

INTERNATIONAL STUDENTS AND THE LOCAL ECONOMY

Research about the significance of the spending behaviour
of international students on the city of Groningen



Date: 21 January 2019

Bachelor thesis semester 1
Human geography and urban and regional planning
Faculty of spatial sciences
University of Groningen
Final version
6529 words

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Table of contents

Table of contents	2
Summary	3
1. Introduction	4
1.1 Background	4
1.2 Research problem and question	4
1.3 Structure of this thesis	5
2. Theoretical framework	6
2.1 International students expenses	6
2.2 Influence on the city	7
2.3 Conceptual model	8
3. Methodology	9
3.1 Data collection	9
3.2 Data analysis and quality	9
3.3 Ethics	10
4. Results	11
4.1 Descriptive statistics	11
4.2 On what kind of goods and services do international students in the city of Groningen spend their money?	12
4.3 Which part of these spendings remain in the city of Groningen?	13
4.4 Where in the city of Groningen do the international students spend their money?	16
5. Conclusion and reflection	19
References	20
Appendix	22

Summary

An increase in international students is occurring at many of the universities in the Netherlands and the University of Groningen is one of the universities where this happens. This research investigates what the effects of these international students are on the local economy of the city of Groningen. This is accomplished by answering the following central question: *What is the significance of the spending behaviour of international students for the city of Groningen?* By asking around a hundred international students about the quantity of their spending, this research has tried to identify what the significance of these spendings is. Of course, not all spendings that the international students do will remain in the city of Groningen, a lot of money flows away and will have no effect in the local economy. Therefore, the students were also asked which part of their money they spend in the city of Groningen. The results of this question show that for some expense categories almost all of the expenses are spent in shops in Groningen. Although the shops get more international students they don't adapt to these students particularly, because they spend their money in the same stores as Dutch students do. Therefore it is unlikely that their increasing presence will change the outlook of the shopping centres in Groningen. The fact that international students live spread out in the city and not in a campus or clustered in a certain neighbourhood probably explains the fact that there isn't a clustering of stores focused on international students in Groningen.

1. Introduction

1.1 Background

In recent years, the universities in the Netherlands have seen a large increase in the number of international students (Nuffic, 2018). The University of Groningen, for example, has seen an increase from around 900 in the year 2006 to over 5500 in 2017. In the academic year 2017/2018 19,1% of the students at the University of Groningen was not from the Netherlands (Nuffic, 2018), and this percentage has only increased in the last ten years. International students can have a somewhat different effect on urban processes compared to domestic students, as has been shown in the case of the city of Lisbon, (Malet Calvo, 2018) where a large population of international students is present. Although the effects of a large population of international students on a city are manifold, like on the real estate market (Collins, 2010) or on the culture of neighbourhoods (Malet Calvo, 2018) this research will limit its scope on the effect of international students on the local economy.

The effects of a large population of international students can also be expected to be found in the city of Groningen, one of the university cities in the Netherlands with a rapid increase in international students.

Note: An international student is a student that has completed his/her previous education (high school/university) in another country, and does not have a Dutch passport. A domestic student is a student that has lived and studied in the Netherlands for the larger part of his/her life.

1.2 Research problem and question

Although it is already known how much, on average, Dutch students spend every month and on which goods and services (Nibud, 2017), this specific knowledge about international students is missing. It is also not known how much of the spendings of the international students are spent in the city of Groningen itself. This information is, however, needed to find out what the effects of the spending behaviour of international students on the local economy of Groningen are. This effect is likely to become more and more important for the economy of the city of Groningen due to the increase of international students.

In short:

This research aims to find out what the effects of the spending behaviour of international students are on the local economy of the city of Groningen, and in which places within the city these effects are the most prevalent (Collins, 2010, Malet Calvo 2018).

In order to accomplish the research goals, the following research question needs to be answered:

What is the significance of the spending behaviour of international students for the city of Groningen?

Divided in:

1a. On what kind of goods and services do international students in the city of Groningen spend their money?

1b. Which part of these spendings remain in the city of Groningen?

2. Where in the city of Groningen do the international students spend their money?

1.3 Structure of this thesis

This thesis has the following structure: in the theoretical framework in chapter 2 the known scientific viewpoints on this topic are discussed. The first focus is on the expenses of international students in general (2.1), after which the effects of these expenses on the city they study in are discussed in 2.2. The theoretical framework part ends with the conceptual model, where the literature is combined to conceptualize the significance of the spending behaviour of international students for the city of Groningen (2.3).

After the theoretical framework the data method is discussed in chapter 3. Following the data collection the results of the thesis are discussed in chapter 4. This will start with a description of the sample in paragraph 4.1. After this each paragraph follows the secondary question mentioned above. The combined result of these paragraphs leads in chapter 5 to the conclusion, where the main question of this research is answered. The conclusion also includes the reflection on the process of this research.

2. Theoretical framework

2.1 International students expenses

The CPB (2012) calculated that in the Netherlands for the year 2011 international students from EEA countries spend on average 1224 euros each month and non-EEA students 1242 euro. This is a bit less than the average Dutch student who spends around 1323 euro (CPB, 2012). Nibud (2017) uses a different method to calculate the expenses of Dutch students resulting in a total of 1448 euros for Dutch students who are not living with their parents. This higher number is largely due to inflation between 2011 and 2017. Large categories of expenditures are for rent, tuition ('college money'), food and drinks, and leisure. The distribution of the expenses is shown in figure 1. It should be noted that this graph shows an average of the Netherlands; it could be possible that the expenses in Groningen are somewhat different.



Figure 1: Monthly expenses of Dutch students divided per expense category (Nibud, 2017).

Not all of these expenses are equally relevant for a city where the student is enrolled. Some of these expenses, for example insurances and telephone, are paid to (inter)national corporations. Other expenses are made online and sometimes do not directly flow or stay in the local economy.

Although this list isn't just about international students, it does provide a valuable insight on expenses of students in general.

However, it is not just the international students themselves that influence the city's economy, but also the extra tourists they draw. First of all, many of the students themselves participate in tourism activities. Weaver (2003) showed that 82 percent of the international students engage in tourist activities in Australia. Also, 78 percent had visitors from their home country coming to Australia. These visitors are on vacation and therefore spend a lot of money on recreational activities, which can give a boost to the local economy (Weaver, 2003). The hotels, restaurant and recreation areas are most likely to profit from this extra income (Universities UK, 2017).

2.2 Influence on the city

The purchasing power of international students can determine for a large part which influence they have over the city of Groningen. Grabkowska and Frankowski (2016) mention that in the city of Gdansk in Poland international students are responsible for the gentrification of neighbourhoods and the rise of quality food shops. This in contrast to the Polish students in Gdansk, who appear to have little influence on the local economy, due to their limited purchasing power. It is of course questionable that international students in the Netherlands also contribute to processes of gentrification, as in the Dutch society there is a much stronger government control on the housing market and on land-use (spatial planning).

International students in the city of Groningen do not form a homogenous group. Not only do the students come from a wide array of countries, they are also here for a variety of reasons, like within an Erasmus or other credit mobility exchange program; others are degree-seeking students doing a whole bachelor or master program. The type of mobility, credit or degree mobility, will determine for a large part how much they integrate with Dutch students, but also their attitude is important. Malet Calvo (2018), who focuses his research on Erasmus students in Lisbon, notices sharp differences between different kinds of Erasmus students, with some trying to integrate as much as possible, while others remain in their bubble of other international students.

This different attitude regarding local integration can be a cause for the students to become part of a segregated economy. In the Dutch city of Maastricht researchers noticed that international students were much less active in the going out circuits in the city, because they lacked a place that was 'their own' (APE, 2010). If there are special meeting places for international students, they are likely to spend their money in these places, as Malet Calvo (2018) mentioned leading to a segregated economy. Such a segregation doesn't need to be limited by one's nationality, as Smith and Hubbard (2014) discuss. The construction of special student housing accommodations plays a large role in this, because it pulls students out of neighbourhoods where they live among the local population in an environment where there are only other students (Smith and Hubbard, 2014).

