is an annual average, new international students are coming every year to replace the ones that leave. This continuity of new incoming students makes it a long term influence, even though they normally stay for a short period of time.

Do you relatively spend more in Lund than you would in your home country?

	Frequency	Percent
Yes, I spend more	71	80,7
No, there is no difference	10	11,4
No, I spend less	7	8,0
Total	88	100,0

Table 4: International students; Relative spending

Increased spending international students

	N	Minimum	Maximum	Mean
Approximately how much more do you spend? (%)	71	0	500	50,07

Table 5: International students; Average increased spending

Average spending international students

	N	Minimum	Maximum	Mean
Total Spending	88	1500	20000	7209,24
Housing Spending	88	,0	8000,0	3680,409
Foodstuff Spending	88	300,0	6000,0	1885,057
Public Transport Spending	88	,0	850,0	211,261
Clothing Spending	88	,0	1000,0	203,148
Free-time Spending	88	,0	3000,0	647,693
Other Spending	88	,0	4000,0	207,466

Table 6: International students; Average spending (in Swedish Crowns)

Length of the study period in Lund of international students

	Frequency	Percent	Valid Percent
Valid			
1 Semester	27	30,7	31,0
2 Semesters	29	33,0	33,3
3 Semesters	4	4,5	4,6
4 Semesters	16	18,2	18,4
Longer than 4 Semesters	11	12,5	12,6
Total	87	98,9	100,0
Missing	1	1,1	
Total	88	100,0	

Table 7: International students; Length of stay in Lund

Apart from the spending of international students, they also contribute in another way, namely through staying in Lund and working here or setting up their own business. Over 20% of the questioned international students said that they intend to stay in Lund after they are done with studying (Table 8), this is around the same percentage as Swedish students (Table 3). Also in the interview at Venturelab with Ms. Östberg she told that there are also international students coming to them for advice, for using their office space and starting up their own businesses. She told that these businesses are often innovative. The international students who start new businesses and those who stay to work for existing businesses contribute to a long lasting impact on the local economy. From these results you can see that there are many similarities between the influence of Swedish and international students. The larger amount of Swedish students makes it that they have a more significant effect on the local economy but the main difference between Swedish and international students is that international students bring knowledge from elsewhere. The knowledge that they have gained in their studies in their home country comes with them to Lund and this can result in extra knowledge that spills into the local economy.

Intention to stay in Lund after study

	Frequency	Percent
No	68	77,3
Yes	20	22,7
Total	88	100,0

Table 8: International students; Intention to stay

The economic effects of Lund University compared with effects established by other studies.

There are many comparisons between Lund University and the literature about research at other universities. Bagchi-Sen and Smith (2012) argue that academic entrepreneurship and commercialization of university intellectual property are important ways through which a university

affects a city's economy. Also at Lund University there is a lot of attention to promote academic entrepreneurship. The university funds the organization Venturelab to help students with their entrepreneurial activities and also the Sten K. Johnson center for entrepreneurship is a part of the university that stimulates this. The influence of academic entrepreneurship is showed through the many businesses that are started up by students or former students. But there is one main difference between Lund University and the main line in the literature, namely that in the literature it is stated that academic entrepreneurship plays a big role but there is almost no attention to the influence of entrepreneurship education. At Lund University this is very present and has a large influence on the magnitude and successfulness of academic entrepreneurship. The commercialization of university intellectual property is also exerted through both the many companies that have been started up by students and by the knowledge that students bring when they start working for existing companies. One of the main differences between the effects of Lund University and the economic effects that have been established by other studies for universities is the economic influence through consumer spending. It is mentioned in the literature that the economic effects of universities are larger in small- and medium-scaled regions (Goldstein and Drucker, 2006), but in Lund the size of the university is relatively so large that consumer spending is a main manner of economic influence. Lund University is responsible for around half of the city's population and all the money that they spend in the city is a massive influence on the local economy while in the literature there is only little attention to this aspect.

Also the role of international students in Lund is different than is argued in the literature. One of the main effects of international students mentioned in the literature is that they contribute to the economy by paying tuition fees (Vickers & Bekhradnia, 2007), but at Lund University this is not the case. But Lund University has a large number of international students so the amount of money spent in the local economy through for example housing and living is relatively larger. Also the survey under international students and the interview with Ms. Östberg show that some international students stay in the city after their study to work or start a business, this also benefits the local economy. It is important to keep in mind that the total influence of international students is a relatively small influence compared to the other mentioned ways because their amount is smaller than the amount of Swedish students.

