The Dutch brain drain : a three-case policy comparison and media analysis

Bachelor's Project Spatial Planning and Design

May 2020

Student: A. G. Honingh

a.g.honingh@student.rug.nl

First supervisor: dr. W. S. Rauws

Second assessor: R. Spijkerboer

Abstract

Peripheral university towns in the Netherlands face a challenge: their graduates are moving away whilst there is a shortage on their labour markets: this is the brain drain. Talents is draining to the Randstad, often in search of better job prospects. Students and recent graduates hold a lot of human capital, which makes them more mobile and more attractive to companies. This study aims to identify the policies of Groningen, Enschede and Maastricht (three peripheral university towns) on reducing this migration of graduates. It takes a look at how well these policies are targeting the factors, such as family ties, migration background and professional aspirations, that drive this migration. All three policies mention struggling with their town image, which is often perceived as boring and lacks potential. The media describes the brain drain as problematic, as well as a harmful prejudice that these peripheries are boring and hold limited possibilities. Due to this these areas cannot shake their image and fail in retaining their graduates, leading to issues in their local economies. The media analysis confirms this issue and pose interesting solutions.

Brain drain Graduate mobility Local policy Media influence

Contents

1 Introduction

1.1 Background

The University of Groningen, Twente University and Maastricht University have in common that they keep growing in number of students (VSNU, 2020). Another common thing they share is that they are 3 out of the 7 Dutch universities not located in the Randstad, the industrial and commercial centre of the Netherlands. Regions with larger labour markets, as the Randstad, attract recent graduates in search of a job (Venhorst, 2012). It has become an accepted trend in the internal migration of the Netherlands, recent graduates move to the 'west' in search of a job. More rural regions, as Groningen, Enschede and Maastricht thus fails to retain their newly attained graduates: this is called the 'brain drain' (Merriam-Webster, n.d.). The word 'drain' implies a certain loss; however, this could better be put as migration. More specifically, the migration of highly skilled university graduates.

Venhorst (2012) has given an insight into why and where graduates move, but mentions the scope of current policies trying to decease the brain drain as too narrow, as it is a phenomenon with many driving and pulling factors. Rérat confirms this in figure 1 (2014), displaying socio-familial factors, migration background and professional aspirations as the three factors of graduate mobility. On top of this, human capital (Becker, 1964) is mentioned as one of the key factors in migration. As graduates have higher human capital and are mobile, they are more likely to migrate elsewhere. The brain drain has only recently become more debated subject seeing a significant increase in articles written on the subject between 2005 and 2009 (Gibson & McKenzie, 2011), while the exchange of knowledge and science across borders and institutions had been around for over 2000 years (Boc, 2020). 'Brain drain' as a concept is contested and the way the media displays this phenomenon is a big part in that, making the media analysis a vital part in this research.

Media and academic research both display that the number of students leaving the Northern, Eastern and Southern areas increases (Venhorst, 2012; Kuitert, 2018). The inflow of graduates in the West is twice as big as the outflow, this shows a clear tendency for graduates to move to the Randstad (Venhorst, 2012). Groningen University, T/U Twente and Maastricht University are top universities located in the North, East and South, but not within commuting distance of the Randstad. Spatially this is interesting to look at, since these regions are different in local characteristics, but also have similarities in the way they are located far from the Randstad. This raises the question: what are the differences between these three peripheral regions compared to each other and the Randstad? Both in terms of policies and representation in the media.

The brain drain is a known issue but this is mostly on a international level, lesser developed countries experience most disadvantage of this (Gibson & McKenzie, 2011). Yet within countries, especially well-developed as the Netherlands it is not yet seen as an issue. The opposite is the case, talent leaving from already shrinking peripheral areas within a country can further cause for an unequal distribution of knowledge and funds. These peripheral regions are struggling with tightness on their labour markets and a population that is increasingly becoming older (Gemeente Enschede, 2019; Gemeente Groningen 2019; Gemeente Maastricht 2013).

Answering this question is thus vital for developing the policies in regions which fail to retain their graduates. It could prove insightful to look further into what the media says about the brain drain as it is a recent concept which is often debated. Collective norms and beliefs about the job market and its location could influence graduate mobility, this is often written about in the media. It is a journalist's job to investigate underlying processes and hidden agendas, which can be useful for policy developers (Paalman, 1997).

1.2 Research problem

1.2.1 Research and sub questions

The main research question is the following:

- What are the differences between policies and media discourse regarding the 'brain drain' in the peripheral university cities in the Netherlands?

The research question is dissected in the following sub questions: 1. What are the main concepts regarding the brain drain? 2. To which extent are these concepts found in peripheral policies? 3. What are the differences found in the media between these peripheries?

1.2.2 Hypotheses

Because the peripheral regions in the Netherlands are less successful in retaining their graduates than the West, this should be visible in a few things. Firstly, I expect current policies of all three regions to not be internally coherent and effective, regarding the three main factors: socio-families ties, migration history and professional aspirations. Next to this the framing of the brain drain in the media could contribute to the feeling of having better prospects in the West. This framing of the brain drain could become visible through a media analysis.

1.3 Structure

In search of answering this research question and its sub-questions, this project follows the research design described here. In chapter 2 the theoretical framework is elaborated upon, this is to explain the certain important concepts. These concepts interact, visualised in the conceptual model. It is important to set the context and justify the methodology following in chapter 3. This included a review, summary and analysis of the three policy agendas corresponding with the three regions. After this in chapter 3.2 the media analysis is explained, justified and made as transparent as possible. In chapter 4 the findings and analysis are discussed. This starts with the findings of the three cases of the policy analysis. Section 4.2 is dedicated to analysing these findings of the media, giving meaning to the numbers and linking them to the concepts in the conceptual model. After this the hypotheses are confirmed or rejected in the conclusion. Finally, there are suggestions for future research and a reflection on this Bachelor Thesis [1].

---

[1]This thesis was made in LaTeX

2 Theoretical framework

2.1 Human capital

As the economy turns from production based to knowledge based (Boc, 2020), the importance of human capital rises, as it influences economic growth. Human capital and knowledge are gained through education, as empirical studies show: investment in education has a significant effect on the growth in economic markets (Barro Sala-i-Martin, 1995). Thus, for local policy makers aiming to increase economic growth, it seems logical to aim these policies at increasing the human capital through education. When looking at human capital as an aggregate that differs in value based on its location, it becomes quantifiable. As Dustmann et al. (2011) suggests the following formula for productive capacity dependent on location:

$$lnK_j(t) = \sum_n \theta_{sj} S_s(t)$$

$K_j(t)$ depends on location j at the given time t, which is the capacity. This is calculated by the sum of the number of skills acquired $S_s(t)$ at the given time t, together with the contribution θ_{sj} of that skill s, at location j. What is important to take from this is that skills have different values at different locations and different times. Besides this, human capital is a bundle of skills unique for every person and this cannot be unbundled. Different skills can be required on certain locations. Some skills take a while to attain, the also accumulate over time, this all adds up to the transferability of the certain skill. Hence, a skill can be partially transferable, which results in lower mobility. Strong transferability, the skill can be applied somewhere else equally, accommodating movement. Or super transferable, which means the human capital is almost completely in line at different locations and does not depend on the individual (Dustmann, et al., 2011). Marginal gain is often higher in urban areas, accommodating for migration. In the case of this research, looking at university graduates, within their expert domains students have highly transferable skills. Between these domains this is not the case.

