Switching during commercial breaks
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3 Explanatory variables: hypotheses

The purpose of this study is to determine the factors responsible for the leakage and influx of viewers during commercial breaks (see section 1.1). For this research an inventory of variables used to account for switching was developed, based on a review of the research literature\textsuperscript{20}. In addition, several new variables are defined whose effect on switching has not previously been investigated. The explanatory variables are presented in this chapter, grouped in the following categories:

- placement of the break;
- channel programming;
- programming on the other channels;
- the audience;
- content of the break.

The research hypotheses used in this study are also formulated in this chapter. These hypotheses deal with the expected effect of the explanatory variables on switching during commercial breaks. In this chapter, reference is generally made to switching without distinguishing between switching away and switching in during commercial breaks. This distinction is only made in hypotheses when relevant. If a variable is expected to affect only one of the two forms of switching, then only this effect is expressed in the hypothesis; no reference is made to the absence of an effect on the other form of switching. Hypotheses have been formulated only for those variables that could be included in the research. All the hypotheses are summarised in section 3.6.

For all hypotheses, it is assumed that the formulated effects refer to a causal relationship with the amount of switching. In contrast to most previous studies, in this study multivariate analysis is used to control for possible spurious relationships with other variables. This is illustrated in the following discussion about the effects of the time of day on switching behaviour in relation to programming.

The decision to watch a commercial break or to switch away can vary throughout the day. Viewers of the morning news programme on a particular channel may find the commercial breaks in and around it difficult to avoid. In the afternoon, television is dominated by light programming, and the most popular programmes

\textsuperscript{20} In selecting the articles referred to in this chapter, preference was given to studies dealing with switching behaviour during commercial breaks that are recent, based on people meter data, concerning the Netherlands and/or using multivariate analysis. An overview of these 31 "key studies" referred to is provided in appendix 1. This list also includes a number of relevant studies carried out and/or published after this study was completed.
have a magazine format. Watching these programmes is like flipping through a pile of magazines, and it is easy to switch away during the commercial breaks that interrupt them. During prime time, all channels are on the air, offering viewers many choices. Commercial breaks offer the viewer the chance to start switching to see what is on other channels.

Any of these factors can influence switching during commercial breaks. However, none of the possible effects mentioned above are specifically linked to the time of day, but to the type of programming, and should not be attributed to the time of the day. As with all the explanatory variables, in formulating a hypothesis on the effect of time of day on switching, it is necessary to bear in mind that the effect of other variables, such as programming, will be controlled by testing the presumed causal relationship. The relationship assumed in the hypotheses and then tested deals only with a direct effect from the variable on switching, filtered of all the other effects in the model. Hypotheses for the direct relationship of time of day and programming characteristics to switching are discussed in section 3.1.1 and 3.2.3, respectively.

3.1 Placement of the break

The placement characteristics of a commercial break form the first set of explanatory variables will be discussed in this chapter. The sales houses for advertising time in the Netherlands determine broadcast times for commercial breaks in consultation with television channels. Media agencies then select blocks in which to place their commercials. Placement characteristics can be separated into time of day, day of the week, and placement in programmes or between them.

3.1.1 Time of day

The direct effects of time of day on switching are linked to the rhythm of the day. For instance, in the early morning people may find commercials more annoying, and late at night, people may wait for a break until they switch off the set and go to bed. The expected direct effects of time of day on switching are that audience loss during commercial breaks will be higher in the morning and late at night than at other times of the day.

Most studies surveying the relationship between switching and time of day indicated that more switching occurs in the evening. However, the results of three studies differed with this finding. McSherry (1985) reported finding channel switching to be least prevalent during prime time. Contrary to expectation, Vioen (1995) found that switching did not occur more often during prime time. Horsley (1986) found that switching occurred less often between 19.00 and 22.00 hrs. An explanation for the increase in switching after 22.00 hrs., Horsley suggested, was that viewers became bored around this time and began switching. Despite the divergent findings in these three studies, there is considerable evidence for an increase in switching in the evening.
The moment in time when switching increases (and decreases) varies by country. In Italy switching increases after 21.30 hrs. (Capocasa, Denon & Lucchi, 1985), while in Spain there appears to be an increase in switching after the morning hours (Asociación Española de Anunciantes, 1995). These divergent results can perhaps be explained by differences in viewing patterns. Due, in part, to differences in daily routines and channel programming, patterns of television viewing in Southern European countries are very different from those in western European countries (IP, 1996).

The results of research in the Netherlands and Belgium are fairly consistent. Dronkers (1993) found an increase in switching after 17.00 hrs. In the studies by Van Meurs (1995), Van den Berg and Rüster (1992) and Oomens, Roest and Vaessen (1993), an increase in switching was reported for the period after 18.00 hrs.

**Hypothesis 1**
There will be more switching away during a commercial break in the morning and late at night than during breaks at other times of the day.

### 3.1.2 Part of the week

Leisure activity during the weekend is generally different from that during the rest of week, and this may have an effect on switching. Only four of the studies surveyed include the placement characteristic “part of the week” in the set of explanatory variables. Two of these studies divided the week into two parts and distinguished between weekend and weekdays. In their study, Billet Consultancy Ltd. (1992) found an increase in switching during commercial breaks in the weekend. Furthermore, they reported a greater increase for commercial breaks between programmes than for breaks during a programme (see section 3.1.3 below). The Dutch researchers Oomens, Roest and Vaessen (1993) divided the week into seven days. They reported that the greatest amount of switching occurs on Saturday.

Horsley (1986) found no direct effect from the factor “part of the week” on switching in the UK. In a German GfK-study (AGF, 1997) no effect on switching was found for the day of the week.

**Hypothesis 2**
There will be more switching during commercial breaks in the weekend than during the week.

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21 Horsley only found an effect after bringing this variable into relation to the variable “sex”. Men switch more often in the weekend than during the rest of the week, while women switch more often on weekdays than at the weekend. As an explanation for this result, Horsley noted that women watch more television during the week and that they then control the remote control during this viewing. Men are more often at work during the week and are more likely to control the remote control in the weekend. This intervening effect was not included in this study.
3.1.3 Breaks between programmes and programme categories

Commercial breaks occurring during a programme (centre breaks) may be more irritating than breaks placed between different programmes (shoulder or end breaks), but there may be less switching away if the break interrupts an interesting story line. On the other hand, the amount of new viewers coming in to a break can be expected to be less during centre breaks. In the studies that deal with the causal effect of the placement of commercial breaks on switching, it is generally agreed that significantly more switching occurs during end breaks than during centre breaks. This difference varies in the studies from 7% (Horsley, 1986) to more than 20% (ITV Network Centre, 1993). Behaviour and Attitudes Ltd. (1987) and Kitchen and Yorke (1986) both reported finding that the difference between the amount of switching during end breaks and centre breaks is even greater for viewers who use a remote control. The largest difference was reported by ITV Network Centre (1993); this finding reflects the small amount of switching registered during centre breaks. According to this study, 93% of viewers did not switch away, but watched the entire commercial break. Van den Berg and Rüster (1992) examined the difference in switching between commercial breaks during a programme and the breaks that occur between a review of previous episodes and the new episode of a series. Here, also, there was significantly less switching during commercial breaks in the programme. Apparently, the eagerness not to miss anything of the scene following the break is often more pressing than the eventual urge to switch away during the advertising.

Breaks can also be placed between two programmes of the same type. In this case an effect on switching similar to that of centre breaks can be expected. Dronkers (1993) and Van Meurs (1995) found that relatively little switching occurred during commercial breaks broadcast between two programmes belonging to the same programme category.

Hypothesis 3
There will be more switching during end breaks than during centre breaks.

Hypothesis 4
There will be more switching during a break between two programmes belonging to different programme categories than during a break between two programmes in the same programme category.