5. Conclusions

Lund University has a very large impact on the economy of the city. For one part this is due to the relatively large size of the university compared to the city. In the literature it is said that the impact of a university is larger in small- and medium-sized regions (Goldstein & Drucker, 2006), but because the large amount of students and employees account for almost half of the city's population, they are an important main economic factor as consumers in the city. The hypothesis that the largest influence on the local economy is due to the consumer role of the university, especially through expenditures made by the substantial amount of students, is partly correct. It is definitely one of the largest impacts but from the results of this research it is not sure if it is the single biggest impact on the city. Next to the consumer role, Lund University also economically influences the city through the many spin-offs that are created and through the knowledge that is spilled over as a result of cooperation between the university and local businesses. The cooperation between Lund University and local businesses and the university spin-offs do not only increase the size of the local economy, but with their knowledge they also improve the innovativeness. The knowledge that is gained at Lund

University is commercialized in the local economy and especially at Ideon Science Park there are many innovative and high-tech companies that have either been started up based on university knowledge or have strong connections with the university in other ways. Spin-offs and university-industry collaboration are also mentioned in the literature as main ways of economic influence (Bagchi-Sen & Smith, 2012; O'shea et. al., 2007; Shane, 2004), but one of the main reasons why these ways are so present in Lund is because Lund university creates many incentives for students to commercialize their ideas. They have organizations that stimulate entrepreneurship and they facilitate university-industry collaboration and knowledge spillovers through seminars, conferences, internships and offering the option to write the thesis at a company. This active role in motivating students is often not mentioned in the literature about research to other universities. The hypotheses 'Spin-off activities have an impact on the local economic development, especially in innovative, high tech sectors' and 'Knowledge Spillovers and University-Business collaboration have an important influence on the local economy' are both correct according to the results of this research. In all the processes mentioned before, international students also play a role. However, even though there are relatively many international students in Lund compared to other universities, they only make up a small part of the population and their overall impact is still relatively limited compared to the other main influences. Furthermore, students in Lund do not have to pay tuition fees, so on the contrary of what is said in the literature (Vickers & Bekhradnia, 2007), this is not a main way of influence for international students. The hypothesis that International students have some impact, but that it is relatively small compared to the overall impact, is true but the ways in which international students influence the city are different than in the literature and are for a large part the same as the influences of Swedish students. There are other influences such as everyday contact between students and the local industry but according to this research they do not play a main role. So the hypothesis 'there are other influences, but these influences are not substantial and only of limited importance' is correct. After looking at all the results of this research it is clear to conclude that all in all, the university plays an essential role in the local economy.

In this research there has been a strong focus on the different ways in which Lund University influences the economy of the city. An idea for further research is to more specific research on the exact monetary impact of the single ways through which the university influences the city's economy. In this research it will be very difficult to differentiate the effect of a single impact from other aspects, because they are often strongly related and also influence each other. It can also be interesting to compare the influence of Lund University to the influence of other single universities in smaller cities to see if they have a similar impact.

My own research went mostly good and according to plan, but there were two minor problems that occurred and that I would handle differently the next time. The first one was that the making of an appointment for some of the interviews went slower than expected because of late reactions over email. This shortened the available time to work on the thesis. For the next time it would be better to arrange the meetings as much as possible by calling the respondents over the phone and setting a date very soon already. Another small issue was that I recorded the interviews with my cellphone, but this recording system automatically stopped after every 5 minutes and I had to press record again in the middle of the interviews a few times. This did not result in any problems and it did not distract the respondents but for the next time it will be better to bring a recording device that records everything at once.

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Appendices

Appendix 1: Interview Venturelab

21-05-2015

I: Interviewer (Marty Doldersum)

R: Respondent (Johanna Östberg)

I: Hey oke I'll start the recording then haha, thank you for the coffee. How long do you work here already actually?

R: No problem. I started working here in January so roughly 4 months. Not so long yet.

I: do you like it?

R: yes I do.

I: Oke I'll start about Venturelab itself then, about how it works. I read some stuff online that you like help students with their ideas to start a company...