Urban areas containing a lot of human capital, for example through universities located in their area, then attract more human capital (Berry Glaeser, 2005), this creates a snowball effect. Highly skilled people tend to move to places that already have a high level of human capital. Cities located in rural areas have a disadvantage over cities within a closer proximity of each over. Regions with larger labour markets attract a higher number of graduates in search of a job (Venhorst, 2012). The main lesson from this for peripheral regions is that the key lies on attracting and retaining human capital, which is harder due to being a rural area, to improve their economy. This can be done through education, which is why this thesis looks into peripheral university towns.

2.2 Graduate mobility

Where graduates move determines where human capital accumulates. As human capital and the skills it consists of is transferable within the Netherlands and reward is often higher in the Randstad, there is a trend of graduates moving there. Yet there graduates are vital for the peripheral areas to keep their economies going. Where and when recent graduates move is thus interesting for peripheral areas, as they want to prevent this migration. Graduate mobility is dependent on multiple things, as Rérat (2014) mentions, both socio-familial, migration history and professional aspirations have an influence on this.

- The socio-familial trajectory is mainly dependent on household composition (single, married, with or without children), gender (also mentioned below) and family background.

- Migration history is also a factor in this. It is so to say that a person whom have moved before is more likely to move again after this. In the situation is the brain drain this can be seen in student who come to the peripheries to study, are more likely to leave after graduating.

- Professional aspirations is the last main influencer. Regions are different in demography and economic structure. This also becomes visible in the policy analysis later on. The career choices (also dependent on the type of degree and the transferability of skills that come with this) and the opportunity to get subsidy influence the tendency to stay or leave.

So even personal characteristics like gender can influence spatial mobility of graduates (Faggian et al., 2007; Rérat, 2014). Human capital is argued as the main determinant of mobility (Becker, 1964). This creates an unsolvable scenario: human capital is highly mobile, yet the aim is to keep it from moving elsewhere. Identifying the underlying drivers that influence graduate mobility is key in policy making, as these factors could be addressed in the policies to improve these. Recognising

Figure 1: Graduates' triple trajectories Source: Rérat (2014), page 124.
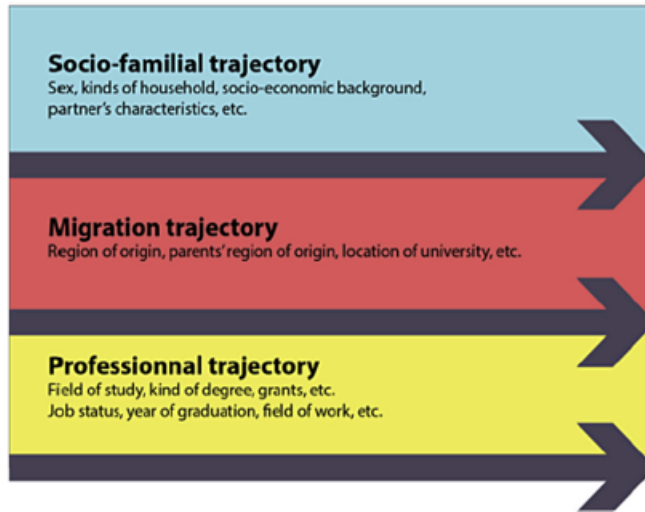
where the problem is, is often the first part in trying to solve it; thus, in making successful policies, knowing these drives is essential.

The brain drain has become a more academically written about and more debated topic, yet this focuses on migration between counties. Local and national newspapers pick up on the phenomena and address rural brain drain (Gibson McKenzie, 2011). A systematic analysis of media can inform new policies and what their focus points should be (Paalman, 1997). In this case specifically, because the peripheries mostly use policies in trying to retain their graduates.

2.3   Media influence

In this study a media analysis is used to look at how the media (specifically newspapers) frames the problem of the brain drain. Media can paint a picture that is not attractive and by this influence the tendency of people to move there or stay there, even while this picture might be wrong. Media and newspapers are a powerful tool as to what people believe and think. In the case of the brain drain, a contingent and debated subject, a negative representation in the media influences what people eventually believe (Nitz West, 2004). All three policy documents that will be analysed later on, show that the municipalities struggle with improving their rural image. Media as well gives insight into the current cultural ideologies and political context, which is needed to put it into societal and political context.

Public policies on the brain drain are often mentioned as not working or faulty. Reason for this is that often the scope of these policies is too narrow, or they are not integrated with all aspects, as for example proposed by Rérat (2014) and the transferability of skills, that relate to this problem, may they be social, economic or political (Boc, 2020; Venhorst, 2012).

2.4   Conceptual model

The conceptual model is visualised in the model below. At the top it starts with the factors of influence that this research looks at: the media and the local policies. The effects these two have on the mobility of graduates is investigated through the sub-questions. Then the relationship between graduate mobility, consisting of the three aspects that influence this (socio-familial ties, migration history and professional aspirations), and the brain drain is further looked into. The context is important to notice in the model, because the brain drain in this research is narrowed down within regions of the Netherlands. This concerns the migration from the peripheries pointed out, to the Randstad. The differences between these regions are most evident in the media and policies.

Figure 2: Conceptual model
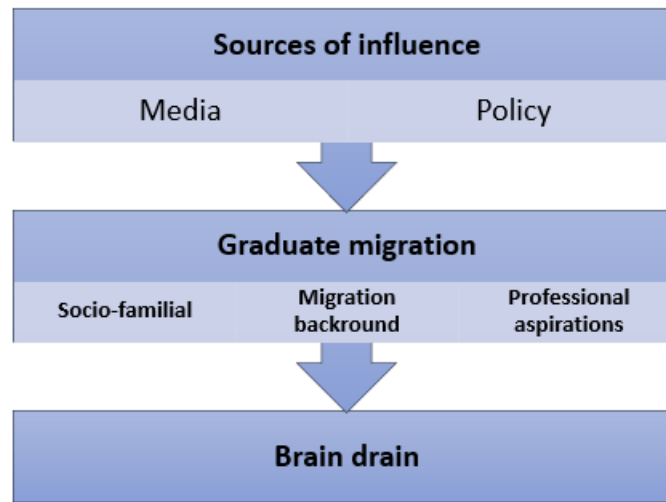
3   Methodology

This research is rather comparative in its nature. It is built up of a two way multiple case study. Both the policy analysis and media analysis look at three cases. These cases are selected because they experience the effects of the brain drain the most, as well as they are relatively the same when it comes to their characteristics (such as socio-economic circumstances, population). Having a multiple case study should provide a better and deeper understanding of the phenomenon as a whole, as in the peripheries themselves (Punch, 2014). Before this a theoretical framework is built, to highlight the important factors influencing the brain drain. This is visualised in a conceptual model. After this the three economic agendas are analysed, determining the coherence between the theory just set out, and the policies. Thirdly, the media analysis is preformed to find out whether the media influences the brain drain through framing. This added up will provide insight in the research question.

