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Effects of the proliferation of private labels
in consumer goods retailing

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Table of Contents

Table of Figures	III
Preface of the Authors	V
<i>Overview of the research results</i>	IX
1. On the proliferation of private labels	1
2. Discussion of the consequences of private labels in scientific literature and hypotheses development.....	5
2.1. Variety of products	5
2.2. Prices.....	9
2.3. Market volume.....	15
3. Empirical results.....	19
3.1. Decreasing variety of products	19
3.1.1. Descriptive data evaluation	19
3.1.2. Verification by regression analyses.....	21
3.1.3. Summary of the results	23

3.2. Rising prices	24
3.2.1. Descriptive data evaluation	24
3.2.2. Verification by regression analyses	31
3.2.3. Summary of the results	35
3.3. Decreasing market volume	36
4. Conclusion	45
References	47
The Authors of the research paper	53
Other research papers	55

Table of Figures

Fig. 1:	Proportions of listed private labels and national brands per calendar week in a study of the specific outlet formats.....	2
Fig. 2:	Survey of the literature analyses regarding the effects of the proliferation of private labels on the variety of products available.....	7
Fig. 3:	Survey of the literature analyses regarding the effects of the proliferation of private labels on prices.....	13
Fig. 4:	Survey of the literature analyses regarding the effects of the proliferation of private labels on sales and turnover.....	16
Fig. 5:	Number of different products per calendar week in a study of the specific outlet formats.....	20
Fig. 6:	Cumulative number of different products per calendar week across all outlet formats.....	21
Fig. 7:	Results of the regression analyses with the respective number of listed products as regressands considered for the specific outlet formats.....	22
Fig. 8:	Results of the regression analyses with the respective number of listed products as regressands studied across all outlet formats.....	23
Fig. 9:	Average prices per listed product and per calendar week in a study of the specific outlet formats.....	25
Fig. 10:	Average prices per kg and per calendar week in a study of the specific outlet formats.....	28
Fig. 11:	Average prices per product and per calendar week in a study across all outlet formats.....	29
Fig. 12:	Average prices per kg and per calendar week studied across all outlet formats.....	30
Fig. 13:	Results of the regression analyses with the respective average prices per product as dependent variables in a study of the specific outlet formats.....	32
Fig. 14:	Results of the regression analyses with the respective average prices per kg as dependent variables in a study of the specific outlet formats.....	33
Fig. 15:	Results of the regression analyses with the respective average prices per product as dependent variables in a study across all outlet formats.....	34
Fig. 16:	Results of the regression analyses with the respective average prices per kg as regressands in a study across all outlet formats.....	34

Fig. 17:	Turnover shares of national brands and private labels per calendar week in a study of the specific outlet formats.....	37
Fig. 18:	Turnover per calendar week in a study of the specific outlet formats.....	38
Fig. 19:	Results of the regression analyses with the respective turnover as dependent variables in a study of the specific outlet formats.....	39
Fig. 20:	Cumulative turnover and sales per calendar week in a study across all outlet formats	40
Fig. 21:	Results of the regression analyses with the respective turnover and sales as regressands in a study across all outlet formats	41

Preface of the Authors

For several years now, a proliferation of private labels has been evident in European food retailing. A ‘hotbed’ for the proliferation of private labels has been created recently by the per se ban on vertical price fixing (Article 81 EC), regulating the European market by law. The prohibition of resale price maintenance has restricted the pricing policy tools available to manufacturers and has, in its wake, considerably broadened the range of pricing policy options for private labels. In particular in the food retailing sector for some considerable time now, private labels have been foreclosing competition and circumventing the price maintenance regulations simultaneously. Due to the associated increase in the power for the retailers, current literature on the subject has reiterated the fear that this statutory regulation of the market could have effects on ranges of goods available in the stores and on pricing policy that will have a detrimental impact from the consumers’ perspective.

Per se ban on vertical price fixing as a ‘hotbed’ in which private labels can proliferate

Against this background, the aim of this study is to demonstrate, by means of empirical data from the German food retailing sector, selected negative effects of the proliferation of private labels in order to finally draw attention to the risks of further crowding-out of national brands by private labels.

The aim of the study

A product group from the ready-meals category was analysed over a total period of 312 consecutive calendar weeks between 2000 and 2005 based on almost seven million data records. One data record covers sales and turnover of a national brand or private label per calendar week and retail outlet. The data on which the study is based are scanning data from different German food retailers. They originated in the outlet formats ‘discount store’, ‘supermarket’ and ‘hypermarket’ (with 24 outlets each).

Database

The selected product group from the ready-meals category was particularly suitable in view of the aim of the study to investigate the consequences of the proliferation of private labels: this is exemplary for a product group which at one time was mainly supplied by the branded goods industry, but is nowadays increasingly being penetrated by private labels. This is a prime example of the strategy of the retail trade of substituting national brands by private labels.

Suitability of the selected product group for the study

- This study closes some research gaps in previous investigations This study is the first to make a long-term analysis covering such a long period (six years) and several outlet formats. As can be seen at a later stage of the study (cf. Chapter 2.), previous studies have predominantly been static or short-term and mostly only covered one outlet format.
- Long-term study One disadvantage of short-term studies is the fact that they only reveal temporary upward or downward ‘leaps’. The long-term course of development is left untracked. As a result, the danger of misinterpretations in short-term studies is significantly higher compared to long-term studies. Such a risk is avoided in a long-term study as this is.
- Several outlet formats studied Differences between the various outlet formats only become apparent if several formats are investigated. Possibly, there may be shifts in demand between the outlet formats. This investigation rules out the ‘deficiency’ of studies which only take one outlet format into consideration.
- Empirical results show negative effects The empirical results of this study demonstrate that the feared negative effects with regard to the variety of products on sale and the price level in the studied product group – even though the proliferation of private labels has by no means reached its limits – are already in evidence. In all outlet formats studied, there have been significant reductions in the variety of products on offer – brought about by the delisting of national brands that are only partially replaced by the listing of new private labels. Moreover, in all outlet formats studied, clear price increases have been discerned.
- In addition to this, the existing data show that the retailers are extending the proportion of listed private labels still further although this has not necessarily entailed positive effects on turnover. This can be attributed, in some cases, to higher profits (due to lower purchase prices for the private labels), although this is debatable as the decline in turnover has been very clear. This leads to the assumption that private labels are being established – at least to some extent – with the aim of ousting smaller brand manufacturers from the market. As a consequence of the reduced number of manufacturers, an increased concentration process at manufacturer level is to be expected.

Competition in the consumer goods distribution sector, distorted by the price-maintenance prohibition, therefore already seems to have resulted – at least partially – in vertically-integrated retailing groups carving out an exclusive market for themselves as they attempt to secure customer loyalty by selling private labels. In the context of the empirical results, the repeal of the per-se prohibition on vertical minimum price maintenance agreements in June 2007 by the US SUPREME COURT in the USA seems to be a first step in the ‘right direction’ towards at least equalising some of the disadvantages for manufacturing companies. A similar legal framework would be a welcomed step within the EU, too.

‘Pioneering’
legislation in the
USA

This research report is based on data from the scanner data research (SCAFO) project, carried out by the Department of Business Administration and Economics, Chair of Marketing, of the University in Hagen (Germany) between 2002 and 2005. The project was sponsored by the German Federal Ministry of Education and Research (BMBF) and its aim is to provide sustained support for the use of scanning data obtained at the point of sale in the German consumer goods sector.

SCAFO project

We are grateful to the BMBF for their financial support for the SCAFO project (grant code 01HW0190), without which this research project could not have been realised. We are grateful, too, to Mr. Eckart Hüttemann for his assistance which was a significant contribution for the success of the project. Mr. Hüttemann is responsible for the coordination of the project at the German Aerospace Center in his capacity as project manager of the BMBF and has been an invaluable contact throughout the project. For making its database available to us, we are grateful to Information Resources GmbH (IRI), which provided scanning data for this study and has accompanied the entire project with great interest.

Hagen, April 2009

Univ.-Prof. Dr. Rainer Olbrich

Dipl.-Kff. Gundula Grewe

Overview of the research results

- I. The current legal framework in the European Union favours a proliferation of private labels in food retailing. The already widespread distribution of private labels is e.g. observable in the here studied product group of the ready-meals category (Chapter 1.).***
- II. At first glance, the literature seemed to paint an inconsistent picture of the effects of private labels on prices and the variety of products available. There is evidence however, especially regarding more recent studies, that private labels have produced negative effects, particularly in terms of a reduction in the number of national brands listed and rising prices (Chapter 2.).***
- III. The empirical study, in all the outlet formats taken into consideration, showed that the increase in the proportion of listed private labels was accompanied by an overall decline in the number of different products in the product group. In the process, the added private labels have not compensated the severe decline in listed national brands.***

Hence, the absolute number of different products in the product group has been reduced due to the fact that national brands are being ‘squeezed-out‘ by a disproportionate number of private labels. For the consumers, this ultimately means a reduction in choice and can therefore be regarded as a negative factor in terms of competition policy (Section 3.1.).

- IV. A rise in price level of national brands and private labels in all outlet formats studied – both per product as well as per kg – was recorded during the study period. The low prices of private labels, so often perceived by consumers, only exist because the national brands are used as ‘reference products‘ by retailers when setting their prices. That means that the prices per kg of private labels are kept below those of the national brands, although at an ever-rising level.***

Notable in this context is the fact that it has been a statutory regulation, in the form of a per se ban on vertical price fixing and the associated freedom in pricing, that first opened up such possibilities to retailers. Even now, increases are clearly evident regarding prices of national brands and private labels, which must be regarded as a negative factor in terms of pricing policy due to the associated disadvantages for consumers (Section 3.2.).

- V. Only among the discount stores studied were slight increases in turnover achieved in the product group. In the supermarkets and in particular in the hypermarkets,***

however, there was a decrease in total turnover. Such turnover trends can be observed in parallel with steadily rising percentages of private labels listed.

Whether the significant declines in overall turnover figures have been over-compensated by higher profit margins is highly questionable. To this extent it is conjecturable that retailers, in their management of private labels, are pursuing a policy of ousting smaller brand manufacturers from the market. The proliferation of private labels is in this way contributing to accelerating the concentration at manufacturer level (Section 3.3.).

- VI.** *The here on the basis of empirical data shown negative effects associated with the prohibition of price maintenance indicate the need to abolish this statutory regulation of the market. The per-se prohibition of vertical minimum pricing agreements in the USA (judgement pronounced in June 2007) should serve as a ‘signpost’ that the EU should create a similar legal framework (Chapter 4.).*

1. On the proliferation of private labels

For several years now, a proliferation of private labels has been evident in European food retailing.¹ The inclusion of private labels in a range has, in many cases, led to national brands being delisted in the context of limited shelf space. This has resulted in the proportion of listed national brands being reduced ever further in favour of private labels. The proportion of listed private labels in German food outlets already often amounts to more than 30 %. A high proportion of listed private labels is particularly evident in discount stores.²

Proliferation of private labels in food retailing

This development is also reflected in the POS scanning data investigated here. The proportions of listed national brands and private labels taking as an example a product group from the ready-meals category recorded during the course of 312 successive calendar weeks between 2000 and 2005 is shown in Figure 1. The proportions of listed national brands and private labels in one calendar week are illustrated by means of a bar. The Figure indicates that the proportions of listed private labels in discount stores rose from 0 % to more than 20 % in 2005. In the supermarkets and hypermarkets, the proportions of listed private labels also rose from below 10 % in 2000 to more than 20 % in 2005.

The ready meals studied were mainly meat-based meals. The scanning data were ascertained in the German groceries sector. They originate from 24 discount stores, 24 supermarkets (less than 800m² sales area) and 24 hypermarkets (more than 800 m² sales area).

Database

¹ Cf. e.g. KUMAR/STEENKAMP 2007.

² Cf. OLBRICH/BUHR 2006, p. 21; OLBRICH/GREWE/BATTENFELD 2006, pp. 326 f. and OLBRICH/BUHR 2007, pp. 492 f.