In the Netherlands however, the international students are more likely to end up in segregated accommodations. For instance in Groningen there are special houses available for them (University of Groningen, 2018). These houses are usually quite large complexes (SSH Student housing, 2018), putting many international students together. This might limit their ability to integrate in the city (Smith and Hubbard, 2014). It should be noted however that in the case of the city of Groningen these complexes are quite well spread over the city, limiting the clustering on the scale of the city. A small cluster can be noticed however, as there is a larger number of rooms close to the Zernike Campus, where many buildings of the University of Groningen and Hanze University of Applied Sciences are.

The location of the housing is relevant, since this is where most of the effect of the expenses of the students can be found (Smith and Hubbard, 2014). For instance, in Auckland a large portion of the international students live in the central business district (Collins, 2010). Students come to these places mainly because the availability of suitable housing is the best in these parts of the city. Comparing these results of Lisbon and Auckland (Malet Calvo, 2018, Collins, 2010) to those of Groningen is difficult since both cities do have certain districts where most of the international students live, whereas in Groningen they are spread over the entire city. Therefore the location of their expenses will probably be more spread out over the city.

2.3 Conceptual model

Key concepts: Spending Behaviour, international students, segregated economies.

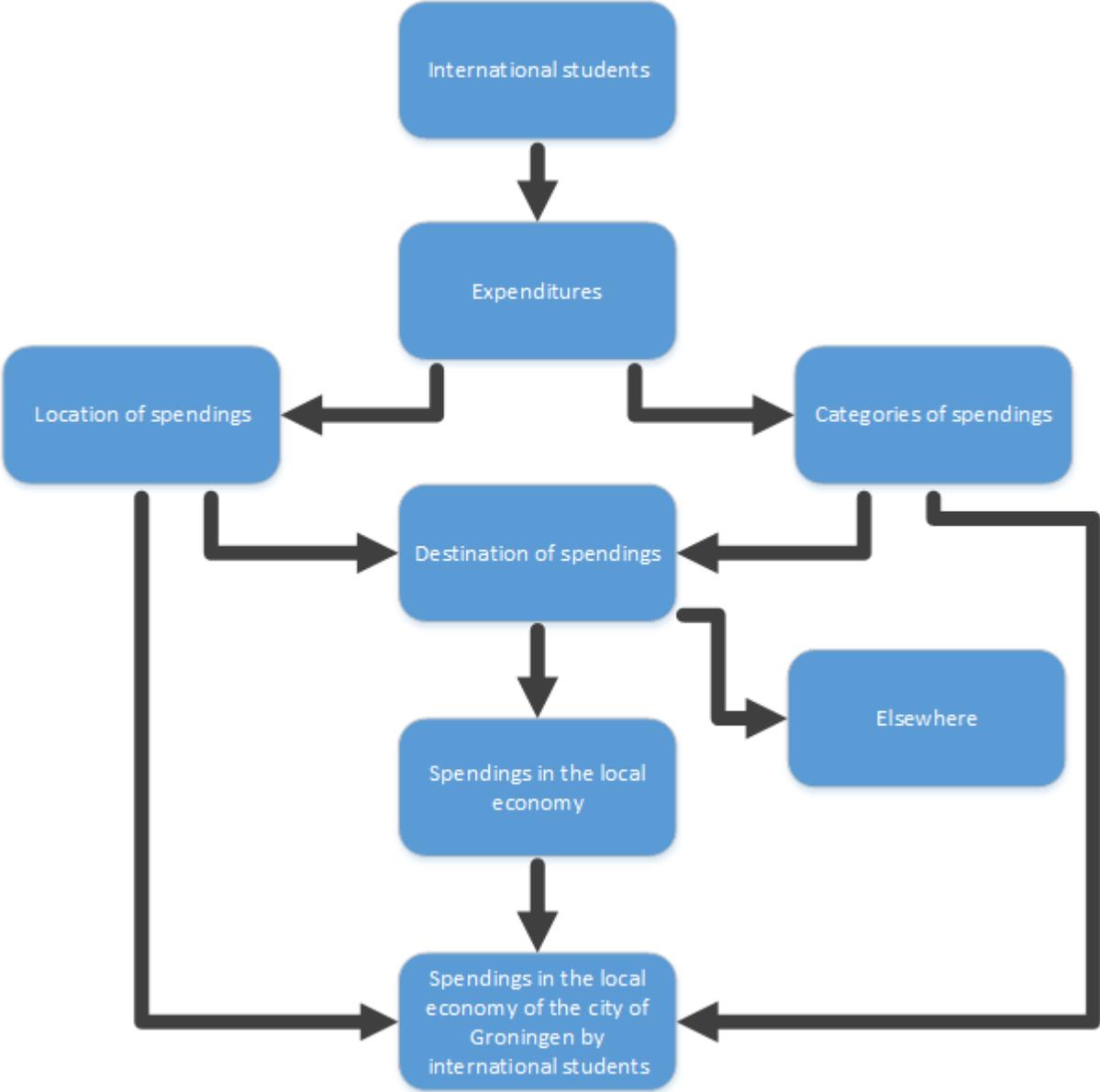


Figure 2: Conceptual model.

During their time in the Netherlands, international students have all kind of expenses to fulfil their desires. These expenses effect the local economy, however the manifestation of this effect depends both on the kind of goods they buy as well as the location of these expenses; the place where they buy their goods. These factors determine where the expenses go to, in the model the destination of the expenses. Not all expenses are done locally however, paying insurances and buying online on sites like Amazon will result in the fact that a part of the expenses of international students goes elsewhere. This part has no effect on the local economy whereas the money spent in shops and stores remains in Groningen and does affect the local economy. This research examines where international students spend their money, what they buy and which part of these expenses is done in the local economy.

3. Methodology

3.1 Data collection

This research uses a quantitative method. This quantitative method has an advantage over a qualitative method because the population is extremely diverse and it is beneficial to have a significant number of cases from the different categories of students. This quantitative research was held by collecting surveys, see appendix 1 for the contents of this survey.

The most important questions in the survey are questions 6, 7, 8 and 9. Question 6 requires the respondents to fill in the same table as used by Nibud (2017), where they have to divide their expenses over several expense categories. By letting them fill in the same table comparing the expenses of domestic and international students becomes possible. However, for some categories it is unclear whether these expenses are done in Groningen or somewhere else. Therefore, I asked the respondents the location of their expenses in question 7.

The international students are asked in question 8 and 9 in which neighbourhood they live (question 8) and where they shop on a daily basis (question 9). By comparing the answers to these questions it becomes possible to check if the effect of their expenses are indeed for the biggest part on the neighbourhood they live in, as Smith and Hubbard (2014) suggest. It will also be possible to determine the most important shopping places for international students, and if indeed the effect mentioned by Malet Calvo (2018) and Collins (2010) on the local economy can be seen.

The data collection took place in weeks 44, 45 and 46 of the year 2018. Week 44 and 45 are also examination weeks, so there is a certain risk that some of the questions get affected by this fact, because students that are studying for their exam are less likely to go out or do groceries. This will surely have affected question 11, where the students are asked to name the stores they have visited recently. Unfortunately due to the time path of the thesis it was inevitable to collect data during these weeks. The data collected in week 46 was collected at the end of this week, to make sure possible exams didn't affect these results.

The data was collected both on paper (n=99) and digital (n=2), with the paper version having a far higher response than the digital version.

The data collected on paper was collected in the library of the university (n=70), at the Zernike campus (n=28) and on other places in Groningen (n=1). The data was collected in the canteens of the library and in the canteen of Kapteynborg. The canteen proved to be the most suitable place for surveying international students, since there was a great amount of them to be found here. In canteens the students are having conversations with each other, making international students recognizable by the fact that they usually do not converse in Dutch. When I noticed one of these foreign languages I approached the students and asked them if they wanted to fill in the survey. Usually they were quite willing to do so.

