

Migrants as silver lining around greying Fryslân?

Migrants as silver lining around the cloud of Frisian economic challenges –
Consumption behaviour on local level determined by demographic factors



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Summary

Friesland has faced demographic challenges of population decline in both general and cohort-specific terms due to ageing and out-migration of younger age-cohorts. This is prognosed to continue. That makes population ageing and its consequences for the vitality of local facilities is a contemporary problem; especially in rural areas. Local facilities find importance for village's liveability and less-mobile groups who rely on those. Expenditure determine the vitality of commercial facilities. People can be grouped after similar (demographic) characteristics, exhibiting similar consumption patterns: in terms of monetary quantity, type of product or service, and location. Expenditure on local scale was therefore expected to vary intercategorical. Influencing an area's population composition and based on their demographic characteristics, migrants could hold a crucial, providing position in sustaining facilities. A case study in the rural village Balk (N=500) was carried out to research the influence of migration and several other demographic factors, and the share of total expenditure on local scale. Migration possessed significant crude effects on local consumption, yet the nett effect of migration was mitigated by confounding variables. Age, educational level and household size and composition are larger nett predictors in explaining the share of expenditure on local scale. Mobility and local networks also play a role. It is therefore recommended that policies should aim on targeting younger and higher educated inhabitants to consume locally as they (are in the position to) spend more. These groups, including migrants, should be attracted and kept in Friesland as they have a large potential to benefit local facilities.

Introduction

“Friesland is greying, and that is bad news”; according to the provincial daily newspaper (van der Laan, 2020). Population ageing and the departure of young people from the province will affect Friesland’s demographic structure, liveability and pressure the economy. Namely, the working age population is expected to decrease by 12% from 486.000 to 427.000 by 2040. Provincial Executives worry (van der Laan, 2020): Fokkinga warns for the effects on the level of facilities on local scale in villages and de Rouwe states that *“we have to do more with less people”*: the expected structural labour shortages could be solved by robotization and automating labour or by attracting migrants. De Rouwe will start several campaigns to appeal especially young families from densely populated areas to settle in Friesland. *“We can convince them by promoting free spaces on schools and kindergartens, a large pool of job opportunities and spacious residential circumstances”* (van der Laan, 2020). Is the Frisian demographic situation indeed a time-bomb and could migrants really solve the complementary (economic) consequences as implied by the deputies?

Already 15 years ago, the Dutch report *Structurele Bevolkingsdaling* (structural population decline) warned that many regions in the Netherlands will experience population decline in the (near) future (Derks et. al. 2006). A large number of municipalities in the country is expected to experience population stagnation and decline between 2010 and 2040. Areas with expected low and negative population growth are predominantly located in Dutch peripheral areas. Especially, rural areas are expected to experience population decline more seriously and earlier than urban areas (Haartsen & Venhorst, 2010); especially perceived from an economic perspective. Next to an increasing old-age dependency ratio, but also by another key macroeconomic factor: consumption. Consumption behaviour of potential consumers in a certain area is a key determinant for local employment, vitality of businesses, the threshold for sustaining facilities and physical appearance of the streetscape. Population decline has a self-reinforcing effect: fewer people generate less consumption, leading to closure of enterprises, which decreases the attractiveness for staying or moving towards and thus a population decline. As the total population can be derived from the population balance, concerning the natural change and net migration (Holdsworth et. al. 2013), population ageing and migration flows are crucial factors in demographic development.

A large scope of literature on demographic phenomena like population ageing and migration exists, including specifications onto Dutch rural areas. These are valuable from a theoretical/descriptive perspective, but lack insight on the actual behaviour and actions of inhabitants. On the other hand, we also observe a richness on economic reviews on consumption behaviour. However, these reviews could be enriched by tangible applications and effects within the physical, social world. This research aims thus to connect demographic phenomena to its economic effects, with its contemporary character. The results can also be applicable to similar rural areas in the Netherlands.

Relevance comprises in economic, political and social spheres. It is useful for entrepreneurs to gain insights in adapt- and anticipate possibilities in terms of potential target markets based on current and future demographic characteristics. The availability of certain facilities on local scale for rural residents that are dependent and its effects on liveability stress the social relevance. Governments (of several scalar levels) could be facilitated by insights serving the decision making process for spatial planning on various scalar levels. Distributieplanologisch onderzoek (dpo) gains insight in the two major components: the spatial quality of envisaged developments (Voogd et.al, 2013) and the (futurous) demand for retail space weighted against the current and planned supply of retail locations (Evers et.al. 2011). The methodology for a dpo includes an exploration of both the current and prognosed situation of a neighbourhood, city or region and their potential changes and plans, and consumer’s characteristics (demand).

The aim of this research is to study how local migration flows influence consumption behaviour on local scale, and whether movements towards declining regions can provide the support needed by the local economy. Therefore, the following research question is being asked:

'Does consumption behaviour on local scale of migrants differ from consumption behaviour on local scale of native residents? If so, after how long is consumption behaviour on the local scale of migrants similar to the consumption behaviour of native residents?' In order to research this, first, current demographic trends that can be observed in rural Friesland will be explored, followed by the role of facilities for the liveability of places. Thirdly, there will be examined which factors shape consumption behaviour. These insights are being used to research how demographic characteristics of a rural population influence the vitality of local facilities through consumption behaviour. By these justifications, both the crude and nett effect of migration can be found in the context of expenditure on local scale.

Structure

Relevant concepts and phenomena are being explained and combined in a theoretical framework. The current demographic changes of Friesland will be discussed, from population composition to the migration balance, followed by the characteristics of rural migrants. The role that local facilities embody within a village environment and its relevance for certain groups will be discussed, and determinants for their vitality. Factors that shape consumption behaviour are relevant proxies that can be used in doing so. These theories are being conceptualized and visualized in a framework with a hypothesis. Next, the conducted case study in the village Balk (N=500) will be discussed, where primary data on consumption patterns was gathered by the means of a questionnaire. The methodology and quality of the data will be discussed. In the result section, we find the results and statistical analysis of the case study through the lens of the theory. Lastly, the main points will be summarized in the conclusion by considering the context of the broader theoretical framework. A further reflection on the study and further research recommendations are also included.

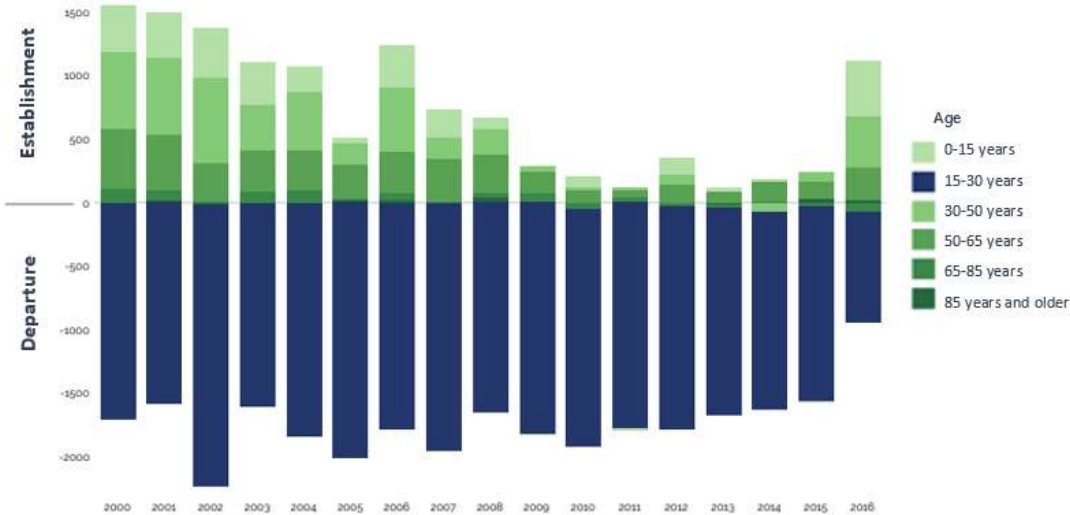
Theoretical Framework

Current demographic trends in rural Friesland

Population ageing has influenced the current demographic state in Friesland. The prognosis on population and households exhibits that the elderly population (65+) is expected to increase by 45% from 125.000 in 2016 to 190.000 by 2040 and the cohort of 85+ will even double (Smulders, 2017). This is much higher compared to the Dutch prognosis of an 11% increase on national level by 2040 (de Jong & van Duin, 2010). In Friesland, all younger cohorts (<65 years old) will decrease, with respectively the largest decline of 24% of people of middle age (45-65). Moreover, an ongoing trend can be observed of 15-30 year old leaving the province (figure 1). People in this age cohort are prone to leave for several reasons, such as the beginning of a study (Hitzert, 2017) or career options (Hitzert, 2017) in opportunity-richer areas of the Netherlands, such as the Randstad. The demographic challenge of population decline in both general and cohort-specific is therefore by and large present and relevant in Frisian context.