R: well yes it's mainly three areas that we work with. The first one is inspiration. We have a person we hired, working on inspirational activities. Her title will actually be inspirer haha. With inspirational activities it could be lectures on entrepreneurship, that's like the main focus to inspire students to become entrepreneurs or to become more entrepreneurial, like to have an entrepreneurial mindset as well. And try to target the audience that are there right now, like if it's social scientist we probably talk in another way and give more examples that suit to them and if it's business students then it will be different. Different focus. And it could be workshops as well with smaller group. Basically any event to try to inspire students. And just let them know that entrepreneurship is an alternative career path. And that it benefits them to have that kind of mindset as well. And know that that's an opportunity and even if they don't choose to be entrepreneurs that's fine, everyone can't be entrepreneurs obviously but at least they know that it's an opportunity that they can do it. And that there's a support system in Lund for that. So when they decide on what their future will be like, on what career they want, at least they know that that was like a part of the decision. And that we do for all students at the university at all levels. And all faculties, all programs. As much as we can. So that's one part. The second part is idea and business development. So we have a person working with that, that is the business developer. Right now we offer drop-in sessions once a week. Where students can just come by, not letting us know that they are actually coming, they can just come whenever they want and they don't have to be prepared or anything, they can ask any questions they like and it's a really open forum. But we also offer scheduled sessions, so they can schedule like an hour or so, with the business developer. And then they can focus more on that student's needs, on that student's idea or business. So usually they email a few times beforehand so the business developer knows like what the students want, need, so he can prepare for it. Bring more out of that hour. And they can do that as much as they want to, the only limit is our time. It's for free

I: It's always for free?

R: everything we do is for free, for Lund University students, I need to add that haha. But at least I think that it's 47000 students so that's pretty a big market for us so haha. And the third thing we

work with is that we have an incubator. So office space for student start-ups basically. And it can be any kind of start-up or project. It could be social entrepreneurship, it could be like a profitable business, it could be technique it could be food products, it could be anything in between. And we take in applications three times a year. There's an application form if you like to see it on our website. To know what kind of questions we ask. So then they need to actually put down in words, describe their theme, what the students are studying right now, what their idea is and how far they've come. All of that. And then when the deadline is over we read them all, or the business developer does, and we ask a few of them to come for an interview to make sure... what we're looking for is, we don't really value the idea that much like is this a good idea or is this a bad idea. It's more like, how far have they come, is this narrowed down or is this still like up and not really focused. And the interview lets them think more about their ideas. In order to be able to get a space in the incubator you have to have a far developed idea that is already becoming concrete in a way. And an important uhm.. rule we have for renting an incubator is that the idea has to be slightly different, it has to be something new. A new way of doing something, or making something easier, cheaper or faster. Pretty much anything that is not existing yet. For example if you want to start a Thai restaurant you will not be able to get a space in an incubator, you can still come and get advice and we will help you with everything but for an incubator space the idea has to be something new.

I: ah oke, so this means that there a lot of innovation stimulated through Venturelab?

R: Well yeah, a lot of our companies create something new or find a new way for an older product, so there is a lot of innovation yes. But we also help students who are thinking about starting a company with an idea that is maybe not so new or innovative. We want to support every kind of entrepreneurship and every student is welcome to come to us for advice.

I: mhm that's good. Do you know how many companies have been started through Venturelab? Do you keep track of that?

R: Hmmm I can't give you an exact number I'm afraid. We tried to keep track of all the companies that have a foundation in Venturelab, but in many cases either these companies change names, or the people that started them leave the company. So this is very hard to keep track of. We tried to do that but it was an impossible job. Because it didn't work we started a new strategy two years ago, where we 'follow the people, not the company'. It could be that a former student switches company or makes a new step in his career somewhere else and then the knowledge he gained through us goes with him. So in this way we hope to be able to keep better track of that in the future.

I: aha, yes I think it is a good idea to follow this new strategy. Do you have an idea how many of the students you help actually start a company for real?

R: we do not keep an exact record of that I'm afraid. For the people who come to us for advice it is really not possible to say because it are so many and their ideas can be very very basic. Far from all of them actually start a business, but that is not a problem because we aim to help at every stage of setting up a company, also in the very beginning. For the incubator companies I can give a more exact number. Their ideas are usually more developed and last year from the 20 groups of students that were in there, 14 of them actually started a company. So this is a quite high number.

I: Oh wow, yes that is really a lot, I didn't expect it to be so many. Do you also know if these companies are successful and if they eventually grow bigger?

R: Uhm... yes some of them definitely do. I have a list of companies on my computer that started up through Venturelab, I could send that to you if you are interested?

I: Yes I would like that, thank you.

R: No problem haha, what I do know is that there are a few companies, have you ever heard of Tamam?