3.2 Data analysis and quality

After all the papers were collected I put all the data from the papers in excel. The surveys were generally well filled in with almost all questions having an over 95% response rate. A few questions however had a lower response, namely questions 5, 6, 9 and 11. These questions were handwritten so a part of the non-response comes from the fact that I wasn't able to read what was written down. Some other students left a few boxes open, but I wasn't able to determine whether they meant zero, don't know or something else.

After all the data was in excel format it was exported to SPSS. With this program I was able to do statistical analyses to compare the expenses of Dutch students with international students. I used SPSS as well to calculate the average expenses per student and to see if the average rent per neighbourhood was significantly different. For the creation of the maps ArcGIS was used. On the basis of these visualizations I have been able to determine patterns in the students shopping preferences.

Research by Nibud (2017) has shown that in general Dutch students are quite unaware of their monthly expenses, estimating them over 200 euro's lower than they actually are. This could also be the case for international students, which will be discussed further in chapter 4.2.

3.3 Ethics

Because both the students that were questioned and myself are in the same life stage I had many similarities with the international students, making them more approachable. On the other hand there are also differences, many challenges they face due to cultural and linguistic barriers (Baas, 2014) that might be unknown to me. The privacy of the respondents was also something that had to be taken into account. For this research however, the number of personal questions was quite limited. Therefore the students are untraceable.

Asking people in person is quite an aggressive way of collecting data. Therefore, while doing this, I tried to ask the students for their help in such a way that they wouldn't feel obliged to fill in the survey. Another aspect of collecting data in this way that had to be taken into account was to not select students based on their appearance, since this could be unpleasant for Dutch students from foreign origin. I therefore have tried to select only based on the spoken language that I observed. The disadvantage of this is that international students who speak Dutch very well wouldn't be surveyed, but this was unavoidable.

4. Results

4.1 Descriptive statistics

Appendix 3 shows in which program the respondents were enrolled. This comes down to 62 students enrolled in a bachelor, 28 in a master and 11 in a PhD. 22 students were in an exchange program, 79 were doing a degree here. The latter roughly corresponds to the division between the total number of exchange program students; 1057 at the University of Groningen, compared to the number of degree international students; 5500 (Gemeente Groningen, 2018).

The 101 surveyed students in the sample have named thirty different nationalities. Four of the students had a double nationality. The German students are the biggest group in the sample, with twenty international students.

Looking at the nationalities of the international students surveyed for this research and the numbers studying at the University of Groningen as a whole similar results can be seen (Groningen city monitor, 2018), with both having the most students from Germany. Other countries that send a lot of international students to Groningen, such as Indonesia, Italy and Greece are also represented with a high number of surveyed students. Only two nationalities really show big differences; there are relatively few students from the United Kingdom who filled in the survey, and relatively a lot of Chinese students. This big difference may be caused by the fact that Chinese students lunch more extensive than students from the UK, resulting in a higher chance for them to be asked to fill in the survey.

International students in Groningen are from an very wide array of countries (Groningen city monitor, 2018). Approximately one-third are from Germany. The second largest group, students from China, only reaches a bit above 5%. Since there are 8660 international students in Groningen (University of Groningen and Hanze University of Applied Sciences combined) the Germans are the only nationality with over 600 students in Groningen. This quite small number will limit the chances of any store focusing on one nationality of international students.

4.2 On what kind of goods and services do international students in the city of Groningen spend their money?

The theoretical framework already discussed the average monthly expenses of Dutch students divided per expense category (Nibud, 2017). The same table was part of survey question 5, where the international students were asked to fill in this table as well. In figure 3 the results are shown, with the averages of surveyed international students as orange compared to the Dutch students in blue. Categories on which international students spend less than 20 euros are excluded to make the graph more clear. For all the results see appendix 2. Tuition is also not included, due to the fact that international students from outside the European Union pay a much higher fee than Dutch students.

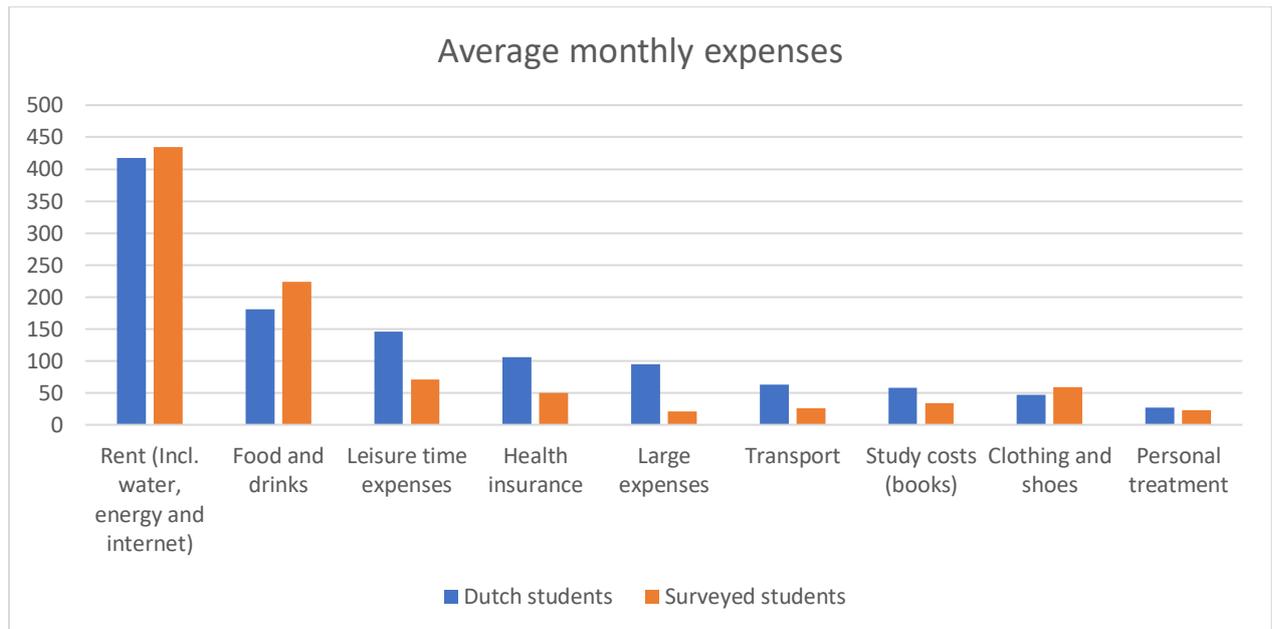


Figure 3: Monthly expenses of Dutch students and surveyed students divided per largest expense categories (Nibud, 2017).

The results for each category were compared with the averages of the Dutch students (Nibud, 2017) using the one sample t-test in SPSS, see appendix 4. It can be concluded with a confidence interval of 95 percent that international students pay significantly less on health and other insurances, their telephone, contributions and subscriptions, study costs, transport, leisure time expenses and large expenses. There was no significant difference on expenses on rent, clothing and shoes and personal treatment. Only on food and drinks international students spend significantly more than Dutch students. The differences are visible in figure 3.

The fact that international students spend less money in most of the categories could be caused by the fact that they, just like Dutch students, estimate their expenses lower than they actually are (Nibud, 2017). This somewhat weakens the comparison between international and Dutch students, however conclusions can still be drawn based on comparing the variables with each other.

Because of the survey method I had direct contact with the international students. Many of them didn't know how much they paid for their insurances because their parents paid for it. This may explain why the expenses on insurances were much lower than the average of Dutch students.

Looking at the factors that were not significantly different from those of the Dutch students it become clear that these are all expenses that are mostly paid locally. The same can be said about food and drinks, the only expense category where international students pay more on. In the next chapter the focus is on these kind of 'local' expenses.