Figure 1 shows the migration balance of Friesland. The driver for population decline is the outmigration of people in the age group of 15-30. Until 2016, when there was observed a first positive balance since 33 years (Jonker & van der Meij, 2019), especially after the financial crisis around 2008 and its aftermath. Job insecurity and an unbeneficial house market had resulted in the inability to compensate for the conventional loss of 15-30 year-olds: in both absolute numbers and the changing composition of migrants' age profile, namely less families (Jonker & van der Meij, 2019). The Frisian institute for Social Research declares that the accelerating economy of the 2010s resulted in both the staying and incoming migrants of those in younger age cohorts. It is presumed that these include those who had had a residential relocation desire during the years of crisis but had not found employment in the province. After the crisis, more interesting and suitable jobs and affordable housing improved Friesland's attractiveness (Jonker & van der Meij, 2019). This phenomenon has appealed Frisian return migrants, and both Dutch and non-Dutch migrants (including refugees with a residence permit) resulting in a positive balance in 2016 (Hitzer, 2017; Jonker & van der Meij, 2019). Some more people in the group of 50-65 attributed to the positive balance although this was similar to previous years. A considerable increase can be observed in the age category of 30-50 years old for the earlier ten year. The number of children rose respectively, presupposing that more families with children migrated to Friesland. In the group 15-30, 12.901 people migrated to Friesland against 13.775 who left the province. Although this is still a negative balance of -874, the net-out migration of this group is rather inferior, compared to the decades before when annually some 1500 uptil 2200 more 15-30 years-old left Friesland.

Figure 1: Difference in establishment and departure in Friesland, 2000-2016



Source: Hitzert (2017)

Rural migrant characteristics

Although the general trend of decline can be noticed on a provincial level, there are reasonable demographic differences between municipalities. Certain areas in Friesland experience a population growth, as the result of, among others, the inflow of migrants. Migration into rural areas is often explained in terms of the rural idyll, the attraction of the countryside with its less hurried way of life in a quiet, spacious and green environment (Bijker et.al, 2013). Bijker et.al, (2013) also mention proximity to family and friends as important reasons, just as work-related reasons.

Migration flows towards rural regions appear to have a selective character (van Dam & Heins, 2000; Elbersen, 2001). According to Elbersen (2001) there are three main groups that dominate migrant households: ‘unbounded’ people who are not bound to a certain location from an occupational perspective and therefore residentially flexible; middle class households or those who are retired. The migration flows from predominantly urban North and South Holland direct towards rural Flevoland, Drenthe, Gelderland, Overijssel, Zeeland and also Friesland (Fokkema 1996). Heins (2002) specifies five dominant migrant groups to rural areas that are being exhibited in figure 2.

Figure 2: Dominant rural migrant groups

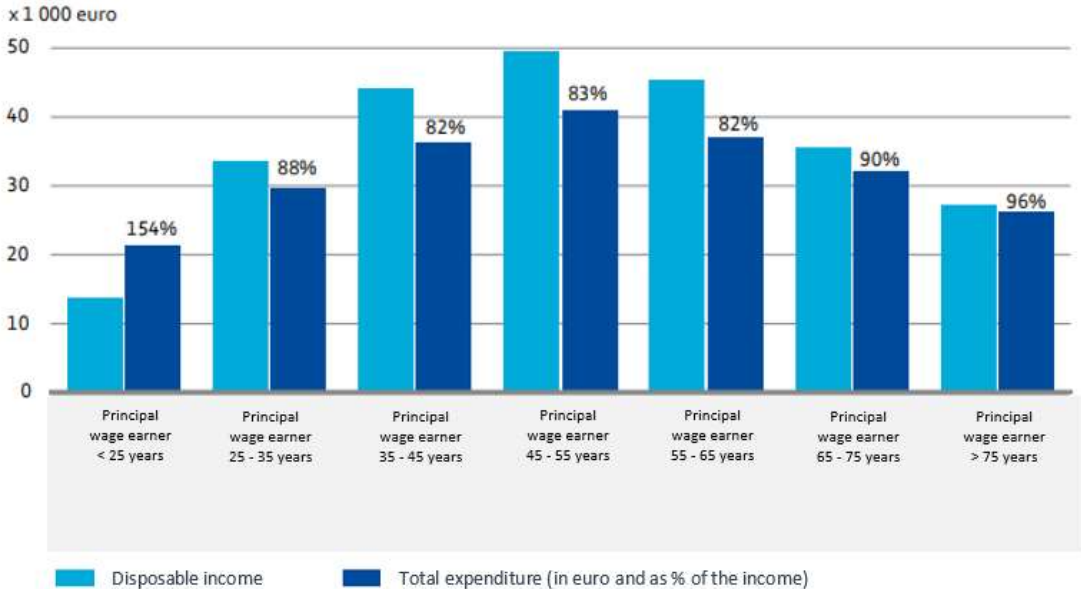
Dominant migrant groups	Description
High-income households	The amount of income and residential preference are found to be related. The higher the income, the more it determines how well one’s residential situation can be met regarding the residential aspirations (Heinz, 2002). Income and living outside the urban are positively related (Poulus & Relou, 2000).
Elderly	Prioritizing aesthetic characteristics of landscape and recreational facilities in their residential preferences (Dieleman & Mulder, 2002) as they are not bound to a working location.
Native Dutch	Native Dutch are ought to prefer living and recreating in rural areas rather than immigrants (Jókövi, 2000)
Families with children	The countryside is being perceived as a safe, harmonious, peaceful and spacious environment which benefits the upbringing/raising of children, rather than a congested city (Little & Austin, 1996; Valentine, 2001).
Return migrants	Familiarity with the landscape and returning ‘back to the roots’. The preferences for a certain type of landscape are being formed during the youth (Riley, 1992), and therefore those who grew up in the countryside are more likely to appreciate it (Kaplan & Kaplan, 1989).

Source: Author, after Heins (2002)

Kruijf & Langenberg (2017) show how important economic indicators vary per age in Dutch context. In 2015, Dutch households spent on average €15.000 on goods and services (Kruijf & Langenberg, 2017). As figure 3 depicts, expenditure increases, as the breadwinner becomes older, until the age of 55. From the middle age, expenditure decreases with age. Income generally rises with age, but pensions and allowances are lower than previously earned wages. The amount of expenditure can, as it relates to the development of income, be linked to age. Yet age and household size are also interrelated because those in their middle elderly hood rather live with their partners and children, while younger and older age cohorts are more often single, widowers or without cohabiting children. It therefore could be said that an ageing population is unfavourable from a purely monetary perspective. Although younger people seem neither, it does so from fertility perspective.

If we compare this with the Frisian migration balance (figure 1) then 35 to 65 are the cohorts with the highest disposable income and consumption expenditures. These overlap with the age groups that contribute largely to the Frisian in-migration. This implies a positive result on consumption in Friesland.

Figure 3: Income and expenditure of Dutch households after age, 2015



Source: Kruijf & Langenberg (2017)

However, a population with a higher share of elderly remains consuming and investing, but have a different expenditure pattern than a younger population. Kruijf & Langenberg (2017) found that expenditure on housing, water and energy, upholstery and household appliances, health and charity increase with increasing age: people over 65 years old spend more on these matters than people younger than 65 years old. On the contrary, expenditures on transport, education, clothing and shoes and the hospitality sector decrease with increasing age (Kruijf & Langenberg, 2017). These sectors rather obtain physical locations like stores, schools, restaurants and hotels in contrast to housing, water and energy or charity. These different expenditure patterns influence the demand for certain facilities. Although the variations in values between both cohorts may seem negligible, it certainly has a double effect: elderly have less expenditure on the just mentioned subjects, but moreover spend less money in general.

Factors that shape consumer behaviour: determinants for the vitality of facilities

The quality of space and liveability is largely determined by present facilities and real estate in a certain area (Haartsen, 2020; Voogd et al. 2012). That makes vacancy an undesirable phenomenon. Facilities and real estate can be divided into public and private facilities. Public facilities are of common interest, such as schools, and are being created by the government. Private facilities are characterised by economic profitability, and can therefore disappear in case it is unprofitable (Voogd et. al. 2012). That makes it for these commercial facilities of crucial importance to know who belongs to the group of potential buyers.

A commercial facility’s future existence is determined by the expenditure behaviour and consumption choice of a certain (targeted) group. Market segmentation - the process of breaking down all consumers into groups of potential buyers with similar characteristics (Tanner & Raymund, 2012) - is a valuable and widely-used method for gaining insight into the aforementioned. Tanner & Raymund (2012) created four segmentation categories, including market segmentation based on

demographic and geographic factors. These are based on the assumption that similar consumption behaviour is being exhibited among people in the same categories and therefore vary intercategory. For example between age cohorts, gender, family size and cycle, education, occupation and religion, but also ethnicity and nationality, and social class and income (Tanner & Raymond, 2012). It can be safely assumed that for example a family household with several kids growing up spend more on groceries and clothing than an elderly couple, but that they might do so on health care instead (Kruijff & Langenberg, 2017).

Not only does this segmentation determine consumption in direct sense (in terms of product preference and purchase frequency) but also in indirect sense by influencing spatial mobility. Socioeconomic factors fundamentally affect the degree of mobility: consumer of higher socioeconomic classes have more monetary resources, do almost always own a car (93% of higher income households own a car (CBS, 2018c)) and are therefore more likely to induce longer trips covering greater distances (Hubbart, 1978).

The proximity of facilities is also a strong predictor of consumer spending. Consumers are likely to pick the closest store to their residential location as travel times are ought to be minimised (Fox et.al, 2007; Hubbard, 1978). These statements are based on traditional economic geographical theories which are, after reflection and sophistication, still reasonably applicable in current days. Reilly (1931) describes “retail gravitation” in which is being implied that consumer choice among retail centre is shaped by its attraction, which increases with the size of a centre but decreases with its distance from the consumer’s residential location. Christaller (1966) extends this theory with modelling the notion that consumers will choose the closest retail centre, depending on the type of product in the ‘central place theory’.

Contemporary research does still distinguishes upon the type of product or service (Access, 2017). Figure 4 depicts that the frequency of purchase influences the willingness of consumers to travel in order to reach it. Frequent purchases made once or more per week such as groceries are typically made within 10 minutes of home. Conversely, consumers are willing to travel longer for purchases made weekly or monthly, like haircuts and clothing; but typically no more than 20 minutes (Access, 2017).

Figure 4: Willingness to travel per product



Purchase	Minutes from home (average)
Fuel	6.01
Groceries	8.03
Fast food	8.40
Casual dining	11.45
Oil change	13.14
Hair cut	13.37
Home & Garden	14.07
Auto service	14.17
Movies	17.04
Clothing & Shoes	19.87

Source: Access (2017)

The division should be made between urban and rural location: the greater choice of alternatives and more extensive shopping ‘experience’ of cities or larger retail centres appeal consumers to travel longer. Therefore, these, rather urban locations cover a wider range of potential customers including the rural. On the contrary, distance travelled can mean different things to people living in similar retail environments. For example, traveling one km in Amsterdam can take significantly longer than traveling

one km in rural Friesland. Given the vast differences in urban traffic, congestion and the proximity of retailers to consumers etc., travel time is a more universal metric which allows for fair comparison for urban and rural retail environments.

Considering the Dutch situation, the physical accessibility to facilities is perceived as good that this should not be regarded as an issue anymore. Rural areas are relatively densely populated and dispose of a abundant, high-quality road infrastructure network (van Dam, 1995). Basic facilities like supermarkets or a general practitioner are on average within a range of 1,5 km (CBS, 2018). However, Hine & Kamuzzaran (2012) imply that access to service consists of more than distance and distribution of facilities: it should also be perceived in the light of the accessibility of transport. The Dutch countryside dispose of an well-developed road network and the vast majority of all non-urban households own a car, although depending on the income levels (CBS, 2018). From households with a high income does 98% own a car, 95% of middle income groups and 73% of those households having a lower income. There thus remains a small group of inhabitants with a lower mobility, such as elderly or these low income groups who are more dependent on the presence of local facilities. Although high levels of mobility counteract the effects of facility decline (Milbourne & Kitchen, 2014), insufficient public transport in rural areas (Stockdale, 1993) or a lack of motorized transport could still cause problems with the access of service (Milbourne & Kitchen, 2014). Especially in those rural areas where the average age is found to be higher and host more people of a lower socio-economic status. These people and those without motorized modes of transport are found to be more vulnerable to the closure of local facilities (Hine & Kamuzzaran, 2012; Milbourne & Kitchen, 2014).

How could consumption behaviour of migrant negatively differ from that of non-migrants

Consumption behaviour is highly related to costs. Costs are not only monetary expenses, but do also incorporate non-monetary costs like effort or time (Brouwer, 2017). Each individual has its own, unique cost distribution that differ across time and space. Trust and habituation are important drivers in lowering transaction costs (Brouwer, 2017). A large, local network can facilitate, especially for services in which human capital is a valuable attribution. For example, someone wishing to renovate his houses searches a good, reliable construction firm. Particularly in smaller, rural communities where local ties are stronger (Haartsen, 2012), insider knowledge and word-to-mouth information are relevant sources. If anyone (whose opinion is valued, like an often seen (Dimdins, 2019) neighbour or local acquaintance) recommends a certain party, it may save costs in terms of time and effort of deciding upon a suitable party oneself. If s/he does not enjoy a network, transaction costs are much higher regarding the effort of finding and comparing construction firms. As the creation of it takes time, new inhabitants often do not hold such a well-developed network. However, individual attitude and participation (in eg. associations or facilities) of both migrant and host community determine the speed and intensity of integration and networking.

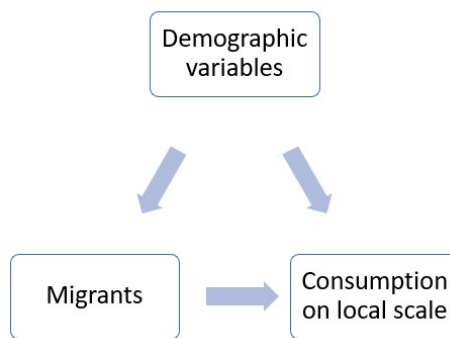
Trust and habituation work also vice versa: people are more likely to stay at a certain supplier (either retail or service) because of switching costs. Avgeropoulos & Sammut-Bonnici (2015) define switching costs as *'the costs that consumers face in order to change between substitute products'*. Switching costs arise from all impacts that a substitute can have on the buyer's value chain, including any linkages with the supplier's value chain. Consumers can therefore stay loyal to suppliers they used to go to and whom they trust (in quality, products, choice, treatment etc.). Especially regarding delicate matters this strongly works: for example one's preferred haircut, physiotherapist treatment or drinking a beer with the regulars in one's favourite pub. That complies for both natives who consume locally, and migrants, who can remain making use of their established network, at another location. In particular whose relocation did not cover a large distance with thus lower costs of mobility.

For these two reasons flowing from the trust and habituation in the non-monetary costs, migration could negatively impact expenditure on local scale. Frequent or homogeneous purchases (like the supermarket) obtain lower transaction costs (Brouwer, 2017) and are therefore in these sectors, migrant's expenditure pattern is expected to not significantly differ from the non-migrant's expenditure pattern.

Conceptual Framework

The conceptual framework uses the theoretical, macro level concepts and processes to study individual consumption behaviour on micro level. The framework employs as a tool to research micro level data. Demographic variables influence consumption behaviour on either local scale in terms of monetary quantity, type of product or service, and location (Access, 2017; Fox et al., 2007; Hubbard, 1978; Kruijf & Langenberg, 2017; Tanner & Raymund, 2012). These variables, such as age and household size and composition, can both directly determine consumption behaviour as matter of individual action (irrespective groups like migrants or non-migrants) or cluster together in overarching groups of similar characteristics. Individuals can namely be categorized based on demographic variables, expressing similar consumption pattern (Tanner & Raymund, 2012). Migrants undertaking movement flows towards rural areas in Friesland are embodied into five dominant groups (Heins, 2002) based on accumulated, underlying demographic factors. Migrants, as a group, may therefore show a certain general consumption pattern.

Figure 5: Conceptual Framework



Source: Author

Hypothesis

Taking the rural migrant's demographic characteristics into consideration, migration is expected to positively impact consumption on local scale. Figure 1 and 2 show that migrants currently entering Friesland and its rural areas generally embody households with children, either high-income, and 30-65 years old (Heins, 2002; Hitzert, 2017). These age cohorts are relatively more affluent and spend more in sectors that hold physical estate (Kruijf & Langenberg, 2017). However, the variables characterising migrants enhance their mobility which increase the likelihood to induce longer and further trips (Hubbart, 1978). That makes migrants less-dependent on local facilities than elderly or low-income groups. This in addition to migrant's less-developed local networks (Brouwer, 2017) could negatively influence migrant's consumption on local scale.

Methodology

To research the impact of demographic factors, including migration, on consumption behaviour on local scale, I conducted a primary case study. Theories on consumption behaviour, facilities and demographic trends were combined to investigate how demographic characteristics of a rural population influence the vitality of local facilities through consumption behaviour. A questionnaire with questions on demographic characteristics and household spending per sector was distributed; both via online and manual methods. For representativity reasons, the village of Balk has been carefully chosen as a research area after taking into consideration several factors like rurality, the amount of stores and facilities, demographic structure and distance to other (major) towns.

Sampling area and population

The studied village should be located within a rural area in Friesland. Following the division which Bijker & Haartsen (2011) made upon rural or urban of municipalities, Balk is located in the rural area 'de Fryske Marren'. The fact that several municipalities where Bijker & Haartsen's (2011) division was based upon have merged into this larger municipality of de Fryske Marren was taken into consideration and has not caused differences in the overlap. Criteria for rurality has been set on less than 1000 addresses per km² (Bijker & Haarsen, 2011). Balk has an address density of 528 addresses per km² and hosts 3930 inhabitants representing 1740 households in 2019 (Bijsterveld, 2020). For inclusive reasons, people of different age groups should be represented in the sample to be able to distinguish different patterns of consumption behaviour. However, the largest share of elderly (28,5%) shows the presence of ageing: the focussed upon contextual phenomenon.

De Fryske Marren is, apart from the urban areas, the municipality with the province's highest migration rates (both from outside the municipality as within municipal borders) (CBS, 2019). Balk has a variety regarding housing types of which is 55% privately owned and 39% public housing (Bijsterveld, 2020). Among others two elderly homes and on the other hand a new neighbourhood under construction that can be considered as a pull factor to attract migrants.

Moreover, there is a reasonable supply of stores in the food, retail, hospitality, service, health and transportation sector present yet not too abounding in Balk. The consumption categories asked for in the questionnaire are based on an analysis of present facilities of the aforementioned. As the closest (light) urban area is not within a range of 20 km (Sneek/Joure/Lemmer), local consumption within the village is more controlled and confined.

Generalizations can be driven to larger scale as Balk is considered to be representative for more villages and areas. Results will be put in perspective of current demographic trends and future prognosis.

Data collection instrument

Primary data was being in the village of Balk by conducting a questionnaire. The objective was to gain insight into consumption behaviour and the share of consumption on local scale (within Balk), and demographic and socioeconomic characteristics of residents with certain behaviour. Namely, a secondary dataset to this specific case study has neither been considered to be perfectly adjustable (regarding questions, geographical context, time framework etc.) nor been found.

A certain data collection instrument had been created. The distributed envelope contained a QR code (plus a link) to an online questionnaire (Google Forms), a printed questionnaire, and an information letter (appendix B). The clear note was included that people, if inhabitant of Balk, should fill in the form only once (either via the link in the letter or at Facebook) to compensate for double responses and further bias. These were distributed each door to door via post box in the whole village of Balk (both within and outside built-up areas). In total, 1659 houses were reached.

Next to that, the questionnaire was also distributed among the online channels (website and Facebook group) from the Plaatselijk Belang (PB; village association). Contacting other associations and clubs (like the local soccer club or primary school) had been considered but rejected. This in order

to increase security of a 'clean' sample consisting of only inhabitants of Balk; other village's inhabitants might be member of a club in Balk. Another objective of notifying the PB about the sampling and research was the possibility of using their network to raise attention and provoke relevance for participating in the research.

The additional letter was provided in both the Dutch and Frisian language. Balk is located in an area preserving a typical and strong Frisian culture in which Frisian is rather the main language. By including the Frisian language, a closer cultural connection was aimed to create which was considered to increase the response rate. Especially among older age cohorts, who are mostly better in communicating in Frisian than Dutch due to their generally smaller (former) mobility range, lowering the threshold of participating is important to gather essential responses.

Residents of younger age cohorts are more likely to have further digital abilities (both material and skills) than residents of older age. A paper version was added in order to increase the response rate of the crucial groups. A high response rate of migrants and elderly is namely essential for answering the research questions. The paper questionnaires could be returned to the university as a freepost address had been opened. An added sticker containing this freepost address facilitated respondents in this procedure. After collection in the university post office, the returned questionnaires were manually inserted in Google Forms and so combined with the already online data.

Ethical considerations

Clear and transparent information provision, reliability and a just way of treating data; those norms were taken into account seriously regarding the data collection method. Demographic characteristics and especially expenditure can be perceived as personal, vulnerable and sensitive data. Names, addresses or income were not asked to increase (the perception of) respondent's anonymity as their characteristics and expenditure pattern could not be linked to each other and personal retrieval. As previously mentioned, the distributed envelope contained, next to the questionnaire, an extensive information letter. This included a description of the objective of the research, the reasons for selecting them (without excluding any household of Balk) as case study and the just treatment of the respondent's data. Inhabitants were free to participate or refuse, leave questions blank, and had the opportunity to contact the researcher with any remarks, questions, clarifications or interest in the end product. The data has been stored safely, has been only accessible to the researcher and was used for educational purposes only. Lastly, the PB was notified to inform them on that a project took place in the village.

Statistical Analysis plan

A multiple linear regression statistical test was used to answer the research question '*Does consumption behaviour on local scale of migrants differ from consumption behaviour on local scale of native residents?*'. The interesting follow-up question is: '*If so, after how long is consumption behaviour on the local scale of migrants similar to the consumption behaviour of native residents?*'

This test makes using a mediation approach feasible and eases the interpretation of coefficients. The outcome is the share of total expenditure on local scale; in stores in Balk. Several explanatory variables have been selected to explain the outcome variable 'consumption on local scale'. For the main research question was considered the following: the dependent variable is the amount of local consumption and the independent variable is the origin of a resident (migrant/non-migrant). In order to answer the main question, the focussed upon explanatory variable was be origin, but also age, gender, educational level and household size have been taken into account. Categorical data was transformed into dummy variables with dominant answer groups as reference categories.

If a respondent has been living in Balk less than 10 years, the household is considered to be a migrant. All households that have been living in Balk over 10 years are considered to be native (non-migrant). The following hypotheses have been set up:

H0: There is no relationship between migration and consumption behaviour on local scale

H1: There is a relationship between migration and consumption behaviour on local scale

Quality of the data

In total, 1659 questionnaire were distributed. From the total response of 533 questionnaires, 500 have been used in the analysis which corresponds to a response rate of 30,1%. 6 questionnaires were left out as a whole as those were found to be almost completely blank or highly suspicious (for instance, a maximum score in every single column by just a single-person elderly household). Although the vast majority of paper questionnaires were received several months after they had been distributed, the 27 cases received by the end of June have not be included anymore due to time constraints. Therefore, a cumulative 171 online and 329 paper questionnaires were coded and recoded as variables, after which combined and computed into one variable that shows the share of total expenditure that is done within Balk. Partly responded sector were also considered as invalid (for example only total expenditures indicated and no share in Balk). That caused a reasonable decrease in the total amount of valid cases per sector, and therefore potentially reliability.

Results

Table 1 (appendix) present the descriptive statistics of the sample. The respondents were categorised in two groups i.e. migrant and non-migrant, based on the years of residence in Balk. Percentages enable comparing groups to their relative shares. Migrants appear to be reasonable younger, higher educated, work further away from Balk (if employed) than non-migrants. Labour requiring higher educated accumulates rather in (relative) centre areas, like Leeuwarden or Groningen. Human capital relates to the supply of (specialised) employment, therefore, educational level is positively related to commuting distance (Zijlstra et.al, 2014). As migrants are rather of working-age, their mobility is higher. Nearly all household consist of one or two adults, implying for young families or (elderly) couples. For younger couples the fertility rate is higher. The descriptive statistics appear to comply with Heins' (2002) five, general dominant migrant groups. The vast majority of migrants live < 5 years in Balk, which could be explained by neighbourhoods recently built/under construction (Heutink, 2020). Recent migrants have had less time to invest in local networks or adapt to the behaviour of Balk inhabitants.

Regression models were used to compare inhabitant characteristics and the share of total expenditure locally spent in various sectors of facilities. The regression model estimates how assorted demographic characteristics (i.e. age, gender, educational level, household size, adult members in the household distance to work) and residential course (migration, based upon years of residence), influence the share of locally spend consumption.

The regression coefficient (B) signifies how much the mean of the dependent variable changes given a one-unit shift in the independent variable while holding other variables constant. For dummy variables, B illustrate how the share of expenditure locally spent differs from the reference group of a particular variable. Each dummy variable is compared with the reference group. The constant is the estimated mean share of expenditure locally spent with all variables in the regression model fixed at value 0. In the simple regression, this therefore corresponds to the expenditure of the reference group as there is only one independent variable. A positive B means that expenditure on local scale is higher for the independent dummy variable than for the reference group; a negative B means that expenditure on local scale is lower for the independent dummy variable means that income is lower. If the regression coefficient is statistically significant, the expenditure discrepancy with the reference group is also statistically significant. Three different confidence intervals have been used indicate significance, and in an additional column the exact significance values are presented to scrutinize tendencies. To determine the relevance of the significant effects, the distribution of these independent variables is shown in table 2 and 3 (appendix).

Tabel 2 exhibits simple linear regressions with the crude effects of age, the years of residence and migration in Balk on the share of total expenditure in Balk through various sectors. Migration is the variable of dominant interest, based on the year of residence. The latter shows how long it may take to behaviourally adapt to the local population. The singular effect of age is scrutinised as this appeared to be a remarkable characteristic of migrants and population ageing is its direct consequence.

Age significantly influences the share of expenditure spend locally of several sectors. Particularly in the sectors clothing & shoes and furnishing & household items, local expenditure increases significantly linear with distinct differences in magnitude by age. Coefficients for hospitality & catering imply the same pattern, yet insignificant. In other sectors (i.e. healthcare, services and bakery), the age group 25 – 34 spends significantly reasonably less locally than the early retired.

The longer people have lived in Balk, the more they spend locally on clothing & shoes. Although those living in Balk for 11 – 20 years (reference group) spend only 59% of their total expenditure locally - tending to be similar to groups living shorter in Balk (yet insignificant) -, a strong increase over years

can be seen. People living over 41 years in Balk also rely more on Balk in the sectors hospitality & catering and furnishing & household items. As years of residence and age are positively related (Kendall's tau-b test: $t_b = 0.179$ with $p = 0,000$), an older mean age is likely to mediate in these results.

In five of the sectors, migration appears to significantly negatively impact the share of expenditure locally spent. As compared to non-migrants, we can assume with 1. 99% confidence that migrants spend 12.576% less on clothing & shoes; 2. 90% confidence that migrants spend 7.347% less on healthcare; 3. 95% confidence that migrants spend 8.484% less on furnishing & household items; 4. 99% confidence that migrants spend 13.615% less on services and 5. 95% confidence that migrants spend 8.016% less at the butcher. As displayed in Table 1, the largest share of migrants fall within the age category 25 - 34. Older people have a lower mobility than younger age cohorts (Milbourne & Kitchen, 2014). They therefore rely more on facilities on local scale and explain the larger share of expenditure on local scale.

In the multiple linear regression of Table 3, the nett effect of migration on the share of total expenditure on local scale in Balk through various sectors is presented. Other demographic characteristics have been simultaneously taken into account; B reflects the deviation from the reference category of the original variable after controlling for relevant other variables. For primary needs (supermarket, butcher and bakery), B is found to be closer to 100 than other sectors. The catchment area is much smaller compared to other sectors (Access, 2017), in which recreational features (like funshopping or going out for dinner) attribute.

Now, the negative effects of migrants on the share of expenditure on local level have been largely mitigated. As compared to non-migrants we can assume that migrants spend less on only services and at the butcher (10.992% with 95% confidence and respectively 11.404% with 99% confidence), taken all independent variables into account. For the services, this effect was expected as switching- and transaction costs differ from non-migrants (Brouwer, 2017). Migrants generally have less time to build a well-developed network and may rely on established networks elsewhere. This same mechanism could explain the lower local butcher expenditures either: the awarded well- and widely-known butcher enjoys a good reputation for products of extraordinary quality (Visser, 2020). Moreover, specialist retailers, such as butchers or bakeries, gain the largest share of their revenue from older households (> 40 years single and double households or retired) without children (Holla, 2015). Due to increasing interest in a sustainable lifestyle, RIVM (2020) found that higher educated people and those younger than 30, compared to all age cohorts above, consume less meat. Migrants are found to be relatively higher educated and younger. Furthermore, inhabitants of rural areas consume more meat compared to middle and strong urban environments, and in the Northern Netherlands more than in the West (RIVM, 2020). Although the exact previous residential environment matters, migrants consume less meat than non-migrant peers.

Age, educational level and household size and composition are, following significance, larger nett predictors in explaining the share of expenditure on local scale than migration. These demographic variables may act like cofounders. They both directly influence the share of consumption on local scale and determine the composition of migrants.

Demographic factors are not the single category that determines consumption behaviour. As the literature has shown, consumer groups with similar purchasing behaviour can be segmented based on also behavioural, geographic and psychographic determinants (figure 6).

Figure 6: Market segmentation

By Behavior	By Demographics	By Geography	By Psychographics
<ul style="list-style-type: none"> • Benefits sought from the product • How often the product is used (usage rate) • Usage situation (daily use, holiday use, etc.) • Buyer's status and loyalty to product (nonuser, potential user, first-time users, regular user) 	<ul style="list-style-type: none"> • Age/generation • Income • Gender • Family life cycle • Ethnicity • Family size • Occupation • Education • Nationality • Religion • Social class 	<ul style="list-style-type: none"> • Region (continent, country, state, neighborhood) • Size of city or town • Population density • Climate 	<ul style="list-style-type: none"> • Activities • Interests • Opinions • Values • Attitudes • Lifestyles

Source: Tanner & Raymund (2012)

Alternative segmentation factors might overrule demographic variables on which this research is based. These groups are not one-fit; people can belong to different groups simultaneously. Which underlying characteristic(s) are dominantly expressed or influence actual consumption behaviour most varies per individual. For instance, it can be safely assumed that not a single migrant has the exact same lifestyle and preferences or usage pattern of a product. Although general migration patterns were observed in previous sections, individual migrants vary regarding age or educational level. Lastly, next to the general store or product group decision do product-specific qualifications and external factors also attribute to the decision on purchase. For example product price and quality (of alternatives) or respectively customer service and store cleanness (Access, 2017).

Limitations

Due to time constraints, the decision for a multiple linear regression was made in agreement with the supervisor. Nonlinear regression models could have been used. For example a logistic model that accommodates variables that are limited, or bounded above and below. Therefore, the dependent variable should be rescaled, acknowledging these boundaries. A share of total expenditure (aside debts) can namely neither be negative nor greater than one hundred percent. As such, the constant value of 122.920 at the butcher section (table 3) is inconceivable as it should be limited to the range between zero and one hundred percent.

The drawing of borders is important in determining upon who is a (non-)migrant. The creation of the variable 'migrant' was based on years of residence in Balk: 0-5 and 6-10 years cumulated into migrant and all answers over 10 years cumulated into non-migrant. Due to perfect multicollinearity, the independent variable years of residence could therefore not be included in the multiple regression model, which caused the omittance of detailed information. Although they would come with their own (ethical) limitations, migrants could be differently defined upon the distance to Balk, similarities regarding rurality/urbanity of their previous residential location, corrected by the catchment area per sector, as a share of age or years lived in Balk from a certain (crucial) age to even their whole life.

Among others, the coefficient for determination (R^2) contains valuable information for the multiple linear regression model: R^2 measures the proportion of variance in the dependent variable that can be explained by the independent variables. Dependent variables in social science like human behaviour are hard to predict and due to the near impossibility of (ethically) measuring all the relevant variables, high R^2 values are unlikely to obtain (Dhakal, 2018; Frost, 2017; Jargowsky, 2005). However, a low R^2 may indicate omitted variable bias.

The potential influence of unobserved variables

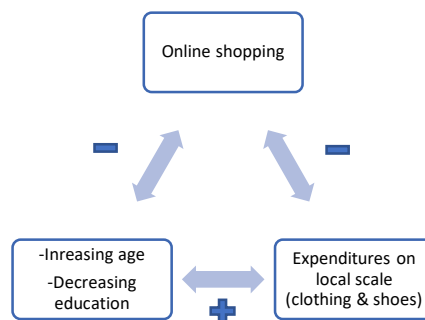
Not only is it important to consider what was included in the regression, but also to know what was excluded and what effects that might have on the inferences. It is therefore important to investigate the relationship that the excluded variables have with the included variables in the regression and the dependent variable. A reasonable explanation for the mitigation of migration and insignificance can be found in the suspicion of the either direct or indirect influence of latent variables. Variables that actually attribute in the population can whether or not be omitted. The problem of excluding a relevant independent variable or under-specifying the model generally causes the estimators to the regression model to be biased.

Bollen (2002) defines latent variables as *a random (or non-random) variable for which there is no sample realization for at least some observations in a given sample (...) for which there are no values.* Elidan et. al (2001) state that the presence of latent variables could cause severe problems in statistical models, as unobserved variables can still interact with several of the observed variables. As such, they induce seemingly complex dependencies among the latter.

The rise of the internet could contribute as a latent variable. The amount of web shops tripled in the Netherlands over the period 2012-2019 (CBS, 2019). Not only did the share of e-shopping Dutch increase (CBS, 2019), also the frequency and value rose considerably (CBS, 2018a). Older age cohorts purchase less via online methods than younger age cohorts. In 2018, 45% of the 65-years old and over ever bought something online. The online expenditure of both age groups 12-25 and 45-65 are similarly higher with 82% and respectively 83%. The 25-45 is the largest group: 94% ever bought something online. The sector with the largest share of online purchases is clothing and sport items: 56% of the online shoppers bought clothing and sport items most often (CBS, 2018a) and 38% household items (including furnishing). Both cover the sectors with the largest increase. Generally, the total internet use decreases not only by age but also by educational level (CBS, 2018b): 93% of the higher educated use internet against 69% of the lower educated.

Figure 7 illustrates the assumed influence of a possible latent variable. Online shopping and expenditures on local scale are negatively related as the these two manners compete and substitute each other as the same money can be spend only once in a single way; people of higher age and lower education exhibit less online (purchase) behaviour, and as a result of the aforementioned, the share of the total consumption on local level are greater by people of higher age and lower education. Thus, it could be reasonable possible that the independent variables age and educational level 'compensate' for the omitted variable of internet use/online shopping.

Figure 7: Internet as latent variable influencing consumption on local scale



Source: Author 1

Conclusions

This research aimed to study how local migration flows influence consumption behaviour on local scale, and whether movements towards declining regions can provide the support needed by the local facilities. Based on primary research using a regression analysis, it can be concluded that consumption behaviour on local scale of migrants differs from consumption behaviour on local scale of non-migrants in only the service and butcher sector. The results indicate that although migration possesses significant crude effects on local consumption, the net effect of migration is mitigated by confounding variables. These confounders are either observed, such as other demographic factors, or latent.

Further research suggestions

A more extensive statistical analysis could further improve statements drawn from the data. It would be interesting to assign weights to cases with higher expenditure rates. It is namely not only valuable to know which share is spent locally (and thus which share not) but also the actual amount of money that is being spent locally. To illustrate, it is more beneficial if a household that consumes €250 monthly spends half of a large total amount locally, than another household that consumes only €50 monthly but spends all of it locally. Logically, rather beneficial to the vitality of the facility.

Secondly, analyses on the origin region of migrants by using Geographic Information Systems (GIS) could contribute in creating a broader profile. For example, the degree of urbanity of former residential location or rather local movement flows could confound other factors. For example, migrant's demographic or socio-economic characteristics or as previously illustrated, regarding their facility network.

Lastly, further research could scrutinize the effects of mobility outside the scope of commuting distance. In particular as it is determined in literature to be an important driver for people to select retail locations. Although migration have not appeared to support local facilities reasonable extent, it could do so on regional or provincial level.

Policy recommendations

Policies should not only focus on attracting migrants, but also in convincing age cohorts of working class and higher educated to consume on local scale. These groups host a large potential as they enjoy a larger disposable income and expenditure rate. Migrants are, by their demographic characteristics, then directly included. Current actions like the 'Support your Local Retailer' are currently perceived from COVID-2019 perspective, but could as such also be utilized in the light of local facility vitality.

As such, employment of each order is important to attract migrants, but also prevent young, higher educated Frisians from departing. This will namely also positively affects the fertility rate. In an ever growing online service economy, well-developed and reliable digital infrastructure is just as important as the physical. The debated Lelylijn is one example of governmental infrastructural projects that could counter demographic challenges by further improving accessibility. This railway connects Groningen to Lelystad, with several stops in Friesland. The Randstad can then be reached within an hour in a more sustainable manner. That would make Friesland's location reasonably less peripheral, relieve the Randstad, improve its beneficial establishment character for both businesses and migrants. Economic prosperity expresses itself in terms of employment in direct and indirect sense. Directly by appealed companies by cheaper circumstances as ground price within an environment of good digital and physical accessibility, and indirectly by the increased demand services after the increased followed migrant/staying working population in Friesland, such as regarding construction and indeed facilities and stores on local level. The braindrain could be countered and even reversed, by attracting families and affluent middle age households who can commute easier and faster to centre areas while enjoying a less congested residential area, or work from home.

Lastly, policies should focus upon the conservation of values that are appreciated by both the native Frisian population (especially of younger age-cohorts to stay) and considered by migrants as pull-factors. Invest in that what characterises rural areas and improves integration and networking on local scale.

The physical and social factors that embody Fryslân's true silver lining.

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Appendix A

Table 1: Descriptive statistics of the independent variables for the respondents included in the single and multiple linear regression model (N=500)

		Migrant		Non-migrant				Migrant		Non-migrant	
		Count	%	Count	%			Count	%	Count	%
Gender	Male	41	35,65	168	44,33	Years of residence in Balk	< 5 years	71	60,68	0	0
	Female	74	64,35	211	55,67		6 years – 10 years	46	39,32	0	0
Age	< 25 years	6	5,13	7	1,83		11 years – 20 years	0	0	110	28,80
	25 years – 34 years	33	28,21	14	3,66		21 years – 30 years	0	0	69	18,06
	35 years – 44 years	16	13,68	48	12,57		31 years – 40 years	0	0	64	16,75
	45 years – 54 years	12	10,26	68	17,80		> 41 years	0	0	89	23,30
	55 years – 64 years	12	10,26	86	22,51		Whole life	0	0	50	13,10
	65 years – 74 years	19	16,24	86	22,51	Household size	1 person	29	24,79	80	20,94
	> 75 years	19	16,24	73	19,11		2 persons	50	42,74	189	49,48
Educational level	Master higher education	17	14,53	32	8,40		3 persons	19	16,24	34	8,90
	Bachelor higher education	36	30,77	95	24,93		4 persons	11	9,40	42	10,99
	Senior general secondary education	4	3,42	33	8,66		5 persons	8	6,84	32	8,38
	Secondary vocational education	38	32,48	103	24,03		6 persons	0	0	5	1,31
	Pre-vocational secondary theoretical education	11	9,40	42	11,02		Members > 18 years in household	1 person	32	27,35	81
	Pre-vocational secondary basic education	10	8,55	62	16,27	2 persons		83	70,94	250	65,96
	Primary education	1	0,85	12	3,15	3 persons		1	0,85	33	8,71
	No education	0	0	2	0,52	4 persons		1	0,85	12	3,17
Distance to work	Home/within Balk	9	7,89	79	21,12	5 persons		0	0	2	0,53
	< 10km from Balk	8	7,02	31	8,29	6 persons		0	0	1	0,26
	> 10km from Balk	45	39,47	96	25,67						
	Unemployed	52	45,61	168	44,92						

Table 2: Simple linear regression analysis of the share of expenditure on local level (monthly): crude effect

Dependent variables →	Share of expenditure locally: Clothing & Shoes		Share of expenditure locally: Hospitality & Catering		Share of expenditure locally: Healthcare		Share of expenditure locally: Transport services		Share of expenditure locally: Furnishing & Household items		Share of expenditure locally: Services		Share of expenditure locally: Supermarket		Share of expenditure locally: Butcher		Share of expenditure locally: Bakery	
	B.	Sig.	B.	Sig.	B.	Sig.	B.	Sig.	B.	Sig.	B.	Sig.	B.	Sig.	B.	Sig.	B.	Sig.
Age (ref. 65-74)																		
Constant	80.802		80.696		85.013		58.730		87.102		84.123		95.547		94.535		91.978	
< 25	-45.344***	0.000	-15.495	0.143	-9.255	0.413	13.270	0.553	-19.224*	0.067	-7.456	0.521	2.743	0.552	5.465	0.608	8.022	0.343
25 – 34	-39.309***	0.000	-10.072	0.125	-12.040*	0.083	-58.730	0.204	-32.456***	0.000	-13.824*	0.057	-1.358	0.625	-10.408	0.123	-12.966**	0.028
35 – 44	-33.829***	0.000	-1.187	0.840	3.083	0.606	25.885	0.105	-20.579***	0.000	1.140	0.858	-3.534	0.157	-1.392	0.795	0.929	0.849
45 – 54	-30.812***	0.000	-2.804	0.614	-11.946**	0.032	11.994	0.378	-13.087***	0.010	-5.093	0.395	-2.825	0.230	-2.868	0.589	0.078	0.987
55 – 64	-7.298	0.131	2.755	0.609	0.249	0.963	3.770	0.840	-5.022	0.295	0.063	0.991	-1.880	0.397	-3.019	0.546	-1.675	0.705
> 75	8.248*	0.092	5.516	0.343	-0.753	0.893	19.841	0.203	5.455	0.274	-2.262	0.964	3.670	0.108	-1.552	0.740	0.975	0.819
N	467		440		422		84		458		435		487		251		348	
R ²	0.235		0.020		0.026		0.070		0.112		0.013		0.024		0.013		0.022	
Years living in Balk (ref. 11-20)																		
Constant	59.048		78.149		80.491		62.400		76.356		79.327		93.326		94.558		90.444	
< 5	-3.516	0.539	1.686	0.766	-4.785	0.417	26.489	0.121	-2.256	0.685	-8.982	0.147	1.925	0.426	-6.939	0.203	2.222	0.647
6 – 10	-0.245	0.971	-2.394	0.721	-3.255	0.624	14.267	0.473	-7.661	0.232	-6.534	0.360	-2.919	0.296	-9.882*	0.099	-7.313	0.201
21 – 30	9.465	0.105	-0.604	0.916	10.152*	0.089	2.044	0.886	8.567	0.117	13.324**	0.029	1.486	0.542	0.314	0.953	2.366	0.624
31 – 40	10.211*	0.089	-4.016	0.499	4.548	0.442	26.489	0.121	2.010	0.719	-0.933	0.882	2.864	0.251	-4.928	0.362	-4.357	0.381
> 41	21.160***	0.000	10.339*	0.060	-0.354	0.949	-13.511	0.344	9.275*	0.074	8.504	0.129	3.366	0.128	0.478	0.924	5.768	0.192
Whole life	14.407**	0.026	6.116	0.334	5.064	0.442	37.600*	0.061	0.300	0.961	10.441	0.127	3.434	0.212	5.442	0.405	2.029	0.720
N	467		440		422		84		458		434		486		251		348	
R ²	0.054		0.017		0.017		0.123		0.023		0.040		0.015		0.030		0.022	
Migration (ref. non-migrant)																		
Constant	80.441		80.441		83.3680		66.571		80.454		84.929		95.318		94.380		91.904	
Migrant	-12.576***	0.002	-2.136	0.592	-7.347*	0.071	17.429	0.173	-8.484**	0.028	-13.615***	0.002	-1.962	0.243	-8.016**	0.027	-2.813	0.401
N	467		440		442		84		458		434		486		251		348	
R ²	0.021		0.001		0.008		0.022		0.011		0.022		0.003		0.019		0.002	

Significance at p* <0.10
 Significance at p** <0.05
 Significance at p*** <0.01

Table 3: Multiple linear regression analysis of the share of expenditure on local level (monthly): nett effect

Dependent variables →	Share of expenditure locally: Clothing & Shoes		Share of expenditure locally: Hospitality & Catering		Share of expenditure locally: Healthcare		Share of expenditure locally: Transport services		Share of expenditure locally: Furnishing & Household items		Share of expenditure locally: Services		Share of expenditure locally: Supermarket		Share of expenditure locally: Butcher		Share of expenditure locally: Bakery	
	B.	Sig.	B.	Sig.	B.	Sig.	B.	Sig.	B.	Sig.	B.	Sig.	B.	Sig.	B.	Sig.	B.	Sig.
Constant	83.312		78.309		83.591		79.738		90.122		86.508		94.101		122.920		98.500	
Migrant (ref. non-migrant) Migrant	-4.875	0.237	-1.243	0.779	-4.987	0.287	15.607	0.286	-1.662	0.697	-10.992**	0.036	-1.922	0.324	-11.404***	0.006	1.586	0.690
Gender (ref. female) Male	-2.228	0.494	-4.825	0.165	-2.346	0.523	-9.835	0.372	-10.514**	0.001	2.675	0.506	-1.201	0.431	-1.001	0.763	-3.011	0.314
Age (ref. 65-74)																		
< 25	-36.072***	0.001	-12.476	0.286	-9.048	0.481	26.133	0.357	-19.314	0.103	-5.665	0.678	-0.734	0.891	17.365	0.148	10.354	0.294
25 – 34	-28.559***	0.001	-5.814	0.513	-13.004	0.182	-60.651	0.256	-29.755***	0.001	-8.084	0.452	-4.816	0.227	-2.388	0.801	-15.488*	0.067
35 – 44	-19.631**	0.017	-1.608	0.852	-2.870	0.761	33.195	0.187	-15.321	0.064	4.694	0.649	-10.400***	0.008	-0.643	0.938	-4.929	0.526
45 – 54	-22.239***	0.002	-1.550	0.831	-15.360*	0.046	14.711	0.519	-12.428	0.078	-5.326	0.550	-7.682*	0.020	2.906	0.694	-0.171	0.980
55 – 64	-6.774	0.279	2.362	0.720	-1.059	0.876	-5.665	0.820	-8.080	0.182	0.232	0.975	-2.603	0.359	-1.949	0.763	-0.387	0.947
> 75	6.736	0.181	5.038	0.377	-3.048	0.599	23.820	0.162	6.990	0.174	-1.260	0.836	3.968	0.096	-4.712	0.316	0.736	0.867
Educational level (ref. bachelor higher education)																		
Master higher	-1.779	0.759	-3.850	0.526	3.267	0.615	-32.486	0.072	-1.862	0.754	-8.546	0.232	-3.719	0.180	-3.075	0.607	3.919	0.461
Senior general secondary	9.617	0.133	4.440	0.512	6.564	0.369	-38.014**	0.046	4.216	0.520	0.006	0.999	0.299	0.923	-16.721**	0.017	-1.669	0.784
Secondary vocational	7.208*	0.086	3.609	0.412	11.274**	0.020	4.518	0.791	6.729	0.111	-4.548	0.381	2.436	0.227	-2.476	0.568	1.821	0.650
Pre-vocational secondary theor.	12.778**	0.036	9.117	0.165	-2.955	0.668	-12.787	0.539	12.165**	0.047	1.152	0.873	0.928	0.744	-4.356	0.500	-7.027	0.211
Pre-vocational secondary basic	12.749**	0.024	15.549**	0.011	11.313*	0.079	10.947	0.575	4.899**	0.392	-2.156	0.754	-0.373	0.887	1.081	0.846	6.820	0.186
Primary	17.202	0.113	12.024	0.377	21.616*	0.094	-16.455	0.631	-2.800	0.804	6.584	0.621	2.265	0.641	2.082	0.835	8.266	0.390
None	37.847	0.110	32.722	0.182	43.268	0.235	57.132	0.217	30.042	0.206	11.616	0.764	12.117	0.453	-100.467***	0.000	16.133	0.547
Household size	-5.072**	0.028	3.131	0.180	4.777*	0.063	-3.303	0.648	-2.929	0.207	-1.329	0.633	3.750***	0.001	0.184	0.939	2.604	0.251
> 18 in household	-0.083	0.980	-4.084	0.247	-5.721	0.127	-10.214	0.314	1.269	0.707	0.929	0.817	-2.614	0.101	-12.481***	0.001	-6.866**	0.029
Distance to work (ref. unemployed)																		
Home/in Balk	2.153	0.706	1.942	0.744	3.828	0.552	22.679	0.271	1.459	0.794	-1.013	0.879	-1.073	0.687	0.112	0.984	5.670	0.280

<10 km range	4.996	0.520	-7.050	0.367	-7.265	0.287	23.163	0.357	-0.231	0.976	-0.822	0.929	0.391	0.911	0.234	0.977	-2.926	0.676	
>10 km range	1.261	0.831	0.576	0.924	-3.845	0.550	21.099	0.338	4.748	0.415	4.960	0.485	0.735	0.788	-1.098	0.863	1.577	0.781	
N	454	428	411	82	446	421	471	241	337										
R ²	0.279	0.058	0.077	0.306	0.150	0.039	0.070	0.190	0.070										

Significance at p* <0.10

Significance at p** <0.05

Significance at p*** <0.01



Beste inwoners van Balk,

Ik ben Paulina Slats, derdejaars student Sociale Geografie en Planologie aan de Rijksuniversiteit van Groningen. Ik ben momenteel bezig met mijn afstudeeronderzoek. U kunt mij helpen met vijf minuten van uw tijd met het invullen van een vragenlijst.

Zelf kom ik uit Mildam, een dorp naast Heerenveen. Ik voel me erg verbonden en begaan met Friesland en de Friezen, en ik wil later in mijn werk bijdragen aan een goeie toekomst van onze mooiste provincie. Met name vanuit een economisch oogpunt: de uitwerking die bedrijvigheid heeft op gebieden en de mensen die erin leven.

De leegloop van het platteland, krimp en vergrijzing zijn onderwerpen die u vast weleens voorbij heeft zien of horen komen in de krant of op het nieuws. Die veranderende bevolkingssamenstelling die Friesland regionaal meemaakt (leegstand, meer oudere mensen en minder jonge mensen/gezinnen met kinderen) heeft invloed op het aantal en soort winkels en voorzieningen. Echter, voorzieningen en winkels zijn van belang om te voorzien in het levensonderhoud, werkgelegenheid en de levendigheid van het dorp.

In mijn afstudeeronderzoek wil ik graag de economische effecten van bevolkingskrimp onderzoeken en inzicht krijgen in welke bevolkingsgroepen waar producten kopen. Met name de verschillen tussen leeftijdsgroepen, hoelang iemand ergens woont en in welke soort uitgaven er in het dorp (waar de middenstand van profiteert) en buiten het dorp gedaan worden. Zo kunnen er oplossingen bedacht worden om de leefbaarheid van dorpen voor hun inwoners goed te houden en ingespeeld worden op hedendaagse trends. Ik hoop dat u mij daarbij kunt helpen!

Balk maakt het perfecte dorp voor mijn onderzoek: het aantal inwoners, de grootte, de leeftijdsopbouw, bevolkingsontwikkeling door de tijd heen, het aantal winkels en andere voorzieningen en het gebied waarin Balk ligt. De uitkomsten van dit onderzoek (op basis van de gegevens van Balk en de Balksters) zouden daarmee als voorbeeld kunnen dienen voor veel andere dorpen en gebieden in Friesland.

Met behulp van een vragenlijst hoop ik deze informatie te verkrijgen. Eén persoon per huishouden vult de enquête in die bestaat uit twee delen: het eerste deel bevat beschrijvende vragen en het tweede betreft het uitgavenpatroon. Het invullen is eenvoudig en duurt ongeveer 5 minuten.

Een hoge respons is erg belangrijk voor de resultaten maar u bent natuurlijk vrij om de vragenlijst wel dan wel niet in te vullen. De vragenlijst is anoniem: er kan niet achterhaald worden wie welke informatie gedeeld heeft en naam, adresgegevens, werk of inkomen wordt nergens gevraagd. De informatie wordt veilig en met zorg opgeslagen en alleen ten behoeve van het onderzoek gebruikt, waarna alles weer verwijderd wordt.

Het scannen van de QR-code of overnemen van de link brengt u naar de online enquête. Heeft u geen computer of vult u de vragenlijst liever op papier in dan kan dat ook. U kunt de bijgevoegde sticker op de envelop plakken en de ingevulde enquête kosteloos terugsturen. Een postzegel is dus niet nodig.

De veranderingen die we allemaal meemaken in deze onzekere tijd door de coronacrisis, heeft ertoe geleid dat het verzamelen van de data anders gaat dan ik had gepland. Nu iedereen veel thuis is hoop ik dat u mij kunt helpen met het invullen van een vragenlijst. Alvast heel hartelijk bedankt!

Ik wens u het beste toe en een mooie toekomst voor Balk!

Met vriendelijke groeten,

Paulina Slats



B1.2 Information letter Frisian

Beste ynwenner fan Balk,

Ik bin Paulina Slats, treddejers studint Sosjale Geografy en Planning oan 'e Ryksuniversiteit Grins. Ik bin op it stuit dwaande mei myn ôfstudearûndersyk. Jo kinne my helpe mei fiif minuten fan jo tiid om in fragelist yn te fullen.

Ik kom sels út Mildaam, in doarp njonken Hearrenfean. Ik fiel my tige ferbûn en begean mei Fryslân en de Friezen, en ik wol letter yn myn wurk bydrage oan in goede takomst foar ús moaiste provinsje. Foaral fanút in ekonomysk eachpunt: it effekt dat bedriuwichheid hat op gebieten en de minsken dy't deryn wenje.

De leechrin fan it plattelân, krimp en fergrizing binne ûnderwerpen dy't jo wierskynlik wol ris heard of sjoen hawwe yn 'e krante as op it nijs. De feroarjende befolkingskomposysje dy't Fryslân regionaal meimakket (leechstân, mear âldere minsken en minder jonge minsken / famyljes mei bern), hat ynfloed op it oantal en it type winkels en foarsjennings. Fasiliteiten en winkels binne wichtich foar it libbensûnderhâld, wurkgelegenheid en fertier fan en yn it doarp.

Yn myn ôfstudearûndersyk wol ik de ekonomyske effekten fan befolkingsdaling ûndersykje en ynsjoch krije yn hokker befolkingsgroepen produkten wêr keapje. Benammen de ferskillen tusken leeftydsgroepen, hoe lang in persoan earne wennet en hokker soort útjeften dien wurde yn it doarp (wêrfan de middenstân profiteart) en hokker bûten it doarp. Op dizze manier kinne oplossingen betocht wurde om de leefberens fan doarpen foar har ynwenners te behâlden en te reagearjen op hjoeddeistige trends. Ik hoopje dat jo my hjir mei helpe kinne!

Balk makket it perfekte doarp foar myn ûndersyk: it oantal ynwenners, de grutte, de leeftydsstruktuer, de befolkingsûntwikkeling oer de tiid, it oantal winkels en oare foarsjennings en it gebiet wêryn Balk leit. De resultaten fan dit ûndersyk (basearre op gegevens fan Balk en Balksters) kinne as foarbyld tsjinje foar in protte oare doarpen en gebieten yn Fryslân.

Ik hoopje dizze ynformaasje te krijen mei help fan in fragelist. Ien persoan per húshâlding fult de fragelist yn dy't út twa dielen bestiet: it earste diel hat beskriuwendde fragen en it twadde giet oer it útjeftepatroan. It ynfulle is maklik en duorret ûngefear 5 minuten.

In soad reaksje is hiel wichtich foar de resultaten, mar jo binne fansels frij om de fragelist yn te fullen as net. De fragelist yn anonym: it is net mooglik om út te finen wa't hokker ynformaasje dielt en nei nammen, adresgegevens, wurk of ynkommen wurdt net frege. De ynformaasje wurdt feilich en mei soarch opslein en allinich brûkt foar ûndersyksdoelen, wêrnei't alles ferwidere wurdt.

It scanne fan de QR-koade of kopiearje fan de link bringt jo nei de online fragelist. As jo gjin kompjûter hawwe of as jo leaver de fragelist op papier ynfulle, is dat ek mooglik. Jo kinne de byfoegde sticker op 'e envelop plakke en de ynfulde fragelist fergees weromstjoere. In postsegel is dus net nedich.

De feroaringen dy't wy allegear ûnderfine yn dizze ûnwisse tiid fanwege de korona-krisis hawwe resultearre yn dat it sammeljen fan myn ynformaasje oars giet as ik pland hie. No't elkenien in protte thús is, hoopje ik dat jo my kinne helpe in fragelist yn te fulle. Âlvest tige tank!

Ik winsk jo it bêste ta en in moaie takomst foar Balk!

Mei freonlike groetnis,
Paulina Slats



B.2. Information sheet QR-code

Onderstaand vindt u de QR-code voor de online vragenlijst. De betreffende link is <https://forms.gle/w2fusdA8WAjxhpU9>



Heeft u een vraag, opmerking of bent u benieuwd naar het uiteindelijke afstudeerverslag dan kunt u mij altijd bereiken via p.slats@student.rug.nl of per post: Rijksuniversiteit Groningen/Faculteit Ruimtelijke Wetenschappen t.a.v. Paulina Slats, Antwoordnummer 172, 9700 VB Groningen

B.3. Online request information post

Beste Balksters,

Deze week heeft u een envelop in de brievenbus gekregen met een brief en enquête voor mijn afstudeeronderzoek. Ik heb al veel reacties gekregen waar ik erg blij mee ben. Woont u in Balk, heeft u de vragenlijst nog niet ingevuld en zou u dat nog wel willen doen? Dat kan via <https://forms.gle/w2fusdA8WAjxhpU9>. Het invullen kost ongeveer 5 minuten en is anoniem.

In mijn afstudeerproject wil ik graag de economische effecten van bevolkingskrimp onderzoeken en inzicht krijgen in welke bevolkingsgroepen waar producten kopen. Met name de verschillen tussen leeftijdsgroepen, hoelang iemand ergens woont en in welke soort uitgaven er in Balk (waar de middenstand van profiteert) en buiten Balk gedaan worden. Zo kunnen er oplossingen bedacht worden om de leefbaarheid van dorpen voor hun inwoners goed te houden en ingespeeld worden op hedendaagse trends. Ik hoop dat u daarbij kan helpen!

Alvast hartelijk bedankt en een fijn weekend gewenst!

Met vriendelijke groet,

Paulina Slats

B.4 Questionnaire



Enquête Balk

1. Wat is uw geslacht?

- Man
- Vrouw
- Anders

2. Wat is uw leeftijd?

- Jonger dan 25 jaar
- 25 jaar – 34 jaar
- 35 jaar – 44 jaar
- 45 jaar – 54 jaar
- 55 jaar – 64 jaar
- 65 jaar – 74 jaar
- 75 jaar of ouder

3a. Wat is uw hoogst genoten opleiding (met diploma)?

- Master WO of HBO / post-doctoraal
- Bachelor WO of HBO (hts, heao)
- VWO/Havo eindexamen (mms, hbs)
- MBO (mts, meao, mhno, inas, mis)
- VMBO theoretisch / gemengd (mavo, ulo, mulo, ivo, vglo)
- VMBO beroepsgericht (Its, ito, leao, lhno, huishoudschool)
- Basisschool (lagere school)
- Geen

3b. Wat is de afstand van uw werklocatie tov. Balk?

- Ik werk thuis/in Balk
- Ik werk binnen een straal van 10km van Balk
- Ik werk buiten een straal van 10km van Balk
- Ik heb (momenteel) geen werk

4a. Uit hoeveel personen bestaat uw huishouden? (met hoeveel personen woont u in uw huis, inclusief uzelf)

_____ personen

4b. Hoeveel personen in uw huishouden zijn 18 jaar of ouder? (inclusief uzelf)

_____ personen

5a. Hoelang woont u al in Balk?

- 0 jaar – 5 jaar
- 6 jaar – 10 jaar
- 11 jaar – 20 jaar
- 21 jaar – 30 jaar
- 31 jaar – 40 jaar
- meer dan 41 jaar
- Ik woon al mijn hele leven in Balk

5b. In het geval dat u minder dan 10 jaar in Balk woont: hoeveel jaar exact woont u nu in Balk?

_____ jaar

5c. In het geval dat u niet uw hele leven al in Balk woont: wat was uw vorige woonplaats?

Consumptiepatroon

Het tweede gedeelte van de enquête betreft het consumptiepatroon in verschillende sectoren. Per vraag kan aangegeven worden hoeveel de totale uitgaven bedragen per categorie en welk deel daarvan in Balk. Om de uitgaven anoniemer in te vullen en makkelijker in te schatten zijn er categorieën gemaakt. De uitgaven zijn per maand en voor het huishouden als geheel.

Kleding en schoenen

	€0	€1 - €50	€51 - 100	€101 - €150	€151 - €200	€201- €250	Meer dan €251
Totaal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waarvan in Balk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Horeca (hotels, restaurants, café's, terras, (snack)bar etc.)

	€0	€1 - €50	€51 - 100	€101 - €150	€151 - €200	€201- €250	Meer dan €251
Totaal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waarvan in Balk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Inrichting en huishoudelijke artikelen

	€0	€1 - €50	€51 - 100	€101 - €150	€151 - €200	€201- €250	Meer dan €251
Totaal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waarvan in Balk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Gezondheid (niet vergoede zorgkosten als apotheek, (tand)arts, fysio)

	€0	€1 - €50	€51 - 100	€101 - €150	€151 - €200	€201- €250	Meer dan €251
Totaal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waarvan in Balk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Vervoersdiensten (taxi, openbaar vervoer (dus geen eigen vervoersmiddel))

	€0	€1 - €50	€51 - 100	€101 - €150	€151 - €200	€201- €250	Meer dan €251
Totaal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waarvan in Balk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Diensten (kapper, advies, inhuren bedrijf voor bijv. bouw/onderhoud)

	€0	€1 - €50	€51 - 100	€101 - €150	€151 - €200	€201- €250	Meer dan €251
Totaal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waarvan in Balk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Voedsel

	€0	€1 - €50	€51 - €100	€101 - €150	€151 - €200	€201 - €250	€251 - €300	€301 - €350	€351 - €400	€401 - €450	€451 - €500	€501 - €550	Meer dan €551
Supermarkt totaal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supermarkt in Balk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Slager totaal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Slager in Balk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bakker totaal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bakker in Balk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>