I: Uhm, no I don't think so, what is it?

R: It's a company that was in our incubators some time ago. They started their business in 2008 and their idea is actually really good. They are focusing on getting immigrants to participate into society. And they do this through contacts with students. They actually get some kind of mentor or buddy program started and it's really successful. The students meet up with the immigrants and they do things together, just daily life things, the immigrants get in touch with the Swedish language and culture this way and start to participate in the society and it is also helpful for the students because they meet someone from a different culture. They get the feeling that they can help someone and for some students it can also even be used as part of an internship. Another thing is... gym 24/7, the name says it all haha. This has also been started by a student who came to us for help. And I don't know if you know ERGUS?

I: Ahm no, I'm afraid not.

R: If you are part of the innovation world, which I am now, you hear it a lot. It's a really upcoming name and it also has its roots in Venturelab. I have some contact with them and it's really interesting to hear what they all come up with.

I: That sounds like a lot of interesting companies. It's nice that you also have contact with some of them and also that you have such a difference in the sorts of companies. You told me before that you try to get a good mix in the incubators and that you try to help everyone, are there actually also international students that come to you?

R: Yes there are! At the moment we have 4 international incubators and also for advice there are a lot of internationals who come to us. The demand is that you have to be a member of Lund University to get access to the incubators.

I: Do you know if these international students also start their companies here in Lund then or do they go back to their home country and start a business there?

R: Well, some go back of course but some also stay here. It depends also on where you are from. For students from outside the European Union it is more difficult because of VISA and everything. Somehow it's not allowed to have another job next to your company when you are here with a VISA, and it's very rare to already make a profit in the first few years. So you really need another job. It's really hard for them to stay here because of that, I think it's a stupid rule. But from the European students there are a lot that stay here. For them it's easier. Some go back to their home country, also

because they have their contacts there so that's of course understandable. But I would say that around 50% stays here to start a company here in Lund.

I: that's a lot. It's nice to have such a multi-dimensional group of people living there. I also think the VISA rules don't make so much sense, but it's still good that you help the international students as well.

R: yes we really want to help everyone, no matter where they are going or what their plans are.

I: that's a really good initiative. About these incubators, you told me there are 18 of them. How long can you actually stay in them?

R: For an incubator you can stay in there for the maximum of a year.

I: ah yes. Good. Uhm let's see, oh yeah I almost forgot haha. Do you actually, next to supporting new businesses, connect students with already existing businesses? And also businesses with students maybe?

R: yes we do that as well, it's not our main purpose but we do have a lot of contact with 'Connect'. This is an organization that helps students to get in contact with businesses through kind of a mentor system. And when students come to us they can give us kind of a description of the ideas that they have, and we either look at it ourselves or we give it to Connect and we try to find a company that matches the kind of activity that the student is interested in. We also facilitate contact between students and companies, especially students that have come to us already. Once a week we have a breakfast where our students come and also people of surrounding companies. There they can talk to each other and exchange ideas. Usually someone from a company tells something about what he is doing and how they do it, and students can also ask questions. It's nice, it's very interactive and both sides can learn a lot from it and get new ideas. Also the location of our incubators is very good, it is surrounded by companies so there contact between the both is very much stimulated and we also see that this contact is present.

I: That's a really good idea! I like that about the breakfast, it fits exactly to what I'm writing my thesis about as well actually haha

R: haha yes I guessed that already, it's a really interesting topic.

I: Mhm yes I'm glad that I have this topic, it's actually fun to be working with it and I learn so many interesting things. But one thing that I was also curious about is the financial part. You told me that everything you do is for free, but where does your organization gets the money from?

R: From the university. Everything we get comes from the university. Usually not directly but the money goes to the eight different faculties and through them they give it on to us. The biggest costs we have are salary and the rent for the incubators.

I: Yes that makes some sense indeed. How big is the organization actually? How many students do you help and how many people work there? You told me there are 20 different incubator places but how many students are coming to you for advice?

R: I'm quite new here, and also some other colleagues are new and in August there comes one new employee as well. One of us is on maternity leave as well now so there changes quite a lot at the moment haha. But I guess afterwards we will be more stable. Last year 300 students came for advice.

I: wow, that's a lot!

R: haha yes it is, and the goal for next year is 600.

I: really?? Do you think you'll reach that?

