Demand for newspapers and magazines in Finland in the digital era[1]

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1. Introduction

The newspaper and magazine market is undergoing its greatest changes since it was established. The changes began already a couple of decades ago, but during the past 10 years the situation has dramatically changed for the worse from the point of view of publications. Subscriptions to paper newspapers have reduced in Finland since 1990. The demand was turned to a fall by the deep recession in the national economy at the turn of the 1990s. However, when the recession was over in 1994 and the Finnish national economy turned to rapid growth, the demand for newspapers did not start to grow again. Demand continued to reduce, although clearly more slowly than in the early years of the 1990s. The decrease in demand has continued without interruptions until today, and there seems to be no end to this development. The market has reduced by a total of 47% since 1990.

The demand for paper magazines compared to newspapers has behaved very differently. It has only started to reduce swiftly since 2008. Before that, the demand had fallen only slightly. It can even be stated that magazines had before this managed better in the market of paper communication than many other forms of communication. Differently from newspapers, magazines managed really quite well in the recession of the national economy at the beginning of the 1990s (Pihlajamäki et al., 2001). Even before the recession ended, the demand for magazines again turned to growth and this continued for 10 years. In 2002 a trend change occurred, the market stopped growing, and in 2008 an even greater trend change took place and the demand turned to a rapid fall. Since 2008, the fall has been fast; in 2015 the market is 40% smaller than in 2008.

The Finnish newspaper and magazine market has two specialties that differentiate it from almost the entire rest of the world: publications are subscribed to and distributed to people's homes. Subscriptions to newspapers are almost without exception carried out as annual subscriptions; with magazines the subscription periods are often shorter than a year; however, several months. Purchasing newsstand copies is not popular in Finland. Their share has already for a long time been approximately 10% of the total volume (Nikali, 2014b and c). The share has not changed, even though the demand for publications has fallen. Magazines are distributed to homes with the normal postal deliveries, but the majority of newspapers, approximately 70%, are distributed to homes earlier, in the early-morning delivery. Newspapers must arrive at homes before people leave for work at 7 o'clock in the morning. This reflects the attitudes of Finnish people to newspapers. Even though the demand for newspapers has diminished, for the majority of Finns they still represent one of the key media. 78% of Finns aged over 15 still continue to regularly follow printed newspapers, and 93% follow news on paper or electronically. In international comparison, Finland is at the top in the world. The corresponding figures for France are 59% and 68%, and for the United States 45% and 56% (Reuters Institute, 2015).

The purpose of this article is to assess the key factors influencing the demand for publications in Finland and their importance from the point of view of demand. Such factors include, among other

[1] This article is based on research reports dealing with the demand for publications Nikali 2014b and c.

things, the increasingly common use of electronic channels for the follow-up of news and entertainment and for community interaction, the general development of the national economy, and the impact on demand of the charges collected for subscriptions to publications or purchases of newsstand copies. It is particularly interesting to compare the demand factors between newspapers and magazines. Even though the market development of both publication types has the same direction, the reasons are different. Digitization, for example, has treated them differently.

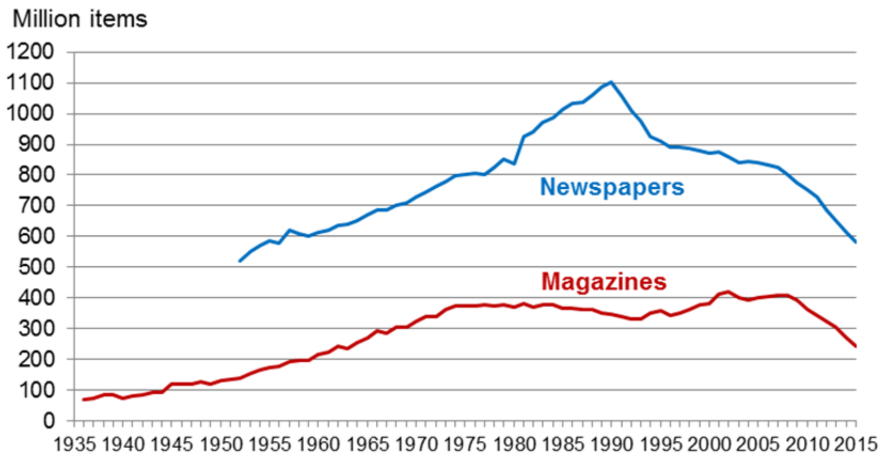
The study is based on time series analysis and annual data is used as the research material. In this research, newspapers are not considered to include publications distributed to homes without charge, because the consumer does not decide on their receipt and also does not pay for them. The total market of magazines also includes publications of different organizations related to their membership. However, in the demand analysis they are left out, as they do not have a separate subscription fee on the payment of which the consumer decides. The share of organizational magazines of the total magazine market has been approximately 15%.