4.3 Which part of these spendings remain in the city of Groningen?

Distribution over expense categories

For this question the students were asked to divide some of their expenses over three categories, to make it visible if the money the students spend actually arrives in the city of Groningen. Three spending locations were selected, which are shown in figure 4. The students weren't asked about all their expense categories, because some of the expenses, such as insurances and telephone costs will be payed online and are therefore not very interesting for this research, as this money flows away anyway. Therefore the students were only asked about: study costs (books), food and drinks, clothing and shoes, leisure time expenses, large expenses and personal treatment.

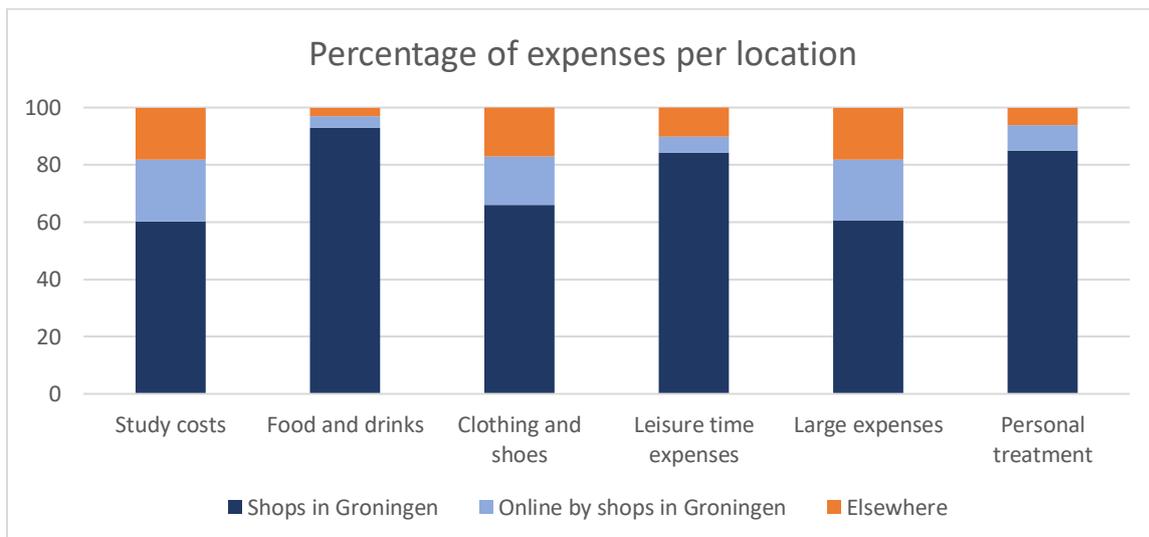


Figure 4: The locations where the international students in Groningen spend on average their money.

The number of cases is slightly lower due to the fact that some of the numbers didn't add up to 100, as can be seen in appendix 5. When this was the case the respondent was removed from this expense category. Study costs and large expenses have a lower response rate due to the fact that some students didn't have these at all, and therefore left these fields empty in the survey. These respondents were removed from this question, because these zeros don't have any effect on the results, they only increase the number of respondents.

Out of figure 4 it becomes clear that in all expense categories students spend most of their expenses locally in the city of Groningen. Especially the categories food and drinks, leisure time expenses and personal treatment show a very high average of expenses done in the city of Groningen. The other categories have a similar numbers in both the expenses online in local stores and elsewhere.

Effects on tourist sector

In figure 4 it is also visible that only 10,18% of the leisure time expenses are done elsewhere. This is a surprising result, as Weaver (2003) concluded that 82 percent of the international students engaged in tourist activities. Groningen does provide some options for touristic activities, but there are certainly places outside of Groningen that draw much more tourists. Of course, it is possible that they pay for a trip to these places in Groningen, and visit them without paying there. So although saying the international students is Groningen don't visit other places would be to radical, it is still possible to conclude that other places in the Netherlands do not profit much financially from the presence of international students in Groningen.

The international students are a big source of tourists, as question 12 learns us that 66,3% of the respondents indicated that they have visitors from their home country visiting them this autumn. This corresponds with Weaver's (2003) conclusions that most of the international students do get visits from their home country during their stay abroad. The expenses that these visitors have will have impact on the local economy as well, but this is beyond the scope of this research.

Total profit for the shops in Groningen

Using the numbers from both question 6 and 7 it is possible to estimate for each of the expense categories how much money is spend by the international students in Groningen. Because the survey resulted in quite a representative sample for the whole population the data can be used to find out how much the international students contribute to the local economy in total. By multiplying the amount spend for each category with the percentage online by shops in Groningen and the percentage spend local in the city of Groningen it is possible to calculate how much each student spends on average for each expense category. This calculation is shown in table 1.

<i>Expense category</i>	Percentage online	Percentage local	Amount spend	Online in Groningen	Local in shops Groningen
<i>Study costs (books, excursions, lab costs)</i>	21,7%	60,2%	€33,9	€7,3	€20,4
<i>Food and drinks</i>	4,0%	93,1%	€223,7	€9,0	€208,2
<i>Clothing and shoes</i>	17,0%	66,0%	€58,8	€10,0	€38,8
<i>Leisure time expenses (Like: bars, going out, sports, restaurants)</i>	5,5%	84,3%	€70,9	€3,9	€59,7
<i>Large expenses (Like: electronics and furniture)</i>	21,2%	60,6%	€21,1	€4,5	€12,8
<i>Personal treatment (barber, beauty salons, toothpaste, shampoo)</i>	8,8%	85,0%	€23,2	€2,0	€19,7

Table 1: Average expenses for each expense category per month, per international student.

Since there are around 6500 international students, exchange students and degree seeking students combined, in the city of Groningen it is possible to estimate how much the shops in Groningen receive in total extra money. International students from the Hanze University of Applied Science were excluded in this calculation, because all the respondents are from University of Groningen, and Nibud (2017) showed that students of Dutch HBO's have a different spending pattern then students from the universities. This could also be the case for international students, therefore a generalization cannot be done here.

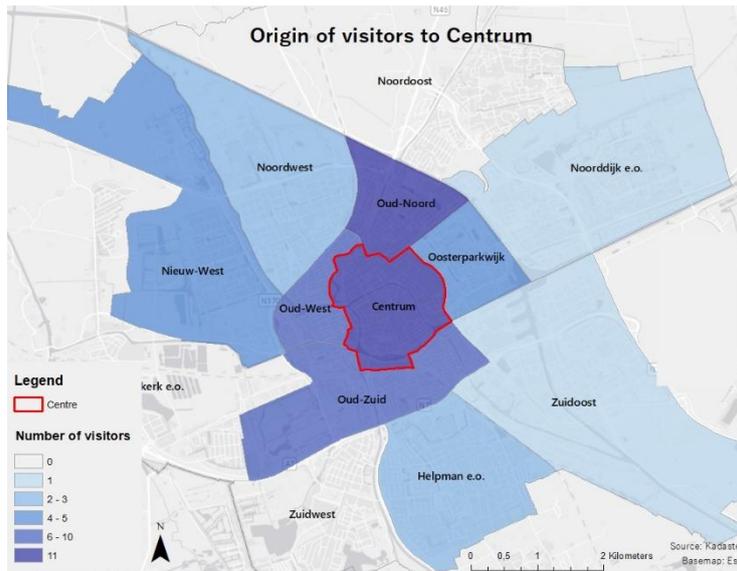
<i>Expense category</i>	Study costs	Food and drinks	Clothing and shoes	Leisure time expenses	Large expenses	Personal treatment	Total
<i>Online in Groningen</i>	€47.771	€58.502	€64.914	€25.502	€29.102	€13.287	€239.078
<i>Local in shops in Groningen</i>	€132.598	€1.353.084	€252.305	€388.301	€83.169	€128.204	€2.337.661

Table 2: Combined number of expenses international students have each month per expense category.