R: you have to set high goals haha. But I think we could be able to make that. What I want right now is to focus a lot on the inspirational activities, because that's what we've been lacking this semester. And that's also what gives results in how many people that come for business development of course. Because that's how they find out that we exist. So if we get really good at inspiring students then we get more people coming to get business development and that's why I really hope that we can at least be close to the 600 this year.

I: Oke. Do you also reach out to the students? Like hey we're here and...

R: yeah we try to be part of all the work fairs. You know all the unions have their own work fair and other organizations within the university do have these sort of events and we try to be there and just show students that we're there. And work fairs is a really good place for us to be, because also from the beginning we are an alternative career path, so we try to be, like entrepreneurship needs to be represented with all these companies and different other ways too.

I: Is it actually growing, your organization?

R: yeah it is. Not the incubator because that's very limited in the space that we have right now. But yes, the how many students we inspire that number is raised every year and also how many people that come for business help.

I: Are you also looking for an increase of people working here? Or more incubators?

R: yeah more people working here that's the dream haha. But it all depends on how much money the university wants to give us. So we're trying to work on that right now because that would be awesome if we could, like I said, the resource we have is people. And to be able to inspire all the 47000 students we need to be more people. So I would actually want that and that's something we're trying to work at. But it's a slow process, everything at the university always changes.

I: how many people do work here actually?

R: right now 3, and I'm the only one that works full time, the other two work 50%. But if we look at August we will be 3 full-time and 1 part time.

I: and you have 18 incubators but how many people usually apply for them? Like to use them?

R: Sometimes the selection is very tough, but it is very different. Like I said we have applications 3 times a year and you can really see a difference in between when that is in time. Before it was 4 times a year but that was too much work for us. The process was too much for us. But the last time

we had 17 applicants for 6 spots. But,... in general that's the recent number, and I want that to be higher, because then we know that all these students are interested in it and we get a bigger selection. We can have all the faculties represented and a big variety of ideas in the incubator. And also I think that competition is always good, students who get a spot will value it way more. If I was 1 out of 30 who got this spot the students actually get the idea that they did something good and that we believe in them. And they also know that there are so many students out there that want to take their spot and they'll value it more and also use the opportunity way better. But that also comes with the inspiration activities. The more we do that, the more students apply for an incubator as well.

I: Then I have just one more question, that's when you help students, with which aspects of business do you help them? Is it also how to set up a business and how to handle rules and policies and how to finance it? Is it everything?

R: Yes it is. If you come to a drop in session it will be way more answer questions because in that stage you will have a lot of questions and that's the most important part then. They need that first to evaluate their idea any further, so we provide them but we also provide them information but we won't tell them this is how you have to do it but these are the opportunities and you can choose, because we don't want to tell them how to do it. that's why we don't call it advice but coaching or discussing your idea. We tell them about different websites and different organizations, we show them where to get the information they want and need. And help them out if they need to. We help people throughout the whole way. From the lowest idea stage, like something that just popped up yesterday until students who have an actual business up and running. We help them the whole way, with everything. And if there's something we don't know, we always try to find out or try to contact someone within our network that can help them.

I: Oke, I think that's pretty much it. Oh yeah one more question. Do you know if there are also like other kinds of Venturelabs in other cities?

R: there is an organization called Drivhuset, they are very similar to us and they exist in like ten different cities around Sweden.

I: and do you also cooperate with them to learn from each other?

R: yes we do. I meet them every now and then in different activities. Or just meeting to exchange ideas and try to help each other out. And also if there's a student calling us, the closest Drivhuset we work with is Malmö, and if someone from Malmö calls us we tell them to contact Drivhuset. We always try to help each other out. All of us, all organizations try to do that. If a student calls us and they need to find another team member, with another expertise that they need in their team, that's not what we do but other organizations do so we always tell them about the other organizations. And no one else here has a student incubator so all the other organizations point at us for that haha.

I: Oke I think I that was it then. Thank you very much!

Appendix 2: Interview Research Collaboration and Innovation department

03-06-2015

I: Interviewer (Marty Doldersum)

R: Respondent (Ulla Boström Hjorth)

R: Also go to the requirement department, that is my suggestion, they are one floor down.

I: Oke, which department was that?

R: the procurement, inshop it's called in Swedish.

I: And you're working at the samv.. haha my Swedish is too bad, the cooperation department?

R: Yeah it's called research collaboration and innovation department.

I: And what do you do exactly?

R: Well I.. Uhm.. I'm a project manager mostly, and I have arranged some meetings and have collaborations with companies and organizations. Mainly just different community projects of.. arrange conferences, scientific meetings, it's a mix of various tasks.