The structure of the report is as follows: Chapter 2 reviews the development of the long-term demand for paper publications. Chapter 3 analyzes the key factors influencing demand. Chapter 4 introduces the publication demand models and carries out a comparison between them. Chapter 5 summarizes the results and draws conclusions.

2. Long run demand for newspapers and magazines in Finland

The fall in the demand for newspapers already began 25 years ago and that for magazines only 8 years ago, but the changes have been so dramatic that the newspaper market is today at the same level as it was in the middle of the 1950s and the magazine market is at the level of the beginning of the 1960s. The long-term developments are presented in Figure 1.

Figure 1. Total volumes of newspapers and magazines in Finland 1935/1952–2015.



The demand for newspapers grew linearly until 1990. After that, the demand had fallen almost every year. The trend change resulted from a deep three-year recession; in 1991–1993 GDP reduced by a total of -10% in Finland. The demand for newspapers has fallen by a total of 47% since 1990, which means an average of -2.5% per year. However, there have been different periods in the development. The recession at the beginning of the 1990s reduced demand by an average of -4.3% each year. This period was centrally influenced by the falling GDP. When the recession was over, the newspaper market continued to reduce, even though considerably more slowly than at the beginning of the 1990s. This occurred regardless of the fact that GDP growth was very fast throughout the remainder of the 1990s. The slowly falling phase lasted the years 1995–2007; the average fall was -0.9% per year. The new communication technology based on the Internet had a key impact on that period. Demand again turned to a clearly faster fall again even before the euro crisis in 2009. The speed of market reduction more than tripled compared to the previous period. There are surely many reasons for this, the recession being hardly the slightest. In 2009, Finnish GDP fell by -8.5% within a year.

The history of the demand for magazines is largely different from newspapers. In the 1960s, growth was still straightforward, in fact growth had been continuous since the 1930s. In 1973, an abrupt change took place. A chain reaction resulting from the international oil crisis was at its background (Nikali, 1986). The period of falling magazine demand that started in 1973 only ended 20 years later, when the recession of the 1990s ended. However, magazines managed well during the recession at the beginning of the 1990s. Their demand only fell by -4%, even though real GDP had fallen by -10%. The reason was the importance of magazines for consumers. Magazines represented entertainment and relaxation for readers in the middle of the gloomy everyday life, and people did not want to give them up even during reducing monetary wealth (Pihlajamäki et al., 2001). When the recession was over, the demand for magazines started to grow immediately. However, it was not quite as fast as the growth of the national economy. In 1994–2002, the demand for magazines grew by an average of +2.6% each year, while annual GDP growth was +4.0%.

In 2002, a clear trend change occurred in the demand for magazines. Demand stopped growing. This phase lasted during 2002–2008 with an average annual fall in demand of -0.5%. However, a three-year period of growth preceded 2007. Since 2008, a decisive turn towards a rapid reduction of the market occurred. No plunge quite as fast as this had ever taken place before during the collection of statistics that had lasted for almost 80 years. There are certainly many different reasons for this. The total magazine market has reduced by an average of -6.8% per year since 2008.