Navigating through the theoretical framework, analysing policies and looking into the media framing is all qualitative research. This is valuable for this specific research question as well as keeping a certain link to the planning aspect.

3.1   Policy analysis

Next to this, the policies of our three areas are taken under a magnifying class in order to find an answer to the sub question: To which extent are these concepts found in peripheral policies? The current economic agendas are summarized and boiled down to what is important for this thesis, mainly focusing on demographic and characteristics of the area, strategy regarding attracting/retaining talent and their plans for the future. These can be found in appendix D. In terms of institutions we compare three different municipalities. They resemble the northern, eastern and southern peripheral areas of the Netherlands. This is why I choose Groningen, Enschede and Maastricht as all three have universities. These areas experience a drain of graduates moving to the Randstad (West), as seen in figure 4 below. Policy strategies are explained in the economic strategical plan of the respectable area, all three areas work with such a strategy. These policies are in place to enhance the economic position of the area within the Netherlands, support economic growth and retain talent as well as link this to the labour market. They thus prove insight of a few things: having a full overview of implementations, focused on the whole peripheries' economic agenda and taking spatial planning into account.

Figure 3: Migration stock and flows, 2003/2008. Source: Venhorst (2012).
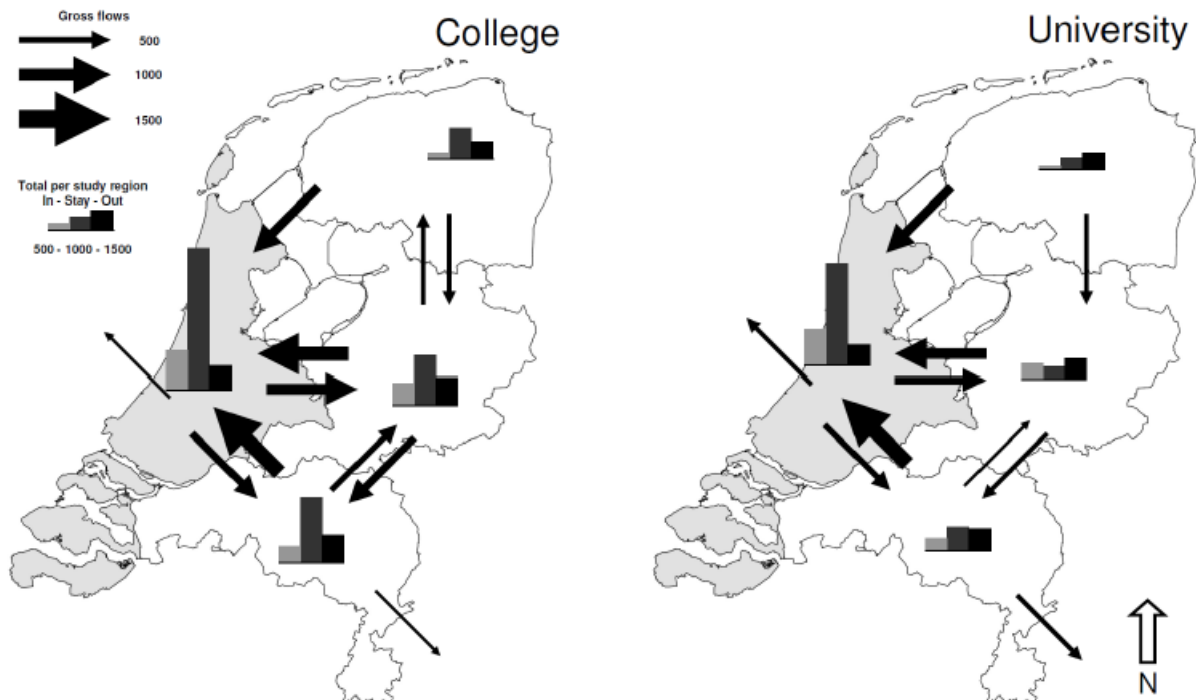
3.2 Media analysis

The last vital part is the media analysis, to answer the last sub question. This is done by consulting online newspaper database LexisNexis, as provided by University of Groningen, comparing the news from the three different areas to each other. This will be mapped according to the search terms, number of articles and what the tone of the article is.

In recent years the brain drain has become a much-debated topic, being in the newspapers often. Between 2005 and 2009 the number of news articles significantly increased, up to 5000 English news articles annually (Gibson McKenzie, 2011). In this minefield of news, it is important to have a broad perspective, yet to filter out what is not necessary. Identifying who says what, where and how many people see it, are vital elements in the analysis. To structure this, this study works with a scheme, which is detailed out in Appendix B. In order to investigate the discourse in the media on a subject, it is possible to perform a media analysis (Jupp, 2006). This is a systematic method for analysing content, in this case of (online) newspapers. The reason for this was explained in section 2.3, it rests on the negative image of the peripheral areas. The hypothesis predicts that the media instigates and affirms a negative image of the prospects in the peripheral areas. If this is the case the media analysis output would be largely negative. Framing, creating a different perspective about the real world, can certainly in the news and newspapers create a different outlook. It can even affect presidential elections (Nitz West, 2004), the content and discourse of the news hold more power than thought. Framing is mentions to have a varied effect on people, mainly dependent on the issue that is chosen in the media. Since the brain drain is a much debated and contingent topic (Gibson McKenzie, 2011), framing would work effectively (Nitz West, 2004)

The scheme used in this research is based on 3 main aspects: identifying content, context and the actors involved (Paalman, 1997). Content is again 3 aspects: what is it about, how many words/lines and is a factual or opinion piece. For the context we distinguish between a (very) negative/neutral/positive point of view, the main lesson/message from the article and if there is a relationship with other aspects mentioned. For actors all main actors mentioned are noted down, their position regarding the brain drain (dependent on their interests) and whether these actors have (very) large/moderate/small powers. All this is put together in a scheme which looks like the figure below, specified in the Appendix.

Figure 4: Media analysis scheme

date/ medium/ circulation	CONTENT		CONTEXT		ACTORS		
	What space accuracy		POV why relationship		Who position power		
date/ newspaper/ 20.000	Title/main message		Negative/neutral/positive (very)		Universities/companies/municipalties		
	number words/column lines, page number		main values		against/ in favour/ neutral		
	Factual/opinion		shortage/reputation/brain drain/etc		Large/moderate/small (very)		

To get to the news articles that represent the brain drain in the media, this research uses the Lexis Nexis Academic database. This has both Dutch and international representation of journalism. Because the research question and context are comparing regions within the Netherlands, the location settings are set to The Netherlands. News articles regarding the brain drain from the Netherlands to countries abroad or vice versa are not taking into the analysis. Next to this only news is selected, not taking into account cases, law reviews, company info and publications. This news is sorted by relevance, because it would be logically to assume more relevant articles to be read by more people, having a bigger influence on their opinions. In search of relevant articles uses a number of combinations of keywords, specified in Appendix B. These are in some case targeted to the three regions, this is ought to find more detail in the regions' view on the brain drain. Next to using Lexis Nexis, for the specific regions also targets the regional newspapers as well as the university newspapers. Media about other countries, or other regions within the Netherlands are filtered out. To start the analysis in 2000 for the articles, was based upon when the first articles were published and that older articles will not have sufficient effect on people's opinion. For the local newspapers we have Groningen with the *Dagblad van het Noorden*, Enschede has *De Twentsche Courant Tubantia* and Maastricht has *Dagblad de Limburger*. Their university newspapers are Ukrant, U-Today and The Observant in the same order. There references for all articles can be found in appendix C.