I: Oke, do you arrange meetings between people from the university and companies?

R: Yes! And meetings between universities, and meetings in different projects with regional government and university. It's a mix of things.

I: Oke, is it also for students sometimes?

R: Very often students are involved.

I: and what do they discuss about then?

R: Well, we had an innovation carnival, that I was responsible for and that's going to be a new one, 2016. It's, we're arranging a top level EU meeting in December that I'm responsible for. With all the department of education and the department of enterprise. And the top ministers in Europe for research. And Innovation.

I: And then they meet with students all well to talk about certain things?

R: No, that's only a top level meeting, it will probably have some students involved but it's a top level conference. Ministry of enterprise and innovation and the ministry of education and research. But of course that will have a large impact on the city. With hotel bookings, we have over 200 hotels booked and dinners and buffets and all kinds of different activities planned.

I: So they all come to Lund then?

R: Yeah, they all come to Lund.

I: Is it often happening that some kind of similar congress is hosted in Lund?

R: Yes it is, and we work very close to the city of Lund with this. We have a lot of conferences here but we haven't been so good at identifying them. Because there is a rating system that is the ICCA-statistics and you could talk to the Lund convention bureau about this. Because now we started to identify and measure the amount of these meetings, we are ranked number 4 in Sweden as interesting meeting destination. I could send you this document it will probably be interesting for you to read, if I can find it. Hmm.. Uhm.. Now this is in Swedish but the aim is to attract more scientific congresses to Lund. And so Sweden is number 14th in the rating in the world and has 238 meetings. Stockholm has 95 meetings, number 19 in the world. Gothenburg has number 54, and Uppsala has nr 93 and Lund has 141. So we are really into measuring this criteria, it's called the ICCA-criteria. I can send you this link then you can read more about it.

I: Yes I would like that.

R: You can probably throw it in google translate haha

I: haha yes

R: Marty_doldersum.... Right?

I: yes that's me

R: There you go, now you have the link and you can read up on it.

I: Oke nice. Thank you! Okay at these congresses is there also like knowledge and innovation shared from the university to businesses or...

R: the conferences they can deal with anything. A year ago I had an innovation for job conference, that was also a top level conference. But it could, you know, I just arrange them I don't usually fill them with content. I'm part of that group too but usually we're a team working together. And then we have the conference service here at the university, you might have been in contact with them. Do you know of them?

I: Ja I know, and they also arrange like..

R: they do the practicalities, I get an order from them.

I: Do you know if it happens that students or anyone from the university becomes in contact with a business or a government and through that contact gets a job there or an internship?

R: That's very common.

I: Yeah?

R: Especially the students doing their thesis work for a company, we encourage that. We have the career services where companies can advertise their positions and suggestions for thesis work.

I: So the companies say for example: yeah, you can write your thesis about this and then you can do it for us.

R: Mhm, and that's called mycarees.lu.se. It's.. I can send you.. you haven't seen that link? Are you familiar with it?

I: Uhm no, unfortunately not.

R: It's the career services that handle that, but I can get it for you so you can look at that.

I: oke, thank you!

R: here, I sent you the link. You know, there's job fairs and things like that.

I: oke. I have one more question. Do you also bring faculties together? Like different subjects of the university so that they meet and discuss together?

R: ja, ja

I: and do they also share the things that they've learned to combine it and get new innovations through that?

R: Hopefully! That's the ambition. Have you talked to sten. K. Johnson center for entrepreneurship?

I: Uhm.. I've talked to Venturelab, I think that's also located there.

R: Venturelab is one part but Sten. K. Johnson has special courses in entrepreneurship and they very often work over the faculties.

I: It's not really your area but do you know if other universities also have something like that? Or is it really something that only Lund does?

R: Sten K. Johnson center for entrepreneurship?

I: yeah some kind of center that helps people with..

R: yeah they probably have various kinds, but this was a large donation made from a wealthy person in this area who died and he left a large donation to Lund University. So I don't think everyone is so fortunate haha. So that was very generous.

I: do you except of the conferences and all the things that are combined to that like hotels and dinners, are there other ways in which the university spends money in the city?

R: well I mean we're 7500 employees and all of us have salaries that we spend in our local area where we live. So that's a large influence. I mean the tax payers of this city are, a lot of them are students or employees of the university so of course there's a large impact.