3. Analysis of the demand factors for newspapers and magazines

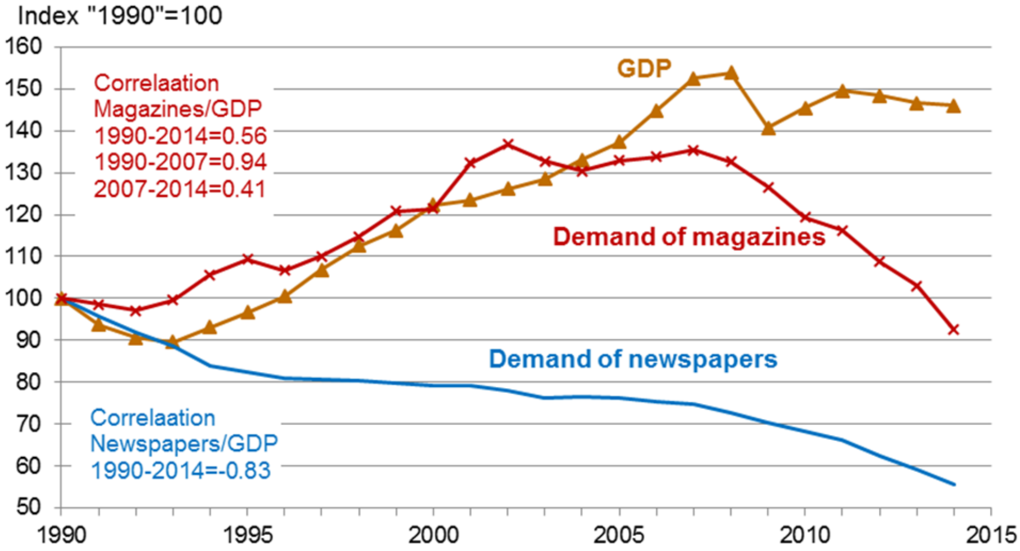
3.1 National economy

As stated previously, the demand for newspapers and magazines has reacted to the national economy in very different ways. The changes in the development trend of the national economy have several times turned the trend in the demand for newspapers, but after the changes, however, GDP has hardly guided the newly turned direction in newspaper demand. The demand for magazines has largely followed the development curve of the national economy. Figure 2 presents the development of the total market of newspapers and magazines subject to a charge and GDP in Finland in 1990–2014.

When looking at Figure 2, it allows drawing the conclusion that the development of the national economy has hardly had any impact on the demand for newspapers. On the other hand, GDP describes the development of overall wealth, and the purchase of publications is also a money issue, so its impact on the demand for newspapers cannot be excluded. Since 1990, there have been only two periods during which the demand for newspapers and GDP have developed approximately at the same pace. These are the start and end periods of the review period. In between, there is a long period during which GDP grew fast but the demand for newspapers reduced. Between 1993 and 2008, GDP grew by +72% and at the same time the demand for newspapers reduced by -18%.

The demand for magazines has followed the development of the national economy much more closely than the demand for newspapers. This allows deducing that GDP will be a key factor explaining the demand for magazines. When the role of magazines is related to readers' leisure time and relaxation, it is no wonder that the purchase of publications is a money issue reflected in the development of the national economy.

Figure 2. Correlation between the total volume of subscribed newspapers and magazines and GDP in Finland 1990–2014.



Until the first years of the previous decade, the total demand for magazines subject to a charge closely followed GDP development. After that, a major change has taken place. When the demand for magazines no longer grew after 2002, the development of demand started to differentiate from the GDP curve. The real change took place after 2007; after this GDP development has been poor with a falling trend, but the demand for magazines has plunged. Finnish GDP is currently at the same level as in 2006, but the demand for magazines is at the level of the middle of the 1960s. Since 2008, GDP has fallen by -6%, while the demand for magazines subject to a charge has dropped by -40%.

3.2 Digitalization

During the past twenty years, many electronic channels have appeared to challenge paper publications. Their number is increasing and their use is becoming more and more common. When we study the changes in paper communication from the perspective of digitization, one of its most difficult phenomena is to find an indicator that in the best possible way describes its substitution (Nikali, 2014a). In reality, there are many alternative channels for paper communication, their number is increasing the whole time and their meanings in the substitution process also change with time. However, it is not possible to include many variables explaining substitution in the model describing total demand; it is better to make up a combined indicator (Nikali, 2014a).

The substitution indicators influencing the demand for publications have been assembled from three different factors: penetration of Internet use at home, the increasingly common use of tablet computers, and penetration of the use of the Internet community services among Finns aged 15–74. The increasingly common home use of the Internet describes the expanding impact of electronic channels on personal communication and the more and more common community services describe the importance of community more extensively than only in one's own communication. Tablet computers represent technology that allows reading publications independently of place and in a manner that as far as possible reminds of paper publications.

The penetration of the use of community services has been assembled from two different factors: the penetration of Internet use for chatting and participation in Internet forums and the subsequent penetration of the modern social media (SoMe) (Statistics Finland, 2002–2015). In 2004, the term Web 2.0 was published, which describes the new way in which application producers and end users of the Web utilize the World Wide Web (Kaplain and Haenlein, 2010). This refers to a platform where the production of content and the apps used in its utilization are no longer attached to individual persons, but they are all the time adaptable by all users, like common property. Web 2.0 may be considered an ideological and technological platform for the evolution of SoMe (Elkelä et al., 2013).