3.2.1 Considerations

Ethical considerations regarding the media analysis are not dependent on the interaction with survey respondents or interviewees, but the trustworthiness of the articles needs to be considered. Not every newspaper article is equally subjective/objective

and sources can differ greatly across this field. This is taken into account with the media analysis, when selecting the articles. In light of the brain drain only recently becoming a more debated and written about subject, there is a possibly to find much about it online.

In total there are 17 articles analysed, specified in Appendix A. For the articles there is a time-frame that starts in 2000 and continues until 2020. When choosing this timeline, this starts where the first few articles that fit within our context were found. When mapping the number of news articles each year we see a clear increase with spikes in the recent years 2018-2020, visualised in figure 6 below. This can be due to the increase of online media, for example newspapers that are also available online.

When choosing the articles, some were analysed but not put in this research. This was due to different facts: article out of context (Dutch, or peripheral context), article mainly about something else (e.g. housing shortage, student life), articles written by a non-newspaper (municipality reports, educational notifications).

4   Findings and analysis

4.1   Policy analysis

4.1.1   Groningen

Groningen's economic agenda 2020-2022 (Gemeente Groningen, 2019) has a few key focus points: creating a future-proof economy, leaving room for creative businesses and liveability. Groningen merged with the municipalities of Ten Boer and Haren in 2019, making it one of the biggest municipalities in terms of inhabitant numbers. The city of Groningen is considered a major hub and motor in the whole of the northern Netherlands, highlighting its importance to the periphery surrounding it. The daily urban system, the region surrounding the city from which labour commutes to it, stretches as far as seven different municipalities. In close partnership with the university of Groningen they work on innovation and profiling the picture of Groningen, they focus on their so-called unique selling points. The municipality has a high percentage of unemployment: 5,1 percent. Talent is one of the possible solutions for this, more talent means a better climate for business, entrepreneurs and the talent itself. Aging of the inhabitants, is a new problem for the usually young city, as the municipality of Haren, which do have a lot of elderly people, is now part of the municipality of Groningen.

Groningen takes pride in its campus, including the University of Groningen, Hanze applied university and the University medical centre, all together they provide for roughly 45.000 students, an abundance of talent and thus human capital, one might say. The economic policy mentions this as the pillar of economic growth. The report states 'retailing and attracting talent as an important and central theme in Dutch economy'. Groningen is in need of talent and has events that should retain this talent. For example, a "banenborrel", which is a informal event with help of local pubs, where unemployed can talk to potential companies and try out working there. This is put in place to enhance the link between education and businesses. The municipality is in ongoing debate with the industries and campus on how to tempt talent to staying in the region.

So how is this traces back to the theoretical framework? The number of graduates leaving is higher than the number of student coming in (Venhorst, 2012). This means that of the students already there, a part also decides to leave, in contrast to what the theory around migration history might suggest. Socio-familial ties and the transferability of skills come into play there. Graduates are less bound to a location, due to having skills applicable almost everywhere (Dustmann et al., 2011) and other reasons like marrying later (not being bound through your partner).

4.1.2   Enschede

The policies and strategies of Enschede are explained in the Economische Visie Enschede (2019). The daily urban system is different from that in Groningen, Enschede (160.000 inhabitants) has to compete and work together with the cities Almelo (73.000 inhabitants) and Hengelo (80.000 inhabitants), in close by proximity. Enschede sees its number of elderly people double over the last years, alongside with the inhabitant number decreasing and 20 to 30-year-old moving away, this poses a big future problem for their economic stability. Enschede has one of the lowest number of jobs for every 1000 people, this causes spatial crowding and crowing in the job market. This cause people to be overqualified for their jobs and commute longer distances to Enschede. On the other side the municipality mentions a shortage in the work field, especially in the technical sector. The municipality has put in play a set of policies that lay out a red carpet for entrepreneurs, to make it more tempting to move there. This is based on five strategic points: becoming more attractive to talent, more accessible

jobs, environmentally friendly, an inclusive society and the municipalities' role in this.

In their search of talent, they focus on attracting it, retaining it and educating it themselves via their university. An instrument to achieve this is the EAA ('Enschedese Arbeidsmarkt Aanpak'), this aims to get unemployed people to re-enter the labour market. Whilst solving the problem of the unemployment itself, it also helps reducing the number of people who are overqualified for their job from a bottom-up approach. Additionally, the municipality mentions they struggle with their image. The solution for this could be a more integrated approach of advocating their strengths. A fragmentation in the way the city is presented now, does according to them, not enough right to the city. New ways of presenting the city as 'spacious' and 'innovative' should help frame the region, also internationally, as the most entrepreneurial high-tech area in the Netherlands. Alongside this, new collaborations with the T/U Twente, Saxion University of Applied Sciences and Twente ROC are established, these institutes are a vital element in the search of talent. Together they have in recent years try to enhance the flow of students within this system, to encourage following a higher level of education after graduating. Outside of the universities they try to create better links to potential international businesses, creating a buddy system for high profiled graduates from abroad. Helping them find their way within Dutch culture whilst also enhancing the regions' international appearance.

Enschede has a higher influx of students than Groningen, but even more of them leave again (Venhorst, 2012). It is even so that there are more students applying for studies that come from outside of the region than from the region itself. That could suggest that attracting is not the problem in Enschede, but retaining those graduates is, this is visible through the number of 20-30 year olds decreasing. The policy should shift its focus more to retaining than attracting. It is mentioned in questionnaire from the University (UIF, 2018) that student would stay of they had a job offer, this is where it seems to go wrong. Therefor in this case it is more interesting to look at the professional aspirations of those graduates. These aspirations seem to be bigger than what Enschede has to offer, causing the graduates to look for jobs elsewhere.

4.1.3 Maastricht

The economic agenda of Maastricht is described in Economische Visie Maastricht 2020 (Gemeente Maastricht, 2013). It starts with the location of Maastricht, not in close proximity of the Randstad, but on a favourable location for international ties. It has a daily urban system that also spans out into other countries as Belgium and Germany. Maastricht has 120.000 inhabitants and faces an increase in their number of elderly inhabitants, creating a shortage on the labour market. Maastricht sees their labour market becoming more flexible: they have the second highest number of self-employed people. A survey in the agenda shows that 62 percent of the students wishes to live within a 30-km span of Maastricht after the graduate, this number they want to improve.