3.1.4 Time elapsed since previous break on the channel

The number of viewers switching away during a break may be related to the amount of time elapsed since the previous break on the channel. The faster commercial breaks follow each other, the more irritated the viewer may become. This characteristic of programming and commercial break placement has not been in-
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The amount of time elapsed since the previous break on the channel is linked to two other kinds of variables included in the current study. The first of these is the length of the programme preceding and following the break; this is discussed in section 3.2.2. The shorter the length of a programme, the greater the chance of a commercial break preceding or following the programme. This factor is related to the overload variables. Many breaks in short succession may create a feeling of overload with the viewers similar to that linked to campaigns as discussed in section 3.5.8.

Hypothesis 5
There will be less switching away during a break when a long time has elapsed since the previous break on the channel than when a short time has elapsed since the previous break on the channel.

3.2 Channel programming

The characteristics of the programming on the channel preceding and following a commercial break can be expected to affect switching during the break. In building a programme schedule, channels operators can manipulate some programming characteristics, such as the length of the continuity pause between a programme and the following break. Other aspects of the schedule, such as the length and content of purchased series or programmes, cannot be directly manipulated. A better understanding of switching behaviour may enable channel managers and other persons or agencies responsible for programming to combine available material in an optimal schedule designed for the highest possible audience ratings, as well as the lowest level of audience loss during blocks advertising.

An awareness of the effect of programming on switching is also relevant for media planners. While they may not have all of the details of a programme schedule when planning a campaign (the length of the continuity pause between a programme and a break, for example, is not known until the day of the broadcast itself), information about many programming characteristics that could have a decisive effect on switching during advertising can be obtained beforehand.

3.2.1 Channel characteristics

Differences between channels may have an effect on the amount of switching during the breaks. Of the six studies that deal with the effect of channel type on switching, five were carried out in the Netherlands. In the Netherlands, programming on the three public channels (Nederland 1, 2 and 3) is provided by various broadcasting organisations (see also section 3.2.7). In the Dutch studies, an effect on switching was found for differences between broadcasting organisations as well as differences between channels.

In an Italian study, Capocasa, Denon and Lucchi (1985) reported no relation-
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ship between channel type and switching during commercial breaks. Similar results were reported by Research International (1994). Regarding the Dutch public broadcasting organisations, Dronkers (1993) found that switching occurred most often during commercial breaks on Nederland 2 and least often on Nederland 3. Van Meurs (1995), Oomens, Roest and Vaessen (1993) and Vioen (1995) reported finding more switching occurring during commercial breaks on the public channels than during breaks on the commercial channels. This finding may be explained by the fact that shifts in the target groups between two consecutive programmes more often occur on the public channels. The percentage of the audience of the preceding programme retained by the commercial break may decline as a result. The effect of a change in target group on switching is discussed in section 3.2.2 below.

The effects of many of the channel characteristics on switching are not autonomous effects, but related to other explanatory variables, such as the programme schedule, the viewer profile, the amount of commercials, the duration of the break, the existence of centre breaks et cetera. These channel-related factors will be discussed separately below. Autonomous channel effects can only be expected in cases where channels have a very special and narrowly defined format, such as MTV. This is not the case for the five channels included in this study. They may all have their own style, but all five have programming consisting of traditional material of various genres and are, generally speaking, aimed at a broad audience. For this reason differences between channels have not been included as separate explanatory variables in this study.

3.2.2 Programme length

The lengths of the programmes preceding and following a commercial break are likely to affect the amount of switching during the break. The longer the programme preceding a break lasts, the more likely it becomes that television viewers will take a break instead of watching one. An increase in switching can be expected before a long programme as viewers check out what is being shown on other channels, before deciding to commit themselves to watching this programme.

The length of the programme preceding a commercial break was tested as an explanatory factor in six of the studies surveyed. Of these, only Billet Consultancy Ltd. (1992) reported finding no effect. According to the remaining five studies, it was generally the case that the longer the programme, the more switching occurring during the following commercial break. In their study, Oomens, Roest and Vaessen (1993) reported a “critical limit” for programme length. An increase in switching can be expected in commercial breaks that follow a programme that

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Explanatory variables: hypotheses

runs longer than 20 minutes, with more switching as the length of the programme increases further. They noted that these results are particularly relevant for commercial breaks on the public channels. Because of the absence of commercial interruptions during programmes, programmes on the public channels are longer than programmes on the commercial channels.

Hypothesis 6
There will be more switching during a commercial break following or preceding a long programme than during a break following or preceding a short programme.

3.2.3 Programme category
The types of programmes broadcast preceding and following a commercial break are likely to have an effect on the viewing behaviour of the audience of the break. Every programme category attracts a specific kind of audience. These can differ in social demographic characteristics and each may have specific viewing habits, including switching. Certain types of programmes could also attract viewers who are in a specific mood, or who are put into that mood by the programme. Viewers of a “slow” programme which produces a passive mood with its viewers may be less likely to switch channels than they would be after watching an informative programme that stimulates decisive behaviour, also with regard to channel selection.

Each of the fourteen studies that tested this variable as an explanation for switching during commercial breaks used a different set of programme categories. Nonetheless, some common results can be drawn from these studies. Switching occurs least often during commercial breaks placed before news programmes and those interrupting a film. Oomens, Roest and Vaessen (1993) reported more switching in commercial breaks following a film. However, this is likely to be a result of the length of the film; after one and a half to two hours of film, viewers not only frequently switch channels, they also frequently turn the television off. In this study, programme length is treated as a separate variable (see section 3.2.2). Finally, it was found that switching occurs most often during commercial breaks preceding, following or during sports programmes, soaps, series and quiz programmes.

The last set of finding has been challenged in two recent German studies. Ottler (1998) reported less switching during breaks that interrupt sports programmes, series and magazines and major amusement programmes. In a study by the German channel Sat.1 (1997), less switching occurred during soccer broadcasts and series they themselves produced.

At the time of the study, it is the practice in the CKO (in contrast to many other countries) to count the length of programme segments divided by advertising separately (see also footnote 13 on page 41).
Hypothesis 7
There will be less switching during a break preceding or following news and information programmes and more switching during a break preceding or following drama, amusement and sports programmes.

3.2.4 Series
In addition to length and programme type, a third programme characteristic that may affect switching during adjacent commercial breaks is a programme’s “episodic structure”. The narrative structure of serials, especially soaps, whose principle story lines are played out over several episodes, is likely to affect the viewing behaviour of its audience, captivating it with an ongoing story line. Viewers who are glued to the screen will not want to switch away to another channel shortly before such a programme begins or recommences. This effect is not limited to centre breaks, but may occur during end breaks preceding and following a programme. Short summaries of the pervious episodes of a series are often broadcast preceding the beginning of a series, and an episode may be followed by a preview of the coming episode. Faithful viewers of the series will not want to miss these short segments either. Commercial breaks are programmed between these segments.

Only one of the studies surveyed deals with episodic structure as an explanatory variable. In a Dutch study, Van den Berg and Rüster (1992) found that less switching occurred during commercial breaks following programmes that have an episodic structure or are part of a series. In contrast, more switching occurred during commercial breaks preceding these kinds of programmes. Their general conclusion was that less switching away occurs during commercial breaks adjacent to programmes broadcast daily than during breaks adjacent to programmes with a lower broadcast frequency.

Hypothesis 8
There will be less switching during a break preceding or following a programme with an episodic character than during a break preceding or following other kinds of programmes.

3.2.5 Programme appreciation
If viewers enjoy watching a programme, this may have an effect on their switching behaviour during adjacent commercial breaks. Based on the assumption that programmes that are highly appreciated attract a selective audience, it could be expected that a high appreciation score is associated with a high level of switching. Dronkers (1993) is the only study found to have tested the influence of viewers’ evaluation of programmes on switching behaviour during adjacent commercial breaks.

24 The short summaries and previews are not coded as separate programmes, so that the intervening blocks are not coded as centre breaks but as end breaks.
breaks. He concluded that higher appreciation scores do not result in less switching.

**Hypothesis 9**
There will be more switching during a break preceding or following a programme with a high appreciation score than during a break preceding or following a programme with a low appreciation score.

### 3.2.6 Non-programme items

Channels can schedule non-programme items between the actual end of a programme and the start of the following commercial break. This material is generally referred to as “continuity”, although the terms “punctuation” (ITV Network Centre, 1993) and “clutter”\(^{23}\) are sometimes used as well. It can include such items as announcer’s messages, programme schedule information, previews of upcoming programmes or channel calls. The greater the amount of continuity broadcast between the end of a programme and the beginning of following commercial break, the greater the risk of losing viewers who want to avoid the break or who consider the continuity itself as an unwanted break. Long continuity following a break can catch new viewers who tune in for the following programme but avoid seeing any part of the preceding break.

The British channel ITV defined “non-programme editorial” as all material broadcast that is neither programme nor commercial (ITV Network Centre, 1993). They found no effect from this on switching during commercial breaks. In contrast, Van Meurs (1995) reports a significant positive effect on switching from continuity preceding and following a commercial break. More switching occurs when “fill-in” (for example, a schedule overview or an announcer) is broadcast for a minute or longer between a commercial break and the adjacent programming than when there is an uninterrupted changeover between programmes and advertising.

**Hypothesis 10**
There will be more switching away during a commercial break preceded by non-programme material than during a break without non-programme material preceding it. There will be less switching in during a commercial break followed by non-programme items than during a break without non-programme items following it.

\(^{23}\) There is some confusion about the use of the term “clutter” in the literature. It is sometimes used to refer to programme promos within a commercial block (see section 3.5.4), but it may also be used to refer to a large amount of advertising on television, “too many commercial messages lumped together in a block” (Read, 1993).
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3.2.7 Shifts in broadcasting organisation

Programming on the three Dutch public channels is provided by various broadcasting organisations. They provide different types of programmes usually aimed at attracting a specific audience. On any given night several broadcasting organisations may alternate on a single public channel. In particular, the change that takes place on Nederland 2 between the narrowly focused Christian broadcasting organisation EO and the TROS, whose programming is popular in style and is aimed at a broad audience, is often cited as a moment at which large audience shifts take place. The resulting shifts in types of programmes and/or types of audiences may have an effect on switching in the intervening commercial breaks.

In a previous study, Van Meurs (1995) examined the effect of shifts in broadcasting organisations on switching. An unexpected and not directly explainable positive effect of broadcasting organisation changes on the switching during commercial breaks was found. Despite this outcome, the hypothesis has been formulated in the theoretically predicted direction.

Hypothesis 11
There will be more switching during a commercial break between two programmes from different broadcast organisations than during a break between two programmes of the same broadcasting organisation.

3.2.8 Shifts in audience profile

In addition to the shifts in broadcasting organisation discussed in the previous section, it seems reasonable to expect that switching during commercial breaks will also be influenced by more general shifts in the viewer profiles of the programmes preceding and following the break. For example, a large influx and outflow of viewers could be expected during a commercial break between a programme with predominantly young viewers and one intended for an older audience.

In the only study dealing with this factor, Van Meurs (1995) reported a significant effect for changes in audience profile with respect to the variables sex, age and social class. A major shift in audience profile of programmes preceding and following a commercial break resulted in a drop in audience rating for that break.

Hypothesis 12
There will be more switching during a break between programmes with differing audience profiles than during a break between programmes with similar audience profiles.

3.3 Programming on the other channels

Programming on other channels that are broadcast at the same time as a commercial break may have an effect on switching during that break. In theory, sales houses such as STER and IP, that deal with more than one channel, are in a position to adjust the programming on their various channels to take advantage of the potential effect of programming opposite a break on switching during their commercial breaks. Single channel operators are not able to do this, but they can adjust their programming in line with programming on the other channels. Media buyers also need to take programming on other channels into consideration when selecting a commercial break and be aware of the effect of this programming on switching in the breaks they choose.

In addition to variables included in previous research, several new variables that deal with programming on other channels have been defined in this study; their effect on switching does not appear to have been investigated previously. These are:

- number of programmes ending on other channels during a commercial break;
- the size of the audience of these programmes;
- amount of commercial time on the other channels;
- the size of the audience of these breaks.

3.3.1 Combined ratings and market share

Commercial breaks are vulnerable moments for keeping an audience. There is less danger of losing viewers when there is not much to see on the other channels, but popular programmes on other channels are likely to lure viewers away. In an earlier study (Van Meurs, 1995), it was shown that the combined ratings of the other channels had a marked effect on the audience loss during commercial breaks. In this study, it was found that the combined ratings for programmes on the other channels caused the block factor of a break to drop by 2 percent for each 10% of the total audience watching.

Hypothesis 13

There will be more switching away during a break when the combined ratings for other channels are high than when the combined ratings for other channels are low. There will be less switching in during a break when the combined ratings for other channels are high than when the combined ratings for other channels are low.

Hypothesis 14

There will be more switching away during a break when the combined market share for all other channels is high than when the combined market share for all other channels is low. There will be less switching in during a break when the combined market share for all other channels is high than when the combined market share for all other channels is low.
3.3.2 Number of programmes ending
Both the number of programmes ending on other channels during a commercial break and the size of their audiences may influence the number of viewers switching in to that break. The ending of programmes on another channels could result in viewers switching in to a commercial break. On the other hand, the end of one programme signals the start of another. Viewers might switch away from the break in order to catch the start of a new programme on another channel.

Hypothesis 15
The greater the number of programmes ending on other channels during a commercial break, the more switching will occur during the break.

Hypothesis 16
The larger the audiences of programmes ending on other channels during a commercial break, the more switching will occur during the break.

3.3.3 Amount of advertising on other channels
To reduce viewer loss as a result of advertising, channel operators controlling a number of channels sometimes co-ordinate the transmission of commercial breaks on those channels so that commercial breaks are broadcast simultaneously. Such moments are referred to as “switching moments”, where channel switching is in fact stimulated and the audience channelled by promoting the programmes on the other channel, to prevent viewers from switching to other, unrelated channels. Another term for the simultaneous broadcast of commercial breaks on various channels is “roadblock”. The intention is to confront viewers with advertising regardless of their switching.

If it is the case that more switching away than switching in occurs during commercial breaks, then advertising on other channels could result in more viewers tuning in during a commercial break. On the other hand, a commercial break on another channel frequently is a signal that a new programme is about to start, and this can result in viewers switching away from the break in order to watch the new programme starting on the other channel. The amount of advertising on the other channels can be expressed in minutes as well as in the number of viewers.

Hypothesis 17
The larger the amount of advertising on other channels during a commercial break, the more switching will occur during the break.

Hypothesis 18
The larger the audiences for advertising on other channels during a commercial break, the more switching will occur during the break.
3.4 The audience

Patterns of viewing behaviour, including switching behaviour, are likely to vary for different target groups. The influence of audience characteristics on media consumption in general, and television viewing behaviour in particular is probably one of the most researched topics in communications research and in modern media planning. The personal and household characteristics of viewers can be expected to have a strong influence on switching behaviour and most of the research on switching has focused on the influence of these factors.

The characteristics of the viewers of a commercial break can only be determined after this break is broadcast and are only partially predictable. It is not likely that channel operators and media buyers have access to such sophisticated prognoses for each target group that they are able to take detailed account of the viewers' characteristics discussed below. Nonetheless, a general awareness of the potential effects of audiences' personal characteristics on switching can be useful for programming a channel as well as for purchasing advertising time.

3.4.1 Sex

Most of the studies reviewed that examine the relationship between the sex of the viewer and switching conclude that men switch channels more often than women. Only Danaher (1995) reported finding no relationship. Horsley (1986) initially found no effect. However, when this variable was crossed with the variable “part of the week”, a relationship was established: men switch more in the weekend than during the week, while women switch more during the week than on weekends. (see also section 3.1.2). Van Meurs (1995) related the variable sex with other personal characteristics such as age and social class. He concluded that an interactive effect is indicated: young men between the ages of 20 and 34 and men between the ages of 20 and 49 in social class AB1 switch more often than the average. Studies of switching during programmes have also shown that young males again switch more than other groups defined by sex and age (Mane, 1993; Van Meurs, 1995).

One explanation for the fact that women switch less often than men during commercial breaks may be that the majority of commercials on television are aimed at the target group “women”. Because they are confronted more often with advertising that is relevant to their shopping behaviour, women are less likely to switch away during commercial breaks. Because this advertising speaks less to them, men are more likely to switch away from it. However, this is not an effect that is specific to women versus men. Some commercial breaks may contain more advertising specifically aimed at men or at other target groups such as young people or people in a higher social class. The effect of target group specific commercials on switching is discussed in section 3.5.6.

In addition to the indirect effects of factors such as target group, time period and
programme categories, an autonomous effect from the sex of the viewer on switching can also be expected.

Hypothesis 19
During a commercial break, men will switch more than women.

3.4.2 Age
No one can question the influence of age on television viewing behaviour. Most researchers expect and find that young people switch more during breaks than older people or very young viewers. There are several possible explanations for this. Young people may be more restless or have a shorter attention span while watching television. With the ever increasing tempo of video clips and other programmes aimed at the youth, “older” and more traditional programmes may be boring for young viewers expecting more variation. Younger viewers may also be more interested in checking out programmes on other channels. Furthermore, young people have very specific viewing preferences. Because of inconsistent programming on a channel, “their” programme may be followed by a programme aimed at an older audience, making it likely that young people will switch away. However, this is not only true for youths; it also applies to other age groups and other target groups. The effect of a shift in audience profile was discussed in section 3.2.8. In addition to this effect, an autonomous effect of age on switching is likely.

Very young children are likely to demonstrate very different switching behaviour. The difference between programme material and commercials may be less clear for very young viewers. A second reason to expect less switching during commercial breaks for this group is that young children are less likely to control the remote control. Finally, the success rate of switching might be much lower for them than for older people because, generally speaking, only a few channels broadcast children’s programmes in the same time slot.

All of the studies that included age as an explanatory variable concluded that young people switch more often than older persons, although the age ranges involved varied. Breemhaar (1992), Van der Laar and Breemhaar (1991) and Van Meurs (1995) found that youngsters in the age range 13-19 years switch the most. The majority of researchers who gave explicit age categories reported the same general results. In a German study, Ottler (1998) reported the highest rate of audience loss during commercial breaks among 14-19 year olds. In their study Billet Consultancy Ltd. (1992) found that the people in the age range 16-34 years switch the most. Moreover, according to this study, people in this age group are the most efficient switchers; they know precisely how to avoid commercial breaks. They generally switch away sooner at the end of a programme and switch back later. Finally, in an Israeli study, Weiman (1995) found that the most frequent switchers
are people in the age range 6-25 years and people above the age of 66.

However, a recent study reported a contradictory result. In a study on the average loss of viewers during breaks Lighthart (1998) found that young people switch less during breaks than do older viewers. For very young viewers 3-5 years of age, commercial breaks were even more popular than the programmes preceding or following it.

**Hypothesis 20**

During a commercial break, young people will switch more than older people or very young children.

### 3.4.3 Education

There is some controversy over the effect of education on switching behaviour. Of the six studies that test the effect of this variable, four report a positive relationship. Breemhaar (1992), Van der Laar and Breemhaar (1991), Ottler (1998) and Zufryden, Pedrick and Sankaralingam (1993) found that people with a higher level of education switch more often. In the remaining two studies, Heeter and Greenberg (1985) and Weiman (1995), no relationship was found.

Because of the availability of ratings per target group, the social class of the respondent rather than the educational attainment level has been selected as the background characteristic for examination in this study.

### 3.4.4 Position in the household

“Shoppers” is one of the most frequently used target groups in the planning and evaluation of advertising campaigns in the Netherlands (SPOT, 1996b). Of the studies surveyed, only the British researchers from Behaviour and Attitudes Ltd. (1987) report finding a relationship between this target group and switching. They found that housewives switch less than other adults. This holds true even when the variable sex is controlled for. The target group “shoppers” adds little additional value to the variables “sex” and “size of household”, as the majority of male shoppers come from one or two person households. Therefore, this target group has not been included as a separate variable in this study.

### 3.4.5 Marital status

Of the studies surveyed, only the American researchers Heeter and Greenberg (1985) included the marital status of the respondent as an explanatory variable for switching and reported finding no relationship. This factor is not included as a separate variable in this study.

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27 The shopper in a household is defined in the CKO as the “housewife” or the person who is both principle wage earner and housewife in a household (Intomart, 1998b). The housewife in a household is the person primarily responsible for household related activities such as shopping, meal preparation, cleaning, washing, etc. and who is not the principle wage earner. Both shoppers and housewives may be either male or female.
3.4.6 Ethnicity
In a study carried out in New Zealand, Danaher (1995) reported that respondents who originally came from Europe generally switched less than other New Zealanders. This result may be explained by the fact that only three channels were available in New Zealand at the time of the study. The number of channels was much higher in most European countries. People who had come from Europe were accustomed to selecting from many channels and, when faced with only three alternatives, could more easily make a definitive choice. Ethnicity is not included in the present study as an explanatory characteristic, as it was not included in the demographics available in the CKO at the time of the research.

3.4.7 Household size
There is some disagreement in the findings of the studies that test household size as an explanatory factor. In their study, Heeter and Greenberg (1985) found no relationship. Smit (1999) found a negative relationship between the size of the household and switching: the more members in a household, the less the amount of switching was reported. In contrast, Danaher (1995) and Zufryden, Pedrick and Sankaralingam (1993) reported finding a positive relation between household size and switching: people in larger households switch more often.

The conflicting findings may be explained as the indirect effects of other variables. Firstly, an indirect age effect is likely. Larger households are more likely to contain children and young people, and it is expected that young people switch more frequently than adults (see section 3.4.2). Two other factors that could negate the effect of household size on switching are collective viewing behaviour, which is more common in larger households (see section 3.4.20), and the presence in the household of additional television sets (see section 3.4.18). In contrast to the indirect effect of age, the expected indirect effects of collective viewing behaviour and the presence of additional television sets are not taken into account in the studies mentioned above.

When these related factors are filtered out, household size can be expected to have a small negative effect on switching during commercial breaks.

Hypothesis 21
More switching during commercial breaks will occur in small households than in large households.

3.4.8 Social class
In addition to age, sex and position in the household, social class is one of the most frequently used target group characteristics in media planning in the Netherlands. Social class is also an important explanatory variable in analyses of viewing behaviour (Vierkant, 1987). Nevertheless, the influence of social class on
switching during commercial breaks is examined in only two of the studies surveyed. Weiman (1995) found no relation between switching and social class. On the other hand, in a study in the Netherlands, Van Meurs (1995) reported an effect on switching during commercial breaks from social class in interaction with other variables. He reported that women from lower social classes switch the least and males 20 to 49 year of age from the more prosperous class AB1 switch the most.

Hypothesis 22
During commercial breaks, more switching will occur in high social class households than in low social class households.

3.4.9 Income
Of the five studies that examine income level as an explanation for switching, two reported no relationship, two found a positive relationship and one, a negative relationship. Two studies carried out in the United States reported of a positive relationship: people with higher incomes switched more often than people with lower incomes (Nakra, 1991; Zufryden, Pedrick & Sankaralingam, 1993). In a New Zealand study, Danaher (1995) found a negative relationship: people with a higher income switched less than people with a lower income. No relationship between level of income and switching was found in the studies by Heeter and Greenberg (1985), carried out in the United Kingdom, and Koorstra (cited in Stockmann, 1991), carried out in the United States. Given the considerable agreement between household income and social class, income has not been included as a separate variable in this study.

3.4.10 Residential environment
Weiman (1995) found no influence on switching from what he labelled the socioeconomic status of the residential environment of the respondent. As used in this study, this characteristic is closely related to the variable "social class" discussed above, which Weiman also reported as having no influence on switching. Danaher (1995) used the degree of urbanisation to categorise the residential environment. In his study, he compared respondents living outside of urban areas in New Zealand with respondents from an earlier study carried out in New York City. Danaher found that people who live in a city or urban area switch less frequently than people who do not live in a city. This result may be due to the fact that respondents in New York could receive many more, and more varied, channels than the New Zealanders in Danaher's study. Residential environment has not been included as an explanatory variable in this study.
3.4.11 Attitude towards advertising

Advertising has its fans and its critics. A viewer's attitude towards advertising has a clear relationship with efforts to avoid advertising. Some cinema goers, for instance, will attempt to time their arrival so as to avoid as much of the advertising shown before the main feature as possible, while others see this advertising as part of the outing. Many magazine readers make a habit of flipping past pages of ads without reading them, while for others, these pages are an important aspect of the magazine's content. In fact, some readers of fashion magazines pay more attention to the advertisements than to the editorial content, which, even in terms of the number of pages, sometimes plays a secondary role in this type of magazine.

Where advertising is concerned, television is a confrontational medium, one in which viewers are "assaulted" by commercials. It is primarily because of the unsolicited nature of commercials that television advertising has so many vociferous critics. In a study by Research & Marketing (Brounts, 1996) among 2,500 principle wage earners and housewives, it was concluded that around a third of those questioned could be characterised as TV-Ad-rejectors, people who were negatively predisposed to television advertising as such. In a comparison in the Netherlands of advertising on four types of media (television, radio, newspapers and magazines), Smit (1999) reported that people found television advertising the most irritating. Attitudes towards television advertising accounted for 15% of the avoidance of commercials, including zapping. In a second Dutch study (Platform '95, 1998), attitudes towards television advertising were compared with attitudes towards advertising in seven other types of media (radio, newspapers, magazines, cinema, billboard advertising, free advertising weeklies and advertising circulars spread door to door). Television advertising was ranked the most irritating and received the least positive ranking on a number of other characteristics.  

In another Dutch study, the 1998 Life Style Survey commissioned by the magazine publisher Weekbladpers (InterView, 1998), some 40% of those interviewed expressed a negative opinion of television advertising. There was also a clear relationship between attitudes expressed towards television advertising and behaviour during commercials. Over half of those interviewed who expressed a positive opinion of television advertising kept watching during commercial breaks, compared to only 5% of those who expressed a negative opinion (see table 5).

While the relationship between attitude towards advertising and switching away during television commercials demonstrated in the 1998 Life Style Survey and other studies appears to be a logical and credible one, a caveat is in order. This relationship may be affected by the phenomenon of the "socially desirable response" (see section 2.2.2). Someone who admits to being a TV-Ad-rejector in a questionnaire or interview may find it difficult to admit that they sometimes watch commercials because they lack the energy to do something else or simply do not

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28 New information, useful information, does not annoy me, original, unique.
feel like switching channels at that moment. In a recent study by Ottler (1998), this problem was avoided by using people meter data. In this study, based on people meter data for 94 commercial breaks, it was found that people who said they liked commercials manifested a lower switching rate during breaks than other viewers.

Table 5 **Attitude towards and reaction to television advertising**

<table>
<thead>
<tr>
<th></th>
<th>Keeps watching</th>
<th>Looks for another channel</th>
<th>Does something else</th>
<th>Total (n = 4,101)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>54%</td>
<td>14%</td>
<td>32%</td>
<td>11% (100%)</td>
</tr>
<tr>
<td>Neutral</td>
<td>24%</td>
<td>22%</td>
<td>54%</td>
<td>47% (100%)</td>
</tr>
<tr>
<td>Negative</td>
<td>5%</td>
<td>36%</td>
<td>60%</td>
<td>41% (100%)</td>
</tr>
<tr>
<td>Total</td>
<td>20%</td>
<td>27%</td>
<td>54%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Interview, 1998

Restrictions in the timing of the research and the design of the data meant it was not possible to include attitude towards advertising as an explanatory variable in the SPOT study.

3.4.12 Number of channels

In a previously cited study, Danaher (1995) concluded that the number of channels that can be received has an influence on switching. Three of the studies surveyed examined the relationship between the number of channels a household can receive and channel switching during commercial breaks. In a British study, researchers from Behaviour and Attitudes Ltd. (1987) found no relationship, but this result may have been due to the fact that this study was carried out in 1987, before the explosive growth in television channels in the United Kingdom. A relationship was reported in a 1992 study carried out by the British research bureau Biller Consultancy Ltd. They found that switching occurs more often in households that receive many channels, especially during commercial breaks. In a Dutch study by Research International (1994), a comparison was made between 1984, when respondents could receive seven channels, and 1994, when they could receive an average of 22 channels. This study concluded that this increase was partially responsible for the increase in switching during commercial breaks.

For technical reasons, the number of channels received could not be included as an explanatory variable for switching in the Netherlands. However, because of the high degree of cable cover (91% of the households: Intomart, 1994), the number

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29 In order to include attitude towards advertising as a variable in this study, it would have been necessary to question all members of the CKO panel on this subject. Because the study is based on historical data, it was not possible to carry out a such a survey in the panel prior to or during the research.

30 The Intomart Radio Establishment Survey is carried out every year in September and October. The survey of 1994 provides the best representation of the situation in the Netherlands at the time this research on switching behaviour was carried out (January-April 1995).
of channels received throughout the Netherlands is relatively homogenous. Given this lack of variation, it can be expected that this variable will have little effect on viewing behaviour. Moreover, any likely effect from the number of channels available on switching may also be explained in large part by the audience ratings for other channels during the break (see section 3.3.1).

3.4.13 Cable

Four of the studies surveyed conclude that a cable connection leads to an increase in switching. In this case, however, the number of channels received very likely is to be an intervening variable. As with the number of channels available, cable connection is not included as a variable in this study.

3.4.14 Remote control

By far the most investigated cause of increased switching, and the factor over which there is the most agreement, is the use of a remote control. For example, an AGB study (AGB, 1985; Aitchison, 1985) reported that homes with remote control have more switches logged by the people meter than homes in which channels have to be changed using the tuner on the television set. Other studies that tested the use of a remote control as an explanatory factor also concluded that people with a remote control switch more than those without one. Some of these studies also reported that this effect was much more pronounced during commercial breaks.

The penetration of the remote control has increased at a very stable rate over the last 15 years (see figure 5). During the period investigated in this research (beginning of 1995) 11% of households the Netherlands did not have a remote control for the principle television (Intomart, 1994). Given the major effect on switching that can expected from the use of a remote control, this factor may have an effect on switching during commercial breaks despite the small number of households without remote control. People in households without a remote control may differ from viewers with a remote control in other aspects of their viewing behaviour, and may sometimes have a distinctive programme preference. It is expected that if a relatively large proportion of the audience of a commercial break do not have a remote control, there will be less switching during the break.

Hypothesis 23

During a commercial break, more switching occurs in households with a remote control than in households without a remote control.
3.4.15 VCR

The possession and use of a video recorder may also have a marked effect on viewing behaviour. Video recorder users are likely to feel that they can exercise more control over the use of television than people in households without a video recorder\(^31\). If it is assumed that people with a video recorder are less dependent on the programming on the various channels, and are able to watch television more selectively (or that they have acquired a video recorder because they already watch television selectively), it can be expected that this selective behaviour will carry over whenever they watch television in "real time".

Lee and Lumpkin (1992) found no difference between owners and non-owners of VCRs in their attitudes towards zapping. However, two other studies that included the possession of a video recorder in the set of explanatory variables reported a relationship with switching during commercial breaks. At the household level, Danaher (1995) found that more switching occurred in households with a video recorder than in those without. Similar results were reported by Zufryden, Pedrick and Sankaralingam (1993) in a study at the individual viewer level. They also noted that this effect was even stronger for households that made frequent use of their video recorder.

Hypothesis 24

During a commercial break, more switching occurs in households with a VCR than in households without a VCR.

3.4.16 Viewing time

In an analysis of 100 households with remote control from the British people meter panel, a correlation was found between viewing hours and switching, although

\(^{31}\) The perceived control over the medium is also referred to as "pacing" (Neijens & Smit, 1998).
it was not a very strong one (Aitchison, 1985). Van der Laar and Bremhaar (1991) grouped respondents by the amount of television they watch. They reported that “light viewers”, those watching on average less than nine hours of television a week, switched the least. Frissen (1992) also found that viewers who very frequently switched were also often “heavy” television viewers. An explanation for this may be that light viewers watch television more selectively and only turn on the television if they actually want to watch a specific programme. Commercial breaks will not deter them from watching the channel they have selected. On the other hand, heavy viewers may routinely try to avoid commercial breaks by switching.

Hypothesis 25
During a commercial break, heavy viewers will switch more than light viewers.

3.4.17 Reading a television guide
The use of a television guide has been included as a new personal characteristic in this study in order to test whether the planning of viewing using broadcasting schedules affects switching. The assumption here is that the planning of viewing will result in more switching because people will have selected programmes beforehand and so will not stay tuned during a commercial break in order to see what programme follows. Of course, the expected effect is mitigated by the fact that programmes schedules also appear in daily newspapers.

It could be the case that people who do not consult a television guide are no less selective in their viewing; they may use frequent switching to gather information about programmes in order to make their selections.

Hypothesis 26
During a commercial break, viewers who do not read a television guide will switch more than viewers who do.

3.4.18 Number of sets in the home
The number of television sets in a household can have an effect on viewing behaviour, including switching. The presence of other members of the household in the same room who are not watching television can have a restraining effect on switching. Changes in the sound from the television, present in the background in the living room, could disturb other members of the household when switching occurs. This effect, which is likely to occur more often if there is only one set in the house, has not been examined in any of the studies surveyed.
Hypothesis 27
During a commercial break, more switching will occur in households with several television sets than in households with only one television set.

3.4.19 Rating of the break
In addition to the effects of various viewer characteristics (see sections 3.4.1 through 3.4.18), there may be a relationship between the size of the audience and switching during commercial breaks. The fact that many people are watching a channel may indicate programming of particular interest from which viewers may be less likely to switch away. Moreover, popular programming may attract new viewers. As an exploratory variable, the rating of the break is closely linked to the break's market share and to the combined ratings of the other channels during the break (see section 3.3.1). Because the number of viewers per day part remains fairly steady, the rating of the break may also be related to the time of day. In the GfK-study (AGF, 1997) it was found that there was less switching during day parts with high ratings. Nonetheless, the size of the audience watching a break may have an independent role in explaining the switching.

Hypothesis 28
There will be less switching away during a break with high ratings than during a break with low ratings. There will be more switching in during a commercial break with high ratings than during a break with low ratings.

3.4.20 Shared viewing
It is easier for individual viewers to switch channels than it is for groups of people sharing the same television set, especially if they consult one another before switching channels. Groups of viewers watching a particular programme together can be expected to be relatively slow in deciding to switch to a new channel when a commercial break starts, unless the "couch commander" supervising the remote control takes action before consulting with other people present. In a series of interviews in the Netherlands about switching during commercial breaks, people claimed that they switched less when watching with others: "you're less inclined to use your remote control, because you're together. And when watching with the others, we're making jokes about the commercials. Then it's more fun to watch" (Smit, 1999, p. 136). This effect of social viewing on switching may only be apparent when there is a variance in the number of people per television set watching a break. More shared viewing could be expected for some programmes, such as family programmes, while others are more likely to be watched primarily by individuals.

Despite the likelihood of an effect on switching during commercial breaks, the number of people watching the same television set at the same time was not in-
Switching during commercial breaks

excluded as an explanatory variable in any of the studies survey. A few studies examine the effect of shared viewing on switching during programmes. In a small scale Nielsen study (Cunningham, 1992), the amount of channel switching during four network programmes in 1990 proved less as the number of people watching per set increased. In a study on the number of switches per viewer, Von Hasebrink and Krotz (1993) found that viewers who watch television by themselves switched channels every 11.3 minutes, while those who watched with others switched every 15.8 minutes. Young people in the Netherlands claimed they switched more when they watched television alone. For example, in a telephone survey conducted by InterView, 34% of young people 12-19 years of age claimed that they frequently switched away from commercials when watching alone and 22%, when watching with others (Stockmann, 1993).

For the purposes of this study, the instances in which more than one person was watching television during a commercial break were separately registered.

Hypothesis 29
During a commercial break, viewers watching alone will switch more than viewers watching with others.

3.5 Content of the break
As stated in section 1.1, this research on switching behaviour grew out of a debate the Netherlands about whether the increasing loss of viewers during commercial breaks was caused by an increase in the level of irritation with television advertising. The question advertisers were asking themselves was whether this irritation represented a general antipathy to television advertising or was evoked by specific characteristics of commercials. If advertising of any kind irritates viewers, then advertisers' efforts to retain more viewers with more entertaining and attractive advertising or with commercials more focused on specific target groups will not succeed. On the other hand, if it can be shown that the level of irritation elicited is related to specific features of commercials, this information can be used to try and reduce the tendency among viewers to switch away from advertising.

In the debate on irritation, the high frequency with which some commercials are broadcast is often cited as a possible cause of the increasing irritation with advertising. However, an analysis by McNeill and Sterrenburg (1995) of Dutch television commercials broadcast in 1994 demonstrated that broadcast frequency alone cannot account for irritation with television advertising. In the study, commercials for the feminine hygiene product Always and Sanex shower gel, which were felt to be irritating, were broadcast less often than popular commercials for Heineken beer and Calvé peanut butter.

The debate on irritation caused by advertising was brought into focus by advertising for feminine hygiene products such as Always. There are several possible
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Explaine
Switching during commercial breaks

(AGF, 1997), no direct relationship was found between the length of the break and the amount of switching, except in the case of some extremely short or long breaks. Bremhaar (1992) also reported finding no effect from break length on switching, but it is not clear from this study whether no relationship was found or whether it was ultimately decided not to include length of break as an explanatory factor.

In any case, the remaining nine studies are unanimous in their conclusion. The only variation in these studies is whether a critical length is indicated. In a British study by the ITV Network Centre (1993), the critical limit was set at five minutes; the possibility of switching increased significantly for breaks that run longer. In their study, the Dutch researchers Oomens, Roest and Vaessen (1993) concluded that the critical limit was reached much sooner, at three minutes. Van Meurs (1995) proposed that viewer loss during commercial breaks followed a linear progression. Every extra minute that a commercial break lasted resulted in a relative audience loss of 1% compared to the audience ratings of adjacent programmes.

Hypothesis 30
There will be more switching during long commercial breaks than during short ones.

3.5.2 Number of commercials in the break
Danaher (1995), Gehner (1993) and Harderwijk (1993) found that, in general, switching increases during a commercial break as the number of commercials in the break increases. However, in these studies there is no control for the possible intervening effect of the length of the commercial break. Danaher carried out his study at the level of the individual, the household and the break itself. At the break level, he uses the measure “adratio”, which is the audience rating of a commercial compared to the average audience rating of the preceding programme. Using this measure, Danaher found that, on average, more viewers switch away than switch in until the seventh commercial, after which the reverse is true. In graphic representation, the adratio forms a parabola which peaks at seven commercials. A possible explanation for this result is that many people who switch away in the first part of the commercial break switch back after seven commercials (approximately 3 minutes) because they expect the commercial break to be ending.

The number of commercials in a break has not been included as a separate explanatory variable in this study. This is because both the length of the break and the lengths of the commercials in the break are also potential explanatory variables. The interrelationships between these three variables is such that, for technical reasons, it was not possible to include all together in an explanatory model (see appendix 6, section 6.2.2). In designing this study, the decision was made to use length of break and length of commercial as explanatory variables.
3.5.3 Length of the commercial

Only two studies (Danaher, 1995; Siddarth & Chattopadhyay, 1998) examined the length of a commercial as an explanatory factor for switching. However, it is generally assumed that switching away occurs more often during longer commercials than during shorter ones. A trend towards shorter commercials has been reported in a number of studies. Faced with an increase in switching during commercial breaks in comparison to programmes, advertisers are being forced to present their message to consumers in as brief and concise a form as possible. Although short commercials provide greater scheduling flexibility and greater efficiency because of their lower cost, they have the potential of creating a "graphic gridlock" when several commercials are lumped together in one break (Cobb-Walgren, 1990).

Danaher (1995) concluded that the chance that a commercial will be seen in its entirety is greater for a short commercial than for a long commercial. Moreover, he found that as the number of short commercials (15 seconds or less) increased in a commercial break, the amount of switching during that break decreased. The greater the number of short commercials in a commercial break, the less likely people are to switch away. Danaher suggested that with a series of short commercials, viewers may have the feeling that the commercial break will be over at any minute. Or it may be that short commercials are generally less irritating. Siddarth and Chattopadhyay reached a similar conclusion: 30-second ads have a higher probability of being zapped than 15-second ads. However, they warned that short commercials carry a higher risk of causing overload by overexposure than long commercials (see also section 3.5.8).

Hypothesis 31

There will be more switching away during breaks with long commercials than during breaks with short commercials. There will be less switching in during breaks with long commercials than during breaks with short commercials.

3.5.4 Programme promotion

Viewers have a negative overall attitude towards television advertising (Alwitt & Prabhaker, 1992; Mittal, 1994; Smit, 1999: see also section 3.4.11). If viewers dislike commercials in general, then switching away during commercial breaks could perhaps be reduced by adding more programme material to commercial breaks. Promos (short excerpts from upcoming programmes) could be used to deter switching. Danaher (1995) reports that switching occurs less frequently when programme promos are broadcast at the beginning and end of a commercial break.
Switching during commercial breaks

Hypothesis 32
There will be more switching away during breaks without promos than during breaks with promos. There will be less switching in during breaks without promos than during breaks with promos.

3.5.5 Product types
The avoidance of television advertising may be dependent on the type of products advertised during the commercial break. Commercials dealing with feminine hygiene products, in particular, are often cited as a reason for immediately switching away. In the telephone survey “Quality and television viewing behaviour”, conducted for The Media Partnership (Intomart, 1995a), respondents were asked what ads they found the most irritating. More than 50% of those surveyed named advertisements for feminine hygiene products and washing detergents, and a quarter named advertisements for diapers. In 1997, the Dutch satirical consumer programme “Ook dat nog!” awarded prizes for the most irritating television advert. Based on the reaction of 2,000 viewers the first prize went to a commercial for washing detergent; the second prize went to a commercial advertising sanitary napkins (Blikken Braakbal, 1997). In a Trendbox telephone survey, commercials for washing detergents, feminine hygiene products and diapers were cited as the three most irritating categories of commercials. They were also mentioned most frequently as products whose commercials should be banned from television, together with cigarette ads which were already banned at the time (Reclamevermijdend gedrag, 1995).

Hypothesis 33
There will be more switching away during breaks containing commercials for feminine hygiene products, washing detergents and diapers than during breaks without commercials for these products. There will be less switching in during breaks containing commercials for feminine hygiene products, washing detergents and diapers than during breaks without commercials for these products.

3.5.6 Profile of the product target group
The character of the commercials in a break can be described in terms of the intended target groups. A commercial break that is largely composed of commercials intended for young people may produce switching behaviour that is different from that produced by a commercial break with largely “older” products. In this study, the target group characteristics age, sex and social class were tested as explanatory variables for switching. In formulating the hypotheses, it was assumed that products for the young, women or those in a higher social class make commercial breaks relatively more interesting. This could reduce the amount of switching away, as well as making the break more interesting for new viewers. In addition to
the average profile of the advertised products in a break, shifting between products aimed at different groups could also be expected to have a positive effect on switching.

The target groups that purchased or used the products advertised were established for all of the commercials broadcast during the period in which the research took place. This was done on the basis of purchase details (SUMMO, 1995), itemised according to a number of age categories, social class and sex. The procedure for operationalising these characteristics is discussed in appendix 5.

**Hypothesis 34**
There will be less switching away during breaks with relatively many commercials of products for young people, women or those in a higher social class than during breaks with relatively few of such commercials. There will be more switching in during breaks with relatively many commercials of products for young people, women or those in a higher social class than during breaks with relatively few of such commercials.

**Hypothesis 35**
There will be more switching away during breaks with considerable variation in the commercial product target group profiles than during breaks with little variation. There will be less switching in during breaks with considerable variation in the commercial product target group profiles than during breaks with little variation.

### 3.5.7 Discrepancy product versus viewer profile
A viewer could become especially irritated and switch away when confronted by an advertising spot in which he or she has no interest as a consumer. For example, filling a commercial break between two sport programmes with predominantly male audiences with advertisements for female products could irritate viewers and result in increased switching. In a Dutch survey on this subject, it was clear that men were particularly irritated by advertising concerning feminine hygiene products (Intomart, 1995a). On the other hand, commercials about some product categories might be appreciated by consumers who buy these products (Kent, 1995), or for whom the commercials have a specific relevance (Alwitt & Prabhaker, 1992). Using single source data research, Siddarth and Chattopadhyay (1998) linked switching with purchasing history of spaghetti sauce and glass cleaner. They found that heavy users of the two products investigated switch away less during commercials for these products than other viewers. In contrast, after analysing similar data, Zufryden, Pedrick and Sankaralingam (1993) found that zappers of yoghurt commercials buy more yoghurt and buy it more often than non-zappers.
To evaluate whether viewer profiles have an effect on switching during a commercial break, the discrepancy between the average profile of product target groups of spots in a break and the viewer profiles of the programme preceding and following the break was calculated and brought into relation with switching (see appendix 5, section 5.6 for the operationalisation of these variables).

Hypothesis 36
There will be more switching away during breaks with a discrepancy between the average profile of spot target groups and the viewer profile than during breaks with little or no discrepancy. There will be less switching in during breaks with a discrepancy between the average profile of spot target groups and the viewer profile than during breaks with little or no discrepancy.

3.5.8 Wear out and overload

In the debate in the Netherlands on advertising irritation (see section 1.1.1), frequent mention is made of the annoyance people feel about the increased amount of advertising. It is assumed that viewers will become bored or irritated when confronted with commercials that have been shown too many times before (wear out) or are frequently repeated within a short space of time (overload)\(^{32}\). Siddarth and Chattopadhyay (1998) found that, on average, viewers start switching away from a commercial after seeing the commercial 14.5 times. In research in the Netherlands, Boelé and Van Niekerk (1995) cited overload as a possible cause of irritation with advertising and avoidance of commercials. They determined that commercials in all the advertising campaigns from 1994 were broadcast 40 times on average. The maximum number of broadcasts for a single commercial rose from 206 in 1991 to 442 in 1994.

In this study, overload has been operationalised in relation to the commercials in each break and, in particular, to the number of times commercials have been broadcast in previous breaks. In this way, overload is by definition limited to the effects of an excessive exposure to a specific campaign and not to television advertising in general.

Period of time since the last broadcast
Overload can result when viewers are confronted with a commercial that was broadcast a short time before. This can be expressed as the period of time past since the last broadcast of a commercial on the channel\(^{33}\).

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\(^{32}\) In this study, no distinction is made between "overload" and "wear out". The term "overload" is used to cover both concepts as defined above.

\(^{33}\) In principle, "overload" as defined here and below could have been operationalised on an individual level as a personal characteristic; in this instance, for example, as the period of time that has elapsed since each viewer last saw the commercial in question, regardless of which channel it was broadcast on. However, practical considerations made this kind of operationalisation impossible (see section 4.2 and appendix 5, section 5.8).
Explanatory variables: hypotheses

**Frequency of broadcasting**
A second form of overload can occur when a viewer is repeatedly confronted with a specific commercial within a specific period of time, as in the case of campaigns with a high average contact frequency. It is not known what the specific period is within which repeated contact with a campaign leads to irritation. No unambiguous answer to this question is to be found in the considerable amount of literature dealing with overload.

In this study the frequency of broadcast frequency is determined for broadcasts within two separate periods of time of differing lengths: one week and eight weeks (see also appendix 5, section 5.8).

It can be assumed that switching away during a break because of overload may not be determined so much by the average overload, but by an exceptional commercial with a very high broadcast frequency that perhaps elicits extra irritation. A new commercial in a break, on the other hand, could interest viewers and dissuade them from switching away. In determining the effect of broadcast frequency per commercial break, it is necessary to determine the minimum and maximum as well as the average broadcast frequency for the commercials in the break.

**Probability of confrontation**
Overload is determined above by the frequency of broadcast, the number of times a given commercial is broadcast. However, this does not take into account the number of viewers during these broadcasts. There can be a considerable difference in overload between a commercial that is frequently broadcast in the late evening and during the day and one that is frequently broadcast during prime time. Overload can be determined by the probability of confrontation based on the number of Gross Rating Points (GRPs) the commercial concerned has received.

Separate hypothesis could be formulated for each of the various measures of overload discussed above. However, because the same kind of effect can be expected for each of these forms of overload, a single hypothesis which holds for all forms is sufficient. The expected effect applies to the increase in ratings as well as to the decrease in ratings. A high level of overload could be expected to discourage new viewers, who may nip in to a break and leave before it ends, limiting the potential increase in ratings.

**Hypothesis 37**
There will be more switching away during breaks with a high degree of overload than during breaks without overload. There will be less switching in during breaks with a high degree of overload than during breaks without overload.

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34 The ratings of a break totalled over all of the minutes in that break, calculated by the sum of the ratings of each minute. In this study, the term GRPs refers to GRPs per minute, instead of GRPs per 30 seconds, which is more commonly used in the commercial use of GRPs.
3.5.9 Twin commercials

A special form of overload can develop when viewers are confronted twice in the same break with commercials from the same campaign. It is not the custom to broadcast the same commercial more than once within the same commercial break, but it is common to broadcast twin commercials within a break. This usually involves one long commercial and one or more short reminders (Faasse, 1994). It is not directly clear to what extent repeated confrontations with this form of advertising will result in more, or perhaps less, overload in the break.

**Hypothesis 38**

There will be more switching away during breaks with twin commercials than during breaks without twin commercials. There will be less switching in during breaks with twin commercials than during breaks without twin commercials.

3.5.10 Commercial content: not included

Some commercials seem to be solidly zap-proof. In 1988 Kneale reported: “Zapping does not have to be inevitable. In the Grammy music awards show of March 2, the first ad in each of 11 sets of commercials was zapped by an average 10% of the audience, but Pepsi ads featuring singer Michael Jackson were zapped by only 1% to 2% of viewers”. What is Michael’s secret?

Describing the findings of a McCann-Erickson study on switching levels based on Arbitron data, McSherry (1985) noted that ‘entertaining’ commercials perform about 10% better than ‘non-entertaining’ commercials” (p. 146). An extensive laboratory study focusing specifically on commercial content as an explanatory factor for switching was carried out in the United States by Olney, Holbrook and Batra (1991). They concluded that the content of a commercial does not directly determine whether viewers switch away during a commercial. Viewer attitudes towards the commercial and the emotions it calls up are intermediate variables. The least amount of switching occurs for commercials in which the content is made up of “facts” and “feelings”, and is felt to be “interesting” and “useful”. The very lowest frequency of switching occurs for commercials that evoke feelings of excitement or pleasure.

Siddarth and Chattopadhyay (1998) assert that the attitude towards a commercial is based on its ability to provide new and useful information. In a large field study using set meter data, they found a small but significant effect, with less zapping occurring when a commercial contains a brand differentiating message. Consumers use information, such as an explicit claim that only the advertised product provides a particular benefit or performs a particular function, in order to differentiate between brands. Brand differentiating messages not only result in a higher recall, but also in an increased appreciation of the commercial (Biel, 1986; Steward & Furse, 1986: both cited in Siddarth & Chattopadhyay, 1998).
Explanatory variables: hypotheses

The lack of a comprehensive database with characteristics of commercial content like those mentioned above, and related characteristics such as "likeability" or the creative aspects of the commercial, meant that these could not be incorporated in the research.

3.6 Summary

The hypotheses presented in this chapter are summarised below in table 6. In this table, they are presented as positive and negative effects on the decrease and increase of viewers during commercial breaks. Although 38 different hypotheses were postulated in this chapter, a number of these can be subdivided based on a further elaboration of the effects. This results in a total of 56 hypotheses.

The hypotheses can be further refined using a detailed operationalisation of the explanatory variables. In table 17 in appendix 9 separate hypotheses for all 225 explanatory variables are presented.
Table 6  Overview of the hypotheses

<table>
<thead>
<tr>
<th>Placement of the break</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a Morning</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>1b Late at night</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>2 The weekend</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>3 Centre breaks</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Channel programming

| 4 Shift in programme categories | +                             | +                        |
| 5 Time elapsed since previous break on the channel | -                             | -                        |
| 6a Length of the programme before the break | +                             | +                        |
| 6b Length of the programme after the break | +                             | +                        |
| 7a Break after news         | -                             | -                        |
| 7b Break before news        | -                             | -                        |
| 7c Break after information programmes | -                             | -                        |
| 7d Break before information programmes | -                             | -                        |
| 7e Break after drama        | +                             | +                        |
| 7f Break before drama       | +                             | +                        |
| 7g Break after amusement    | +                             | +                        |
| 7h Break before amusement   | +                             | +                        |
| 7i Break after sports programmes | +                             | +                        |
| 7j Break before sports programmes | +                             | +                        |
| 8a Break after an episodic programme | -                             | -                        |
| 8b Break before an episodic programme | -                             | -                        |
| 9a Preceded by a programme with a high appreciation score | +                             | +                        |
| 9b Followed by a programme with a high appreciation score | +                             | +                        |
| 10a Preceded by non-programme material | +                             | -                        |
| 10b Followed by non-programme items | +                             | -                        |

Programming on the other channels

| 13 Combined ratings of the other channels during the break | +                             | -                        |
| 14 Break’s market share | -                             | +                        |
| 15 Number of programmes ending on other channels during the break | +                             | +                        |
### Explanatory variables: hypotheses

<table>
<thead>
<tr>
<th></th>
<th>Number of viewers of programmes ending on other channels during the break</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td></td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Commercials on the other channels</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td></td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Audience size for commercials on other channels during the break</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td></td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

#### The audience

<table>
<thead>
<tr>
<th></th>
<th>Male viewers</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td></td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Young people</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td></td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Viewers in large households</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td></td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Viewers with a high social class</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td></td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Viewers with a remote control</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td></td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Viewers with a VCR</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td></td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Heavy viewers</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td></td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Viewers reading a TV guide</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td></td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Viewers with more TV sets</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td></td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Rating of the break</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td></td>
<td>-</td>
<td>+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Shared viewing</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Content of the break

<table>
<thead>
<tr>
<th></th>
<th>Length of the break</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td></td>
<td>+</td>
<td>+</td>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>Length of the commercials</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td></td>
<td>+</td>
<td>-</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Promos</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td></td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Commercials for feminine hygiene</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>33a</td>
<td></td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Commercials for washing detergents</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>33b</td>
<td></td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Commercials for diapers</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>33c</td>
<td></td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Commercials of products for young people</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>34a</td>
<td></td>
<td>-</td>
<td>+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Commercials of products for men</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>34b</td>
<td></td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Commercials of products for those in a higher social class</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>34c</td>
<td></td>
<td>-</td>
<td>+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Variation in the commercials' target group profiles</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td></td>
<td>+</td>
<td>-</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Discrepancy between the profile of the product target group and the viewer profile</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>36</td>
<td></td>
<td>+</td>
<td>-</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Overload</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>37</td>
<td></td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Twin commercials</th>
<th>Switching away from the break</th>
<th>Switching in to the break</th>
</tr>
</thead>
<tbody>
<tr>
<td>38</td>
<td></td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

+: positive effect  -: negative effect