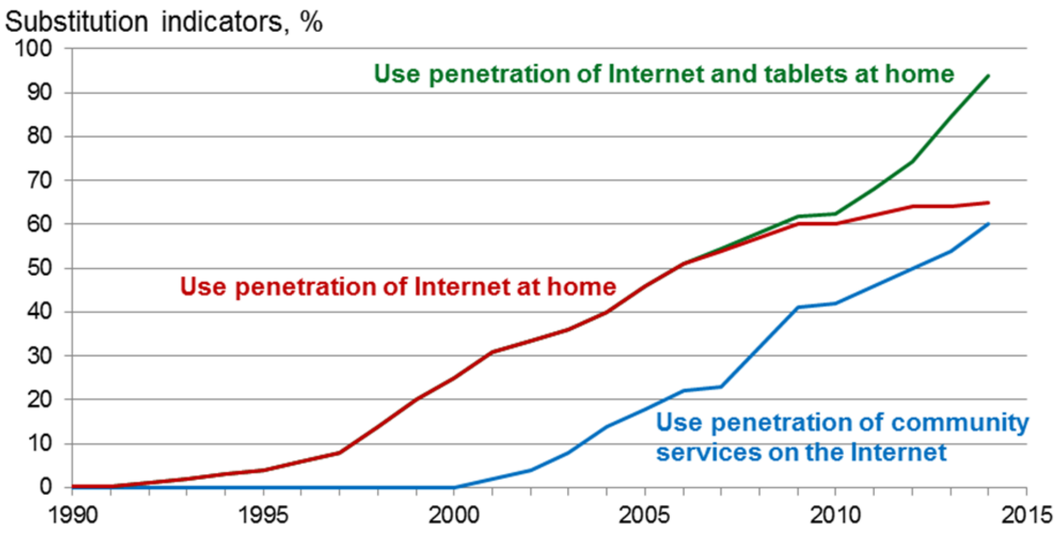
However, it must be remembered that a large part of consumers have available a number of channels through which they can substitute paper publications. The substitution indicators do not indicate how many people have genuinely substituted subscriptions of publications or the purchase of newsstand copies with electronic channels, but they describe the number of opportunities for substitution. The model estimates to what extent this opportunity has been used and how it has affected the demand for publications. The substitution indicators constructed for this research are presented in Figure 3.

The penetration of Internet use at home started to grow approximately 20 years ago, and it is currently approximately 65% (Nikali et al., 2015). The penetration of home use is not the same as the penetration of the Internet in households, which is currently already over 90% (Statistics Finland, 2015). Home use describes the share of persons who state that they use the Internet at home, penetration indicates the share of households who have the Internet at home. Tablet computers entered the market less than 10 years ago, and their penetration is currently approximately 35% (Keränen, 2015).

The use of the Internet for chatting and Web discussions started to become more common since 2000, almost 10 years after the home use of the Internet (Statistics Finland 2002–2015). The modern SoMe quickly became more common since 2005. Particularly from the point of view of the demand for magazines, the use of community services has been significant, as they offer the same elements as magazines: relaxation and community interaction (Keränen et al., 2011). At the same time, they occupy readers' media time.

The growth of the home use of the Internet has already slowed down and is approaching its saturation level. The penetration of the use of community services is still below it, but there are as yet no signs of saturation. The development has been particularly quick since 2007. The speed at which tablet computers become more common is currently at its fastest for the present.

Figure 3. Substitution indicators for newspaper and magazine demand.

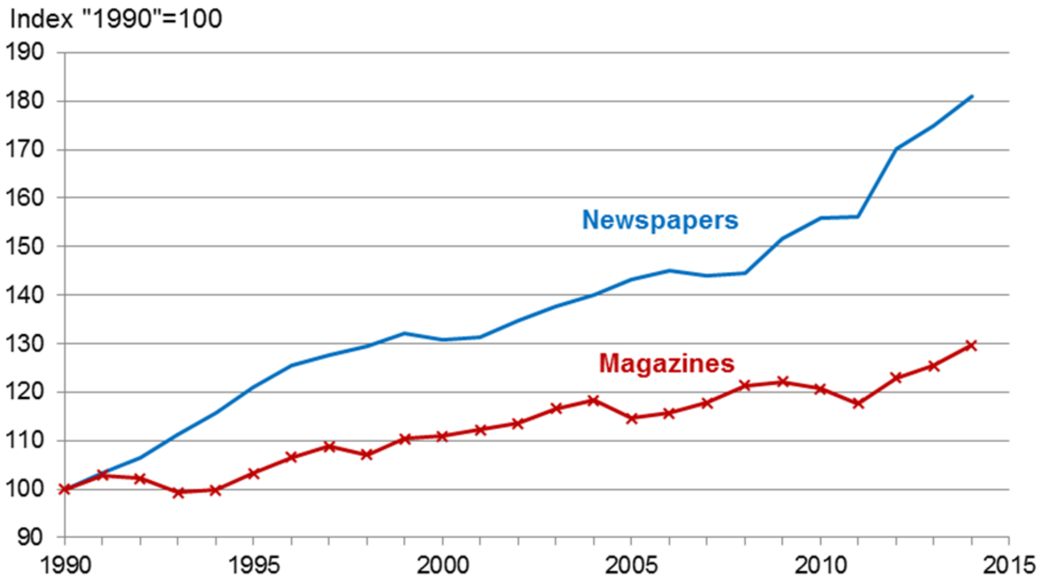


3.3 Pricing

The prices of newspapers and magazines have developed very differently. When the demand for newspapers started to fall since 1990, publications reacted to the situation by increasing their prices. Through this, they attempted to secure their profitability. The situation has continued to be the same until today. Magazines have reacted to market changes by fragmenting the market, i.e. by introducing new publications intended for even smaller target groups to the market and by offering publications to consumers at special discounts. At the same time, annual subscriptions have largely been changed into subscription periods of a few months. The result has been that the prices of magazines have increased much less than the prices of newspapers. The real price indices are presented in Figure 4. In Finland, the transition from zero value added tax (VAT) to a level of 9% levied on subscribed paper publications took place in 2012, and the tax rose to 10% immediately the next year. Both newspapers and magazines transferred the tax to subscription prices, which is seen in the price indices.