Maastricht is an international city on paper, but faces critique from international students claiming the city is not international-friendly and "somewhat closed". The University of Maastricht faces critique from the municipality here in the form of being to internationally focused, losing track of the connection to the region itself. In the meanwhile, international students mention lack of culture and sports to participate in, a possible reason for their migration after graduation. The municipality mentions improving this, as they recognize the importance of students in the inner city and their contribution to the liveliness. The municipality states that the moving away of graduates is an inevitable trend, thus they should focus on the graduates that want to stay instead of those who might leave. The municipality thinks there is a shortcoming in how Maastricht is branded, they advocate a collaboration with the university.

Maastricht is, next to the Randstad, the only region that also shows an outward trend abroad (Venhorst, 2012). Considering that the daily urban system also spans abroad, this is logical. What the policy does not do it also target potential students from abroad. This could be improved to increase the number of students from elsewhere. In combination with the plans of promoting Maastricht as an international hub, this can be added to the plans rather easily. There is a relatively low number of students coming in from elsewhere as said, yet almost double that number of graduates moving away again. With the rather small influx, it is due to the theory of migration history (Rérat, 2014), explainable that the municipality focuses on people that want to stay, as most people are from the region are more apt to stay either way. In terms of professional aspirations Maastricht is working on that quite well, attracting large and popular companies to the region that could improve the number of graduates staying.

4.1.4 Summary

Concluding: the main points of the three areas are put in figure 4 table below. What is interesting in these three policy reports is that all mention struggling with a aging population, believing this has a negative effect on their attractiveness. The policies also mention they want to 'paint a new picture', 'promote their attractiveness' and become 'more interesting'. These findings are in line with the general perception of a peripheral area.

Figure 5: Main points policies table

	Groningen	Enschede	Maastricht
Human capital	Enhance the workflow	Shortage of HC in the work field	Big and international daily urban system
Socio-familial	Aging population	Aging population	Aging population
Migration history	More people leaving than coming in	Higher influx from other regions, also more people leave	Focus on people who want to stay
Professional aspirations	Links to new businesses	Create start-ups, try to attract new businesses	Flexible labour market, successful at attracting companies

The policies all three show differences and similarities in their objectives. This is explained in their economic agenda's, which gives more insight in the economic position of the region itself. The peripheral regions all mention struggling with trying to maintain their economic position, mainly in terms of the Randstad. Often mentioned in these policies is their population, which is in all cases becoming older and fewer. This causes for tightness on their labour markets which then further worsens their economic position, retaining talent is a vital element in their plans for the future. Other focus points for their policies are collaborating with universities and local businesses, as well as improving the flow of people within the existing labour market.

Within the Netherlands all three policies recognise they are shrinking regions. The focus of these agendas lies in trying to solve the problem, often locally. This by instigating local projects with either the universities, universities of applied sciences, businesses and partnerships (Gemeente Groningen, 2019; Gemeente Enschede, 2019; Gemeente Maastricht, 2013). The projects come in different forms but mostly target the flow of workers within businesses and thus improving employment rates. Also perceived in these policies is that people are overqualified for their jobs, this causes trouble at the other end of the spectrum, where people with lower or no degree can not find a place anymore on the job market. Spatial planning is not taken into much account in these policies. If and when they are mentioned, it is often in the same breath as the area's position within bigger pictures (for example in relation to nearby towns).

Reason for migration is mentioned in these policies, but they are not taken into regard in finding a solution. Rérat (2014) mentions both socio-familial, migration history and professional aspirations have an influence on migration. Gemeente Maastricht recognises that and vouch for retaining people originally from the South, but Enschede and Groningen set out to retain as much talent as possible. The policies are on this topic not in agreement and focus on different solutions. This confirms the hypothesis that the policies are not coherent in reducing the brain drain. However this, they are also coherent on recognising the problem and propose things that are strongly related to each other, this does not confirm the hypothesis.

Skills prove too transferable within the Netherlands (Dustmann et al., 2011), the policies mention that the skills are widely usable, but do not have a plan on how to retain graduates through this. All three policies consider their strengths and weaknesses, but in all three cases considering the three factors from Rérat (2014), there are certain things that should be improved upon.

4.2 Media analysis

The media analysis shows that the articles span from 2000 until 2020, as seen in the timeline below, with a higher increase in articles in the last 3 years. Of the 17 articles 2 were framed positively, 2 were neutral on the subject and the remaining 13 were negative towards the development of the brain drain. All news articles were factual, except for 2 which both had facts mixed together with opinions. The articles are mostly from newspapers, 4 or them were only published online. The length of the articles varied quite some, it ranges from 200 words for a smaller article up until +1300 words for larger articles. The average number of words in each article is a little over 600 (623 words).

Figure 6: Timeline of articles analysed
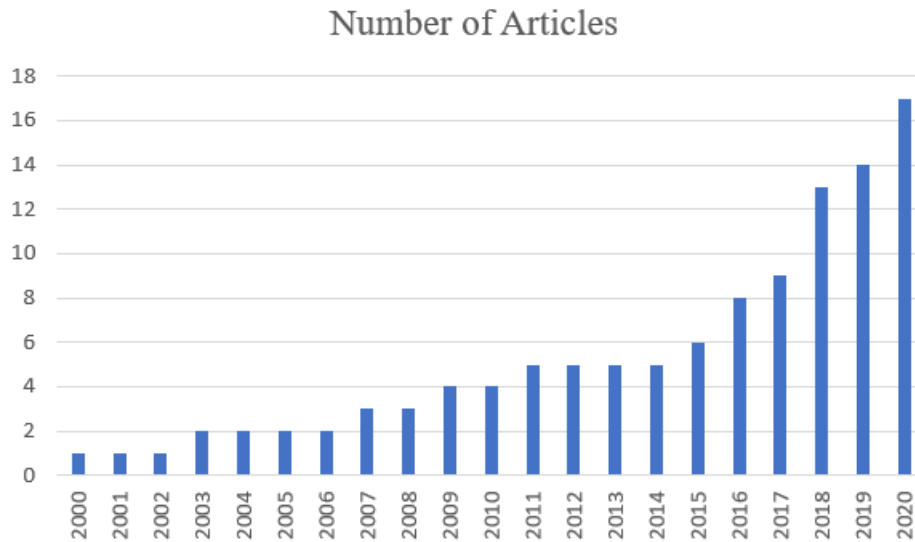
The troublesome image of the peripheral areas is again and again confirmed in the media of all three areas. Of the 17 articles only 4 were not negative. They often mention that retaining talent is a struggle, with increasing numbers of elderly people and not enough youngsters to fill this gap. The idea that there are not interesting, big and/or international businesses are located in the peripheries is also confirmed. Thus turns out as only partly true according to the policy analysis. The media recognises that these peripheral towns are somewhat 'boring' and life there moves slow. Again stating that the brain drain is a debated and contingent concept, this framing most definitely does not help the image of these peripheries (Nitz West, 2004).

As these are news articles of the last twenty years, this image is in line with what people still think today. Articles mention that the collaborations between universities and businesses are far from optimal, often contributing to the problem of talent moving away, this is something also visible in the policy documents. There are many different stakeholders mentioned in the articles, often the municipality and universities, but also many other smaller stakeholders that could be interesting for future research (Paalman, 1997). The articles do not mention human capital but directly, but indirectly almost all use the general meaning of it: the knowledge and skills of graduates (Becker, 1964).