I: Oke, yes that's a large impact indeed. Well I think that's everything that I need to know. Your answers were very useful. Thank you very much for your time! I brought a small gift to thank you.

R: Oh thank you so much! It was no problem at all, glad I could help.

Appendix 3: Summary Interview Chamber of Commerce South Sweden

08-06-2015

I: Interviewer (Marty Doldersum)

R: Respondent (Per Tryding; vice-president)

I: What is the function or role of the Handelskammare and what is your own exact function in this?

R: We are a private organisations of businesses in southern Sweden. and I am the vice President.

I: Are there businesses in Lund that are connected with the university?

R: Yes there are many, the university has close connections with a lot of businesses in the region. They are both positive about this connection so I don't see a reason why not.

I: in which ways are they connected? For example sharing knowledge, fundings, students doing internships....

R: Oh there are many different connections. I think it is mostly that the industry needs some kind of product or development and that they request Lund University to assist in that. But there are of course also a lot of internships going on at the businesses. I don't know if there are also companies that fund the university, I think not actually.

I: how many companies are these?

R: I know that there are a lot. I think at Ideon Science Park there are very many, the majority I would say. And probably also in the city. Unfortunately I cannot give you an exact number on this. You could maybe ask someone from the university for this or start looking at this site <http://www.lu.se/innovation-samverkan>. Maybe that can be helpful.

I: Are there businesses started by students or university personnel?

R: Certainly. I would say that most of the innovative companies have been started up by former Lund University students, but it is quite hard to say that exactly. There are definitely a lot of them.

I: how big are these companies?

R: Oh that depends a lot. There are some of the bigger companies that have roots at the university but there are also very small ones of course. I wouldn't say that there is an exact size group that you can put them in. They are spread across all different sizes and also all different fields actually.

I: Does the presence of the university have an influence on the way the economy of the city is built up? / Is there an economical difference between Lund and similar cities without a University?

R: Yes it is certainly very fundamental. without it, Lund would have been like e.g Eslöv.

I: Could you give an idea (maybe a rough guess) of how big the economic influence of Lund University is as a percentage of the total economy of Lund?

R: pfff. Very hard to say as it is a dynamic and historic process with long roots. It is definitely a very large percentage but I could not give you any guess because I know it would be wrong. I'm sorry, but yeah it is definitely very very high.

I: Can you tell something about the successfulness of the companies that are started based on knowledge of Lund University?

R: This also depends a lot from case to case. There are definitely some success stories but there are also many companies that do not get very far. I would say that there are many companies started and that some of them actually do become very successful, but by far not all of them.

I: Is there an increase over time in companies started by Lund University or the Influence of Lund University? Is it more now than before?

R: Uhm I would not know actually, I don't have any statistics about this. Maybe you could ask at the university but I also doubt if they know it. I think it also depends on how you see this influence, I mean I think some other companies who initially did not have anything to do with the university came here to profit from the knowledge of the students so in that case there is a bigger influence, it is kind of a growing process maybe. But I think it is actually quite stable.

I: Can you tell if and how big the role of the University is as a consumer? For example spending by students and employees, stores that sell to the university or taxes that are paid by students?

R: It is a lot. I don't know the exact size but I think maybe around half of the stuff in the city might be sold to the university, students and employees. Ah but then I don't count the things that companies buy in my calculation haha, then I would have no idea. It is definitely a really large number that is depends on the university but I think it is impossible to get an exact number on this because you can't completely keep track of for example who buys what at a supermarket or something.

I: Would you say the magnitude of the economic impact is more a result of the relatively large size of the university or because of character and structure of the university?

R: quality and size are both important, size matters they say haha but quality is also important. Lund University has a good name and is high ranked worldwide, this attracts a lot as well. But note for example that a place like New Haven (Yale) is not exactly very expensive. it also matters where the city is located, for example in relationship to infrastructure.

I: Oke thank you very much for your time, it was really useful to me and you have been able to tell me many new interesting things. I have a small present for you as a thank you gift, I hope you like it.

R: No problem haha. Aah thanks a lot, you didn't have to do that. I wish you good luck with your thesis and if you have any more questions you can just email me.

I: Thank you. Have a nice day. Goodbye.

Appendix 4: Survey International students

Survey International Students in Lund

I am currently writing my thesis about the influence of Lund University on the local economy. One part that is important for my thesis is the role of international students (so you =P). Filling out this survey will only take you 2-3 minutes and it would help me a lot, thank you already!