The indices are calculated from the publication subscription and newsstand prices weighting them by publication circulations and publication frequencies[2]. The indices obtained therefore describe the price development of one issue of an average publication. The charges collected for the transport and distribution of publications are part of the subscription price, so they are included in the price indices.

Figure 4. Development of real subscription rates of newspapers and magazines in Finland 1990–2014.



The subscription rates of newspapers have regularly increased more than the general inflation over the entire review period. The total change of real price in 1990–2014 was +83%, which results in an average annual change of +2.6%. Newspapers transferred the VAT change immediately to their subscription rates.

Magazine prices have developed quite moderately over the entire review period, only slightly faster than the general inflation. The real price has increased by a total of +30% since 1990, which results in an average annual change of +1.1%. The 10% VAT levied on subscribed publications was transferred to prices, but it did not take place immediately when the VAT rose, but the change was allocated over a number of years. This describes well the moderate pricing policy of magazines, which results from the fierce competition between publications.

[2] Sources: Finnish Newspapers Association and Statistics Finland

4. The demand models

Population growth usually has an impact that increases consumer demand; this can also be assumed in the case of publications, as consumers subscribe to them and purchase newsstand copies. In order not to need to take population growth into account in the modelling, the explaining variable was chosen to be the demand for publications divided by the number of inhabitants aged over 15. The number of people aged over 15 has grown steadily and slowly in Finland, by a total of 11% since 1990.

The following formula was obtained to explain the demand for newspapers:

$$q_t / n_t = 1339.0 * T_t^{0.27} * P_t^{-0.61} * e_t^{-0.0042*D_t} \qquad (1)$$

(13.4) (3.3) (-7.9) (-6.1)

t = years 1990–2014
R^2 = 0.99
s = 0.02
DW = 1.48

where

q = total demand for newspapers subject to a charge in Finland
n = number of people aged over 15
T = GDP volume
P = real price index of newspapers
D = substitution indicator: a combined variable that describes the increasingly common use of the Internet and tablet computers at home

The corresponding demand formula for magazines subject to a charge is:

$$q_t / n_t = 3.04 * T_t^{0,91} * P_t^{-0.23} * e_t^{-0.0075*D_t} \qquad (2)$$

(0.7) (5.8) (-0.5) (-7.0)

t = years 1990–2014
R^2 = 0.90
s = 0.04
DW = 1.58

where

q = total demand for magazines subject to a charge in Finland
n = number of people aged over 15
T = GDP volume
P = real price index of magazines
D = substitution indicator: penetration of the use of Internet community services among people aged 15–74.

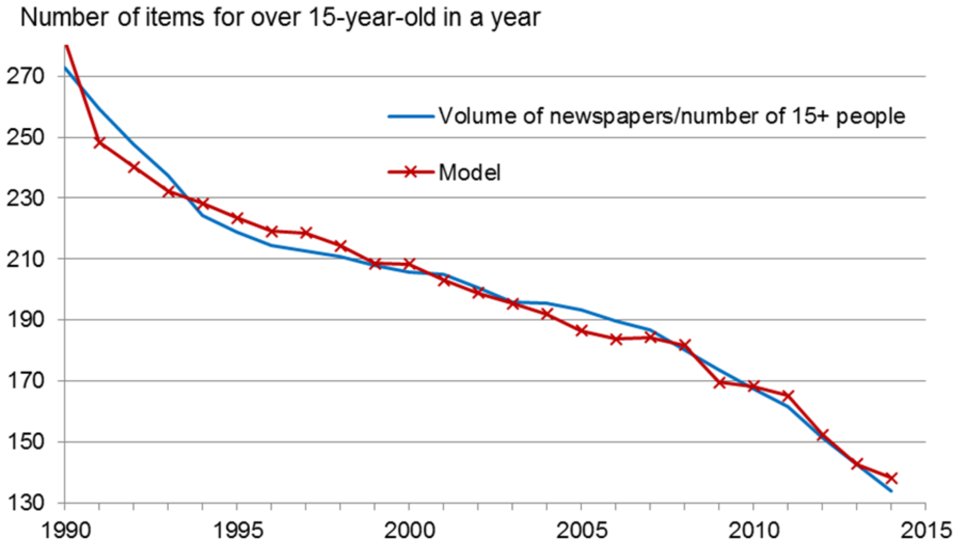
Both models are quite reliable with regard to their statistical test values, and they well explain the demand for paper publications in Finland. How well the models follow reality can be seen in Figure 5, where the realized demand curves and the explanatory models are drawn.