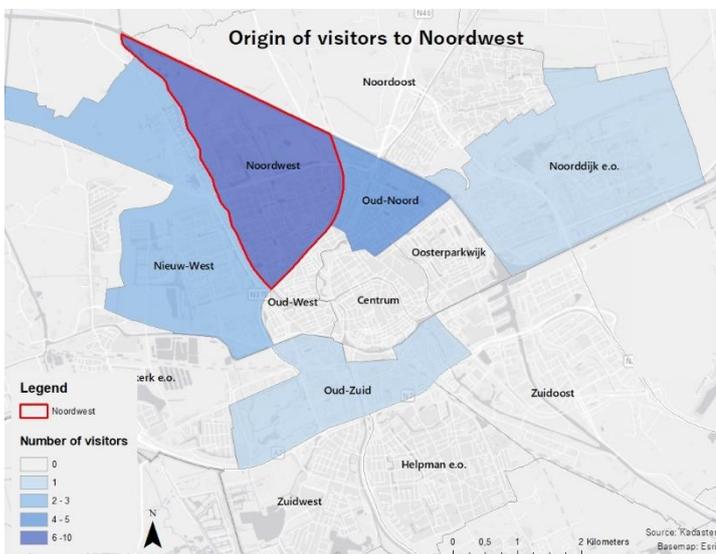
Combined these numbers count up to €2.576.739 per month for the study year 2017/2018.

As becomes clear in table 2, most money goes by far to food and drinks. This is the category with both the highest number of money spent on as well as the highest percentage spend locally. But also clothing stores can expect over €300.000 extra turnover each month as a result of international students. Which shops the international students go to will be discussed in the next paragraph.

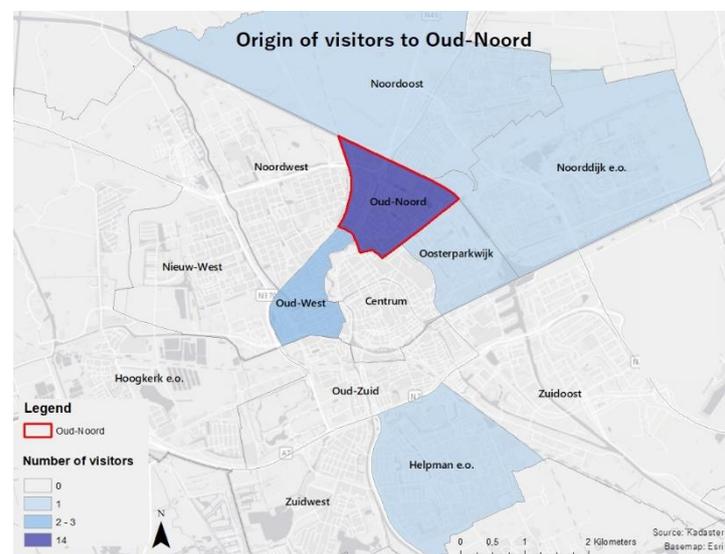
Malet Calvo (2018) indicated that international students are likely to spend their money in places that are special for international students. To check if this was the case in Groningen the international students were asked to name a few of the stores they visited the week before they filled in the survey. The results showed that the international students in Groningen do most of their expenses in supermarkets such as Jumbo, Albert Heijn, Lidl and Aldi. These are indeed also the stores that the Dutch students and local inhabitants visit. In fact; only supermarkets, beauty shops (Kruidvat, Etos) and a few big clothing stores (Zara, Primark, H&M) were named more than five times. This shows that the international students in Groningen are well integrated in the local economy, and that there is no segregation as mentioned by Malet Calvo (2018).



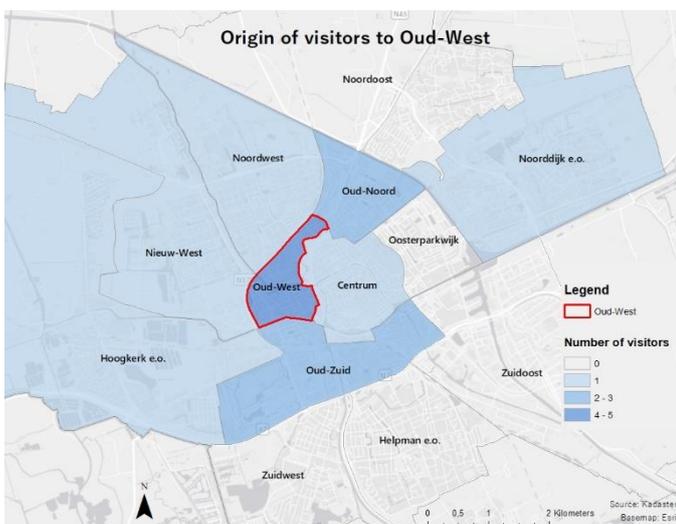
Map 2: Where the students come from who shop in the city centre (total 54).



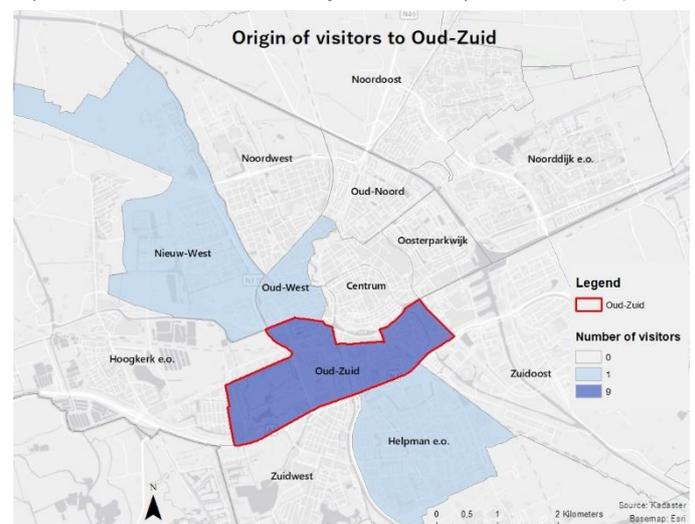
Map 3: Where the students come from who shop in Noordwest (total 19).



Map 4: Where the students come from who shop in Oud-Noord (total 21).



Map 5: Where the students come from who shop in Oud-West (total 12).



Map 6: Where the students come from who shop in Oud-Zuid (total 12).

Shopping location

Looking at map 2 it becomes clear that the city centre has the highest number of international students visiting. This makes sense as this is the place where most clothing stores, but also restaurants and bars are located. Concerning the other neighbourhoods; there is clearly a relation between the number of international students and the number of the store visits. The number in the classes visible in map 1 are often quite close to the number of visits, mentioned in the description of map 4, 5 and 6. Only the Noordwest neighbourhood, on map 3, has more visits from other neighbourhoods, most likely due to the fact that both the big shopping mall Paddepoel is located here. The fact that the Zernike campus is here could also play a role, because many students will pass through here every day on their way to college.

The fact that Paddepoel has a great amount of stores compared to other shopping areas has also the effect on that the students who live in this neighbourhood are less likely to go to the city centre. This can be seen on map 2. Many of their daily needs can already be fulfilled without the city centre.

We can conclude that the international students spend their money for a major part in the same neighbourhood as where they live, and for their other goods go to the city centre. Because the international students are well spread over a big part of the city the effects of their presence are everywhere, but nowhere as the dominant force. Therefore there are no places where there are shops and stores that are exclusively focused on international students. Groningen differs here from Auckland and Lisbon (Malet Calvo, 2018; Collins, 2010) where the presence of international students is much more visible, due to a cluster of international students in a certain part of the city.

Rent

In chapter 4.2 it has become clear that for both the Dutch students (Nibud, 2017) and the surveyed students rent is by far the biggest expense category (€417 and €435 resp.). This makes the rent a very relevant part of the expenses of international students, and interesting to research. The living location of the students and the rent they gave in question 6 can be used to investigate if students pay different rents in different parts of the city. For this question the city of Groningen was divided in three parts, based on their location:

- 1) Noordwest and Nieuw-West (close to the Zernike campus and major shopping centre Paddelpoel)
- 2) Centrum, Oud-Zuid and Oud-West (close to the university buildings in the city centre and the centre itself)
- 3) Oud-Noord, Noorddijk, Oosterparkwijk and Noordoost (Further away from the university buildings and major shopping areas)

Unfortunately due to a relatively small number of cases in part 1 and 3 and the fact that the cases within the groups are not normally divided (see appendix 7) a non-parametric test needed to be used. Since there are more than two groups the Kruskal-Wallis test was the best option.