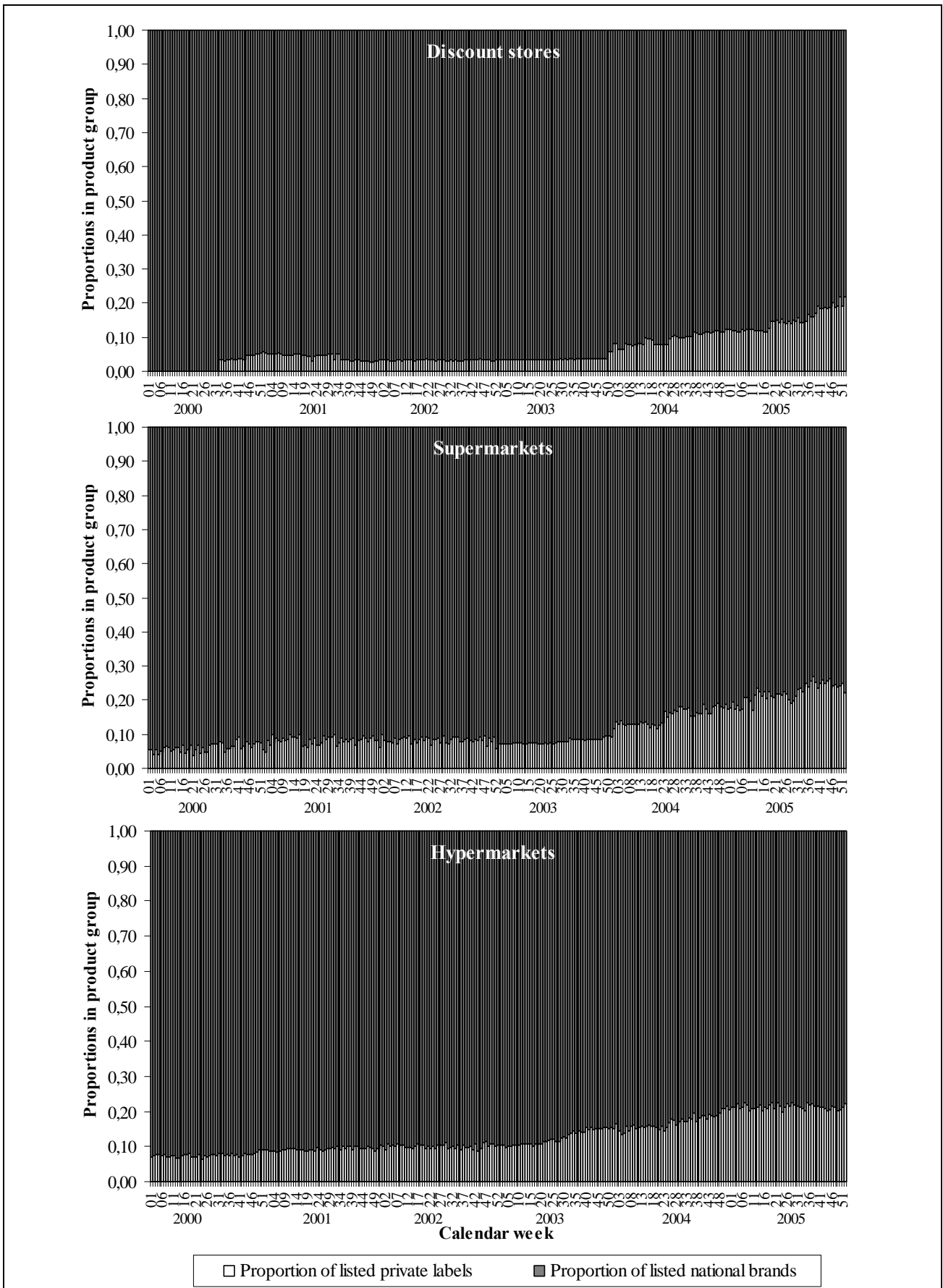


Fig. 1: Proportions of listed private labels and national brands per calendar week in a study of the specific outlet formats

The study is based on a total of almost seven million data records. Each data record represents the sales and turnover of a national brand or private label per calendar week and per outlet.

The per se ban on vertical price fixing (Article 81 EC)³ has formed a ‘hotbed’ for the proliferation of private labels. The prohibition of vertical price fixing has reduced the pricing tools available to manufacturers and in turn significantly strengthened the options on pricing policy for the private labels.⁴ This means that the retailers have considerably more negotiating options than the branded goods industry ever had (even before the pricing prohibition). Here, ‘price sceneries’, i.e. artificially-generated pricing comparisons for certain goods, are playing an ever increasing role.⁵ An example from food retailing in Germany shows the form in which ‘price sceneries’ are currently embedded in business practices. Advertising leaflets issued by the retailer group REWE showed a direct comparison in the form of illustrations, comparing the price and quality of its own private labels and national brands.⁶ Here, the intended effect of the comparison is not only aimed directly at an increase in sales of private labels, but also at the retailer’s profile in comparison with other retailers that still sell a considerable number of national brands.

In this context, the judgement pronounced by the US SUPREME COURT on 28th June, 2007 regarding vertical pricing agreements is of particular significance. In it, the US SUPREME COURT overturned the former per-se prohibition of vertical minimum pricing agreements and instead introduced case-by-case assessment (‘rule-of-reason’).⁷ The court struck down an almost 100 year old precedent from 1911, thereby at least indirectly recognising potential anti-competitive effects of any per-se prohibition.

³ Cf. for greater detail regarding the crowding-out of national brands by private labels e.g. OLBRICH/BUHR/GREWE/SCHÄFER 2005, pp. 75 ff. and pp. 99 ff.; OLBRICH/BUHR 2006, pp. 30 ff. and pp. 49 ff.

⁴ Cf. regarding a discussion of such statutory regulation HORST 1992; GLASOW 2000 and in the context of private labels OLBRICH 2001a and 2004 as well as OLBRICH/BUHR 2004, 2006 and 2007.

⁵ Cf. OLBRICH 2004, pp. 169 f.

⁶ Cf. e.g. REWE leaflets from week 22/2007 and week 23/2007. Cf. regarding a critical perspective HANKE 2007, p. 31.

⁷ Cf. US SUPREME COURT, judgement of 28.06.2007, No. 06-480 “Leegin Creative Leather Products, Inc. vs. PSKS, Inc.”, reasons for the judgement, pp. 1 and 28.

This decision was based on the grounds that such agreements – if one follows the economic literature – cannot be classed as anti-competitive in themselves. Instead, they actually promote competition between brands in many ways. Investments by retailers in additional services would also be required as the retailers were then competing not merely over price but also over services. Moreover, this could result in a broader selection of products being available to the consumers. Nevertheless, potential anti-competitive effects should not be disregarded.⁸

The US SUPREME COURT cites the following potential criteria for a case-by-case assessment procedure: one factor is the number of manufacturers who would like to introduce price maintenance. If there is only a small number, the probability of a cartel between manufacturers is rather low. Besides, the source of the price maintenance should be taken into consideration. Care should be taken here if the initiative comes from the retailers. Finally it should be borne in mind how the market power is divided in individual cases. Should the initiator of the price maintenance have a high rate of market influence, there is a likely risk of restrictive effects on competition.⁹

Aim of the study The aim of this study is, after a discussion of the relevant literature and the hypotheses development (Chapter 2.), to demonstrate on the basis of empirical data from the German food retailing sector selected effects of the proliferation of private labels in the product group studied (Chapter 3.), in order to ultimately point out the risks of continued crowding-out of national brands by private labels.

⁸ Cf. regarding pro-competitive effects *ibidem*, pp. 10 ff. and on the warning against anti-competitive effects *ibidem*, pp. 12 ff.

⁹ Cf. *ibidem*, pp. 17 f.

2. Discussion of the consequences of private labels in scientific literature and hypotheses development

In the literature, on the one hand pro-competitive, pro-consumer effects are attributed to the proliferation of private labels. On the other hand, however, anti-competitive effects detrimental to the consumers and to public welfare are identified, at least in the long term.¹⁰ This contradiction in the results can be attributed to the varying lengths and objects of the studies. While in short-term studies only temporary upward or downward ‘leaps’ can be determined, long-term studies enable the observation of development paths.

Contradictory findings in literature

The effects of the proliferation of private labels in view of the welfare indicators ‘product variety’, ‘prices’ and ‘market volume’ discussed in the literature are illustrated in the following sections.

2.1. Variety of products

In some instances the same authors expect there to be both a reduction and an increase in the *variety of different products available*. DOBSON 1998 and 1999, VOGEL 1998 and DOBSON/CLARKE/DAVIES/WATERSON 2001 assume that a proliferation of private labels can bring about both a reduction¹¹ in the range of different products available and a greater variety¹² of products.

Possible increase or decrease of the variety of available products

By contrast, the following authors or institutions take a clearer stance: MILLS 1995 also assumes a reduction in the variety of different products as a consequence of the increased distribution of private labels as does the EUROPEAN COMMISSION 1997, the COMPETITION COMMISSION (UK) 2003, the NORDIC COMPETITION AUTHORITIES 2005 and the FEDERAL

Reduction in variety

¹⁰ Cf. regarding a comprehensive analysis of a multitude of sources OLBRICH/BUHR/GREWE/SCHÄFER 2005, Section 4.1.1.

¹¹ Cf. DOBSON 1998, p. 25; VOGEL 1998, p. 1163, DOBSON CONSULTING 1999, p. 160 and DOBSON/CLARKE/DAVIES/WATERSON 2001, p. 276.

¹² Cf. DOBSON 1998, pp. 2, 26, 28 f., 33; VOGEL 1998, p. 1163; DOBSON CONSULTING 1999, p. 190 and DOBSON/CLARKE/DAVIES/WATERSON 2001, p. 277.

COMPETITION AUTHORITY OF THE REPUBLIC OF AUSTRIA 2007.¹³ Almost all of these cite as their reason the fact that an increase in private labels automatically entails the delisting of national brands, in particular those of second- and third-tier national brands. RAJU/SETHURAMAN/DHAR 1995 and WARD/SHIMSHACK/PERLOFF/HARRIS 2002 have been able to provide empirical evidence for this position with studies from American supermarkets, BAKER/BALTZER/MØLLER 2006 on the basis of questionnaire survey results from Danish producers and retailers from the food sector and BERGSTRÖM/DAUNFELDT/RUDHOLM 2006 with reference to data from the Swedish food retailing.¹⁴

Increase in variety In contrast to this, however, there are comparatively few (generally older) studies to be found in which there is a reference to a rise in the variety of products on sale as an effect of the proliferation of private labels. CALL 1967 uses a study carried out by the NATIONAL COMMISSION ON FOOD MARKETING 1966 to indicate that retailers extend their product variety by using private labels.¹⁵ TÄGER 1998 highlights new ranges of goods and low-priced private labels as one positive aspect of the concentration process in the retail sector.¹⁶

Figure 2 gives a survey of the results of the literature analyses.

¹³ Cf. MILLS 1995, p. 116; EUROPEAN COMMISSION 1997, p. 66; COMPETITION COMMISSION (UK) 2003, p. 10; NORDIC COMPETITION AUTHORITIES 2005, p. 89; FEDERAL COMPETITION AUTHORITY OF THE REPUBLIC OF AUSTRIA 2007, p. 20.

¹⁴ Cf. RAJU/SETHURAMAN/DHAR 1995, p. 974; WARD/SHIMSHACK/PERLOFF/HARRIS 2002, p. 972; BAKER/BALTZER/MØLLER 2006, p. 45 and BERGSTRÖM/DAUNFELDT/RUDHOLM 2006, p. 37.

¹⁵ Cf. CALL 1967, pp. 151 f. and NATIONAL COMMISSION ON FOOD MARKETING 1966.

¹⁶ Cf. TÄGER 1998, p. 7.

Authors, Year	Type of study		Country	Study period	Product groups observed		Outlet formats observed		Results	
	Non-empirical	Empirical			Separate	Overall	Separate	Overall	Number of NB	Total number
CALL 1967	X		USA							↑
MILLS 1995	X		UK							↓
RAJU/ SETHURAMAN/ DHAR 1995		X	USA	1988		426	1 (SM)			↓
EUROPEAN COMMISSION 1997	X		EU							↓
DOBSON 1998	X		EU							↓
TÄGER 1998	X		EU							↑
VOGEL 1998	X		EU							↑
DOBSON CONSULTING 1999	X	(X)	EU		(3)		2 (SM/HM)			↓
DOBSON/CLARKE/ DAVIES/WATERSON 2001	X	(X)	EU		(3)		2 (SM/HM)			↓
DEKIMPE/STEENKAMP 2002	X		NL							↑
WARD/SHIMSHACK/ PERLOFF/HARRIS 2002		X	USA	November 1996- January 1999		166	1 (SM)			↓/≈
COMPETITION COMMISSION 2003	X		UK							↓
NORDIC COMPETITION AUTHORITIES 2005	X		Nordic countries							↓
BAKER/BALTZER/ MØLLER 2006		X	DK	1997 and 2002		X		X		↓
BERGSTRÖM/DAUNFELDT/RUDHOLM 2006	X	(X)	SE	(June 2001- May 2004)		(146)		(X)		↓
FEDERAL COMPETITION AUTHORITY OF AUSTRIA 2007		(X)	AT	2003-2004		(X)		(X)		↓

NB = National brands SM = Supermarkets HM = Hypermarkets

Note: In each case the most accurate data possible from the sources have been taken. Boxes with a cross in them mean that in the sources more accurate data were not given.

Fig. 2: Survey of the literature analyses regarding the effects of the proliferation of private labels on the variety of products available

This apparent contradiction in the development of the range of products as a reaction to the increased proliferation of private labels is in particular attributable to a failure to take into account the dimension of time. Different trends can be observed short-term and long-term. Directly after the introduction of new private labels, overall more different products exist.

Short and long term counter-trends

Therefore in this period there is a more extensive range of different products prior to their introduction.¹⁷ The assumption of a wider choice not only relates to product characteristics but also to prices, as private labels, at least in the short term, expand the price range.¹⁸

Choice actually restricted Even if retail companies delist national brands from their own ranges and replace them by private labels, consumers seem to perceive that they are being offered a wider choice of products. However, if one considers the actual variety of products available to individual consumers, the result must appear quite different in many cases: if only a few different retailers in the close vicinity of the home of a consumer have outlets, even a temporary delisting of national brands in favour of private labels can lead to a reduction in choice for such consumers. As the process of concentration by retailers is unremitting, the proportion of consumers affected by such reductions in available choice between various suppliers is increasing. TÄGER 1998 attributes the new ranges of private labels explicitly to the concentration process in the retail sector.¹⁹

Long-term decrease in the variety of products by crowding-out In terms of the variety of products on offer, this may be another reason why an increase in choice, i.e. an increase in the number of different products on offer, can only be assumed for some consumers for a short period of time. In the long term, a reduction in the absolute number of different products available can be expected due to the crowding-out of national brands by private labels. From the point of view of all consumers, the product variety in the outlets they actually frequent would also decline.

Negative consumer perspective As a whole, we cannot say that a positive trend regarding the variety of products on sale has been brought about by private labels. For an overriding evaluation, the perspective of consumers who – by contrast with the retailers and the industry – have no profit to make from their role in the consumer goods economy – is the most important. From this perspective, a negative evaluation of a long term decline in the variety of products available on the shelves predominates.