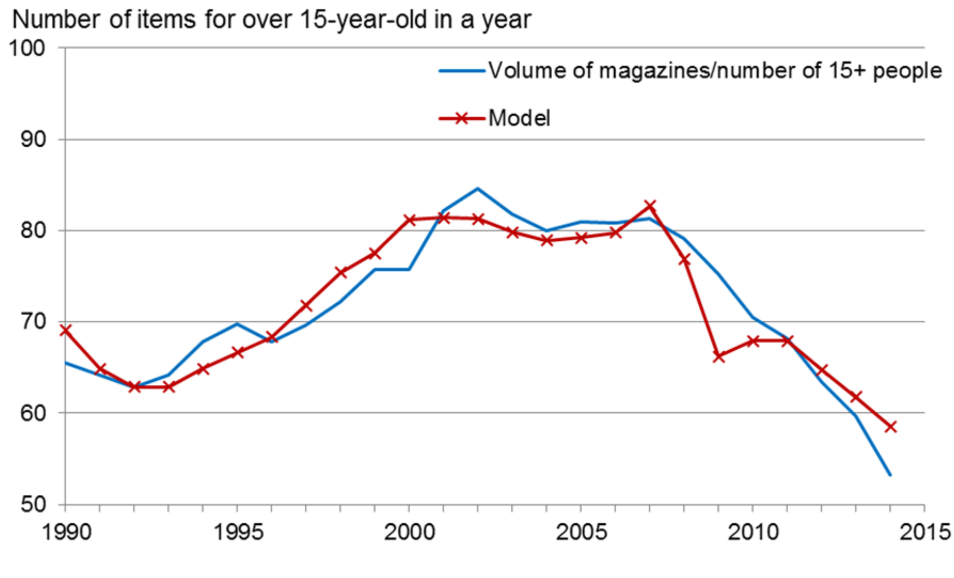
As a whole, the models function well. There are several turning points in the demand for magazines, and the model finds them. However, at the turning points, both models tend to make shortcuts. With regard to magazines, the model correctly anticipates the turning point of 2007, but it overreacts to the change in demand. This is due to the large GDP coefficient and the dramatic collapse of the national economy in 2009, which was -8.5%. Both publication classes have undergone an exceptionally fast fall since 2007, and the models explain that period well.

Even though formulas (1) and (2) are structurally similar, they differ from each other a great deal as to their results. The coefficient of the trend factor, GDP, is small in the formula for newspapers and large in the formula for magazines. This could already be anticipated from Figure 2. The development of the national economy has not guided the demand for newspapers, whereas with magazines it has had key importance. Since 1990, the size of the national economy has grown by one and a half in Finland. According to the results, it has increased the total demand for newspapers only by +10% and the demand for magazines by +40%. The realized demand developments during 1990–2014 are -51% for newspapers and -19% for magazines.

The results also differ from each other with regard to the price variables. The price elasticity coefficient for newspapers, -0.61, is large. Publishing houses have reacted to the fall in demand by increasing prices. When real prices have been increased a great deal (Figure 4), the results mean that the impact of price elasticity has been a key factor in the reduction of the demand for newspapers. It was stated in Chapter 2 that the demand for newspapers has reduced by an average of -2.5% annually since 1990. Simultaneously, the real prices of newspapers have increased by an average of +2.6% per year. By means of price elasticity, it can be calculated that the impact of prices on the reduction in demand has been an average of -1.6% per year, i.e. more than half of the annual change in demand.

Figure 5. Actual demand for newspapers and magazines in Finland in 1990–2014 and the models which describe the demand curves.





In contrast, the coefficient of the magazine price variable remains small, and it is also not statistically significant. This means that the price of magazines has not been an important factor guiding demand. In addition, the magazine price policy has been moderate, prices have only been increased slightly more than the general inflation (Figure 4). This is the result of fierce competition in the market. It is only in recent years that the VAT change has forced publishing houses to increase prices significantly. Magazine publishers have for years suffered from the weak development of demand, which has naturally been seen in their gross margins. In the light of these results, prices could have been increased more, and the total demand would not have developed much worse than what has been realized. Naturally, individual magazines could have lost in competition if their key competitors would not have started to increase their prices. When the real prices of magazines were approximately 30% higher in 2014 than in 1990, the total impact of price elasticity in 1990–2014 can be estimated to be approximately -6%, which means a demand impact of an average of -0.25% per year.

