UNIVERSITY OF WUPPERTAL
BERGISCHE UNIVERSITÄT WUPPERTAL

EUROPÄISCHE WIRTSCHAFT UND
INTERNATIONALE MAKROÖKONOMIK

Caroline Dauenhauer / Jens K. Perret

Determinants of Purchasing Behavior – On the Interaction of Price Anchors and the Framing of Price Changes

Europäische Wirtschaft und Internationale Wirtschaftsbeziehungen
European Economy and International Economic Relations

Caroline Dauenhauer / Jens K. Perret

Determinants of Purchasing Behavior – On the Interaction of Price Anchors and the Framing of Price Changes

April 9th 2021

Summary:

Low involvement goods per definition do not require the customer to invest a significant amount of will-power into the purchasing decision. Thus, buying decisions in this context are primarily driven by the intuitive mind and relevant decision heuristics.

This study focuses on the anchor and the framing heuristic, their combined effect on the willingness-to-buy of low involvement goods and especially their interaction effect.

It is established that of the two heuristics considered, the framing effect is the more relevant with an impact roughly 2.5 times the size of the anchor effect. An interaction effect between the two heuristics exists even though it is only weakly significant and only marginally impacts the willingness-to-buy, reporting an effect size of one fifth of the anchor effect. Although limited in its scope the weakly significant interaction effect shows that in certain retail environments price reduction have a more pronounced effect than in others.

The study provides relevant insights from a theoretical academic perspective and offers advice to marketing practioners, in particular advertising experts.

Zusammenfassung:

Low-Involvement-Güter erfordern per Definition, dass der Kunde keine nennenswerte Willenskraft in die Kaufentscheidung investiert. Somit werden Kaufentscheidungen in diesem Kontext primär durch intuitive Entscheidungen und relevante Entscheidungsheuristiken gesteuert.

Diese Studie konzentriert sich auf die Anker- und die Framing-Heuristik bzw. deren kombinierte Wirkung auf die Kaufbereitschaft von Low-Involvement-Gütern und insbesondere deren Interaktionseffekt.

Es wird festgestellt, dass von den beiden betrachteten Heuristiken der Framing-Effekt mit einem etwa 2,5-fachen Einfluss des Ankereffekts der relevantere ist. Ein Interaktionseffekt zwischen den beiden Heuristiken ist vorhanden, wenn auch nur schwach signifikant, und hat mit einer Effektgröße von einem Fünftel des Ankereffekts nur einen geringen Einfluss auf die Kaufbereitschaft. Obwohl in seinem Umfang begrenzt, zeigt der schwach signifikante Interaktionseffekt, dass in bestimmten Einzelhandelsumgebungen Preissenkungen einen stärkeren Effekt haben können als in anderen.

Die Studie liefert relevante Erkenntnisse aus verhaltensökonomischer Perspektive und ebenso Empfehlungen für Praktiker, insbesondere aus dem Bereich des Marketings.

Caroline Dauenhauer, B.A.; *Research Assistant at the Chair for Marketing esp. E-Commerce and Cross-Media Marketing, HHL Leipzig Graduate School of Management, Jahnallee 59, 04109 Leipzig, Germany.*

caro.dauenhauer@gmail.com   *www.hhl.de*

Prof. Dr. Jens K. Perret; *Professor for Statistics and Economics, International School of Management, Im MediaPark 5c, 50670 Cologne, Germany; Tel. +49 221 27099523; Corresponding Author.*

jens.perret@ism.de   *www.ism.de*

EIIW 2020 = 25 years of award-winning research

Determinants of Purchasing Behavior – On the Interaction of Price Anchors and the Framing of Price Changes

EIIW Diskussionsbeitrag 299
EIIW Discussion Paper 299

Table of Contents

List of Tables

List of Figures

1. Introduction

Low involvement goods per definition do not require the customer to invest a significant amount of will-power into the purchasing decision. Following the seminal studies by Kahneman et al. (1974) decisions like this are usually made via the so-called system 1, the intuitive mind. Kahneman et al. (1974) argue that to function properly system 1 requires simple rules - decision heuristics. Two of the earliest heuristics studied are the anchor and the framing heuristic. While significant work has been invested into studying each heuristic on its own it is their interaction that offers valuable insights and also provides the focus of this study.

Discounters are usually active in a low-price environment with their customers being well aware of this fact. Thus, customers in a discounter operate their decision-making process under a low price anchor. Additionally, the use of recommended retail prices, common in almost all types of retail stores, generates a high price anchor. At the same time advertisements focusing on price reductions are commonplace in all Western countries, in particular in Germany, generating a positive frame of price reductions.

In conclusion the main focus of this study lies on the purchasing process of low involvement goods in the presence of low price anchors and positive frames of price reductions and the interaction of both heuristics. Translated into marketing terms, the focus lies on determining whether advertising price reductions generates an additional effect on the willingness-to-buy of customers if a price anchor has already been established and if it does so what the size of said effect is.

First, the two decision heuristics are introduced and classified with regards to the literature, prospect theory in particular. Building on this background presented in section two, the third section introduces the implemented data set and the analytical framework. The fourth section contains results from the analysis and offers the basis for the deduction of practical recommendations in the context of the concluding fifth section.

2. Prospect Theory and Effects on Customers' Buying Behaviour - A Literature Review

2.1.   On Prospect Theory and Decision Heuristics

Starting in the 1970s, studies like Schneider and Shiffrin (1977a), Schneider and Shiffrin (1977b) and Wason and Evans (1975), and in the early 1980s Chaiken (1980) puts forward the idea that human decision-making can be differentiated into two distinct types - intuitive/heuristic versus controlled/systematic. In Stanovich and West (2000) the decision-making processes involved in these two types of decisions are referred to as system 1 and system 2; terms later adopted in a number of seminal articles in particular on the topic of heuristic decision-making. Therefore, this study will also adhere to these terms.

The term system 1 refers to the process that guides intuitive decision-making which takes place immediately and without significant cognitive burden. It excludes any processes involving logical or analytical thinking and decisions are generally made by regressing to decision heuristics.

System 2 on the other hand involves only those processes where analytical thinking is involved. As compared to decisions made via system 1 those made via system 2 require significant cognitive work and are made only after pondering a situation for a distinct amount of time. All rational decisions, i.e. those referred to by classical expected utility theory, are made via system 2.

As early as 1956 it has been recognized - by studies like Simon (1956) - that decision-making does not follow the classical assumption of rationality but instead is influenced to a certain degree by affective behavior. With proponents like Zajonc (1980) the acknowledgement that the intuitive/heuristic system 1 being the process, that results in affective behavior, plays a significant part in human decision-making increased. However, early studies like Stroop (1935) already in the 1930s report behavior that could be classified as falling within the scope of system 1.

Frankish, K. (2009) provides a comprehensive summary of the most significant contributions on the differences between the workings of the two systems.

Despite widespread use, the distinction of the human decision process into only two different sub-processes is considered by some authors to be too simplistic and studies like Gloeckner and Witteman (2009) argue for a more specified perception of the intuitive decision-making process under system 1.

Accepting that the dualistic approach offers a fitting foundation for the underlying study prospect theory can act as a framework for an in-depth analysis of system 1.

While prospect theory as a concept has been introduced by (Kahneman & Tversky, 1979) (later advanced in (Tversky & Kahneman, 1992)) earlier works like (Kahneman et al., 1974) already list its fundamentals. It challenges classical expected utility theory in proposing that humans base their decisions on relative positions with regards to a dynamic reference point as compared to absolute positions as is the assumption with the expected utility theory. Opposed to classical theory prospect theory is a more positive than normative theory (Thaler, 1980) since many insights are drawn from empirical studies and not dictated by the theory itself. Decision heuristics driving intuitive behavior, as discussed as early as Kahneman et al. (1974), in most cases describe how the relative position changes or in more specific terms the reference point is shifted by different situations.

Two particular heuristics that are considered herein are the anchor (Kahneman et al., 1974) and the framing heuristic (Tversky & Kahneman, 1981).

Before introducing them in detail it shall be argued that the retail market is an ideal background for the application of prospect theory.

In retail markets customers are flooded with a multitude of products, advertisements, music and other stimuli. This overstimulation, especially the multitude of products to choose from, leads

to a demotivation of the customer. While Kahneman and Tversky (1984) and Kahneman and Tversky (2000) already discuss the effects of the number of choices available to customers, studies like Iyengar and Lepper (2000) and Chernev et al. (2015) distinctly point out the negative aspects of choice overload.

Amid all these choices customers are confronted with decisions of buying low-involvement goods; goods where the price and relevance of the product do not merit a more in-depth analysis of suppliers and price spreads from the customers' side. Thus, to cope with choice-overload in a low-involvement environment customers consistently refer to their intuitive decision-making process of system 1. (Kool et al., 2010) argue along the same lines while considering cognitive demand in general.

2.2.   On Price Anchors

While anchoring has been discussed for almost a century it has been the seminal work by Kahneman et al. (1974) that promoted the anchor or adjustment heuristic as a psychological version of anchoring. A comprehensive summary of research on the anchor heuristic can be found in Epley and Gilovich (2006) as well as Furnham and Boo (2011).