Against this background, the following hypotheses can be set out in terms

¹⁷ Cf. e.g. DOBSON 1998, p. 25.

¹⁸ Cf. e.g. DOBSON CONSULTING 1999, p. 160 and DOBSON/CLARKE/DAVIES/WATERSON 2001, p. 277.

¹⁹ Cf. TÄGER 1998, p. 7.

of the development of product variety in consumer goods retailing:

Hypothesis 1:

Hypotheses

Over time, the number of private labels listed continuously increases.

Hypothesis 2:

Over time, the number of listed national brands continuously declines.

Hypothesis 3:

Over time, the total number of listed products continuously declines.

2.2. Prices

Assessments also vary concerning the effects of the increase in private label products on the *level of prices* in the retail sector. Several authors consider (long-term) rising and (short-term) falling prices to be likely. In the majority of cases, the price level of *all* products has not been studied, only the prices of national brands. In a few studies however, the effects on prices of private labels and the level of prices as a whole have also been examined. These results will be explicated in detail in the following paragraphs.

Contradictory statements on price trends

Lower prices as a consequence of the proliferation of private labels are mainly expected in older studies and generally in studies that do not include any empirical research.²⁰ To justify the assumption of short-term²¹ *falling prices*, on the one hand reference is made to the fact that national brands have been undercut by competing private labels.²² The price pressure²³ generated in this way by private labels might lead as a whole to a cheaper range of goods.²⁴ On the other hand, it is also debated whether falling prices could be a consequence of the passing on of more favourable purchasing terms and conditions – caused by private labels – to con-

Lower prices

²⁰ Cf. HOCH/BANERJI 1993; DOBSON/WATERSON 1997; DOBSON 1998; VOGEL 1998; DOBSON CONSULTING 1999; WIESER/AIGINGER/WÜGER 1999.

²¹ Cf. DOBSON CONSULTING 1999, pp. 4 f.

²² Cf. e.g. DOBSON 1998, pp. 20 f.

²³ Cf. WIESER/AIGINGER/WÜGER 1999, p. 65.

²⁴ Cf. VOGEL 1998, p. 1163.

sumers.²⁵ It is true that even a few recent sources do report price reductions: according to BERGSTRÖM/DAUNFELDT/RUDHOLM 2006, a 10 % increase in the market share of private labels led to a 3.4 % reduction in price level in the Swedish food retailing.²⁶ The NORDIC COMPETITION AUTHORITIES 2005 also assume, without any empirical study having been carried out, that a rising percentage of private labels goes hand in hand with a reduction in price levels.²⁷

It should be emphasised that price level should not be regarded independent of quality. Lower prices are often associated with lower quality.²⁸ That means that related to the previous (higher) quality level, a lower price in absolute terms could still represent a relative price increase.

Falling prices in the wake of an increase in private labels have seldom been proven empirically. COTTERILL/PUTSIS 2000, in a study of American supermarkets, discovered lower prices of national brands and private labels where the market shares of private labels were higher.²⁹

CHINTAGUNTA/BONFRER/SONG 2002 also studied, among other things, the effects of the introduction of private labels on the prices of national brands and found price reductions of approximately 7 %.³⁰ These authors are the only ones who used a sample period (275 weeks) that is comparable to that in this study (312 weeks). However, they only analysed supermarkets of a single chain. Therefore, they had a very limited data basis. Furthermore, they only analysed the prices of national brands and total sales. The product variety, the prices of private labels, the entire price level, the sales and turnovers of private labels and national brands as well as the total turnover were not in the focus of their investigation. Therefore, their analysis contains considerably less indicators compared to this study.

²⁵ Cf. DOBSON/WATERSON 1997, p. 428.

²⁶ Cf. BERGSTRÖM/DAUNFELDT/RUDHOLM 2006, p. 38. The authors also refer in this context to the HANDELNS UTREDNINGSINSTITUT 2005.

²⁷ Cf. NORDIC COMPETITION AUTHORITIES 2005, p. 89.

²⁸ Cf. e.g. HOCH/BANERJI 1993, p. 65.

²⁹ Cf. COTTERILL/PUTSIS 2000, p. 33.

³⁰ Cf. CHINTAGUNTA/BONFRER/SONG 2002, p. 1255.

Both price increases and reductions are considered by DOBSON 1998 and WIESER/AIGINGER/WÜGER 1999 to be possible effects of the proliferation of private labels.³¹ A general rise in price level is attributed by WIESER/AIGINGER/WÜGER 1999, among other things, to retail oligopolisation caused by private labels.³² They explain price reductions on the basis of pricing pressure exerted by private labels on national brands.³³

Possible price increases and reductions

PUTSIS 1997 and PUTSIS/COTTERILL 1999 report contradictory empirical results in the pricing response of national brands and private labels to the proliferation of private labels. They determine, in the context of their studies in the American food retail sector, increasing prices of private labels and reduced prices of national brands.³⁴

BONFRER/CHINTAGUNTA 2004 discovered varying results in the prices of national brands on the basis of data from the American food retailing sector. Across the product groups, they observed price increases as a consequence of the introduction of private labels. However, when they looked at specific product groups, approximately 50 % of the 104 product groups recorded price increases, and price reductions for the other 50 %.³⁵

In particular, more recent non-empirical and empirical studies expect and observe increasing prices of national brands to be a negative consequence of the proliferation of private labels.³⁶ The degree of price increase according to some authors is dependent on various factors. BONTEMPS/OROZCO/RÉQUILLART/TREVISIOL 2005 assume that the intensity of the price reaction of national brands depends on the type of private labels

Rising prices

³¹ Cf. DOBSON 1998, pp. 20 f. and p. 33; WIESER/AIGINGER/WÜGER 1999, pp. 65 and 67.

³² Cf. WIESER/AIGINGER/WÜGER 1999, p. 67.

³³ Cf. WIESER/AIGINGER/WÜGER 1999, p. 65.

³⁴ Cf. PUTSIS 1997, p. 367 and PUTSIS/COTTERILL 1999, p. 183.

³⁵ Cf. BONFRER/CHINTAGUNTA 2004, p. 212.

³⁶ Cf. regarding empirical results from the American foods retailing sector COTTERILL/PUTSIS/DHAR 2000, p. 133; WARD/SHIMSHACK/PERLOFF/HARRIS 2002, p. 972 and BONANNO/LOPEZ 2005, p. 14. Empirical results from the French food retailing sector are given in BONTEMPS/OROZCO/RÉQUILLART 2005, p. 14; BONTEMPS/OROZCO/RÉQUILLART/TREVISIOL 2005, p. 14 and BONTEMPS/OROZCO/RÉQUILLART 2006, p. 22. Cf. regarding non-empirical results GABRIELSEN/SØRGARD 2007, p. 414.

the national brands are competing with.³⁷ BONTEMPS/OROZCO/RÉQUILLART 2006 moreover determine that the prices of leading national brands have been more greatly affected in the wake of the introduction of private labels than the prices of second-tier brands.³⁸

Figure 3 gives an overview of the results of the literature analyses.

Summing up,
varying results
in the literature

Overall it can be stated that the results in terms of expected or observed price responses to the proliferation of private labels differ widely. In particular in more recent sources, an increase is predominantly assumed with regard to the prices of national brands whereas a decline is expected in the overall price level.

³⁷ Cf. BONTEMPS/OROZCO/RÉQUILLART 2005, p. 14; BONTEMPS/OROZCO/RÉQUILLART/TREVISIOL 2005, p. 14.

³⁸ Cf. BONTEMPS/OROZCO/RÉQUILLART 2006, p. 22.

Authors, Year	Type of study		Country	Study Period	Product groups observed		Outlet formats observed		Results		
	Non-empirical	Empirical			Separate	Over-all	Separate	Over-all	Prices PL	Prices NB	Total prices
DOBSON/WATERSON 1997	X		EU								↓/↑
DOBSON 1998	X		EU							↓	↑
VOGEL 1998	X		EU								↓
DOBSON CONSULTING 1999	X	(X)	EU		(3)		2 (SM/HM)				↓/↑
PUTSIS/COTTERILL 1999		X	USA	1991-1992		135	1 (SM)		↑	↓	
WIESER/AIGINGER/WÜGER 1999	X		AT							↓	↑
COTTERILL/PUTSIS 2000		X	USA	1991-1992		143	1 (SM)		↓	↓	
COTTERILL/PUTSIS/DHAR 2000		X	USA	1991-1992	125	125	1 (SM)		≈	↑	
DOBSON/CLARKE/DAVIES/WATERSON 2001	X	(X)	EU		(3)		2 (SM/HM)				↓/↑
CHINTAGUNTA/BONFRER/SONG 2002		X	USA	June 1991-Sept. 1996	2		1 (SM)			↓	
WARD/SHIMSHACK/PERLOFF/HARRIS 2002		X	USA	Nov. 1996-Jan. 1999		166	1 (SM)			↑	≈/↓
BONFRER/CHINTAGUNTA 2004		X	USA	104 weeks (no year specified)	104	104		2		↑/↓	
MEDINA/MÉNDEZ/RUBIO 2004		X	ES	1999-2000	2			X			↓
BONANNO/LOPEZ 2005		X	USA	March 1996-July 2000	1		1 (SM)			↑	↓
BONTEMPS/OROZCO/RÉQUILLART 2005		X	FR	1998-2001	1			X		↑	
BONTEMPS/OROZCO/RÉQUILLART/TREVISIOL 2005		X	FR	1998-2000	6			X		↑	
NORDIC COMPETITION AUTHORITIES 2005	X		Nordic countries								↓
BERGSTRÖM/DAUNFELDT/RUDHOLM 2006	X	(X)	SE	(June 2001-May 2004)			(146)		(X)		↓
BONTEMPS/OROZCO/RÉQUILLART 2006		X	FR	1998-2001	1			X		↑	
GABRIELSEN/SØRGARD 2007	X		NO							↑	

PL = Private labels NB = National brands SM = Supermarkets HM = Hypermarkets

Note: In each case the most accurate data possible from the sources have been taken. Boxes with a cross in them mean that in the sources more accurate data were not given.

Fig. 3: Survey of the literature analyses regarding the effects of the proliferation of private labels on prices

Private labels initially cheaper than national brands	The process of introducing a private label through to the discontinuation of second-tier and third-tier national brands takes place in several stages. To make selling a private label worthwhile for the outlet, it has to attract a certain amount of the demand to itself that was previously oriented towards the second-tier and third-tier national brands. For this purpose, the private label will probably be sold at most at the same price, if not even cheaper than the delisted national brands. However, this does not necessarily entail lower prices all in all: due to its position of pricing sovereignty, the retailer can also ‘artificially’ increase the price of the remaining national brands in order to make private labels appear as cheap as possible, although they may not actually be cheaper (compared to the prices prevailing beforehand). ³⁹
This does not necessarily mean a saving	
Eliminating choice for consumers permits price rises	If national brands are discontinued, it will become more difficult for consumers to carry out a price (and quality) comparison between private labels and national brands as these are appearing ever less frequently on the same shelf. The consumers in the outlet under consideration then have no choice. In view of the expense to consumers of shopping elsewhere, the retailer will then later be able to mark up the price of his private labels without noticeably forfeiting demand.
Retail concentration and private labels support one another	If we now consider the fact that the same process also takes place in competing retail outlets, it is easy to come to a conclusion as to why higher prices might be found in retail: the customers have a diminishing possibility of finding a competing retailer with lower prices. The speed of this process is strongly correlated with the degree of concentration in the retail sector: while the delisting of those products for which the customers can compare the prices between various retail outlets limits the number of actual alternatives, the retail concentration fundamentally reduces the number of potential alternatives.
Long-term risk of higher prices	To sum it up, it can be stated that the consumers, at least in the long term, face the risk of higher prices across the board. This trend is further encouraged by the risk of a dwindling intensity of competition between retailers.

³⁹ Regarding the options available to retailers in their capacity as ‘double agents’, selling simultaneously national brands and private labels, cf. in detail OLBRICH 2001b. KIRKWOOD 2005 gives an overview on the state of the discussion on cartel law in the context of anti-competitive pricing conduct by retailers.

Retailers therefore benefit from this trend both in the short and long term. That is why they encourage it. Manufacturers by contrast cannot benefit from the long-term prospect of higher prices as their profits do not depend on end-consumer prices, but on terms of business agreed with the retailers. As long as retailers do not want to completely risk renouncing national brands, the remaining national brands manufacturers will have a secure negotiating position. However, as retailers can play one manufacturer off against the other – at least for as long as there are still two or three brands in each product category from various manufacturers – they are those who finally receive the larger share of the profits obtained through higher prices.

Retailers benefit while manufacturers suffer

The overall perspective therefore must then be viewed negatively in this respect, too. Rising prices in the long term are only beneficial to the retailers that survive the concentration process.

Negative assessment overall

Against this background, with regard to price level trends in consumer goods retailing over time, the following hypotheses can be set out:

Hypothesis 4:

Hypotheses

Over time, the average prices of private labels continuously increase.

Hypothesis 5:

Over time, the average prices of national brands continuously increase.

Hypothesis 6:

Over time, the average prices of all products continuously increase.

In this context it should be noted that hypothesis 6 cannot be falsified if the hypotheses 4 and 5 can be well-proved.

2.3. Market volume

In the scientific literature, the growing significance of private labels, in particular in European but also in American consumer goods retailing, is unanimously exposed with reference to increasing market shares of private labels. Comparatively rare in this context are studies on the effects of the increase in private labels on market volume. Market volume may be determined both in terms of quantity of sales and in terms of value of turnover.

Effects of private labels on market volume rarely studied

Absolute key figures previously seldom studied

In terms of the key figures studied in the literature, it can therefore be stated that predominantly only sales and turnover *shares* have been evaluated.⁴⁰ Effects of private labels on absolute sales and turnover by contrast are seldom the focus of study. For an evaluation of the effects of private labels on market volume – and therefore on the supply of products to consumers – a study of the absolute sales and turnover figures is however essential. Figure 4 gives a survey of the effects indicated by the literature of the increasing proliferation of private labels on absolute sales and turnover.

Authors, Year	Type of study		Country	Results					
	Non-empirical	Empirical		Sales PL	Turnover PL	Sales NB	Turnover NB	Total sales	Total turnover
MCMASTER 1987		(X)	UK	↑					
RAJU/SETHURAMAN/DHAR 1995		X	USA					≈	
BALABANIS/CRAVEN 1997		X	UK	↑		↓			
CHINTAGUNTA/ BONFRER/SONG 2002		X	USA			↓		↑	
McGOLDRICK 2002	X		UK						↑
WARD/SHIMSHACK/ PERLOFF/HARRIS 2002		X	USA			↓			
GILBERT 2003	X		UK					↑	
HOWELL 2003	X		USA	↑					
SAYMAN/RAJU 2004		X	USA	↑		↓			

PL = Private labels NB = National brands

Fig. 4: Survey of the literature analyses regarding the effects of the proliferation of private labels on sales and turnover

Inadequate study of the turnover of private labels and national brands

The Figure shows that the main focus is concentrated on the investigation of trends in sales of private labels and national brands in the context of the proliferation of private labels. None of the sources explains how turnover of private labels and national brands have developed in the wake of the proliferation of private labels.

Contrasting developments of sales of private labels and national brands

All authors state – mostly on the basis of empirical studies – increasing sales of private labels and declining sales of national brands. Hence, corresponding trends in turnover can be estimated.

⁴⁰ Cf. e.g. CORSTJENS/LAL 2000; STEINER 2004; COMPETITION COMMISSION (UK) 2007; LAMEY/DELEERSNYDER/DEKIMPE/STEENKAMP 2007.

Total sales and turnover have also rarely been the focus of study. In the few sources that do deal with this, however, either increasing sales or turnover were determined empirically (CHINTAGUNTA/BONFRER/SONG 2002) or else forecasted without being empirically demonstrated (MCGOLDRICK 2002 und GILBERT 2003). Solely RAJU/SETHURAMAN/DHAR (1995) empirically determined neither a significant positive nor a negative effect of the introduction of private labels on total sales in the product group.

Total sales and
total turnover

Against this background, with reference to the development of market volume in consumer goods retailing over time, the following hypotheses can be set out:

Hypothesis 7:

Hypotheses

Over time, sales and turnover of private labels continuously increase.

Hypothesis 8:

Over time, sales and turnover of national brands continuously decline.

Hypothesis 9:

Over time, total sales and turnover continuously increase.

Regarding the presented results of the literature review, it should be mentioned that some cited references draw conclusions on causality between the proliferation of private labels and different indicators. The present investigation, however, does not strive to establish causal relationships. The results, nevertheless, provide – as any kind of regression – indications for potential causalities. Of course, the underlying cause-and-effect chains (causal relationships) must be comprehensible and consistent on the level of logic.

3. Empirical results

3.1. Decreasing variety of products

3.1.1. Descriptive data evaluation

Figure 5 shows the number of different products (EANs⁴¹) broken down by national brands, private labels and ‘total’ per calendar week in the years 2000 to 2005. The Figure indicates that the number of listed national brands declined considerably in the investigation period in all three outlet formats, whereas the number of listed private labels has increased. The sharp decline in listed national brands has not been balanced out by the addition of new private labels.

The absolute number of different products in the product group therefore has been reduced overall caused by the crowding-out of national brands by private labels. These trends can be most clearly seen in the supermarkets and hypermarkets where the number of products in the period of the study approximately halved. Thus, there has been a considerable reduction of the variety of different products in the product group, to the detriment of the national brands.

Number of listed products in all outlet formats is in decline

⁴¹ The acronym ‘EAN’ stands for ‘International Article Number’ (quondam ‘European Article Number’). The EAN allows a clear identification of each different product.

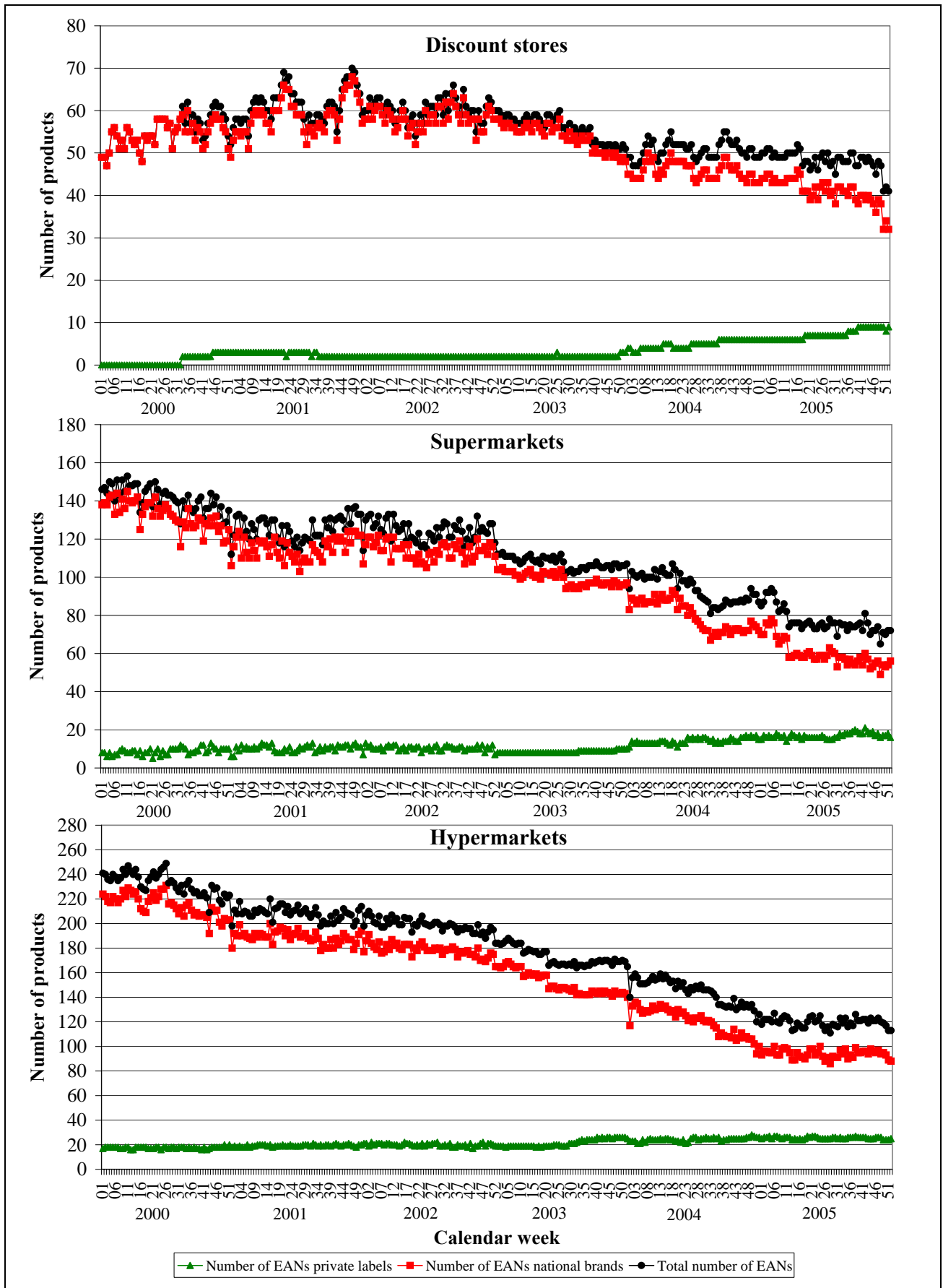


Fig. 5: Number of different products per calendar week in a study of the specific outlet formats

Figure 6 demonstrates this fact once more, showing that the number of products – when considered cumulatively between all outlet formats – declined sharply over the study period. Consumer choice is therefore becoming ever more restricted.

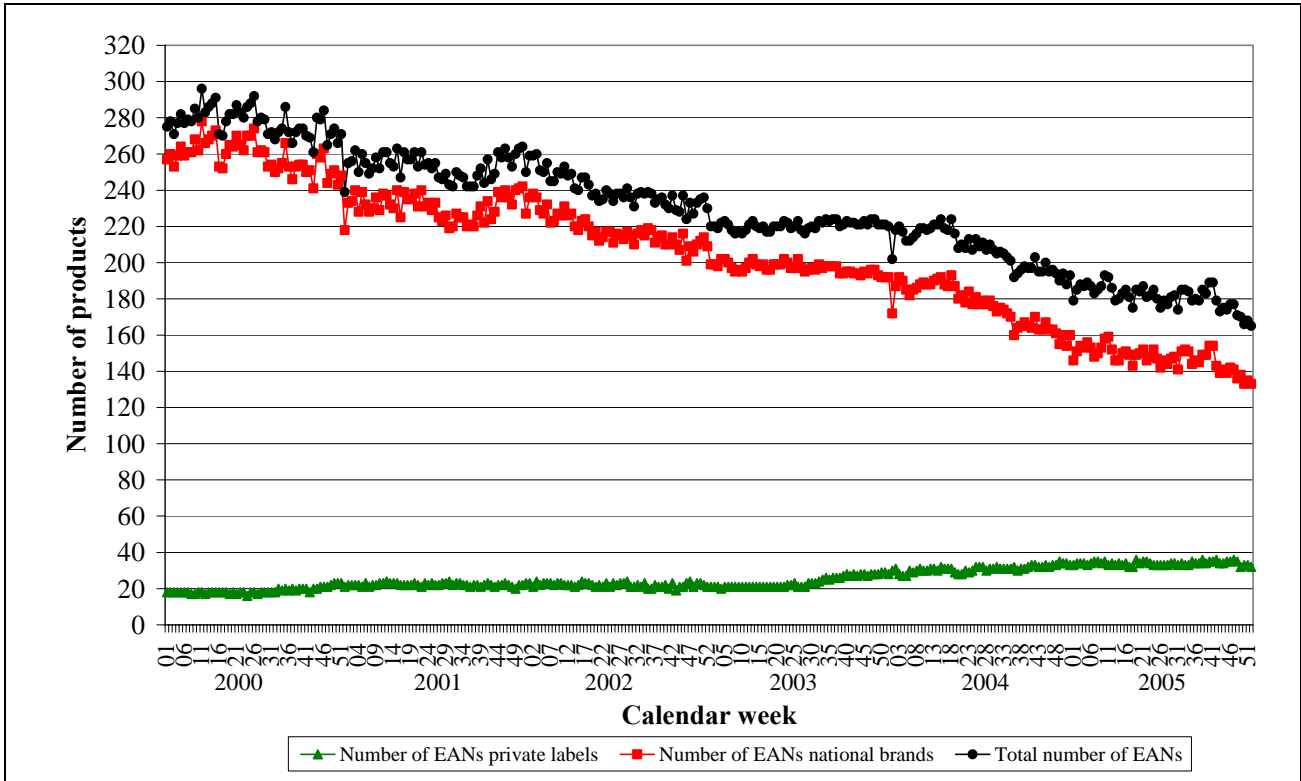


Fig. 6: Cumulative number of different products per calendar week across all outlet formats

3.1.2. Verification by regression analyses

The descriptive results already indicate an affirmation of the hypotheses put forward in the previous chapter. These should now be verified with the help of bivariate linear regressions. Here, the time (in weeks) represents the independent variable and the respective number of listed products the dependent variable.

Figure 7 provides an overview of the results of the bivariate linear regressions for the respective outlet formats. The outlet format is shown in the first column. In the second column the particular dependent variables are listed. Column three shows the expected sign for each regression coefficient with the appropriate hypothesis number. The fourth column contains the determined standardised regression coefficients. The appro-

Verification by regression analyses

appropriate t-values, significance levels and coefficients of determination are reproduced in columns five to seven. Finally, the conclusions regarding the hypotheses are given in column eight.

Outlet format	Dependent variable	Expected sign	Standardised regression coefficient	t-value	Significance	R ²	Proved?
Discount stores	Number of private labels	+ (H 1)	+ 0.842	27.482	0.000	0.709	yes
	Number of national brands	- (H 2)	- 0.746	- 19.753	0.000	0.557	yes
	Total number of products	- (H 3)	- 0.615	- 13.733	0.000	0.378	yes
Supermarkets	Number of private labels	+ (H 1)	+ 0.749	19.891	0.000	0.561	yes
	Number of national brands	- (H 2)	- 0.958	- 58.520	0.000	0.917	yes
	Total number of products	- (H 3)	- 0.957	- 57.991	0.000	0.916	yes
Hypermarkets	Number of private labels	+ (H 1)	+ 0.880	32.644	0.000	0.775	yes
	Number of national brands	- (H 2)	- 0.983	- 92.988	0.000	0.965	yes
	Total number of products	- (H 3)	- 0.982	- 90.839	0.000	0.964	yes

Fig. 7: Results of the regression analyses with the respective number of listed products as regressands considered for the specific outlet formats

Hypotheses can be described as proved statements

In the Figure all standardised regression coefficients illustrate the expected sign. Moreover, the t-values show that the results are highly significant. The coefficients of determination indicate good to very good values. A hypothesis is considered to have been proved if the regression coefficient signs are in the expected direction and the value of the significance level is below 1 %. It can therefore be stated that the above mentioned hypotheses put forward above regarding the relation between time and the number of listed products in the range, can be regarded as proved statements.

Figure 8 gives an overview of the results of the bivariate linear regressions with the time (in weeks) as independent variable and the particular number of listed products as dependent variable considered across all outlet formats.

Dependent variable	Expected sign	Standardised regression coefficient	t-value	Significance	R ²	Proved?
Number of private labels	+ (H 1)	+ 0.910	38.728	0.000	0.829	yes
Number of national brands	- (H 2)	- 0.981	- 88.806	0.000	0.962	yes
Total number of products	- (H 3)	- 0.976	- 78.300	0.000	0.952	yes

Fig. 8: Results of the regression analyses with the respective number of listed products as regressands studied across all outlet formats

In the Figure all standardised regression coefficients demonstrate the expected sign. Beyond this, the t-values show that the results are highly significant. Moreover, all of the coefficients of determination are quite high. The hypotheses can be described therefore, even when considered across the outlet formats, as proved statements.

Hypotheses can be described as proved statements

3.1.3. Summary of the results

Summing up, it can be stated that during the period of the study a clear increase in listed private labels was discerned, together with a simultaneous decline in listed national brands. The decline in listed national brands was significantly higher than the increase in listed private labels. Therefore, the proliferation of private labels obviously entails a reduction in the variety of products sold. The hypotheses put forward above can be described as proved statements in the context of these empirical results.

Empirical study reveals reduction in variety of products

In this context it should be noted that a reduction in product variety should not be evaluated as negative in itself. A very pronounced variety of products can considerably increase the complexity of the purchasing decision for consumers as they have to decide between a wide choice of the same kind of products. This can ultimately lead to the consumers feeling 'overwhelmed'.⁴² Consumers do have the opportunity though to frequent retail outlets that best suit their own preferences in this respect. The variety

Consumer confusion is irrelevant in this context

⁴² This aspect is discussed in the literature using the term 'consumer confusion'. Cf. e.g. OTNES/LOWREY/SHRUM 1997; RUDOLPH/SCHWEIZER 2004; WALSH 2004 and KOTOUC/RUDOLPH 2006. Cf. regarding effects of the size of ranges in general OPPEWAL/KOELEMEIJER 2005.

of products on sale in discount stores is generally significantly smaller than the variety of products in supermarkets and this, in turn is generally smaller than in hypermarkets.⁴³

Ever declining
choice for
consumers

If the variety of products available however – as in this empirical study – continues to decrease in *all* outlet formats, this ultimately means an ever more restricted choice for the consumers.

From the perspective of retailers a decreasing number of listed national brands may potentially go along with a decreasing number of suppliers and that may possibly result in potentials to lower cost (e.g. concerning negotiations, coordination, logistics).

From the perspective of manufacturers, however, a decreasing number of suppliers would lead to the risk of being delisted. In case of not being delisted, the continual risk of it would potentially lead to the disadvantage for suppliers to be forced to make concessions to retailers, e.g. concerning delivery conditions.

3.2. Rising prices

3.2.1. Descriptive data evaluation

Figure 9 shows the average prices per listed product divided into national brands and private labels, and the average prices for all products (overall) for each outlet format.⁴⁴

⁴³ Cf. regarding the pattern of product mix depth in the various retail outlet formats e.g. LIEBMANN/ZENTES 2001, pp. 477 ff.

⁴⁴ The curve for the average product prices of private labels in discount stores first starts in week 33/2000, because private labels were only listed as from that week.

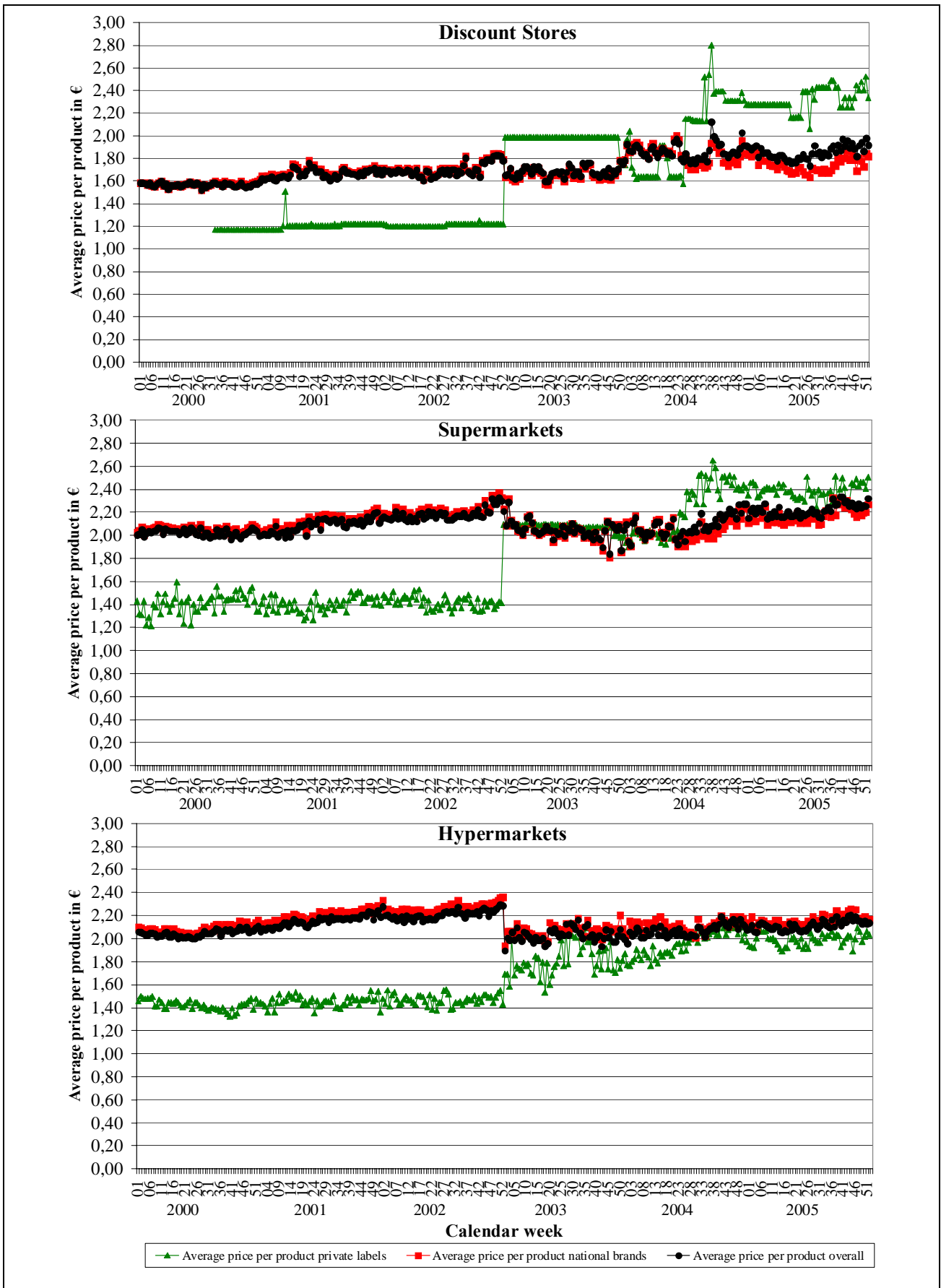


Fig. 9: Average prices per listed product and per calendar week in a study of the specific outlet formats

Rising product prices in all outlet formats

The Figure indicates that the average prices per listed product increased in all three outlet formats over time. At the beginning of the study period, the average prices of private labels are still significantly below those of the national brands. In the discount stores and supermarkets, they however increased so severely during the study period that in 2003 they were at almost the same level as the average prices of the national brands and were even higher in 2004 and 2005. All in all, the average prices of the national brands in the hypermarkets increased comparatively weak, while those of the private labels climbed quite sharply. Although the average prices of the private labels remain below those of the national brands across the board, a clear reduction of the price gap can be discerned.

In summary, this Figure shows that the prices paid by consumers per product in the period of the study were on the rise and that this was more decidedly the case regarding the private labels than the national brands. In the discount stores and supermarkets, the average prices of the private labels by the end of 2005 were even above those of the national brands.

Rises in product prices of private labels are significantly above the rate of inflation

These sharp rises in prices for private labels become very clear when the rate of price rises of private labels and the rate of inflation are taken into consideration. The rate of inflation for meat and meat products was 6.4 % during the period of the study.⁴⁵ The price increases of private labels were however 100 % in the discount stores, 74.83 % in the supermarkets and 39.73 % in the hypermarkets. This means that the price increases of private labels have exceeded the rate of inflation by 93.60 percentage points in the discount stores, 68.43 percentage points in the supermarkets and by 33.33 percentage points in the hypermarkets.

However, in this context one should bear in mind that when observing such price trends, the packaging size of the products is not taken into account. This means that the price increases per product might be attributed to larger packaging sizes. Hence, specific price comparisons should be made taking packaging sizes into account. In this respect the consumers in Germany are supported by the price regulation, § 2 of which obliges sellers not only to declare the end price, but also the price per unit of quantity including other price components (basic price). This makes it easier for the consumers to compare prices of various products.

⁴⁵ Cf. FEDERAL STATISTICAL OFFICE OF GERMANY 2006, p. 506.

Figure 10 shows the average prices per kg of national brands and private labels as well as those of all products (overall) for each outlet format.

The Figure indicates that in all three outlet formats, in particular from 2003 onwards, some significant increases in the average prices per kg both of national brands as well as private labels took place. In all outlet formats, it was the price per kg of the national brands that increased most sharply with the increase being less sharp in the discount stores than in the supermarkets and hypermarkets.

Rising prices per kg in all outlet formats

Even the rises in private label prices per kg are significantly above the 6.4 % rate of inflation for meat and meat products. In the discount stores, the average private label prices per kg between 2000 and 2005 rose by 18.72 %, in the supermarkets by 63.60 % and in the hypermarkets by 47.92 %. Therefore, the price increases of private labels exceeded the rate of inflation by 12.32 percentage points in the discount stores, 57.20 percentage points in the supermarkets and 41.52 percentage points in the hypermarkets.

Rises in prices per kg of private labels also significantly above the rate of inflation

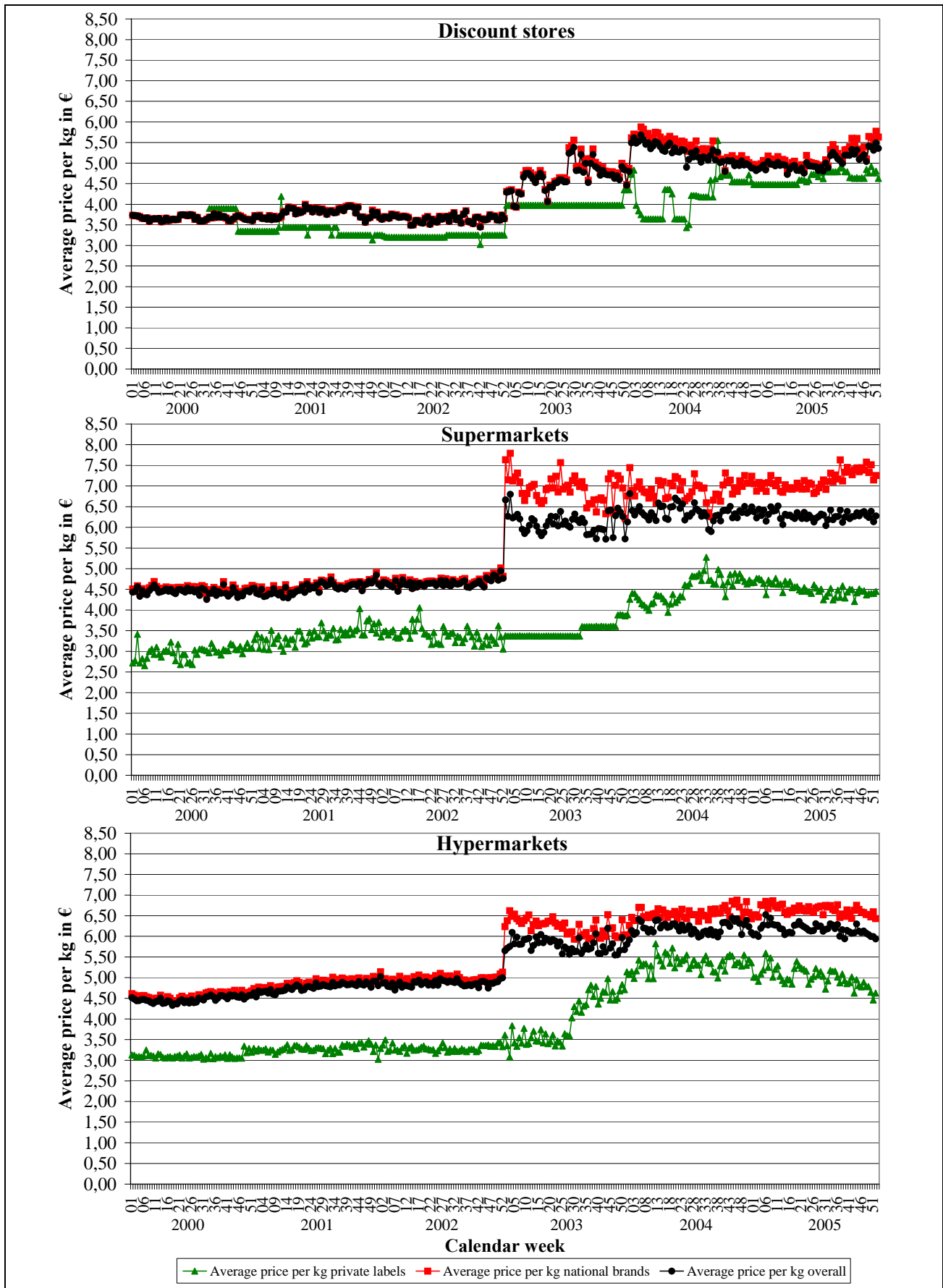


Fig. 10: Average prices per kg and per calendar week in a study of the specific outlet formats

Figure 11 shows the development of the average prices per product in the period of the study across the outlet formats.

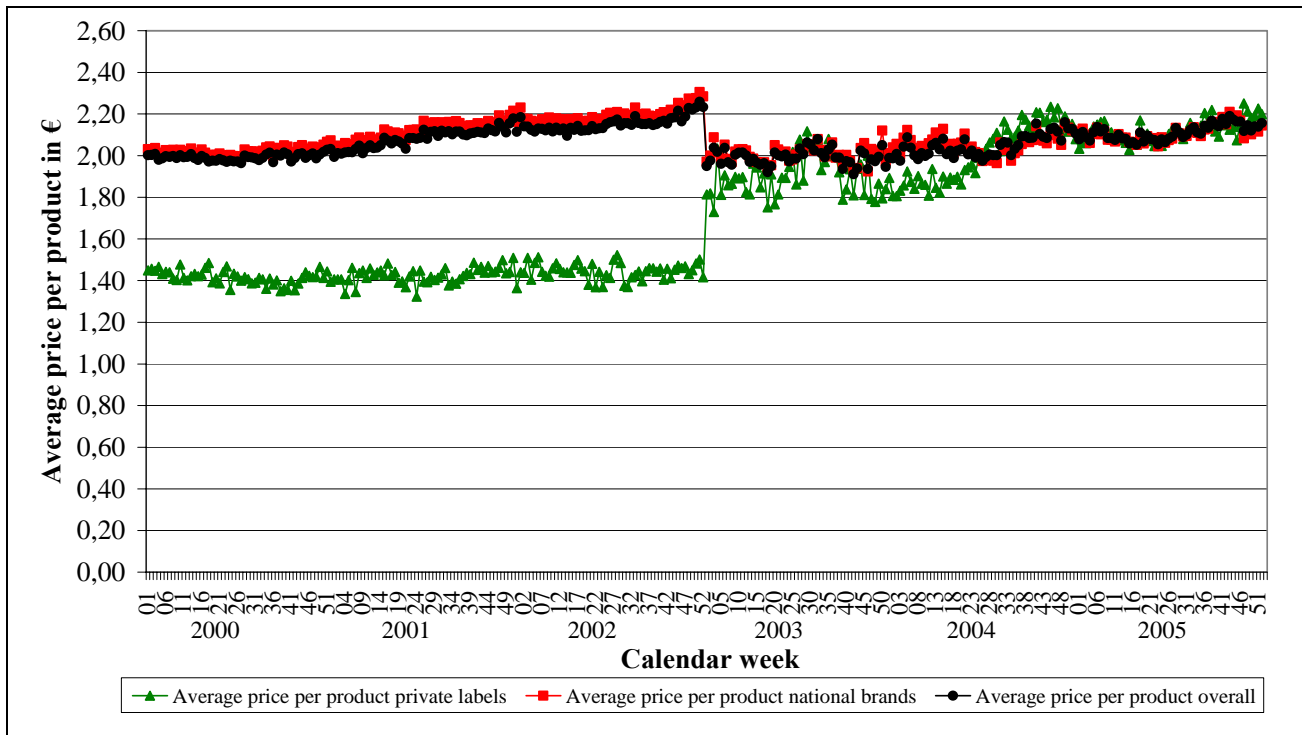


Fig. 11: Average prices per product and per calendar week in a study across all outlet formats

The Figure shows that there was a rise of both the average prices of the private labels and the national brands during the study period. The private label price increase was significantly sharper than that of the national brands. Finally, the sharp price increase of private labels resulted in the average product prices of both national brands and private labels being approximately at the same level in 2004 and 2005.

Product prices of national brands and private labels on the same level

In this study across all the outlet formats, the rates of price increase of private labels are significantly above the 6.4 % rate of inflation for meat and meat products during the period studied. The increase in the prices of private labels by contrast was 51.72 % and therefore exceeded the rate of inflation by 45.32 percentage points.

Price rises significantly above the rate of inflation

In order to eliminate the fact that the price increases were attributable to increased packaging sizes, a study was carried out taking the prices per kg into consideration. Figure 12 shows the development of the average prices per kg during the period of the study across all outlet formats.

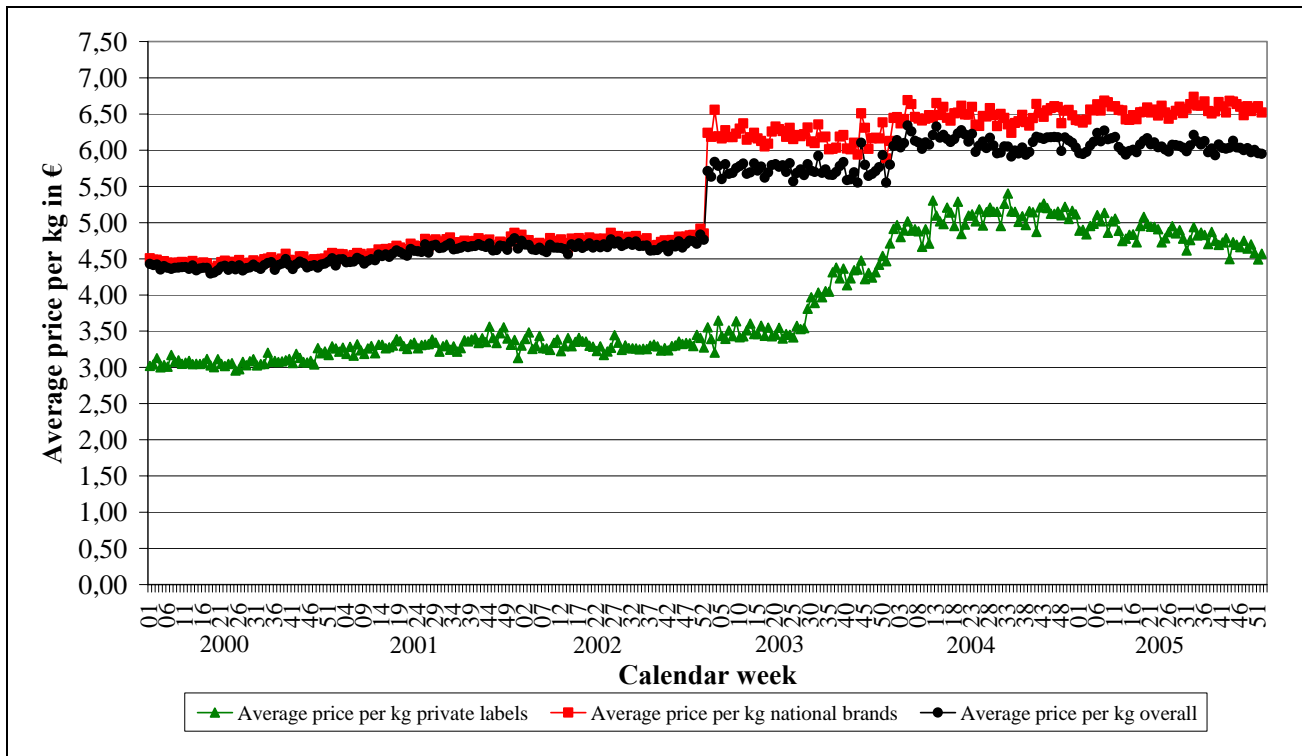


Fig. 12: Average prices per kg and per calendar week studied across all outlet formats

Significant increase of prices per kg The Figure shows that, even when studied across all the outlet formats, both the average price per kg of private labels, as well as that of national brands increased significantly during the period studied, with the increase in national brand prices being sharper than that of private labels.

Rise clearly above the rate of inflation Nevertheless, the rate of price increase of the private labels in the product group studied is significantly above the 6.4 % rate of inflation for meat and meat products. The average private label prices per kg rose between 2000 and 2005 by 51.32 % and thus exceeded the rate of inflation by 44.92 percentage points. A comparison with the rate of price increase per product (51.72 %) also shows that the price increases were obviously not attributable to larger packaging sizes as the two rates of increase are almost identical.

Simulated well-priced private labels In this context it is remarkable that the average prices per kg of the private labels were kept well below those of the national brands by the retailers – by contrast with the average product prices (cf. once again Figures 9 and 11) – in all outlet formats. The retailers in this way apparently attempt to demonstrate to the consumers the continued competitive prices of private labels (at least compared to the national brands). The fact that both, the prices per kg of private labels as well as those of the national brands, have

practically continuously increased over recent years and that the prices per kg of the private labels in 2005 were approximately at (supermarkets and hypermarkets) or even above (discount stores) the level of the prices per kg of the national brands in 2000 (within the outlet formats),⁴⁶ has probably not been noticed by consumers. Presumably the consumers do not make any detailed notations of the prices of the foods they have purchased over a period of six years. Consumers generally only see the current prices on the shelf and therefore only notice that the prices per kg of the private labels are currently below those of the national brands. Whether they notice the significant price increases in both types of brand over the analysed period at all is debatable for the aforementioned reasons.⁴⁷

Thus, it is conjecturable that the perception of well-priced private labels retained by many consumers only persists because national brands are frequently used by the retailers as ‘reference products’ when setting prices. This means that the prices per kg of private labels are constantly kept below those of the national brands, although at an increasingly high level. In this context it is remarkable that the retailers have been given this opportunity only by the prohibition of vertical price fixing and the associated freedom of price fixing on two levels.⁴⁸

National brands
serve as
‘reference
products’

3.2.2. Verification by regression analyses

The descriptive results set out in the section above using time sequences already point to the affirmation of the hypotheses put forward in the previous chapter. These should now be subjected to verification by regression analyses. Here, bivariate linear regressions are carried out in which the time (in weeks) forms the regressor and the particular prices form the regressands. Therefore changes in the particular prices are investigated in relation to time.

Verification by
regression
analyses

⁴⁶ The level of prices per kg of the private labels in 2005 corresponds approximately to that of the national brands in 2000 when studied across all the outlet formats. Cf. Figure 12.

⁴⁷ Cf. for greater detail regarding price-knowledge and reference pricing e.g. KALYANARAM/WINER 1995; MONROE/LEE 1999; EVANSCHITZKY/KENNING/VOGEL 2004; MÄGI/JULANDER 2005; AALTO-SETÄLÄ/EVANSCHITZKY/VOGEL/KENNING 2006; KENNING/EVANSCHITZKY/VOGEL/AHLERT 2007.

⁴⁸ Cf. e.g. OLBRICH 2001b; OLBRICH 2004 and OLBRICH/BUHR 2007.

Figure 13 shows the results of the bivariate linear regressions in a study of the specific outlet formats in which the time (in weeks) functions as independent variable and the respective average prices per listed product function as dependent variables.

Outlet format	Dependent variable	Expected sign	Standardised regression coefficient	t-value	Significance	R ²	Proved?
Discount stores	Average product price of private labels	+ (H 4)	+ 0.902	34.933	0.000	0.814	yes
	Average product price of national brands	+ (H 5)	+ 0.652	15.134	0.000	0.425	yes
	Average product price of all products	+ (H 6)	+ 0.853	28.734	0.000	0.727	yes
Supermarkets	Average product price of private labels	+ (H 4)	+ 0.905	37.403	0.000	0.819	yes
	Average product price of national brands	+ (H 5)	+ 0.165	2.942	0.004	0.027	yes
	Average product price of all products	+ (H 6)	+ 0.474	9.482	0.000	0.225	yes
Hypermarkets	Average product price of private labels	+ (H 4)	+ 0.900	36.291	0.000	0.809	yes
	Average product price of national brands	+ (H 5)	- 0.022	- 0.384	0.701	0.000	no (not significant)
	Average product price of all products	+ (H 6)	+ 0.003	0.058	0.954	0.000	no (not significant)

Fig. 13: Results of the regression analyses with the respective average prices per product as dependent variables in a study of the specific outlet formats.

Hypotheses are predominantly considered to be proved statements

The Figure indicates that the majority of the standardised regression coefficients have the expected sign. Beyond this the t-values show that the results are highly significant. With regard to the study of the relation between time and average prices per national brand in the supermarkets, it has to be stated that the coefficient of determination is indeed very low at a value of 0.027, although the results determined are highly significant. Only the verification of the relations between time and the average prices of national brands or those of all products in the hypermarkets has not shown significant results. Presumably the reason for this lies in the fact that in the meantime (at the beginning of 2003) the prices in question made a clear 'leap' downwards (cf. Figure 9 once again).

Figure 14 in a study of the specific outlet formats shows the results of the bivariate linear regressions with the time (in weeks) as independent variable and the respective average prices per kg as dependent variables.

Outlet format	Dependent variable	Expected sign	Standardised regression coefficient	t-value	Significance	R ²	Proved?
Discount stores	Average price per kg of private labels	+ (H 4)	+ 0.812	23.206	0.000	0.660	yes
	Average price per kg of national brands	+ (H 5)	+ 0.859	29.476	0.000	0.737	yes
	Average price per kg of all products	+ (H 6)	+ 0.861	29.760	0.000	0.741	yes
Super-markets	Average price per kg of private labels	+ (H 4)	+ 0.878	32.326	0.000	0.771	yes
	Average price per kg of national brands	+ (H 5)	+ 0.887	33.748	0.000	0.786	yes
	Average price per kg of all products	+ (H 6)	+ 0.892	34.719	0.000	0.795	yes
Hyper-markets	Average price per kg of private labels	+ (H 4)	+ 0.873	31.459	0.000	0.761	yes
	Average price per kg of national brands	+ (H 5)	+ 0.933	45.486	0.000	0.870	yes
	Average price per kg of all products	+ (H 6)	+ 0.934	46.192	0.000	0.873	yes

Fig. 14: Results of the regression analyses with the respective average prices per kg as dependent variables in a study of the specific outlet formats

The Figure indicates that the supposed positive relations between time and the particular prices per kg in all outlet formats are clear and highly significant. The coefficients of determination also show that the ratio of the declared scattering compared to the overall scattering in all cases is very high.

Hypotheses are considered to be proved statements

It is to be added in this context that two separate regression analyses showed that the prices in supermarkets and hypermarkets have been rising from 2000 to 2002 and from 2003 to 2005 as well. Thus, the positive regression coefficients for the whole time period in supermarkets and hypermarkets do not only trace back to the price jump. We assume that the fact that the price jump occurred at the beginning of 2003 is a typical phenomenon of ‘annual appraisals’. Especially in this case, it can be assumed that retailers have exploited the fact that 2003 was the first year in which – from the beginning on – the ‘Euro prices’ stood alone on the price labels (not longer accompanied by national ‘Deutsche Mark prices’). The ‘double labelling’ due to the European Monetary Union ended in 2002.

Figure 15 shows the results of the regression analyses across all outlet formats, in which the dependency of the respective average prices per

product on time was studied.

Dependent variable	Expected sign	Standardised regression coefficient	t-value	Significance	R ²	Proved?
Average product price of private labels	+ (H 4)	+ 0.913	39.387	0.000	0.833	yes
Average product price of national brands	+ (H 5)	+ 0.063	1.113	0.267	0.004	no (not significant)
Average product price of all products	+ (H 6)	+ 0.274	5.012	0.000	0.075	yes

Fig. 15: Results of the regression analyses with the respective average prices per product as dependent variables in a study across all outlet formats

Hypotheses can predominantly be described as proved statements

The Figure indicates that the standardised regression coefficients in all cases have the expected sign. However, regarding the average prices of national brands it can be stated that the regression coefficient and the coefficient of determination are almost zero and that these results are not significant. Here the reason once again presumably lies in the fact that the product prices of the national brands have, in the meantime (at the beginning of 2003), made a clear downward ‘leap‘ (cf. once again Figure 11). With regard to the average prices of all products one should bear in mind that although the results are significant, the very low value of the coefficient of determination, at 0.075, shows that the ratio of declared scattering compared to overall scattering is very low.

Figure 16 shows the results of the bivariate linear regression analyses across all outlet formats with the time (in weeks) as regressor and the respective average prices per kg as regressands.

Dependent variable	Expected sign	Standardised regression coefficient	t-value	Significance	R ²	Proved?
Average price per kg of private labels	+ (H 4)	+ 0.889	34.267	0.000	0.791	yes
Average price per kg of national brands	+ (H 5)	+ 0.925	42.926	0.000	0.856	yes
Average price per kg of all products	+ (H 6)	+ 0.927	43.398	0.000	0.859	yes

Fig. 16: Results of the regression analyses with the respective average prices per kg as regressands in a study across all outlet formats

The Figure indicates that there is a highly significant positive relation between the average prices per kg and time. Besides, the high values of the coefficients of determination of almost 0.8 and above show that the majority of the overall scattering can be explained by the variables being studied.

Hypotheses are considered to be proved statements

3.2.3. Summary of the results

Therefore, in summary, it can be stated that during the period of the study in all outlet formats – and therefore also considered across the outlet formats – a predominantly clear rise in average product prices and prices per kg of private labels and national brands can be determined and therefore also a clear rise in the average prices of all products. The hypotheses set out above are therefore to be described, in the context of these empirical results, as proved statements.

Empirical results reveal clear price increases

In the long term, therefore, a considerable rise in prices can already be discerned with respect to national brands and private labels which, in terms of competition policy must be considered as negative on the grounds of the associated disadvantages for the consumers.

Negative assessment from consumers' perspective

From the national brands industry's perspective the rising prices do not necessarily mean positive effects on turnover and profits because their profits do not depend on consumer prices but on delivery conditions agreed with the retailers. As long as retailers do not want to completely risk renouncing national brands, the remaining national brands manufacturers will have a secure bargaining hand.

Manufacturers' perspective

However, as retailers can play one manufacturer off against the other – at least for as long as there are still two or three national brands in each product category from various manufacturers – the retailers are probably those who receive the larger share of the profits obtained through higher prices.

Retailers' perspective

3.3. Decreasing market volume

Rising turnover
shares of private
labels

Figure 17 shows the turnover shares of national brands and private labels in the product group studied. The Figure indicates that the turnover shares of the private labels in all outlet formats has risen almost in parallel to the listing proportions (cf. once again Figure 1) – although to a significantly higher degree (in particular in the hypermarkets) – during the period of the study.

Decline in total
turnover in
supermarkets
and
hypermarkets

Figure 18 shows the turnovers of national brands and private labels for each outlet format as well as the total turnover in the product group studied. The Figure indicates that the turnover of private labels in all outlet formats increased during the period of the study while the turnover of national brands was in decline, in particular in the supermarkets and hypermarkets. Moreover, it should be recognised that, over time, increases in total turnover were only achieved in the discount stores. In the supermarkets, and in particular in the hypermarkets, overall turnover was in decline.

Rising turnover shares of private labels therefore only accompanied a rise in total turnover in the discount stores. In the supermarkets and hypermarkets they were, by contrast, associated with a sharply declining total turnover.

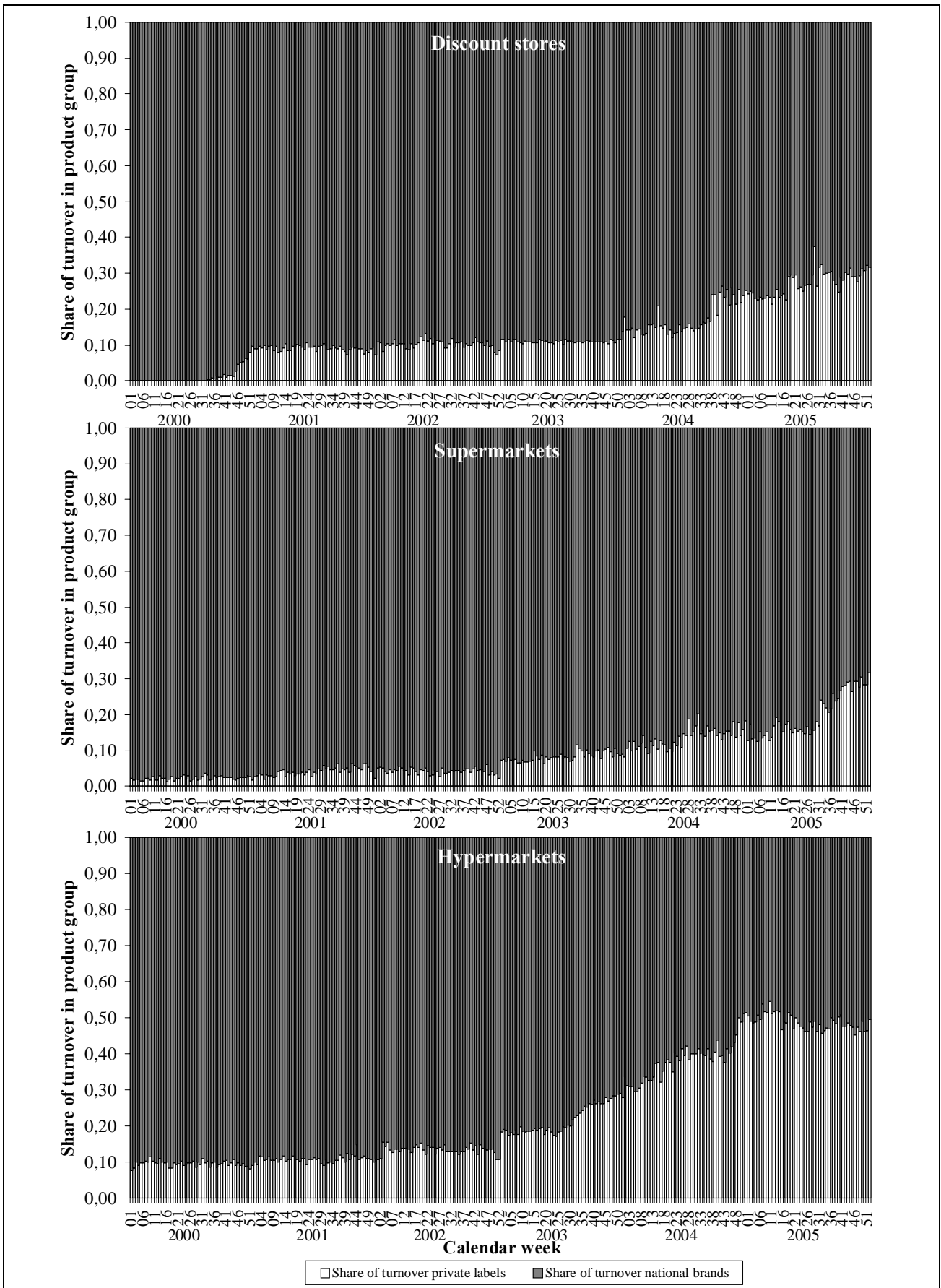


Fig. 17: Turnover shares of national brands and private labels per calendar week in a study of the specific outlet formats

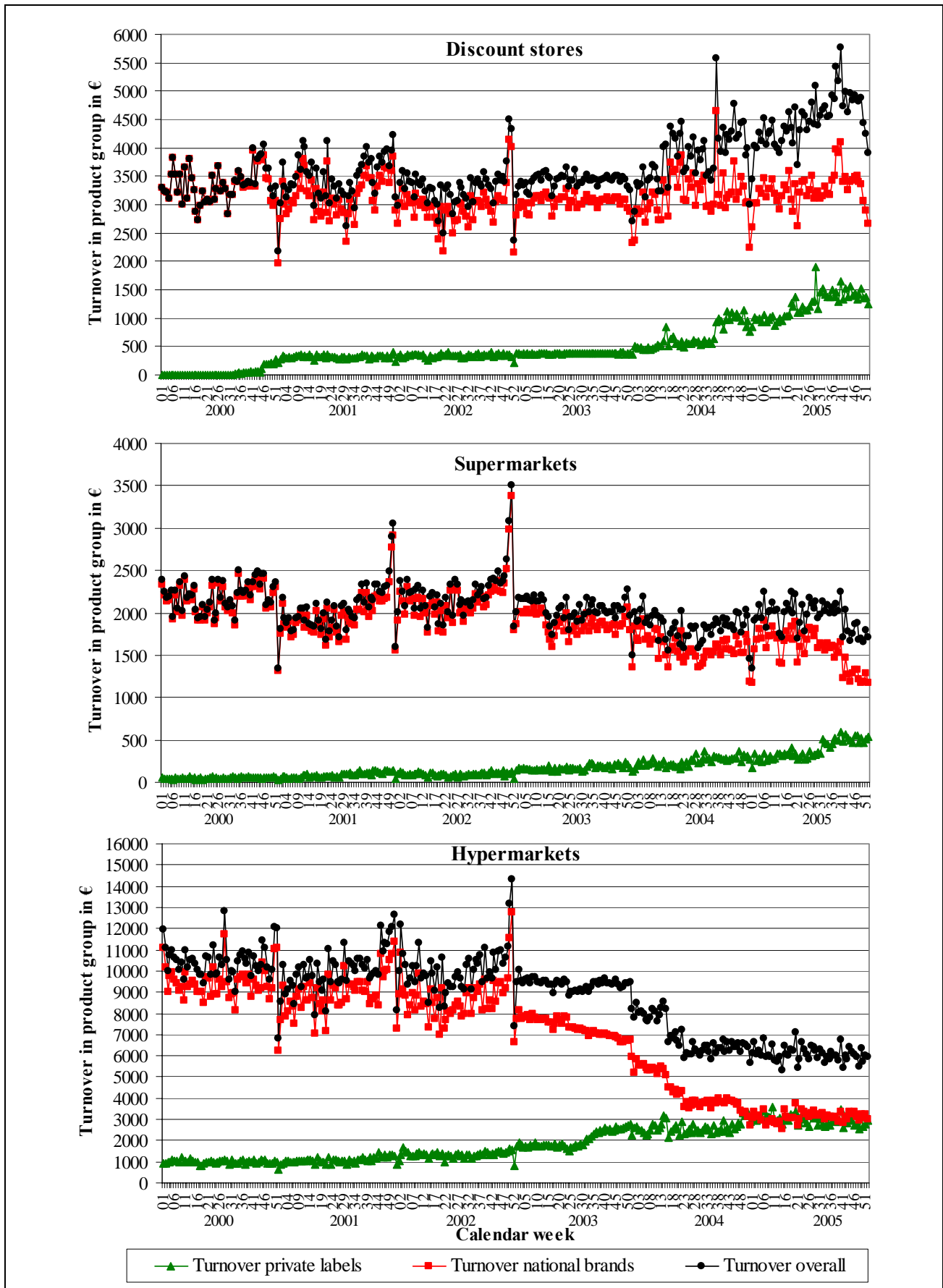


Fig. 18: Turnover per calendar week in a study of the specific outlet formats

Figure 19 shows the results of the bivariate linear regressions with the time (in weeks) as independent variable and the respective turnover as dependent variables in a study of the specific outlet formats. Verification by regression analyses

Outlet format	Dependent variable	Expected sign	Standardised regression coefficient	t-value	Significance	R ²	Proved?
Discount stores	Turnover of private labels	+ (H 7)	+ 0.880	32.682	0.000	0.775	yes
	Turnover of national brands	- (H 8)	+ 0.010	0.167	0.867	0.000	(no) not significant
	Total turnover	+ (H 9)	+ 0.639	14.636	0.000	0.409	yes
Super-markets	Turnover of private labels	+ (H 7)	+ 0.892	34.670	0.000	0.795	yes
	Turnover of national brands	- (H 8)	- 0.663	- 15.596	0.000	0.440	yes
	Total turnover	+ (H 9)	- 0.379	- 7.218	0.000	0.144	no
Hyper-markets	Turnover of private labels	+ (H 7)	+ 0.936	46.870	0.000	0.876	yes
	Turnover of national brands	- (H 8)	- 0.894	- 35.217	0.000	0.800	yes
	Total turnover	+ (H 9)	- 0.819	- 25.124	0.000	0.671	no

Fig. 19: Results of the regression analyses with the respective turnover as dependent variables in a study of the specific outlet formats

The Figure indicates that only hypothesis 7 can be classed as proved statement. Regarding the discount stores, the supposed negative relation between time and the turnover of national brands cannot be stated. Hypothesis 8 is therefore rejected regarding discount stores. The relation between time and total turnover in the supermarkets and hypermarkets is negative, contrary to the hypothesis set out above. Hypothesis 9 is therefore rejected regarding supermarkets and hypermarkets. Hypothesis 9 only proved in discount stores

The top section of Figure 20 indicates that the cumulative total turnover across all outlet formats decreased in the period of the study. This is particularly apparent as the prices in the same period of time increased significantly (cf. once more Figures 9 to 12). As a consequence, the falling turnover is caused by declining sales, as illustrated in the lower section of Figure 20. Decline in turnover despite price rises

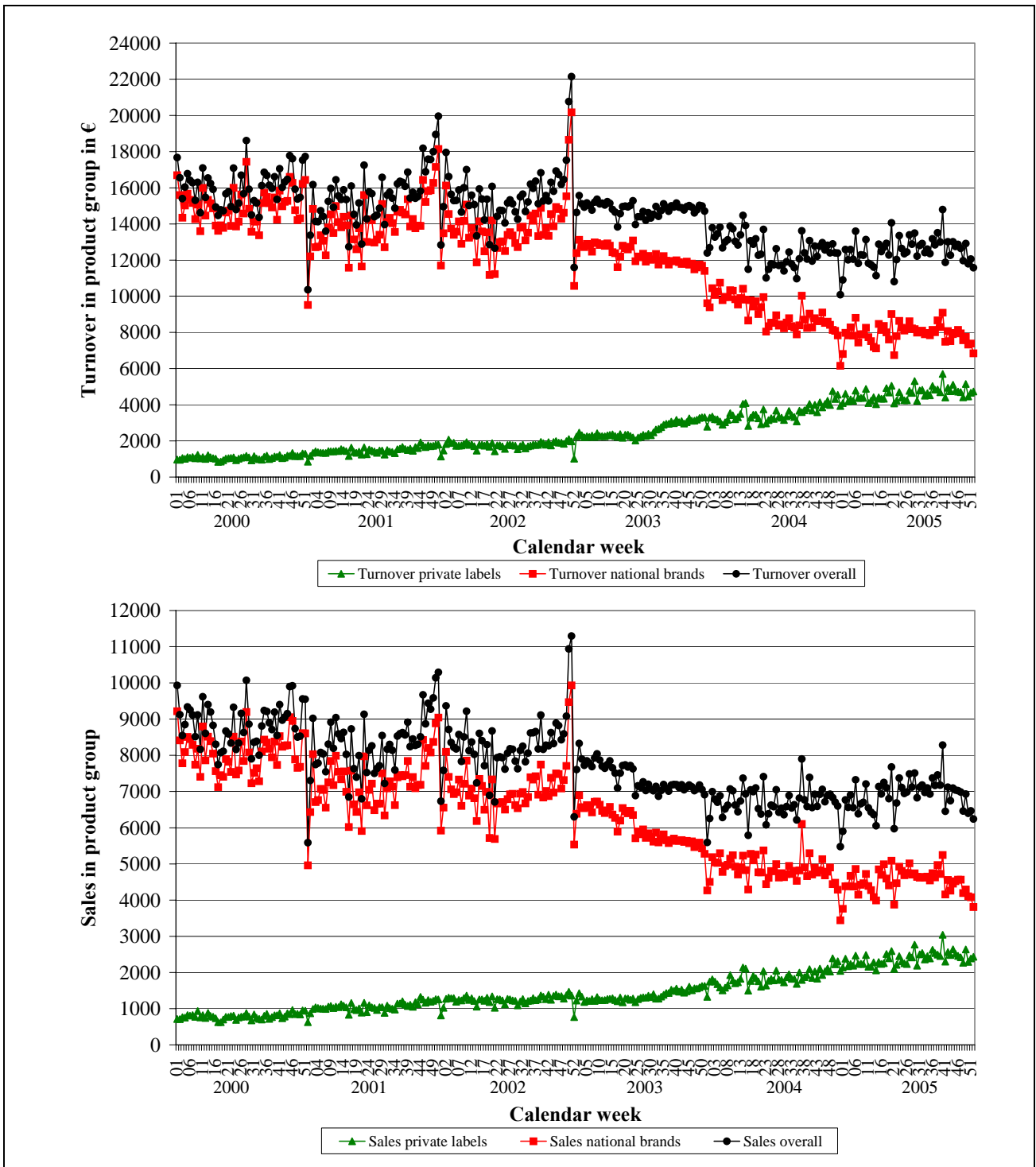


Fig. 20: Cumulative turnover and sales per calendar week in a study across all outlet formats

Non-consumption These results point to the fact that the intensive price increases – at least to some extent – are accompanied by non-consumption.

Verification by regression analyses Figure 21 indicates that corresponding and highly significant results can also be discerned in the context of bivariate linear regressions.

Dependent variables	Expected sign	Standardised regression coefficient	t-value	Significance	R ²	Proved?
Turnover of private labels	+ (H 7)	+ 0.956	57.463	0.000	0.914	yes
Turnover of national brands	- (H 8)	- 0.874	- 31.731	0.000	0.765	yes
Total turnover	+ (H 9)	- 0.693	- 16.935	0.000	0.481	no
Sales of private labels	+ (H 7)	+ 0.943	49.662	0.000	0.888	yes
Sales of national brands	- (H 8)	- 0.891	- 34.588	0.000	0.794	yes
Total sales	+ (H 9)	- 0.730	- 18.800	0.000	0.533	no

Fig. 21: Results of the regression analyses with the respective turnover and sales as regressands in a study across all outlet formats

The Figure indicates that, in a study across the outlet formats, only hypotheses 7 and 8 can be described as proved statements. The relation between time and total turnover or rather total sales is negative, by contrast with the hypothesis set out above. Hypothesis 9 is therefore rejected in each case. These results clearly show that the increasing proliferation of private labels was attended by a reduction in market volume.

Hypothesis 9 is rejected

It might now be assumed that turnover has shifted from the supermarkets and hypermarkets towards the discount stores. The upper section of Figure 20 shows that the decline in total sales in supermarkets and hypermarkets has apparently not been (over)compensated by an increase in total turnover in the discount stores, as the cumulative total turnover is falling across all the outlet formats. A shift of turnover from supermarkets and hypermarkets to discount stores therefore is only taking place to a limited extent, if at all.

Shift of turnover towards discount stores is limited, if it exists at all

Hence, the increasing proportions of listed private labels in all three outlet formats are not in all cases accompanied by positive trends in total turnover in the product group. However, this does not necessarily mean that profits are also in decline.

It is to be expected that retailers are achieving higher profit margins with private labels than with national brands, due to lower procurement costs.⁴⁹ To this extent it is possible that retailers will achieve lower turnover figures with higher proportions of private labels being listed, but, due to higher

Overcompensation of turnover decline is questionable

⁴⁹ Cf. regarding a cost-oriented evaluation of national brands and private labels MÜLLER-HAGEDORN 2001.

profit margins in private labels, will achieve a higher marginal income. Accordingly, it may be attractive for retailers, at least to some extent, to forego higher turnover figures in favour of higher contribution margins. However, whether the decline in total turnover of the product group, discernable here in particular in the supermarkets and hypermarkets, is overcompensated by higher contribution margins from private labels, is highly questionable.

Crowding-out of smaller brand manufacturers seems to be an objective

It can therefore be assumed that the retailers who sell private labels – at least in short term – are not pursuing the aim of increasing profits at all, but are following other objectives. At this point we particularly refer to the crowding-out of smaller brand manufacturers. The existence of smaller manufacturers which do not have strong brands is in particular threatened by the delisting of second-tier and third-tier brands in favour of private labels. It is therefore to be expected that the number of national brands manufacturers will diminish due to fierce competition from private labels. By doing so, retailers are presumably expecting to achieve a strengthening of their negotiating power with national brands manufacturers and a reduction in the costs of negotiating and reaching agreements.⁵⁰ Moreover, large manufacturers can, because of the economies of scale, in some circumstances produce at lower costs, which promises the opportunity to successfully negotiate additional potential profits for the retail trade. Short-term turnover and profit losses are apparently considered acceptable in the interests of this long-term objective.

Indeed, it is to be expected that retailers want to lower the number of suppliers in order to reduce logistics costs, out of stocks, etc. But what is conspicuous in this context is that the delisting affects only national brands and not private labels.

Concentration at manufacturer level

Should the crowding-out of manufacturers take place, the process of concentration at manufacturing level would be driven forward and the horizontal pressure of competition at that level would abate. From the perspective of individual manufacturers, however it might seem a short-term advantage to belong to a certain (small) number of surviving companies, due to the associated gain in power. In the medium to long term, however, even the position of those remaining manufacturers would be very

⁵⁰ Cf. OLBRICH/BUHR/GREWE/SCHÄFER 2005, p. 85; OLBRICH/BUHR 2006, p. 39 and FEDERAL COMPETITION AUTHORITY OF THE REPUBLIC OF AUSTRIA 2007, p. 11.

much at risk due to the flexibility of retailers' ranges. From the consumers' point of view, this would further increase the risk that prices will increase ever more while the variety of products on sale diminishes. Such trends must therefore be evaluated as being negative from the point of view of competition policy.

4. Conclusion

The empirical results make clear that the feared negative effects of a proliferation of private labels on consumer welfare in terms of product variety, price level and market volume in the product group studied – at a time when the increased distribution of private labels has presumably by no means reached its peak – can already be discerned.

Empirical results indicate negative effects of private labels

The descriptive results show that in all studied outlet formats, clear reductions in the variety of products are illustrated – brought about by the delisting of national brands only partially being replaced by newly listed private labels. Moreover, in all outlet formats studied, there is evidence of significant price increases and market volume decreases.

Corresponding results concerning the range of different products on sale are, according to INFORMATION RESOURCES GMBH (IRI), discernible throughout the whole German food retail sector. The number of EANs in food retailing declined by almost 10 % between 2002 and 2007.

Transferability of the results

Besides, the results of regression analyses show that the hypotheses demonstrated above, with regards to product variety and the price level per kg should be classed as proved statements. With regard to market volume, the results are particularly controversial especially when considered across all outlet formats: both the relations between time and total turnover or rather total sales are negative, by contrast with the previous hypothesis. These developments indicate that consumers are restricting their consumption, or may in some cases even have ceased to consume, in the course of the proliferation of private labels. However, this does not necessarily mean that private labels are the only determinants of this process. Other reasons, like a decline in real purchasing power, changes in taxes or other aspects, might be considered as well in this context.

Summed up, the empirical results indicate that retailers are further extending the proportion of private labels listed even though there are not always positive turnover trends associated with such a course of action. A positive turnover trend can only be found in the discount stores. Hence, the increasing number of listed private labels in all outlet formats seems to go along with the effect that supermarkets and hypermarkets lose turnover to discount stores – at least to some extent. Thus, only the price-aggressive

outlet format (represented by discount stores) seems to profit by the increasing number of listed private labels.

- Crowding-out of manufacturers Therefore, it can be supposed that the retailers are selling private labels – at least to some extent – with the aim of ousting smaller national brands manufacturers from the market. As a consequence of the reduced number of manufacturers an increased concentration process at manufacturer level is to be expected.
- Increasing sales areas suggest a rise in the variety of products Competition in the distribution of consumer goods biased by the per se ban on vertical price fixing therefore already seems – at least to some extent – to have resulted in vertically-integrated retailing groups carving off an exclusive market for themselves as they seek to create customer loyalty by selling private labels. The disappearance of many national brands is causing a reduction of the consumers’ freedom of choice. What is notable in this context is that consumers are being given the impression, at least indirectly, by means of the continuous expansion of sales areas⁵¹ (in all outlet formats) in recent years that a wider choice of products is being offered to them.
- Repeal of the per-se prohibition of vertical minimum price agreements in the USA should serve as a ‘guidepost’ to the EU The repeal of the per-se prohibition on vertical minimum price agreements in June 2007 by the US SUPREME COURT seems, in the context of the empirical results found here, to be a first step in the ‘right direction’ and towards at least balancing out the disadvantages for the manufacturers. If a similar statutory framework was created within the EU, the general conditions in the consumer goods sector would once again offer incentives to perform as it could be expected that some manufacturers of national brands and some retail outlet formats would benefit from the system. A concentration-inhibiting effect in the retail sector could then be expected in the medium term as some extreme pricing tactics (such as aggressive price-cutting policy with national brands) could be restrained.

⁵¹ Cf. regarding these data EHI RETAIL INSTITUTE 2006, p. 231.

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