Based on this test, visible in appendix 7, it can be concluded that there is a significant difference between the different city parts in terms of rank number, with students from especially part 3 scoring a lower mean rank than students from part 1 and 2. The rent is therefore different per city part.

5. Conclusion and reflection

This research was focused on how much the international students in the city of Groningen spend while studying here. The goal of this was to find out what the effects of international students are on the local economy. On average the 6500 international students of the University of Groningen spend 2,5 million each month in shops, bars and restaurants in the city of Groningen. Due to the spread of the international students over the city, this money also flows to stores all over the city.

An increase in international students certainly increases the number of customers for stores in Groningen, but based on their data they do not spend as much as Dutch students on average (Nibud, 2017). This difference might be caused by the fact that students tend to estimate their expenses to be lower than they actually are.

The difference between Dutch and international students is mostly on expenses such as insurances. These expenses are mostly not in the city of Groningen however. In the expense categories that are the most important for the local economy international students and domestic students do not score significantly different in terms of general expenses. These are expenses like food and drinks, leisure time expenses and personal treatment. And for these more thoroughly researched categories the vast majority of the expenses flows into the local economy. The percentages of the location of the spendings with the money spend on average were used to calculate how much money flows into the shops in the city of Groningen. This turned out to be over 2,5 million euros per month. The biggest category where the international students spend their money on was food and drinks, over 1,4 million euros went to this category.

The low expenses of international students on leisure time expenses outside Groningen indicates that other parts of Netherlands do not profit much from the presence of international students in Groningen. The international students get a lot of visitors from their home country, in line with the theory of Weaver (2003), who found out that 78% of the international students get visits from their home country. These visitors can also participate in touristic activities. Further research is needed to research the effects of the extra tourists that the international students bring to Groningen.

International students do not live clustered in the city of Groningen, in contrast to some examples in the literature (Malet Calvo, 2018; Collins, 2010). This results in the fact that they are not spending most of their money in a small areas that would create a part of the city that is especially focused on them. Indeed, most of the international students do their daily shopping in their own neighbourhood and the city centre, spreading the effect of their expenses. This result might however be somewhat affected by the fact that the data collection was done during the exam weeks, a period when students are often less eager to spend time on shopping. Due to the time path of this thesis it was unfortunately unavoidable to survey in this period.

This results in the conclusion that an increasing number of international students in the city of Groningen will result in more costumers for almost all the stores in the city. Due to the spread of the students over the city and their priority for shopping close to home it is unlikely that a part of the city will become especially focused on international students. Therefore their role as costumers is rather more complementary instead of differentiating. Of course an increase in international students, that can be expected in the city of Groningen for the years to come, might change the policy of the municipality in terms of housing the students. Already there is an increase in high rise in some areas of the city. If a cluster of these building will be built, international students could become the dominant consumer group in this part of the city. Therefore, more of the effect of gentrification and less economic integration might become clear in the future (Grabkowska and Frankowski, 2016; Smith and Hubbard, 2014). This in an interesting trend to follow for further research.

References

- APE (2010). *Studenten maken de stad? De impact van Nederlandse en buitenlandse studenten op hun gaststad – lessen voor Den Haag*. Rapport 785. Den Haag. Aarts De Jong Wilms Goudriaan Public Economics bv (APE).
- Baas, M. (2014). "Victims or Profiteers? Issues of Migration, Racism and Violence among Indian Students in Melbourne," *Asia Pacific Viewpoint*, 55(2), pp. 212–225.
- Collins, F. L. (2010). "International Students As Urban Agents: International Education and Urban Transformation in Auckland, New Zealand," *Geoforum*, 41(6), pp. 940–950.
- CPB (2012). *De effecten van internationalisering van het hoger onderwijs*. Den Haag: Centraal Planbureau.
- Gemeente Groningen (2018). *Huisvesting Internationale studenten*. Accessed at 11/12/2018 using: <https://gemeente.groningen.nl/sites/default/files/2.%20Huisvesting%20internationale%20studenten%20br.pdf>
- Grabkowska, M. and Frankowski, J. (2016). "'close to the City Centre, Close to the University'. Are There Symptoms of Studentification in Gdańsk, Poland?," *Bulletin of Geography*, 32(32), pp. 73–83.
- Groningen city monitor (2018). *Nationaliteiten buitenlandse studenten*. Accessed at 11/12/2018 using: <http://www.groningecitymonitor.nl/de-mensen/studenten/nationaliteiten-buitenlandse-studenten>
- Malet Calvo D. (2018). "Understanding International Students Beyond Studentification: A New Class of Transnational Urban Consumers. the Example of Erasmus Students in Lisbon (Portugal)," *Urban Studies*, 55(10), pp. 2142–2158.
- Nibud (2017). *Studentenonderzoek 2017*. Accessed 9/10/2018 using: <https://www.nibud.nl/wp-content/uploads/Nibud-Studentenonderzoek-2017.pdf>
- Nuffic (2018). *Universities*. Accessed at 25/09/2018 using: <https://www.nuffic.nl/en/subjects/universities/>
- Onderzoek en Statistiek Groningen (2017). *Stand van de stad*. Accessed at 15/01/2019 using: <https://os-groningen.nl/wp-content/uploads/2017/06/stand-van-stad-2016.pdf>
- Smith, D. P. and Hubbard, P. (2014). "The Segregation of Educated Youth and Dynamic Geographies of Studentification," *Area*, 46(1), pp. 92–100.
- SSH Student Housing (2018). *Groningen*. Accessed at 25/09/2018 using: <https://www.sshxl.nl/en/cities/groningen/map?city=Groningen>
- Universities UK (2017). *The economic impact of international students*. Accessed at 8/10/2018 using: <https://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2017/briefing-economic-impact-international-students.pdf>
- University of Groningen (2018). *Accommodation/housing*. Accessed at 25/09/2018 using: <https://www.rug.nl/education/international-students/living-in-the-netherlands/>

Weaver, D.B. (2003). The contribution of international students to tourism beyond the core educational experience: evidence from Australia. *Tourism Review International*, 7(11) pp. 95-105.

Appendix

Appendix 1: Data collection instrument

Hello, I am a student from the University of Groningen. I do a bachelor thesis about the effects of spending behaviour of international students on the local economy of Groningen.

For this research I would like to ask you a few questions. If you don't know or don't want to answer a certain question you can skip them. The answers you give in this interview will be used for this research only, and will not be shared with anyone. The data is anonymous and you don't have to give any personal information.

This questionnaire contains of 12 questions and takes 5-10 minutes to answer.

I would like to thank you in advance for participating in this research!

1. On what kind of program are you participating as an international students?

- Student Exchange at BSc level*
- Student Exchange at MSc level*
- Student Exchange at PhD level*
- I will get my bachelor degree at the University of Groningen.*
- I will get my master degree at the University of Groningen.*
- I will get my PhD from the University of Groningen*

2. How long do you expect to study in the city of Groningen for your present exchange/program?

- 1 semester or less
- 1 year
- 2 years
- 3 years
- 4 years or more
- other,

3. What is your nationality?

.....

4. Do you have a job in or around Groningen, and how much do you work on a weekly base?

- I have a job, and on average I work approximately hours per week
- I do not have a job

5. Your knowledge of the Dutch language is: (Circle the correct answer)

1. Very poor; 2, Poor; 3, Reasonable; 4, Good; 5, Very good.

6. Can you fill in the following table, where you estimate how much money you spend on average each month (excluding tuition/enrolment fee) on the following expense categories in euro's?