All your answers will remain anonymous. It will be appreciated if you fill out all questions but if you, for any reason, don't want to fill out a question you are always free to leave it blank.

Personal Data

Which country are you from?

.....

What is your birth year?

.....

When did you start studying in Lund?

(Autumn semester = september - januari; Spring semester = februari - june)

- Spring semester 2014
- Autumn semester 2014
- Spring semester 2015
- Different

How long are you studying, or did you study, in Lund?

- 1 Semester
- 2 Semesters
- 3 Semesters
- 4 Semesters
- Longer than 4 Semesters

At which faculty do/did you study in Lund?

.....

Expenses in Lund

How much money did/do you spend per month on housing in Lund?

(Note: Please answer in Swedish Crownes!)

.....

How much money did/do you spend per month on foodstuff in Lund?

(Note: Please answer in Swedish Crownes!)

.....

How much money did/do you spend per month on public transport in Lund?

(Note: Please answer in Swedish Crownes!)

.....

How much money did/do you spend per month on clothing and accessoires in Lund?

(Note: Please answer in Swedish Crownes!)

.....

How much money did/do you spend per month on free-time activities and recreation in Lund?

(Note: Please answer in Swedish Crownes!)

.....

How much money did/do you spend per month on other things in Lund? (if any, specify on what)

(Note: Please answer in Swedish Crownes!)

.....

How much money did/do you roughly spend per month in Lund in total?

(Note: Please answer in Swedish Crownes!)

.....

I confirm that I answered the questions above in Swedish Crownes*

- Yes, my answers are in Swedish Crownes

Do you relatively spend more money in your time abroad than you would at home?

- Yes, I spend more
- No, there is no difference
- No, I spend less

Where do you spend more money on? (multiple options possible)

- Housing
- Foodstuff
- Public Transport
- Clothing and Accessoires
- Free-time activities and Recreation
- Other

Approximately how much more do you spend?

(Answer in %; for example: 10%)

After your study

Do you intend to stay in Lund after your study, for work purposes?

- Yes
- No

How big would you estimate the chance that you will stay in Lund in your later life to work?
(0% - 100%)

.....
This is the end of the survey. Thank you for participating!

If you have any questions, comments or reflections on the survey, they can be posted here:

Appendix 5: Survey Swedish students

Survey Swedish students in Lund

Hejhej!

Welcome to the survey for students at Lund University. I am currently writing my thesis about the economic influence of Lund University on the city Lund and students (so you =)) are a big part of that. It will help me a lot with my research if you want to fill out this survey. It will only take 3 minutes.

Tack!

All your answers will remain anonymous. It will be appreciated if you fill out all questions but if you, for any reason, don't want to fill out a question you are always free to leave it blank.

Personal Data

I am:

- Male
- Female

Did you already live in (or around) Lund before your studies?

- Yes, I lived in Lund my whole life
- No, I moved to Lund but before I started studying
- No, I moved to Lund to study here
- No, I still don't live in or around Lund

Do you live on your own or with your parents?

- On my own
- With my parents
- Other:

When did you start studying in Lund?

(Please answer like in the example given: Autumn semester 2013)

.....

At which faculty do you study in Lund?

.....

What is your birth year?

.....

Expenses in Lund

How much money did/do you spend per month on housing in Lund?

(Note: Please answer in Swedish Crownes!)

.....

How much money did/do you spend per month on foodstuff in Lund?

(Note: Please answer in Swedish Crownes!)

.....

How much money did/do you spend per month on public transport in Lund?

(Note: Please answer in Swedish Crownes!)

.....

How much money did/do you spend per month on clothing and accessoires in Lund?

(Note: Please answer in Swedish Crownes!)

.....

How much money did/do you spend per month on free-time activities and recreation in Lund?

(Note: Please answer in Swedish Crownes!)

.....

How much money did/do you spend per month on other things in Lund? (if any, specify on what)

(Note: Please answer in Swedish Crownes!)

.....

How much money did/do you roughly spend per month in Lund in total?

(Note: Please answer in Swedish Crownes!)

.....

I confirm that I answered the questions above in Swedish Crownes*

- Yes, my answers are in Swedish Crowns

After your study

Do you intend to stay in Lund after your study, for work purposes

- Yes
- No

How big would you estimate the chance that you will stay in Lund in your later life to work?

(0% - 100%)

.....

This is the end of the survey, thank you for participating!

If you have any questions, comments or reflections on the survey, they can be posted here: