



Evolution in city centre retailing: the case of Utrecht (1974-2003)

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Abstract

Purpose – Using a continuous dataset, the purpose of this study is to explore the evolution of retailing in the historical city centre of Utrecht between 1974 and 2003.

Design/methodology/approach – Following an evolutionary framework entropy statistics and sector analysis are used to investigate the structural changes that have occurred over this period.

Findings – The results indicate important changes over time. First, there is a decline of shops selling daily and space consuming goods. Second, the expansion of some sectors and the emergence of new sectors has compensated fully for the loss of these shops. The success of some of these sectors is related to the rise of recreational shopping. Despite increased competition of “out-of-town” retailing and other forms of retailing, Utrecht’s historical city centre has remained on top of the retail hierarchy in The Netherlands by transforming itself into an attractive location for recreational shopping.

Practical implications – The results indicate that new policies should encourage retail entrepreneurship to adapt to ever changing socio-economic and spatial contexts. Furthermore, in most sectors that are under pressure, possibilities exist to shift to related categories through what may be called upgrading.

Research limitations/implications – In the main, the data investigate sector dynamics. Future research on the evolution of retail locations using time-series, therefore, should try to include more variables, like floor space, organisation type, etc. which can also provide explanations for the patterns of structural change.

Originality/value – The paper has introduced entropy statistics as a new technique to analyse sector variety dynamics of retail locations, since it captures both the number of sectors and the skewness of distribution.

Keywords The Netherlands, Cities, Retailing, Shops, Structural analysis, design and theory, Zones (planning)

Paper type Research paper

Introduction

In The Netherlands city centres are the largest and most diversified shopping locations. Approximately 51 per cent of all shops in The Netherlands are located in the centres of towns and cities (Locatus, 2002). To date, city centres are still on top of the retail hierarchy. Currently, however, the position of city centres is under threat as societal changes like aging of the population, increased mobility, individualisation and smaller households change consumers’ shopping habits in city centres. In addition, growing congestion in cities and increased competition from peripheral retail locations and the internet alter the city centre retail landscape. These processes of change call for proactive stance by city planners, retail real estate developers and individual retailers

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to closely monitor retail dynamics in city centres and to offset the potential threat of other retail locations.

In this paper we focus on the retail dynamics in more detail within a single city centre. Hitherto, most studies have studied retail dynamics at a higher spatial scale of analysis (Brown, 1992; for notable exceptions see, e.g. O'Callaghan and O'Riordan, 2003; Van Duren, 1995). In particular, we are interested in systematic empirical evidence to understand the structural dynamics underlying the economic evolution of retailing within city centres. We utilise an evolutionary approach and use time-series data to investigate the vitality, variety and rise and fall of sectors over a period of 30 years.

Evolutionary economics

Traditional economic analysis focuses exclusively on price competition between firms, which is dependent on market structure. Evolutionary economics, also known as neo-Schumpeterian economics, distinguishes price competition from Schumpeterian competition (Nelson and Winter, 1982; Nelson, 1995). The latter type of competition is typical for innovative industries in which firms do not compete so much on prices of homogenous products but more in terms of the development of new products, which grants a firm a temporary monopoly. The competitive advantage of firms in these industries lies in unique and complementary set of competencies, built up over time, which enable them to be consistent innovators rather than imitators.

In the context of the "competitiveness" or "vitality" of old city centres, the distinction between price competition and Schumpeterian competition is particularly relevant. Given the development of retail locations outside old city centres, competition has become fierce. In terms of prices, old city centres are not competitive as rental costs per square metre and accessibility costs in locations outside the centre are significantly lower. There is little reason to believe that these cost differentials will change in the future, even if active policies are undertaken in this direction. Following the evolutionary perspective, old city centres remain attractive as a retail location only if they are successful in Schumpeterian competition, i.e. able to generate new (space-extensive) shops in new sectors offering unique products. What is more, the variety of shops traditionally present in old city centres is a feature that creates additional demand (Brown, 1992). The evolutionary perspective leads us to analyse the vitality of Utrecht's old city centre, which we define as the number of shops, in terms of the variety of shops and in terms of the process of structural change comprising the rise and fall of particular sectors.

The Dutch retail context and planning system

Some background information will be given for a better understanding of the Dutch retail context. Compared to other Western nations, like France and the USA, The Netherlands has an "old-fashioned" retail structure, characterised by a large number of small-scale shops per capita concentrated in urban areas, and by the lack of large-scale hypermarkets and shopping malls at the edges of major cities. Similar to the UK, fully enclosed shopping malls have emerged mainly in Dutch city centres, but to a lesser extent and at a smaller scale (Guy, 1994). The reason for this difference can be attributed to a restrictive retail planning policy for more than five decades that prevented uncontrolled retail growth at the fringes of urban areas and protected traditional shopping centres and the functional retail hierarchy (Evers, 2001). City centres are, therefore, still at the top of the retail hierarchy in The Netherlands.

Historically, Dutch land use policy forced large-scale retailers to locate in or adjacent to existing retail concentrations. As an exception to this general rule, only a few sectors were allowed to locate outside existing shopping areas on locations specifically designated as so-called “pdv-locations” (in Dutch: *perifere detailhandelsvestigingen*). In 1973, only retailers selling explosive or flammable merchandise, cars, boats and caravans were permitted at pdv-locations. In 1984, firms selling furniture, “do-it-yourself” (DIY) and building materials were added to the list of products, which, like cars, boats and caravans, require a considerable amount of floor space. Thus far, the pdv policy has had variable success. On the one hand, it prevented unwanted retail settlement in peripheral areas. On the other, due to the convergence of retail segments, more types of merchandise were sold at peripheral locations, which led to increased competition with the city centre (Borchert, 1998; Van de Wiel, 1996). In 1993, the restrictive policies were relaxed by the introduction of so-called “gdv-locations” (in Dutch: *grootschalige detailhandelsvestigingen*) for stores exceeding 1500 square metres of gross floor space. Permission to create this new type of retail location has only been granted to 13 of the larger cities. As one might expect these new opportunities for large-scale peripheral retailing were met with enthusiastic response from real estate developers and some retail firms. Further “gdv-development” can, therefore, influence the spatial distribution of retail trade and can, in turn, eventually threaten city centre retailing. However, as Borchert (1998, p. 344) points out, “in a small country like The Netherlands the number of important players in retailing is limited, and most of them have invested heavily in their downtown shopping location in the recent past”. On the other hand, he notes that generating new “gdv-centres” is creating new opportunities for foreign retailers to enter the Dutch market with low costs.

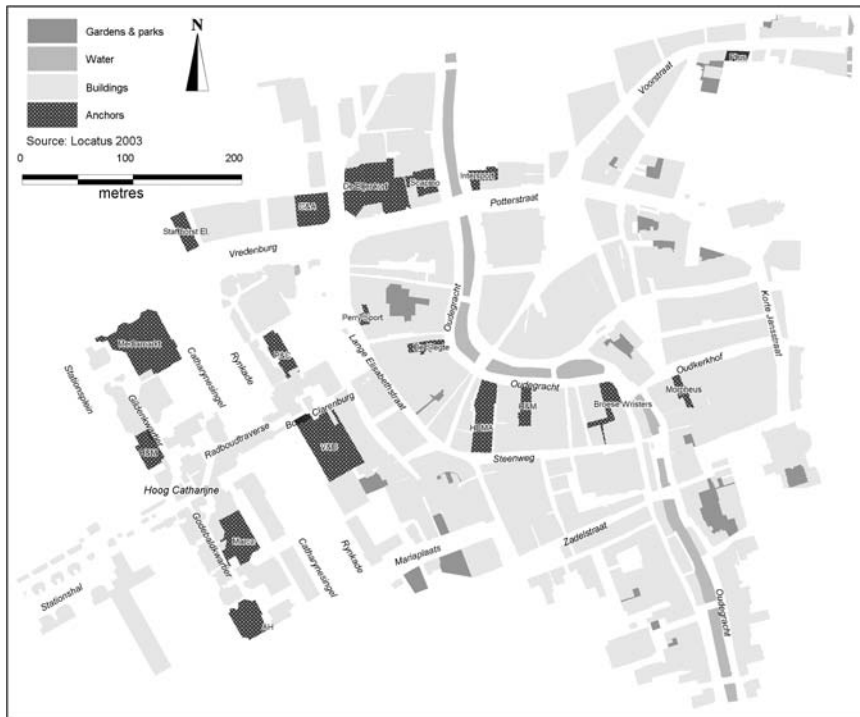
To summarise thus far, the central position of city centres in The Netherlands can be understood as a result of long-standing planning restrictions on the development of peripheral retail locations. The more recent relaxation of restrictions has led to increased competition from locations outside city centres. In addition, new forms of retailing, such as factory outlets and e-commerce, are possibly also posing threats to city centre retailing.

Utrecht’s historical city centre shopping area

Utrecht is located in the centre of The Netherlands and is the fourth largest city with approximately 265,000 inhabitants. As a result of its centrality the city is the most important public transportation hub in The Netherlands. The central railway station of Utrecht handles approximately 50 million passengers a year. To a large extent the result of its centrality, goods accessibility by public transportation and the close location of the city centre to the central railway station, Utrecht is an attractive location to go shopping.

The historical character of the old city centre also adds to its attractiveness as a shopping location. From the eleventh century to the end of the sixteenth century Utrecht was the residence of the bishops of Utrecht and the religious heart of the northern Netherlands (Smook, 1984). Today, a variety of churches and canals from this period still exist, with the Dom Church and Dom Tower as its most characteristic and enduring expressions. In addition, distinctive for Utrecht are the historical cellars along the Old Canal (in Dutch: *Oudegracht*), where nowadays many bars and restaurants are located.

Figure 1 provides a map of Utrecht’s city centre. The historical character of the layout of the centre is evident from the small streets and the Old Canal. The old city centre



Source: Locatus (2003)

Figure 1.
Utrecht's city centre
shopping area

consists of 66 streets of which 45 mainly have a retail function. Our empirical data cover all 45 shopping streets. The map also indicates Hoog Catharijne, a large shopping mall that was established in 1975 between Utrecht's old city centre and the central railway station (West of the old centre). With 57,700 square metres of lettable shopping centre space, 180 different shops, a cinema, a music theatre and 42 million visitors per year, it is the busiest and one of the largest shopping malls in The Netherlands (Corio, 2004). Unfortunately, data on premises in this shopping mall were not readily available to us, which explains our focus on the evolution of the old city centre alone.

Research questions

Given the trends described above, and in particular the increased competition between old centres, peripheral retail locations and new forms of retailing, we are interested in three major research questions:

- RQ1.* First, does Utrecht's old city centre lose ground as a retail location (i.e. vitality)?
- RQ2.* Second, has the increase in competition from other retail locations induced Utrecht's old city centre to specialise in certain sectors, thus lowering the variety of shops available?

RQ3. Can we understand the vitality of Utrecht's old city centre, or the lack thereof, by the patterns of structural change?

In answering the three research questions we will proceed in a more exploratory rather than an explanatory fashion. We are interested in the main trends in retail evolution in the inner city, how these trends can be measured and how the patterns can be understood from what is known. Our main motivation in posing these research questions has been the growing concern among academics, retail analysts and policy makers about the competitiveness of old city centres when faced with increased competition. Thus, the first two research questions can be understood as questions aimed at the verification or falsification of these concerns, while the third question is more explicitly exploratory in nature.

Methods and materials

Our study is based on annually collected data by Utrecht's municipal statistical office on shops during the period 1974 to 2003 and covering the 45 shopping streets indicated in Figure 1. For each retail property, census takers have recorded on an annual basis the type of business using a sector classification covering 133 different categories (Locatus, 2002). Shops selling products belonging to different categories have been assigned to the dominant category as decided by the census taker. Information on service establishment is not included in the data.

The data allow us to trace three trends: the annual number of shops; the annual sector variety; and the rise and fall of sectors through time. These trends provide us with insights into the micro-dynamics of retail businesses from an evolutionary perspective. However, quantitative information on possible determinants of these dynamics, including changes in floor space, accessibility and organisation types are regrettably lacking. Thus, our analysis is primarily descriptive and intended to evaluate the vitality, structural change and variety of Utrecht's city centre. Vitality is simply indicated by the number of shops, while structural change is indicated from the rise and fall of sectors.

A third indicator of retail dynamics is the variety of shops and their changes over time. The simplest variety measure would be to count the number of sectors present at a particular spatial scale. However, counting the number of sectors does not take into account the sector distribution. Clearly, one would judge the variety in a street with five shoe shops and five bookshops (50-50 distribution) higher than a street with nine shoe shops and one bookshop (90-10 distribution). We use entropy, common in sociology, geography and economics alike (Theil, 1972; Frenken, 2004), to capture both the number of sectors and the skewness of distribution. For a total of n number of sectors, entropy is given by:

$$H = \sum_{i=1}^n p_i \log_2 \left(\frac{1}{p_i} \right) \quad (1)$$

where i is the sector index and where H stands for entropy. The entropy value is either zero or larger than zero. The minimum possible entropy value zero corresponds to the case of minimum variety which occurs when one sector dominates:

$$H_{\min} = 1 \cdot \log_2 \left(\frac{1}{1} \right) = 0 \quad (2)$$

Maximum entropy occurs when all possible sectors have an equal share:

$$H_{\max} = \sum_{i=1}^n \frac{1}{n} \log_2(n) = n \frac{1}{n} \log_2(n) = \log_2(n) \quad (3)$$

We distinguish between 133 sectors in our data, so, hypothetically, the maximum possible entropy amounts to $\log_2(133) = 7.06$. Obviously, some sectors are much more present than others, and some sectors will even be completely absent, so that the observed entropy values are expected to be much lower than the maximum value.

Below, we apply the entropy measure at two spatial levels: we will compute the entropy for each street separately and for Utrecht as a whole. This strategy allows us to understand the extent to which changes in variety at the street level affect the variety in the city as a whole. For example, when streets increasingly specialise in particular retail sectors, and each street specialises on a different sector, variety (entropy) at the level of streets will fall, but the variety (entropy) at the level of the city need not fall at all.

Empirical results

Number of shops

The number of retail premises in Utrecht's historical city centre shopping area have been counted for each year and plotted in Figure 2. In 1974, there are 529 retail premises in Utrecht's historical city centre. Between 1974 and 2003 there are some fluctuations in the number of premises, ranging from a minimum of 512 in 1982 to a maximum of 539 in 1996. In 2003 the number of retail premises is slightly lower than in 1974: 524. Thus, overall changes in the number of premises have been small and the concern about the vitality of Utrecht's old city centre is misguided, at least, for what concerns the number of shops located in the old centre. This outcome is even more striking given the explosive rise of property rents in Utrecht's city centre. Since 1974 property rents in the primary streets of the old city centre have risen from just above

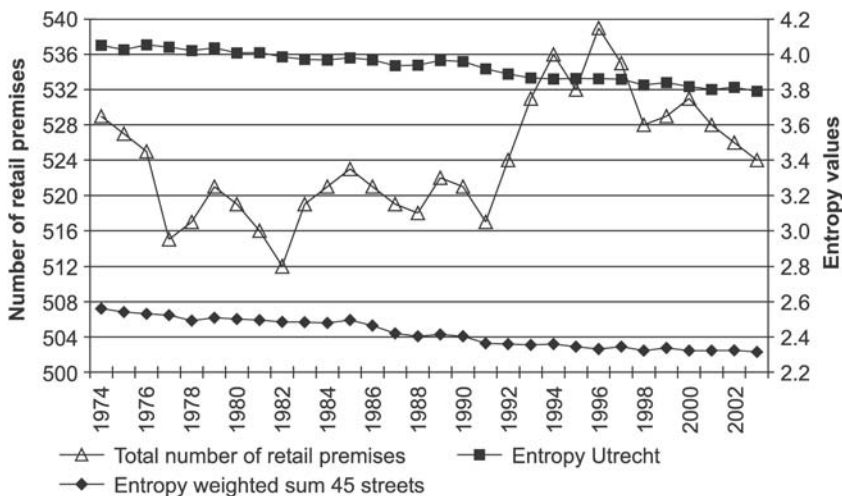


Figure 2.
Number of retail premises in Utrecht's old city centre and entropy values of Utrecht and the 45 shopping streets from 1974 to 2003

200 Euro/m² to almost 1050 Euro/m² in 2002. This price development amounts to a rise of over 500 per cent, while inflation only increased with 260 per cent (Bolt, 2003). A second conclusion holds that Utrecht's old city centre has not been affected negatively by the opening of the large shopping mall Hoog Catharijne in 1975. Though retailers feared competition from the new shopping mall at the time, we can conclude that, with hindsight, the old city centre more likely benefited from the overall increase in the number of visitors attracted by the new shopping mall (Buiten, 1993; Hoogendijk *et al.*, 1979).

Variety of shops

In Figure 2 we plotted the entropy values at the level of Utrecht as a whole and at the street level. Entropy at the level of Utrecht is simply computed using the frequency distribution of sectors in Utrecht for each year. Entropy at the street level is derived by first computing the entropy value for each street and then computing the weighted sum of the street entropy values (using the relative number of shops in a street as the weighting). Note that if all streets in Utrecht have the exact distribution of sectors as the city of Utrecht as a whole, the two curves would coincide. And, if all streets are completely specialised in one sector, the weighted sum of street entropy would equal zero. The difference between the entropy at the level of streets and at the level of Utrecht, then, can be interpreted as the extent to which streets are specialised in a particular retail business, given the variety of shops present in Utrecht as a whole (Theil, 1972).

The results make clear that, since 1974, the variety of shops in Utrecht's historical city centre shopping area has declined. This conclusion holds both at the level of Utrecht as a whole and at the street level. In this respect, recent concerns about the vitality of Utrecht's old centre may be well-founded as the variety of shops, which has been declining over the past 30 years, has always been an attractive feature. A second result of the entropy analysis holds that variety at the street level has declined faster than in Utrecht as a whole (9.6 per cent against 6.4 per cent), suggesting that the decline in the variety at the street level is only partly due to Utrecht-wide dynamics (e.g. sectors moving out of town) and for an important part due to increasing specialisation of streets as well. Two examples of specialising shopping streets in Utrecht's historical city centre are "*Lange Elisabethstraat*" and "*Oudkerkhof*" (see Figure 1). The entropy values of both streets declined strongly from 2.87 and 2.83 in 1974 to 2.16 (−24.7 per cent) and 2.26 (−19.9 per cent) in 2003 respectively. These results are all the more remarkable given that the number of retail premises in *Lange Elisabethstreet* has remained constant, and even grew by more than 40 per cent in *Oudkerkhof*. These findings can be explained by their specialisation in clothing. Ladies wear, family wear and menswear jointly had a share of 60 and 56 per cent in 2003 in *Lange Elisabethstraat* and *Oudkerkhof* respectively, compared to only 22 and 4 per cent in 1974.

Structural change

Underlying the incremental decline in variety is a dynamic of rise and fall of retail sectors, otherwise known as structural change. Recall again that entropy only indicates the extent of variety, not the nature of this variety. To understand the nature of variety, and changes over time, we trace the shares of sectors over time from our data. Table AI in the Appendix provides information on the relative share of each sector in 1974 and

2003 in Utrecht as a whole. As the share of most sectors changes incrementally, this information already provides a goods approximation of structural change. In this table we aggregated all sectors in main categories (in italics). Note that sectors absent in both years are not shown. From a total of 133 sectors included in our sector classification, 88 categories were present in 2003 compared to 93 in 1974.

Inspection of Table AI shows that many sectors have been in decline. These sectors fall mainly within the categories food and drinks, hobby goods, pets, flowers and plants and DIY. Among the sectors that have lost position in Utrecht's old centre are: butchers, bakeries, tobacco stores, fur shops, shops selling watches, bicycle dealers and furniture stores. Sectors that have expanded strongly can be found mainly within the categories of clothing and accessories and footwear, luggage and leather goods. The former two sectors together have increased their share from 27 per cent in 1974 to more than 40 per cent in 2003. In particular, ladies' wear, family wear and shoes have been more popular to buy in the old centre. A number of other categories, which had very small shares in 1974, have grown into rather important sectors. In particular, we witness the rise of sportswear, gift shops, toy stores and fair trade shops. Overall, we find a complex picture of many sectors increasing in importance at the expense of many other sectors almost completely disappearing from the old centre.

Interpretation of results

The main conclusion that can be drawn from our analysis holds that, despite the increased competition between city centres and peripheral locations, Utrecht's old city centre has been able to remain a vital shopping location. The move from sectors such as food, drinks, tobacco shops and furniture shops, has been compensated completely by the growth of other sectors (clothing in particular) and by the emergence of new sectors (e.g. health food, cooking supplies, telecom and home accessories). This compensation means that a process of adaptation has taken place, giving room for sectors to grow or emerge such that the total number of shops has remained, by and large, constant.

Reflecting on the type of sectors that have been able to compensate the move of other sectors to other locations, a pattern can be discerned that we understand as a process of transformation from daily and heavy, space consuming goods to non-daily, recreational goods. We interpret the proliferation of these sectors as reflecting the emergence of recreational shopping. This type of shopping involves comparing products with a certain emotional (and personal) value, and is part of consumers' leisure activities. In addition, consumers are willing to travel large distances to combine shopping and recreation in an attractive environment (Kolpron Consultants, 2001; Newby, 1993).

With the rapid increase in mobility of Dutch consumers, the catchment area of centrally placed cities like Utrecht has expanded. We suspect that the excellent accessibility of Utrecht's city centre via public transport combined with its medieval ambiance has enabled the city centre to become a major location for recreational shopping. In 2000, 56 per cent of all people that visited Utrecht's city centre shopping area came from outside the municipality: 14 per cent from the surrounding municipalities, 10 per cent from other locations within the province and 32 per cent from the rest of The Netherlands (Swart and Visscher, 2001).

The rise of recreational shopping has also affected the spatial differentiation process within Utrecht. First, we have witnessed the disappearance from the city centre of shops selling daily goods such as food, drinks and tobacco and of heavy, space consuming goods like furniture, kitchens and DIY products. In both cases, these goods are still available within Utrecht, but at other locations (e.g. Hoog Catharijne, neighbourhood centres and “pdv-locations”). A second process of spatial differentiation is more subtle and takes place within the city centre itself. The rise of recreational shopping takes place primarily in the central pedestrian streets of Utrecht’s old centre with the highest rents and footfall, while the less expensive streets in the city centre remain the loci of many other sectors. This process also underlies the results of the entropy analysis showing that streets increasingly specialise on a particular set of sectors (Krol and De Kruif, 2004). Recreational shopping tends to reinforce clustering of similar shops in particular streets because recreational consumers want to compare different products within the same sector. This consumer behaviour is consistent with Nelson’s (1958) theory of cumulative attraction, which explains that retail outlets dealing in the same merchandise cluster in space to attract more customers. Recreational shopping, thus, has spatial effects at multiple spatial levels. Within The Netherlands, Utrecht’s old city centre has become a major location for recreational shopping, while within the city centre itself only certain streets specialise on this function.

A further analysis of the transformation process towards recreational shopping is visualised in Figures 3-6, where we show the rise and fall of sectors in four main categories. The trends shown in Figure 3 concerning clothing have already been discussed and are related to the emergence of old city centres as locations for recreational shopping. An important difference in the number of shops selling ladies’ and family wear and the number of shops selling menswear is discernable. Ladies’ and family wear have grown and almost doubled in size, while the sector of menswear has declined slightly. Ladies’ and family wear would seem to contribute much more to recreational shopping than menswear.

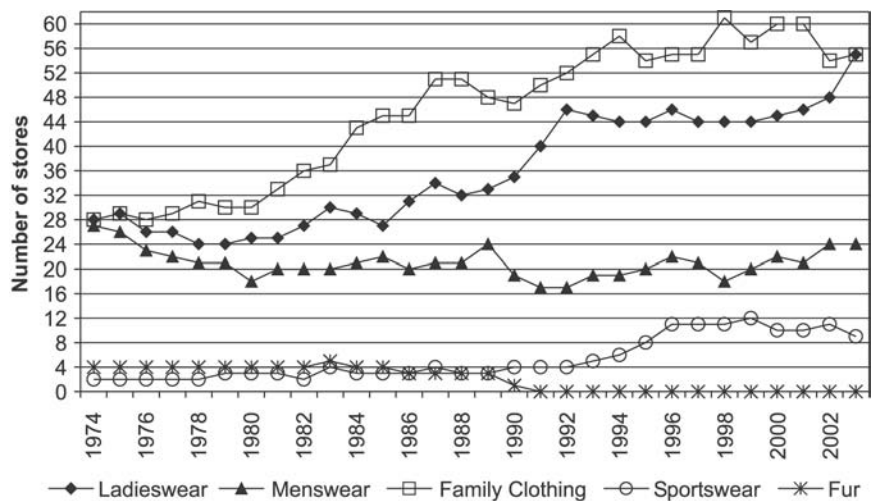


Figure 3.
Change in occupancy in clothing and accessories categories in Utrecht’s historical city centre shopping area from 1974 to 2003

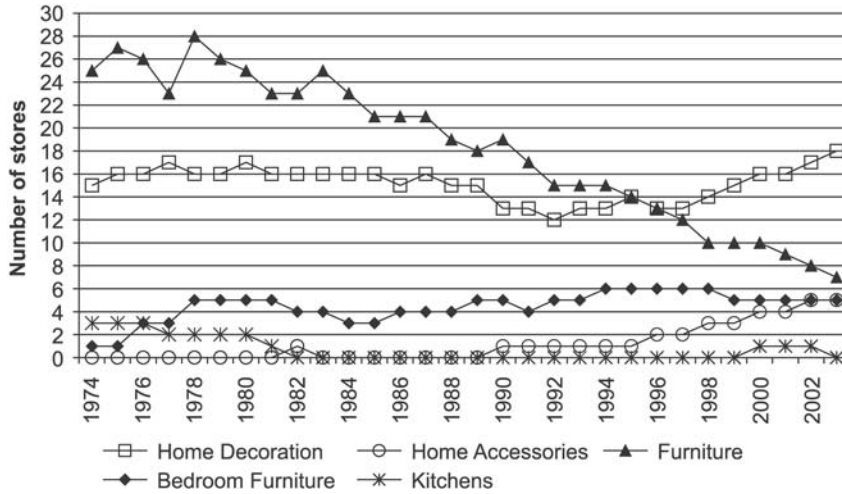


Figure 4. Change in occupancy in furniture and home furnishing categories in Utrecht's historical city centre shopping area from 1974 to 2003

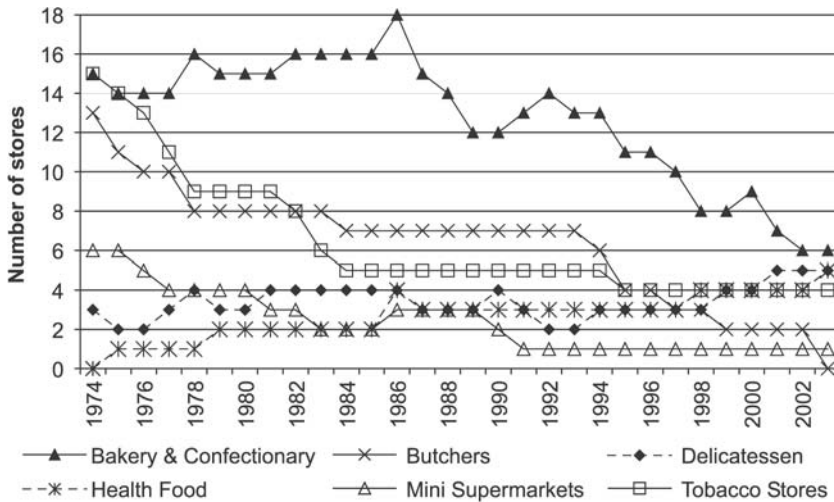


Figure 5. Change in occupancy in food and drinks categories in Utrecht's historical city centre shopping area from 1974 to 2003

Figure 4 concerns the various furniture sectors. The most evident finding here is the high number of furniture shops that have been driven out of the city centre. This observation suggests that the limited parking availability and the emergence of large-scale peripheral retailing outside the city centres have led furniture shops to move elsewhere (or go bankrupt). To a lesser extent, the same holds for DIY shops, which is not shown in the figure (see Table AD). This systematic decline is directly linked to the construction of new peripheral retail locations, which was only made possible when planning restrictions were lifted in 1984. Contrary to furniture and DIY shops, the city centre has been conducive for specialised shops selling home accessories (e.g. pillows, mirrors, candles, et cetera), which, again, can be understood as part of recreational shopping.

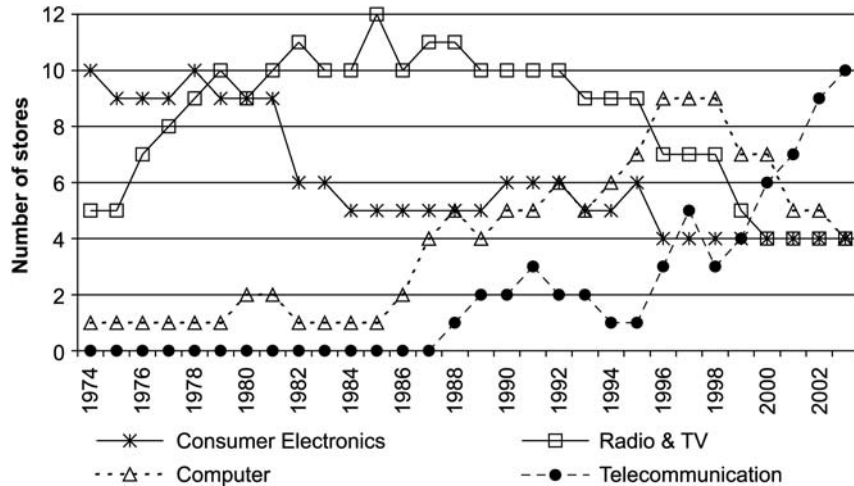


Figure 6. Change in occupancy in consumer electronics categories in Utrecht's historical city centre shopping area from 1974 to 2003

The “downside” of the emergence of recreational shopping has been the almost complete disappearance of shops selling daily goods such as food, drinks and tobacco (Figure 5). Traditional shops such as bakeries and butchers and mini-supermarkets serving the centre’s residents, have all declined markedly. With Utrecht’s catchment area increasing and rents rising correspondingly, shops selling daily goods are driven out of the city centre by recreational shopping. Only specialised shops selling health foods and delicatessen have been able to maintain and strengthen their position. Most probably, these shops require the high footfall of the city centre and would not survive in residential areas.

One would be mistaken, however, to claim that the rise of recreational shopping and the subsequent crowding out of shops selling daily goods is the sole factor underlying structural change. In many cases, the rise and fall of particular sectors reflect other socio-economic dynamics. In Figure 6 we show the number of shops active in consumer electronics. In this sector the dynamics of structural change are more driven by technological innovation. Typically, we observe new sectors emerging around new products (computer shops in the mid-1980s, telecom in the mid-1990s), while these sectors decline again after a relative short period of time. This pattern reflects the fact that these shops act as intermediaries providing information and services required for recently innovated products. Once these products mature, shops either move to less expensive locations or become redundant as department stores or the internet take over.

Two other societal trends can be discerned in the data shown in Table AI. One trend concerns changes in ways people and households spend their time over the past 30 years. Traditional hobby and sport categories, like sewing, coin & stamp collection, musical instruments, hunting & fishing, decline, while categories like outdoor sports, toys and games and cooking supplies have become more popular. A second societal trend that can be discerned in the data is the “greening of shopping” (Harris and O’Brien, 1993). Consumers’ concerns about the environment have led to the decline of the fur shops (see Figure 3) and the rise of sectors as fair trade, health food, and second-hand clothes and merchandise.

Summary and conclusions

Summary

Our study shows that the evolution of Utrecht's old city centre has been very complex in terms of the processes of structural change occurring in different areas of retailing. What is more, the suggested interpretations for different processes of structural change have been diverse: the rise of recreational shopping; technological innovation; increased societal awareness in shopping behaviour; and changes in the ways consumers spend their time. Whatever the exact socio-economic trend behind a process of structural change, our results point out that retailers are very successful in exploiting the new opportunities provided by these processes. As a result, the position of the old city centre is preserved. Furthermore, the lifting of restrictions on retail locations elsewhere has not hampered the vitality of the city centre. Rather, it has accelerated the decline of some sectors, which have been fully replaced by the expansion of other sectors and the emergence of new sectors. Our study makes a valuable contribution to the retail location literature because we have been able to cover 30 years of retail sector dynamics in great detail. Most outcomes confirm evidence collected in previous studies (e.g. Guy and Lord, 1993; O'Callaghan and O'Riordan, 2003; Van Duren, 1995), however these earlier studies were based on less precise data or personal observations, ours on more robust evidence. In addition, our use of the entropy measure as an indicator of retail variety enabled us to analyse systematically whether the variety of shops has declined in the city centre, both at the street level and at the level of the city of Utrecht as a whole. We consider the use of entropy statistics an important tool in retail analysis because it allows us to go beyond anecdotal analysis or purely counting exercises.

The results show a persistent, though slow, decline in variety. This decline has taken place at a faster rate at the level of streets compared to Utrecht as a whole. This means that a process of spatial differentiation among streets accompanies the process of declining variety. Although the variety of shops has gradually fallen, we would still characterise the evolution of Utrecht's old city centre as "vital". Despite the construction of the large shopping mall Hoog Catharijne in 1975, and the lifting of restrictions on retail locations at the periphery, the number of shops in the old centre has not declined over the period 1974-2003. Underlying this vitality is a process of structural change where the loss of shops in some sectors is compensated by the growth of other sectors and the emergence of new sectors. Our main conclusions are as follows:

- The move of sectors from the Utrecht's city centre towards cheaper and more convenient locations has been completely compensated both by the growth of other categories and the emergence of new sectors, resulting in a more or less constant number of shops over the past 30 years.
- The main trend underlying the process of structural change has been the rise of recreational shopping at the expense of shops selling daily goods and heavy, space consuming goods
- The increased mobility of Dutch consumers combined with the city's central location in The Netherlands and the medieval ambiance of its old centre, have enabled Utrecht's city centre to become a major location for recreational shopping.

- Other trends underlying structural change are technological innovation in consumer electronics, the increased societal awareness *vis-à-vis* products and changes in consumers' use of time.

Policy implications

Following our study we distinguish between two types of policy implications. First, our analysis has contributed empirically to policy discourses in providing systematic information on the long-term development in the number and variety of shops in Utrecht and the underlying processes of structural change. Rather surprisingly, we concluded that the concern about the state of Utrecht's old city centre is misguided. Though facing competition from other locations and from new forms of retailing, the number of shops has remained constant. Moreover, the gradual loss of variety is not a sign of decreased competitiveness of the old city centre as a shopping location, but rather a slowly emerging focus on recreational shopping. As this form of shopping attracts many consumers, coming from ever more distant places and creating the critical mass for many new specialised shops to emerge, we judge the gradual decline in variety to reflect success rather than failure.

Second, a number of implications for policy makers follow. Successful city centres do not compete with other retail locations on price but on innovativeness. Therefore, policy should be aimed at facilitating structural change rather than focus on subsidy and/or accessibility. We would also argue that, since processes of structural change are hard to foresee, one should abstain from sector-specific policies. Rather, policy could contribute to the entrepreneurship of retail business in adapting to ever changing socio-economic and spatial contexts. Such support may consist of consultancy services for start-ups, facilitating networking among shop owners and subsidies for physical changes to premises aimed to exploit new opportunities. In so far a city that would like to direct the process of spatial differentiation within the city centre into recreational shopping and other types of shopping, our results suggest that the planning of pedestrian and non-pedestrian areas provide such instruments. In addition, in order to keep the city centre an attractive retail location, politicians need to continue investing in the quality of the public space.

Concerning shop owners, other implications follow. First, and rather generally speaking, shop owners should always consider changing the profile of their shops such that it exploits the possibilities provided by newly emerging sectors. In most retail categories that are under pressure in city centres, there are possibilities to shift to related sectors through what may be called upgrading. Food shops can shift to delicatessen, furniture shops to home accessories and so on. More specifically, and possibly supporting such a strategy, retail business can continue to exploit the possibilities of recreational shopping, technological innovations and physical innovations within the shop itself (Krol and De Kruif, 2004).

Limitations and directions for further research

As noted, a number of relevant economic variables were lacking due to data limitations, including floor space, service establishments and organisation type. For example, one may prefer to measure the share of sectors in terms of floor space rather than the number of establishments, to account for the emergence of larger but fewer shops in certain sectors. Considering service establishments, one is interested in the

replacement of shops selling goods by shops selling personal, leisure and financial services (and vice versa). Finally, information on organisation type is required to test the proposition that multiple retailers have expanded at the cost of independent retailers. Given the sharp rise in rental prices, one can expect this economic dynamic to have partially driven the process of structural change as well.

Progress in future research, then, is expected to lie in two areas. First, we are in need of more comprehensive data on time-series of shops, their sector and organisational characteristics and their rents. Only then, fully specified explanatory models can be estimated. Second, we need to go in more theoretical detail into the firm dynamics underlying the process of structural change in city centres. Ultimately, the vitality of city centres depends on the strategies of individual business, which includes the locational decision and the type of business. Only on that basis one can distinguish between structural change resulting from firms changing their location and from firms changing their business. Moreover, locations themselves evolve through physical innovations, which may improve the survival probability of an established business.

In this context, evolutionary economics has emerged as a promising field of research because it takes the routines and competencies of firms as the unit of analysis and focuses on questions related to innovation at the firm level and structural change at multiple economic and spatial scales. What is needed, however, is to elaborate on evolutionary economics in a way that firm behaviour is understood not only in its economic context but in its spatial context too. Though some recent contributions in this direction exist, more interaction is required between evolutionary economists and retail geographers (Boschma and Lambooy, 1999; Boschma and Weltevrede, 2004) and building on and elaborating older concepts of environmental models in retailing (Brown, 1992, pp. 213-15).

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Appendix

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centre retailing

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Retail sector	1974		2003	
	<i>n</i>	Percentage	<i>n</i>	Percentage
<i>Food and drinks</i>	76	14.37	34	6.49
Fruits and vegetables	4	0.76	1	0.19
Bakery and confectionery	15	2.84	6	1.15
Butchers	13	2.46	0	0.00
Poultry	2	0.38	0	0.00
Fish	2	0.38	1	0.19
Dairy products	1	0.19	1	0.19
Cheese	1	0.19	1	0.19
Delicatessen	3	0.57	5	0.95
Chocolate	3	0.57	0	0.00
Sweets	2	0.38	3	0.57
Health food	0	0.00	5	0.95
Mini supermarkets	6	1.13	1	0.19
Supermarkets	1	0.19	2	0.38
Chinese grocery stores	2	0.38	1	0.19
Beer, wine and liquor stores	5	0.95	3	0.57
Tobacco stores	15	2.84	4	0.76
Other food stores	1	0.19	0	0.00
<i>Health and personal care</i>	11	2.08	11	2.10
Pharmacies	1	0.19	1	0.19
Drug stores	5	0.95	6	1.15
Cosmetics, beauty supplies and perfume	5	0.95	2	0.38
Other health and personal care stores	0	0.00	2	0.38
<i>Department stores</i>	5	0.95	3	0.57
Department stores	4	0.76	3	0.57
Mini department stores	1	0.19	0	0.00
<i>Clothing and accessories</i>	110	20.79	169	32.25
Bathing wear	0	0.00	1	0.19
Leg wear	1	0.19	1	0.19
Lingerie and underwear	1	0.19	4	0.76
Fur	4	0.76	0	0.00
Bridal wear	2	0.38	3	0.57
Ladies wear	28	5.29	55	10.50
Family clothing	28	5.29	55	10.50
Menswear	27	5.10	24	4.58
Children's and infants' clothing	4	0.76	6	1.15
Leather fashion	1	0.19	1	0.19
Fashion accessories	9	1.70	7	1.34
Sportswear	2	0.38	9	1.72
Textile supermarkets	1	0.19	1	0.19
Fashion department stores	2	0.38	2	0.38
<i>Footwear, luggage and leather goods</i>	33	6.24	44	8.40
Shoes	23	4.35	37	7.06
Sport shoes	0	0.00	1	0.19
Luggage and leather goods	10	1.89	6	1.15
<i>Jewellery and optical goods</i>	32	6.05	23	4.39
Jewellers	14	2.65	13	2.48

(continued)

Table AI.
Changes in occupancy in
Utrecht's city centre
shopping streets
1974-2003

Retail sector	n	1974 Percentage	n	2003 Percentage
Watches	9	1.70	1	0.19
Opticians	9	1.70	9	1.72
<i>Household goods</i>	15	2.84	24	4.58
Glass, porcelain and pottery	6	1.13	7	1.34
Household goods	6	1.13	6	1.15
Gift shops	3	0.57	9	1.72
Cooking supplies	0	0.00	2	0.38
<i>Art and antiques</i>	34	6.43	36	6.87
Antiques	21	3.97	23	4.39
Art dealers	13	2.46	13	2.48
<i>Toys and sporting goods</i>	11	2.08	15	2.86
Outdoor sports	1	0.19	3	0.57
Horse riding	1	0.19	0	0.00
Toys and games	2	0.38	7	1.34
Sporting goods	3	0.57	3	0.57
Hunting and fishing goods	3	0.57	1	0.19
Other sporting goods	1	0.19	1	0.19
<i>Hobby goods</i>	37	6.99	19	3.63
Electronics	2	0.38	1	0.19
Photographic goods	7	1.32	7	1.34
Hobby goods	3	0.57	2	0.38
Clothing materials	3	0.57	2	0.38
Sewing, needlework and piece goods	6	1.13	2	0.38
Sewing machines	4	0.76	1	0.19
Coins and stamps	6	1.13	2	0.38
Musical instruments and supplies stores	6	1.13	2	0.38
<i>Media goods</i>	33	6.24	40	7.63
Book stores	14	2.65	17	3.24
Office supplies	8	1.51	5	0.95
Office supplies and books	2	0.38	1	0.19
Posters/cards	1	0.19	3	0.57
Records, CDs, videos and DVDs	8	1.51	13	2.48
Software stores	0	0.00	1	0.19
<i>Pets, flowers and plants</i>	8	1.51	1	0.19
Florists	3	0.57	1	0.19
Pet shops	4	0.76	0	0.00
Garden goods	1	0.19	0	0.00
<i>Consumer electronics</i>	18	3.40	22	4.20
Consumer electronics	10	1.89	4	0.76
White goods	1	0.19	0	0.00
Radio and TV	5	0.95	4	0.76
Computer stores	1	0.19	4	0.76
Telecommunication	0	0.00	10	1.91
Household appliances	1	0.19	0	0.00
<i>Bikes and car accessories</i>	9	1.70	2	0.38
Bikes	9	1.70	2	0.38
<i>DIY</i>	10	1.89	5	0.95
Building materials	1	0.19	0	0.00
Hardware stores	7	1.32	5	0.95

Table AI.

(continued)

Retail sector	1974		2003	
	<i>n</i>	Percentage	<i>n</i>	Percentage
Paint and wallpaper stores	2	0.38	0	0.00
<i>Furniture and home furnishing</i>	<i>66</i>	<i>4.73</i>	<i>48</i>	<i>2.48</i>
Home decoration	15	2.84	18	3.44
Home accessories	0	0.00	5	0.95
Furniture stores	25	4.73	7	1.34
Bedroom furniture	1	0.19	5	0.95
Baby furniture	1	0.19	2	0.38
Kitchens	3	0.57	0	0.00
Lamps	7	1.32	3	0.57
Home textile	5	0.95	1	0.19
Persian carpets	5	0.95	3	0.57
Parquet floors	3	0.57	4	0.76
Tiles/flagstones	1	0.19	0	0.00
<i>Other retail sectors</i>	<i>21</i>	<i>3.97</i>	<i>28</i>	<i>5.34</i>
Used merchandise	2	0.38	5	0.95
Used clothes	0	0.00	3	0.57
Used books	5	0.95	3	0.57
Party goods	1	0.19	0	0.00
Medical goods	0	0.00	1	0.19
Smart shops	0	0.00	2	0.38
Adult shops	1	0.19	1	0.19
Sport trophies	2	0.38	0	0.00
Museum stores	0	0.00	1	0.19
Souvenirs	0	0.00	1	0.19
Fair trade shops	1	0.19	10	1.91
Odd-shops	0	0.00	1	0.19
Parcel goods	2	0.38	0	0.00
Other non-food stores	7	1.32	0	0.00
<i>Totals</i>	<i>529</i>	<i>100.00</i>	<i>524</i>	<i>100.00</i>

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centre retailing

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Note: Main categories are italicised

Table AI.