Rent (Including water, energy)	
- Do you rent a furnished room in Groningen?	Yes/no
Health insurance	
Other insurances	
Telephone, internet subscription	
Contribution and subscriptions (study and social associations)	
Study costs (books, excursions, lab costs)	
Food and drinks	
Local or domestic Transport (including bike costs)	
Clothing and shoes	
Leisure time expenses (Like: bars, going out, sports, restaurants)	
Large expenses (Like: electronics and furniture)	
Personal treatment (barber, beauty salons, toothpaste, shampoo)	
Other	
Total (estimated)	

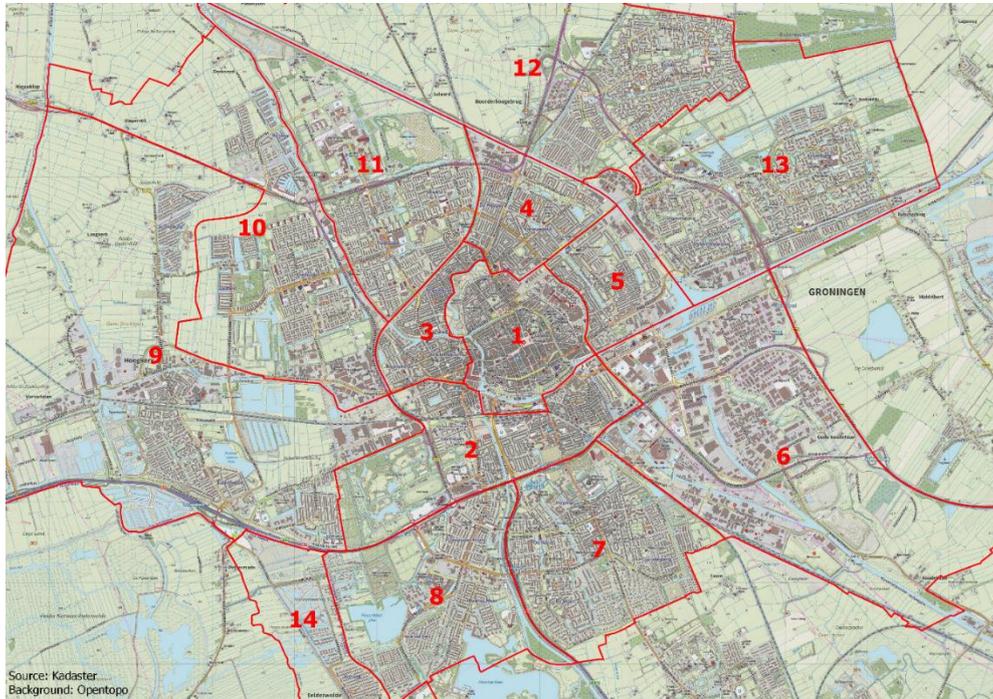
7. In the next table I ask you to divide certain expenses over the place where you spend them. Please fill which percentage of the total expenses for each category you spend at which location. Make sure that the three columns sum up to 100%.

Expenses category	Part in shops in Groningen (stores, supermarkets, University canteen)	Part online by shops in Groningen (like at ikea.nl)	Part elsewhere (like amazon or a shop in another city)	Total
Study costs	%	%	%	100 %
Food and drinks	%	%	%	100 %
Clothing and shoes	%	%	%	100 %
Leisure time expenses	%	%	%	100 %
Large expenses	%	%	%	100 %
Personal treatment	%	%	%	100 %

8. Can you point on this map where you live?

I don't live in Groningen

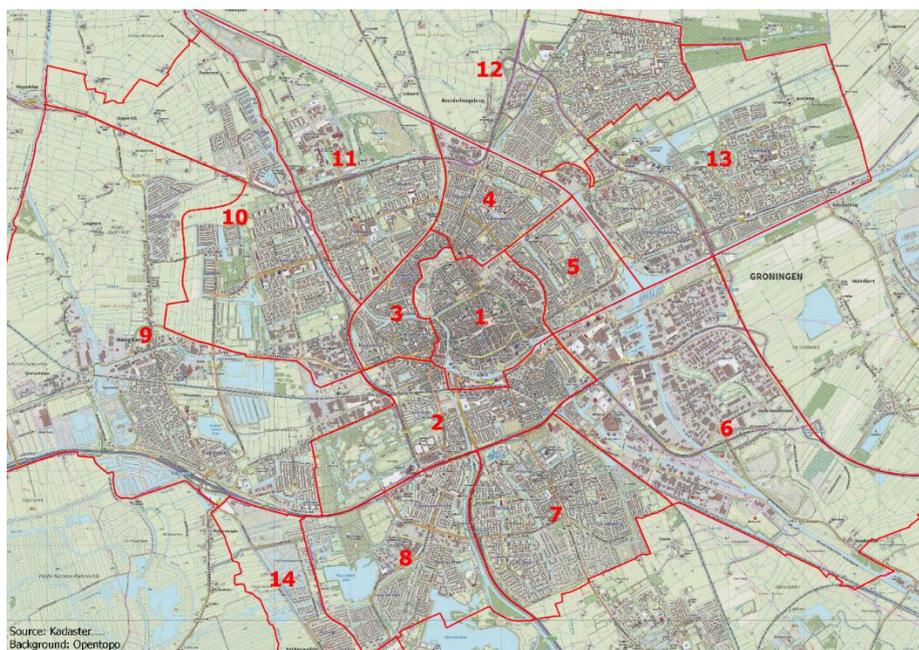
I live in Groningen, in neighbourhood (please write down the number here, or indicate on the map)



9. Where do you buy your daily needs; like food, water and hygiene products?

I don't live in Groningen

I live in Groningen, and I buy my daily needs in neighbourhood(s): (please write down the number[s] of the neighbourhood[s]) answer with the number of the neighbourhood, or put a cross on the map, can be more than one)



10. Can you name the stores that you have visited last week?

.....
.....
.....
.....
.....

11. Which two factors are most important for you when picking a store:

1).....

2).....

12. This Autumn (between 1 September and 1 January), have friends or family from you home country visited you, or do they plan to do so?

Yes / No

if yes, how many people in total, and how many days in total (e.g., 2 people coming together for 2 days = 4 visiting days; 1 person for 6 days = 6 visiting days)?

..... visiting days

Thank you very much for your help!

End data collection instrument

Appendix 2

Expense category	Average monthly expense
<i>Rent (Including water, energy and internet)</i>	417
<i>Health insurance</i>	106
<i>Other insurances</i>	15
<i>Telephone</i>	26
<i>Contribution and subscriptions</i>	28
<i>Tuition</i>	191
<i>Study costs (books)</i>	58
<i>Food and drinks</i>	181
<i>Transport</i>	63
<i>Clothing and shoes</i>	47
<i>Leisure time expenses</i>	146
<i>Large expenses</i>	95
<i>Personal treatment</i>	27
<i>Other</i>	48
Total	1448

Monthly expenses of Dutch students divided per expense category (Nibud, 2017)

Expense category	Average monthly expenses Dutch students (Nibud, 2017)	Average monthly expenses surveyed students
<i>Rent (Including water, energy and internet)</i>	417	434
<i>Health insurance</i>	106	50
<i>Other insurances</i>	15	3
<i>Telephone</i>	26	19
<i>Contribution and subscriptions</i>	28	9
<i>Tuition</i>	191	X
<i>Study costs (books)</i>	58	34
<i>Food and drinks</i>	181	224
<i>Transport</i>	63	26
<i>Clothing and shoes</i>	47	59
<i>Leisure time expenses</i>	146	71
<i>Large expenses</i>	95	21
<i>Personal treatment</i>	27	23
<i>Other</i>	48	X
Total	1448	X

Monthly expenses of Dutch students and surveyed students divided per expense category (Nibud, 2017)

Appendix 3

Descriptive statistics

1. On what kind of program are you participating as an international students?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Exchange Bsc	15	14,9	14,9	14,9
	Exchange Msc	4	4,0	4,0	18,8
	Exchange PhD	3	3,0	3,0	21,8
	Bachelor degree	47	46,5	46,5	68,3
	Master degree	24	23,8	23,8	92,1
	PhD degree	8	7,9	7,9	100,0
	Total	101	100,0	100,0	

3. What is your nationality?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	American/Irish	1	1,0	1,0	1,0
	Austrian	1	1,0	1,0	2,0
	British	1	1,0	1,0	3,0
	Chinese	19	18,8	18,8	21,8
	Colombian	1	1,0	1,0	22,8
	French	2	2,0	2,0	24,8
	German	20	19,8	19,8	44,6
	German/Iranian	1	1,0	1,0	45,5
	Ghanian	1	1,0	1,0	46,5
	Greek	5	5,0	5,0	51,5
	Greek/Albanian	1	1,0	1,0	52,5
	Indonesian	6	5,9	5,9	58,4
	Iranian	1	1,0	1,0	59,4
	Irish	3	3,0	3,0	62,4
	Italian	6	5,9	5,9	68,3
	Kenyan	2	2,0	2,0	70,3
	Korean (Republic)	3	3,0	3,0	73,3
	Latvian	1	1,0	1,0	74,3
	Mauritian	1	1,0	1,0	75,2
	Mexican	1	1,0	1,0	76,2
	Mexican/Spanish	1	1,0	1,0	77,2
	Moldova	1	1,0	1,0	78,2
	Nigerian	1	1,0	1,0	79,2
	Norwegian	2	2,0	2,0	81,2
	Philippines	1	1,0	1,0	82,2
	Portugese	4	4,0	4,0	86,1
	Romanian	1	1,0	1,0	87,1
	Saudi Arabian	1	1,0	1,0	88,1
	Spanish	5	5,0	5,0	93,1
	Swedish	3	3,0	3,0	96,0
	Tanzanian	1	1,0	1,0	97,0
	Turkish	1	1,0	1,0	98,0
	X	2	2,0	2,0	100,0
	Total	101	100,0	100,0	

Appendix 4: One sample t-test

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Rent (Including water, energy)	77	434,48	115,634	13,178
Health insurance	84	50,04	79,002	8,620
Other insurances	75	3,00	9,991	1,154
Telephone, internet subscription	96	18,80	14,128	1,442
Contribution and subscriptions (study and social associations)	84	9,06	16,494	1,800
Study costs (books, excursions, lab costs)	87	33,89	43,935	4,710
Food and drinks	98	223,72	110,417	11,154
Local or domestic Transport (including bike costs)	96	26,04	32,397	3,306
Clothing and shoes	95	58,79	70,600	7,243
Leisure time expenses (Like: bars, going out, sports, restaurants)	97	70,88	59,665	6,058
Large expenses (Like: electronics and furniture)	80	21,13	64,046	7,161
Personal treatment (barber, beauty salons, toothpaste, shampoo)	93	23,20	19,989	2,073

One-Sample Test							
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference		Test value
					Lower	Upper	
Rent (Including water, energy)	1,327	76	0,189	17,481	-8,77	43,73	417
Health insurance	-6,492	83	0,000	-55,964	-73,11	-38,82	106
Other insurances	-10,402	74	0,000	-12,000	-14,30	-9,70	15
Telephone, internet subscription	-4,992	95	0,000	-7,198	-10,06	-4,34	26
Contribution and subscriptions (study and social associations)	-10,524	83	0,000	-18,940	-22,52	-15,36	28
Study costs (books, excursions, lab costs)	-5,120	86	0,000	-24,115	-33,48	-14,75	58
Food and drinks	3,830	97	0,000	42,724	20,59	64,86	181
Local or domestic Transport (including bike costs)	-11,178	95	0,000	-36,958	-43,52	-30,39	63
Clothing and shoes	1,628	94	0,107	11,789	-2,59	26,17	47
Leisure time expenses (Like: bars, going out, sports, restaurants)	-12,401	96	0,000	-75,124	-87,15	-63,10	146
Large expenses (Like: electronics and furniture)	-10,317	79	0,000	-73,875	-88,13	-59,62	95
Personal treatment (barber, beauty salons, toothpaste, shampoo)	-1,831	92	0,070	-3,796	-7,91	0,32	27

One-Sample Test							
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference		
					Lower	Upper	Test value
Rent (Including water, energy)	1,327	76	0,189	17,481	-8,77	43,73	417
Health insurance	-6,492	83	0,000	-55,964	-73,11	-38,82	106
Other insurances	-10,402	74	0,000	-12,000	-14,30	-9,70	15
Telephone, internet subscription	-4,992	95	0,000	-7,198	-10,06	-4,34	26
Contribution and subscriptions (study and social associations)	-10,524	83	0,000	-18,940	-22,52	-15,36	28
Study costs (books, excursions, lab costs)	-5,120	86	0,000	-24,115	-33,48	-14,75	58
Food and drinks	3,830	97	0,000	42,724	20,59	64,86	181
Local or domestic Transport (including bike costs)	-11,178	95	0,000	-36,958	-43,52	-30,39	63
Clothing and shoes	1,628	94	0,107	11,789	-2,59	26,17	47
Leisure time expenses (Like: bars, going out, sports, restaurants)	-12,401	96	0,000	-75,124	-87,15	-63,10	146
Large expenses (Like: electronics and furniture)	-10,317	79	0,000	-73,875	-88,13	-59,62	95
Personal treatment (barber, beauty salons, toothpaste, shampoo)	-1,831	92	0,070	-3,796	-7,91	0,32	27

Appendix 5: Location of the spendings

Location of expenses of international students divided over the following categories:

- 1: Part in shops in Groningen
- 2: Part online by shops in Groningen
- 3: Part elsewhere

	Mean	N	Std. Deviation
1: Study costs	60,20	74	41,110
1: Food and drinks	93,05	87	14,211
1: Clothing and shoes	66,03	78	31,953
1: Leisure time expenses	84,29	84	24,705
1: Large expenses	60,57	72	36,485
1: Personal treatment	85,00	84	26,628
2: Study costs	21,69	74	32,774
2: Food and drinks	4,02	87	9,610
2: Clothing and shoes	16,99	78	24,433
2: Leisure time expenses	5,54	84	13,644
2: Large expenses	21,19	72	30,323
2: Personal treatment	8,81	84	20,039
3: Study costs	18,11	74	31,576
3: Food and drinks	2,93	87	8,337
3: Clothing and shoes	16,99	78	25,166
3: Leisure time expenses	10,18	84	19,364
3: Large expenses	18,21	72	29,391
3: Personal treatment	6,19	84	17,607

Appendix 6: Average expenses per category

	Mean	N	Std. Deviation
Rent (Including water, energy)	434,48	77	115,634
Health insurance	50,04	84	79,002
Other insurances	3,00	75	9,991
Telephone, internet subscription	18,80	96	14,128
Contribution and subscriptions (study and social associations)	9,06	84	16,494
Study costs (books, excursions, lab costs)	33,89	87	43,935
Food and drinks	223,72	98	110,417
Local or domestic Transport (including bike costs)	26,04	96	32,397
Clothing and shoes	58,79	95	70,600
Leisure time expenses (Like: bars, going out, sports, restaurants)	70,88	97	59,665
Large expenses (Like: electronics and furniture)	21,13	80	64,046
Personal treatment (barber, beauty salons, toothpaste, shampoo)	23,20	93	19,989

Appendix 7 Rent

Tests of Normality							
	Stadsdeel	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Rent (Including water, energy)	0	,159	10	,200*	,969	10	,881
	1	,323	15	,000	,847	15	,016
	2	,303	30	,000	,703	30	,000
	3	,203	22	,019	,835	22	,002

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Ranks			
	Stadsdeel	N	Mean Rank
Rent (Including water, energy)	1	15	36,37
	2	30	39,12
	3	22	25,41
	Total	67	

Test Statistics ^{a,b}	
	Rent (Including water, energy)
Kruskal-Wallis H	6,609
df	2
Asymp. Sig.	,037
a. Kruskal Wallis Test	
b. Grouping Variable: Stadsdeel	