The substitution indicator measures the reduction in demand for publications due to digitization. Three different variables were used as substitution indicators, as stated in Chapter 3.2 (Figure 3). As the substitution factor in formulas (1) and (2) is in exponent form, it directly shows the annual level of cumulative substitution. With regard to newspapers, the best substitution variable proved to be a combined variable based on the penetrations of Internet use at home and tablet computers. This is natural, as the use of both these techniques favors the follow-up of news on the Web. With regard to magazines, the variable describing the home use of the Internet did not suit the model at all. The problem was the 1990s. At that time, the home use of the Internet already became common very fast, but it did not seem to have any impact on the demand for magazines. In contrast, the impact of the increasingly common use of community services proved to be strong. The use of community services started to spread in the early years of the 2000s and, as a result, the demand for magazines no longer grew since 2002. When the modern SoMe became common enough, it has turned the demand for magazines to a quick fall since 2007.

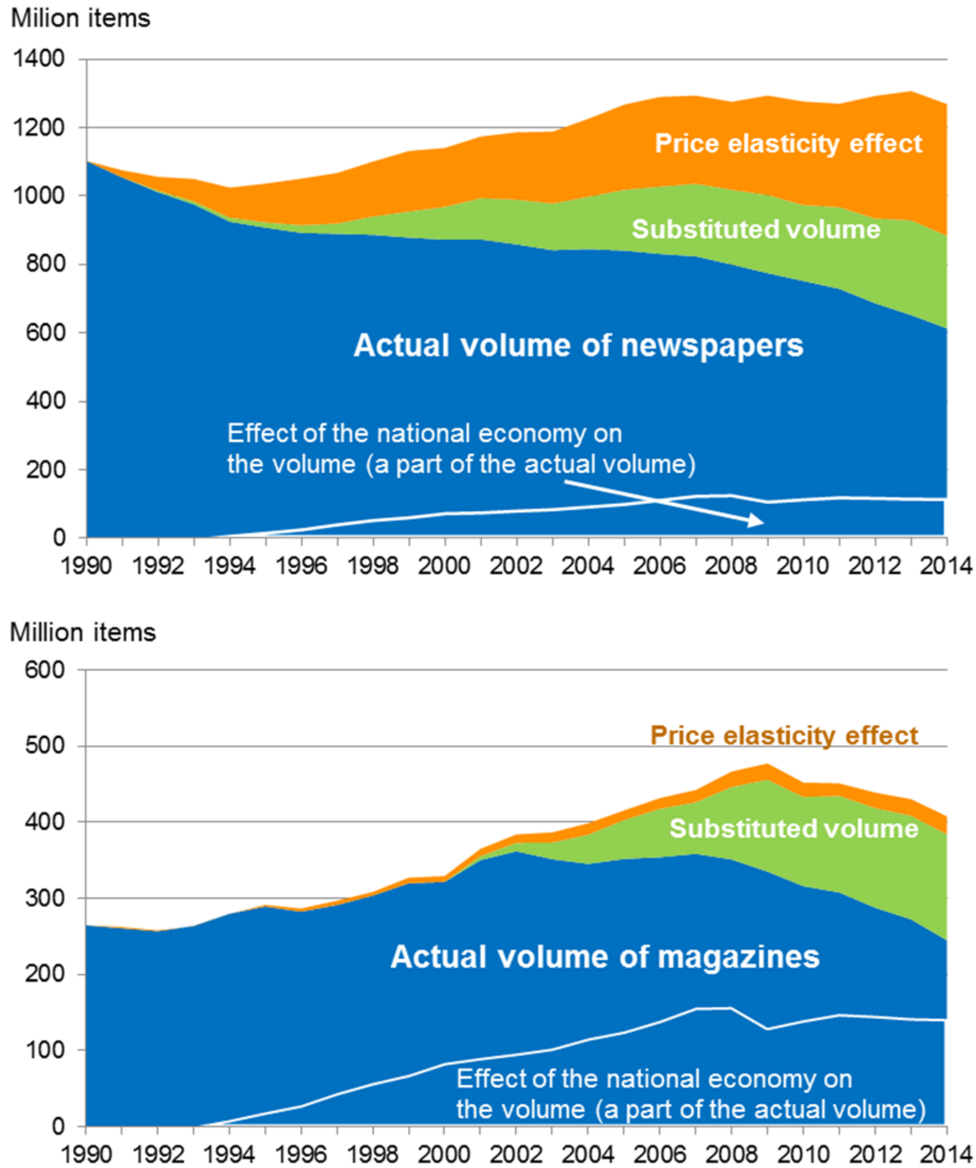
The impact of social media on the demand for magazines is based on the media time of consumers. The users of SoMe stay in SoMe for an average of an hour every day, and this is such a large amount of time that it forcibly takes time away from something else (Elkelä et al., 2013). Since SoMe competes with magazines in relaxation and community interaction, it restricts the time remaining for the reading of magazines. As there is not enough time for reading a number of magazines, in this sense “extra magazines” are given up. This concerns, in particular, the major magazine consumers, women aged over 50 (Elkelä, 2012).

The results mean with regard to newspapers that the total demand has reduced by a total of -30% due to digitization since 1990, i.e. by an average of -1.5% per year. This equals the impact of price elasticity. It can thus be stated that the increase in subscription prices and digitization explain the reduction in the demand for newspapers, and their impacts on this development have been equal. GDP development has to a slight extent attempted to repair the negative balance of the aforementioned factors. The total demand for magazines has reduced due to digitization by a total of -36% since 1990, i.e. by an average of -1.9% per year. However, as substitution only started slightly more than 10 years ago, its impact since then has been much greater, an average of -3.2% per year. In the reduction of the demand for magazines, substitution has by far been the greatest factor.

The results can be summarized in the form of Figure 6. It presents the realized demands for publications and, above them, the annual cumulative impacts of the factors influencing demand, i.e. substitution and price elasticity. Part of the realized volumes is the impact of the development of the national economy on the demand for publications. It is, however, only presented since 1994, as in 1991–

1993 GDP reduced the demand for publications, and this impact is seen as a fall in the demand. The figure shows well how different the demand structures for newspapers and magazines are.

Figure 6. Effects of different demand factors on the demand for newspapers and magazines in Finland 1990 – 2014.



With regard to newspapers, the demand-reducing impact of price elasticity started to be realized even before substitution. The importance of price elasticity grew fast during the entire latter half of the 1990s. Substitution started to gain real importance only at the turn of the millennium. Both demand-reducing effects have accelerated clearly during the past few years, price elasticity due to VAT changes and substitution due to the increasingly common use of tablet computers.

With regard to magazines, the demand-reducing effect of price elasticity has remained small. Substitution did not yet exist in the 1990s; its impact started slowly at the beginning of the 2000s, but it gained real power only when the modern SoMe became more common. The spreading use of community services stopped the growth in the demand for magazines over 10 years ago and turned it to a fall at the end of the past decade. However, even without substitution, the demand for magazines would no longer have increased in recent years; the poor development of the national economy would have seen to it.

5. Conclusions

Similar factors can be found at the background of the demand for newspapers and magazines, but their demand effects differ a great deal from each other. The development of the national economy has a decisive impact on the demand for magazines, but with regard to newspapers its impact is slight. Price elasticity has played a key role in the fall in demand for newspapers, but with magazines its impact has remained small. Digitalization has also treated publication classes in different ways.

The follow-up of news on the Web and the reading of publications' websites and digital editions with tablets and smartphones are at the background of the digitization of paper newspapers. This development already started 20 years ago, its impact has steadily accelerated, and there seems to be no end to its momentum. The whole time new innovations that allow following news electronically enter the market. At the same time digitization spreads to the use of even older age classes. When the follow-up of news transfers to the Web, advertising follows. This weakens the profitability of printed newspapers further. The pressure to increase subscription prices increases, and price elasticity eats into the demand even more. It is difficult to break away from this vicious circle.

The digitization of paper magazines is guided by the increasingly common use of social media. The era of rapid digitization is still a rather new phenomenon, but the development has been exceptionally swift during the past 10 years. It is difficult to find a corresponding speed of digitization in the development of paper communication. SoMe offers the same relaxation in the middle of daily life as magazines. Approximately 60% of Finns are active SoMe users, and they spend an average of one hour in SoMe every day. The competition between magazines and SoMe is culminated in consumers' media time. An hour of leisure time is a lot, and the opportunities to follow several magazines weaken decisively. The most active magazine subscribers abandon the subscriptions to too many magazines for schedule reasons. The digitalization of magazines is not primarily a question of which channel is better, but of the media time of readers.

Digitalization is a special phenomenon in the sense that it has no reverse gear. When a reader has transferred from paper to the Web, they will not return to paper without a particularly good reason. Young people are directly habituated to the use of the Web and they bypass the paper phase altogether. This concerns both the use of media and communication generally. The following 10 years will be a battle for existence for both newspapers and magazines. This does not concern only Finland but the entire developed world. Digitalization eats into the demand for printed papers, which forces publications to respond to competition by developing digital editions. However, consumers expect low prices of digital services, even receiving them free of charge, which significantly hampers the earning logic of publishing houses. It is not possible to increase the prices of paper publications forever, it is prevented by the poor and in the future even poorer price relationship compared with digital services, as well as price elasticity. The poor development of the national economy, at least in Finland, will not offer help for many years.

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