Solutions that are often mentioned are subsidies, in the form of scholarships, trainee ships, grants for internships and so on. Next to this the media mentions wanting to attract bigger companies and partners, in order to attract graduates who want to work here. This is in line with what should be targeted: professional aspirations (Rérat, 2014). This states that the graduate will go where opportunities arise and ultimately where the best jobs are. Enhancing this via subsidies, grants and attracting companies should have a positive influence on retaining these graduates.

The one positive article was about Maastricht attracting a large company (article 9), this is also visible in their policy document that states that they want to attract more international companies. Maastricht is doing better on this than Groningen and Enschede are, the media confirms this. It mentions subsidies given out (article 12) and that things are going in the right direction (article 13). Enschede is mostly in the news with their shortage on the labour market (article 3), confirmed by the policies. Alongside this the media confirms their dull image and conclude its more common for graduates to leave than stay (article 1), this is confirmed when looking at the theory of migration history.

Groningen is doing somewhat better than Enschede, yet worse than Maastricht. Most articles mention people moving

away (article 6 and 15). There are also number of articles that mention projects to reduce the brain drain (article 14 and 17), like opening a new campus or trying to attract Germans as they are close to the border. Looking at improving the scenario for people with professional aspirations, this seems to be going in the right direction.

Another thing mentioned, yet not mentioned before, is the connectivity to the West: both the policies and media advocate for a better connection to the Randstad via faster of more efficient public transport. However, this is to facilitate people what want to live in the peripheries but work in the Randstad, so this does not effectively solve the problem.

5   Conclusion

In the beginning of this research the research question was presented: What are the differences between policies and media discourse regarding the 'brain drain' in the peripheral university cities in the Netherlands? The difference between the policies and media discourse can not be pin pointed to one thing. The policies recognise their worrisome image and the media confirms this image. In the policies there are plans to make their images more attractive, innovative and interesting, but concrete plans for this do not go further that simply promoting. Often mentioned in the articles are subsidies, which could prove a valuable asset to retaining talent. Coherence between the policies are dependent on the topic, sometimes they are in line but sometimes not, this means they hypothesis is partly true. Coherence within the policies, relating back to the theoretical framework, cause for more explanation as they are sometimes coherent yet sometimes not. Some of the policy points are targeted in the wrong directions. When looking at socio-familial circumstances, municipalities and universities can not change much about this, as they are dependent on the graduate him- herself. Migration history is the same in this, but this can prove of some information on who to attract. As a graduate from the region itself is more likely to stay (Rérat, 2014), it is interesting to look at protective students who go study elsewhere. If the university can find a way to retain this group more, more will probably be left to retain after their studies. As visible in the policy analysis Groningen and Maastricht can potentially improve on this. Professional aspirations link back to all three policies and the media analysis. The general image that is framed by the media, and struggle with by the peripheries, is that there are no real prospects in these areas. The media frames the brain drain in a negative light, which confirms this hypothesis and again contributes to the image of the peripheries. Maastricht is working well on this, but Enschede and Groningen still fall short in attracting larger companies.

When providing a framework for new policies, further research need be done, this is discussed in the next section. This is also where planning comes into play, as this is not mentioned in the policies and media analysis much. Good planning could solve certain problem that help worsen the brain drain, think of housing shortage, lack of public transport and the image of the towns.

5.1   Discussion

What is not touched upon in this research much is the differences between fields of study. Venhorst (2012) shows a difference in fields, like for example economics, agriculture, healthcare, to have different flows of migration. For the policies to target the students within the field that migrates the most, it is interesting to know which ones these are. These can be different in the three areas. The brain drain can probably not be stopped completely, as human capital is ought to attract human capital (Becker, 1964), but the challenge lies in reducing it. What is interesting to look at is if a better and more positive representation in the media could influence the outflow of graduates. After this another media analysis can take place and this could confirm the effect the media has on the general perception of the peripheries. Something that could be valuable to add is a stakeholder analysis, this way all stakeholders and their point of view can be displayed more easily and it could uncover new interests or opinions. Another future study could look into the capacity of subsidies, how well this works and of it actually results in a higher number of graduates staying. Subsidies are mentioned in 6 out of 17 articles as a possible solution. Finally the teaching of skills bound to one region could prevent the graduates from moving, how and how well this works out in the real world is an interesting topic for further research. If new policies are formed through these further research, this could be molded into a framework. Afterwards this framework can be applied on a broader scale, potentially decreasing the brain drain between countries opposed to within. To the scientific debate on the brain drain this thesis is in line with the general finding of the majority of the published articles.

For future planners in the peripheries it is important to note a few things from this research: the media is a powerful took and try to look what you can get more out of it, planning hold great power and can transform your shrinking region if you know how to use it (think of the Bilbao example), look at other policies to improve your own.

5.2   Reflection

Reflecting back on a big project like the thesis can provide useful insights for future ones. I definitely learned a lot from this project, about policies, media, structuring and preforming a analysis, and so one. It improved my academic writing as well as working with LaTeX. During the last few months, especially with regards to the strange and uncertain times we have lived in a few things a worth mentioning. Flexibility is one of the pillars this thesis is founded upon, with the research design, the timetable and general circumstances. It was produced with limited or online interaction with peers, which could have affected the thinking paths I have walked on. Knowing the interaction would be different, the research design was altered in order to get sufficient data from home, this is presented as a policy and media analysis. Not being able to physically visit the university campus or library delayed the project somewhat. It has also learned me to deal with disappointment, as my thesis was not awarded sufficient the first time. This has caused me to revise my work and improve it. Revising my work has taught me more about my subject than I would have estimated, understanding the content much better now. I consider it now no longer a failure but an opportunity to delve even deeper into my thesis.

6 References

References

Barro, R.J. & Sala-i-Martin, X. (1995). *Economic growth.* McGraw-Hill, New York.

Becker, G. (1964). *Human Capital.* Columbia University Press: New York.

Berry, C.R. & Glaeser, E.L. (2005). The divergence of human capital levels across cities. *Papers in Regional Science 83*(3),pages 407-444 .

Boc, E. (2020). Brain Drain in the EU: Local and Regional Public Policies and Good Practices. *Transylvanian Review of Administrative Sciences 59* , pages 23 - 39.

Brouwers, B. (2016). Eindhoven exeption in Brabant Brain dain. *Innovative Origins.* Retrieved from: https://innovationorigins.com/eindhoven-exception-in-brabant-brain-drain/

Dustmann, C., Fadlon, I. & Weiss, Y. (2011). Return migration, human capital accumulation and the brain drain. *Journal of Development Economics 95*(1), pages 58 - 67 .

Faggian, A., McCann, P. & Sheppard, S. (2007). Some Evidence that Women are More Mobile than Men: Gender Differences in UK Graduate Migration Behavior. *Journal of Regional Science 47* (3), pages 517 - 539.

Gemeente Enschede (2019) Economische Visie Enschede. Retrieved from: https://www.enschede.nl/sites/default/files/Economische-Visie-gemeente-Enschede.pdf

Gemeente Groningen (2019) Economisch Agenda 2020-2022. Retrieved from: https://gemeente.groningen.nl/sites/default/files/Economische-Agenda-gemeente-Groningen-2020—2022.pdf

Gemeente Maastricht (2013) Made in Maastricht: Economische Visie Maastricht 2020. Retrieved from: https://gemeentemaastricht.nl/sites/default/files/2019-10/economische

Gibson, J. & McKenzie, D. (2011). Eight Questions about Brain Drain. *Journal of Economic Perspectives 25*(3), pages 107 - 128.

Jupp, V. & Sage Publications (2006). Sage disctionary of social research methods. London: SAGE Publications.

Kuitert, G. (November 13, 2018). Aanhaken of afhaken voor Twente: wie stopt de braindrain? *De Twentse Courant Tubantia.* Retrieved from: https://www.tubantia.nl/enschede/aanhaken-of-afhaken-voor-twente-wie-stopt-de-braindrain ac056949/

Nitz, M., West, H. (2004). Framing of newspaper news stories during a presidential campaign cycle: The case of Bush-Gore in Election 2000. *The environmental communication yearbook, 1,* 205.

Paalman, M. (1997). Media Analysis for Policy Making *Health and Policy Planning (12)*1, pages 86 - 91.

Punch, K.F. (2014). *Introduction to Social Research: Quantitative and Qualitative Approaches, Third Edition.* London: Sage Publications.

Rérat, P. (2014). The selective migration of young graduates: Which of them return to their rural home region and which do not? *Journal of Rural Studies (35)*, pages 123 - 132 .

UIF, University of Twente (2018). Keeping Talent in Twente Retrieved from: https://www.utwente.nl/.uc/f5826dcb4010285df0c0016c5280224d64e1f3da633b900/KTIT20Handout2C20UIF.pdf

Venhorst, V.A. (2012). Smart Move? The Spatial Mobility of Higher Education Graduates.

VSNU. (2020). Feiten en Cijfers. Retrieved from: https://www.vsnu.nl/feiten-en-cijfers.html

7 Appendix A: Media analysis scheme

date/ medium/ circulation	CONTENT	CONTEXT	ACTORS
	What space accuracy	POV why relationship	Who position power
date/ newspaper/ 20.000	Title/main message number words/column lines, page number Factual/opinion	Negative/neutral/positive (very) main values shortage/reputation/brain drain/etc	Universities/companies/municipalties against/ in favour/ neutral Large/moderate/small (very)
(1) 29/9/2018/ Newspaper/ unknown	Recent developments in U/T brain drain and whether it is stoppable ~360 words, pg.6 Factual	Negative Common for graduates to leave, no successful policy Reputation of the city	University/political parties/major/province/businesses Neutral Moderate
(2) 19/07/2018/ University newspaper/ Online	Why talent leaves Twente 40 column lines, online Factual	Negative Lack of diversity and information, bad image Advocate of joint forces	Municipality, 'Twente Top', UIFT In favour Moderate
(3) 13/11/2018 Newspaper/ unknown	Who manages to retain Twente's talent? ~900 words, pg. 12-13 Factual	Negative Shortage in technical sector Connectiveness to job-market unsuccessful: follow Brainport Eindhoven example	Municipality/university/businesses/ Saxion Neutral Moderate
(4) 30/01/2018/ Newspaper/ unknown	No leakage of talent to ouside of the Netherlands 670 words, pg. 16 Factual	Positive No brain drain of Dutch graduates to abroad Enough research and regular scholarships, but advocate for more united approach from Dutch universities	Universities/KNAW In favour Large
(5) 08/02/2003/ Newspaper/ unknown	Business gift 10.000 to prevent brain drain 60 words, pg. unknown Factual	Neutral None Money investment can prevent brain drain	Businesses/Management development Northern-Netherlands Neutral Small

(6) 27/04/2000/ Newspaper/ unknown	Drenthe suffers from brain drain 463 words, pg. unknown Factual	Negative No return from youngsters who study elsewhere, this is worrisome for the region Relates women and elderly people to being more excluded because of unconnected area	Stamm Neutral Small
(7) 03/09/2009/ Newspaper/ unknown	Our country must cherish knowledge 363 words, pg. 10 Factual	Negative Netherlands is a poor immigration, but good emigration country when it comes to knowledge Major danger to society, enhance position of *HBO*	OECD/ minister of Education/ chairman of *HBO*/ Hanze University Neutral Large
(8) 01/09/2007/ Newspaper/ unkown	A Pill against the brain drain 814 words, pg. 27 Both factual and opinion	Negative Low number of high profiled jobs, no students returning Need to polish the image and enhance the industry to attract new talent	BanenrijkLimburg/ Limburgse Werkgevers Vereniging/ newspapers In favour Moderate
(9)17/12/2016/ Newspaper/ unknown	Tesla making Libmurg sexy 972 words, pg. 1 Both factual and opnion	Positive High profile companies attract talent to region Talent goes to Eindhoven or Randstad; image needs to be improved	Tesla/ VVD politician/ ConnectLimburg/ BMW and Mini In favour Large
(10) 27/01/2015/ Newspaper/ unknown	Lights on in the nice store 1316 words, pg. 14 Factual	Negative Limburg loses its talent to the Randstad Focus on retaining talent that is there, not connected to labour market, improving the image (turning the lights on)	University Maastricht/ Connect Limburg/ Limburg Economic Development/ companies In favour Large
(11) 30/03/2011/ Newspaper/ unknown	Brain drain? Brain gain: a moving surplus 827 words, pg. 11 (domestic news) Factual	Negative There is no brain drain but there is something wrong with the image of Limburg Locals are not proud of the region, more elderly people	Majors of the region's biggest cities/ Stichting regiobranding South-Limburg Neutral/negative Moderate

(12) 05/07/2019/ Newspaper/ unknown	38.000 euro subsidy for Internship office and North-Limburg 200 words, online Factual	Neutral Internship office receive 38.000 subsidy from the province Subsidy is meant to keep talent in the region	Internship office/ province and municipality Neutral Moderate
(13) 22/02/2020/ Newspaper/ unknown	Limburg will be completely hot in 2030 648 words, pg. 51 Factual	Neutral Population in Limburg is limited due to brain drain, mentions housing shortage Main reason is lack of connectivity to Randstad (in the form of faster trains)	ProRail/NS/The Hague/ In favour Moderate
(14) 03/03/2020/ Newspaper/ Unknown	'The first five years are the pioneering phase' 1391 words, online Factual	Negative Not attracting and retaining talent on Friesland UG new subsidized campus Limited number of graduates stays in province after graduation, no life in Frisland, but no room for UG to grow in Groningen	University Groningen, Campus Frislan In favour Small/moderate
(15) 29/01/2020/ Newspaper/ unknown	Young talents leaving causes a brain drain in Stadskanaal 187 words, online Factual	Negative Questions whether students want to leave or are forced Brain drain is connected to bad economic prospects and decrease in population	Municipality In favour Small
(16) 14/09/2016/ Newspaper/ unknown	How to retain talent in the region? 431 words, pg. 5 Factual	Negative Talent is vital for a region Solutions could be a graduation grant, better public transport and good marketing	Municipalities in the region, university In favour Small
(17) 13/07/2017/ Newspaper/ unknown	Students need to discover the border area 830 words, pg. 34 Factual	Negative Students are unfamiliar with the border area of Germany, while there are many companies, this region is aging, young people are vital Internships can help bind people to the area	University and university of applied sciences, INTERREG, German companies, EDRiT In favour Moderate

8   Appendix B: Keywords article search LexisNexis

Search term	Useful hits
Brain drain + Netherlands	Few
Brain drain + Groningen	Some
Brain drain + Enschede	Some
Brain drain + Maastricht	Some
Brain drain + Northern Netherlands	Some
Brain drain + Eastern Netherlands	Few
Brain drain + Southern Netherlands	Few
Talent leaving + students + Groningen	Some
Talent leaving + students + Enschede	Few
Talent leaving + students + Maastricht	Many
Brain drain + talent leaving + Netherlands	None
Brain drain + students + subsidy	Some
Brain drain + Enschede + image	Some
Brain drain + Maastricht + image	Many
Brain drain + Groningen + image	Some

9   Appendix C: References news articles

(1) KIM JANSEN. (29 september 2018 zaterdag). Is de brain drain eigenlijk wel te stoppen?
De Twentsche Courant Tubantia. Retrieved from https://advance-lexis-com.proxy-
ub.rug.nl/api/document?collection=news&id=urn:contentItem:5TCB-N6G1-DYRY-X21C-
00000-00&context=1516831

(2) Nesarova, M. (19-07/2018). Why talent leaves twente, *U-Today News*. Retrieved from:
https://www.utoday.nl/news/65764/why-talent-leaves-twente

(3) GERBEN KUITERT. (13 november 2018 dinsdag). Wie strikt het Twentse talent?. De
Twentsche Courant Tubantia. Retrieved from https://advance-lexis-com.proxy-
ub.rug.nl/api/document?collection=news&id=urn:contentItem:5TPY-F8C1-JC8X-655K-
00000-00&context=1516831.

(4) Marcel aan de Brugh. (30 January 2018). Er is geen brain drain aan de universiteit. NRC
Handelsblad. Retrieved from https://advance-lexis-com.proxy-
ub.rug.nl/api/document?collection=news&id=urn:contentItem:5RHT-HK01-DYMH-R1TH-
00000-00&context=1516831.

(5) Unknown. (February 08, 2003 Saturday). Atos geeft 10 mille tegen 'brain drain'.
DAGBLAD VAN HET NOORDEN. Retrieved from https://advance-lexis-com.proxy-
ub.rug.nl/api/document?collection=news&id=urn:contentItem:4K1N-FS30-TX55-0301-
00000-00&context=1516831.

(6) Unknown. (April 27, 2000 Thursday). Drenthe lijdt onder brain drain. DAGBLAD VAN
HET NOORDEN. Retrieved from https://advance-lexis-com.proxy-
ub.rug.nl/api/document?collection=news&id=urn:contentItem:4JXY-64F0-TX55-026B-
00000-00&context=1516831.

(7) Maaike Trimbach. (3 september 2009 donderdag). 'Ons land moet kennis koesteren'.
Dagblad van het Noorden. Retrieved from https://advance-lexis-com.proxy-
ub.rug.nl/api/document?collection=news&id=urn:contentItem:7WHX-RRG0-Y9M6-H055-
00000-00&context=1516831.

(8) (September 1, 2007 Saturday). Een pil tegen de braindrain. Dagblad De Limburger.
Retrieved from https://advance-lexis-com.proxy-
ub.rug.nl/api/document?collection=news&id=urn:contentItem:4SG5-9VV0-TXKN-V1H3-
00000-00&context=1516831.

(9) W Gerritsen (17 december 2016 zaterdag). Tesla maakt Limburg sexy. Dagblad de
Limburger. Retrieved from https://advance-lexis-com.proxy-
ub.rug.nl/api/document?collection=news&id=urn:contentItem:5MDJ-D7D1-DY2H-812J-
00000-00&context=1516831.

(10) Peter Bruijns. (27 januari 2015 dinsdag). De lamp aan in winkel met mooie spullen.
Dagblad de Limburger. Retrieved from https://advance-lexis-com.proxy-
ub.rug.nl/api/document?collection=news&id=urn:contentItem:5F5D-MWY1-DYRY-N2KM-
00000-00&context=1516831.

(11) Peter de Graaf. (30 maart 2011 woensdag). Braindrain? 'Braingain! En verhuiswagenoverschot!'; Reportage Bestuurders willen af van negatieve beeldvorming over zuid-limburg. de Volkskrant. Retrieved from https://advance-lexis-com.proxy-ub.rug.nl/api/document?collection=news&id=urn:contentItem:52H2-CP41-JC8W-Y0KM-00000-00&context=1516831.

(12) Hai Voeten. (5 juli 2019 vrijdag). 38.000 euro provinciale subsidie voor Stagebureau Land van Cuijk en Noord-Limburg. AD/Algemeen Dagblad.nl. Retrieved from https://advance-lexis-com.proxy-ub.rug.nl/api/document?collection=news&id=urn:contentItem:5WGY-RN31-DY0X-953T-00000-00&context=1516831.

(13) PETRA QUAEDVLIEG (22 februari 2020 zaterdag). Limburg in 2030 helemaal hot. Dagblad de Limburger. Retrieved from https://advance-lexis-com.proxy-ub.rug.nl/api/document?collection=news&id=urn:contentItem:5Y89-K161-F0BS-10RV-00000-00&context=1516831.

(14) De Vries, A. (March 3 2020). 'The first five years are the pioneering phase' Retrieved from: https://www.ukrant.nl/magazine/the-first-five-years-are-the-pioneering-phase/?lang=en

(15) Unknown. (Januari 29 2020) https://www.dvhn.nl/groningen/stadskanaal/Congres-gemeente-Stadskanaal-over-uit-Groningen-wegtrekkende-jongeren-Vertrek-jonge-hoger-opgeleiden-zorgt-voor-brain-drain-regio-25292959.html?harvest_referrer=https%3A%2F%2Fwww.google.com%2F

(16) MAARTEN VAN DE RAKT. (14 september 2016 woensdag). Hoe behoud je talent voor de regio?. De Gelderlander. Retrieved from https://advance-lexis-com.proxy-ub.rug.nl/api/document?collection=news&id=urn:contentItem:5KPG-R0K1-DYRY-X1T9-00000-00&context=1516831.

10 Appendix D: Economic agendas for policy analysis

Gemeente Enschede (2019).

Economische Visie Enschede, 42 pages.

Retrieved from: https://www.enschede.nl/sites/default/files/Economische-Visie-gemeente-Enschede.pdf

Gemeente Groningen (2019)

Economisch Agenda 2020-2022, 39 pages.

Retrieved from: https://gemeente.groningen.nl/sites/default/files/Economische-Agenda-gemeente-Groningen-2020---2022.pdf

Gemeente Maastricht (2013)

Made in Maastricht: Economische Visie Maastricht 2020, 56 pages.

Retrieved from: https://gemeentemaastricht.nl/sites/default/files/2019-10/economische%20visie%202020.pdf