For the anchor heuristic to become active a voluntarily or involuntarily set anchor is required. If no persistent anchor is purposely set or exists from prior experiences random perceptions can function as anchors and thus distort humans' perceptions of prices or other estimates. Kahneman and Tversky for example show that significant links can be established between the last digit of a mobile phone number and a number of guessing games.

Referring to the concept of prospect theory the established anchor provides a new reference point for personal evaluations.

In the context of this study it is of particular interest in how far anchoring impacts price perceptions when shopping for low-involvement goods. Monroe (1973) considers price perception in general delivering a first foundation for pricing theory. In later studies like Erkel (2007) (Over-the-phone sales), Bagga and Bhatt (2013) as well as Wu et al. (2008) (Online sales) or Rinn (2018) (Dynamic Pricing in Online Sales) the effects are studied more detailed for different environments. These studies show that the phenomenon seems to be universal with regards to sales. (Wansink et al., 1998) furthermore argues that anchoring might not only impact price perception alone but quantity bought as well and thus the overall willingness-to-buy.

Mussweiler, Strack, and Pfeiffer. T. (2000) provide to the present study by summarizing study results that point to the role of exemplar experiences in establishing an anchor.

If therefore a certain image about a specific point-of-sale as a consistently low or high price environment exists, it stands to reason that this knowledge results in the formation of a price anchor for similar points-of-sale.

However, Hardie (1993) shows that prices themselves, even reference prices, cannot function as anchors as price changes occur too frequently. Nonetheless, in a high price environment a

consistently higher price expectation would exist, even though the effect might not be as strong as if the anchor price is established via recommended retail prices.

Discounters operate within a low-price environment and customers enter them with an overall low price anchor already established. In contrast luxury stores operate in a classical high price environment and deal with customers which enter the market with high price anchors established.

2.3.   On Framing Effects

In the 1980s Tversky and Kahneman (1981) and Kahneman and Tversky (1984) first describe and study the framing heuristic in a systematic fashion. This first insight is extended by Levin (1987) and Kahneman and Tversky (2000) summarizes the early research while Frisch (1993) delivers theoretical insights into its coming into effect.

Referring back to prospect theory it has to be added that aside from the relative instead of the absolute perspective assumed the decision-making process is working differently depending on whether the decision maker views himself in a gain or a loss situation. Kahneman and Tversky (1979) show that a loss situation is viewed to be roughly two to three times as negative as a comparable gain situation is viewed as favorable. The framing heuristic can thus be interpreted to generate for the decision maker a loss or a gain perspective putting him on a different part of the expected utility function.

Chen et al. (1998) link the framing heuristic directly to price promotion and thus to advertising and while most of the early studies consider framing in a general fashion Weisstein et al. (2013) discuss its applications in an online pricing context, in particular with regards to dynamic pricing techniques. Similar to the anchor heuristic the framing heuristic can thus be assumed to function appropriately in an offline as well as an online environment.

Combining arguments from the last two sections it stands to reason that discounters by nature establish a low price anchor within their customers (vice versa for luxury stores) and by running advertisements additionally impact customers price perceptions. The question whether advertisements in a discounter context function similarly to advertisements in a general context or if there exist relevant differences - an additional discounter or luxury advertising effect - remains unanswered. This question is considered in more detail below. Answering it would directly supply insights into the question whether advertisements and sales in markets with consistent low or high price strategies function differently than in classical consumer goods markets where no general price anchors exist.

3. Methodology

3.1. Data Collection and Processing

To generate as suitable data set an online survey has been conducted.

Considering an increasing move from offline to online sales running an online survey can be considered to mirror field experiments in an online environment. While studies like Erkel (2007) and Alevy et al. (2015) show that for the anchor heuristic field experiments have already been conducted for the framing heuristic and in particular for the combination of both heuristics, field experiments up to this point have not been reported.

In a practical context Weisstein et al. (2013), Bagga and Bhatt (2013)and Wu et al. (2008) show that the anchor and framing heuristics operate similarly well in an online environment.

The sample consists of 262 participants drawing primarily from the German population (99.4%). After controlling for invalid answers and potential biases generated by too rapid answering patterns (less than 70% of time required for taking the full survey) as well as biases generated by previous knowledge about prices of the considered good - an electrical toothbrush - (Kahneman et al. (1974) implies that the anchor heuristic can only properly function if no previous price information is available). Due to the focus of the experiment on electric toothbrushes those participants that reject the use of electric toothbrushes per se were excluded from sample as well. People who already use an electric toothbrush and thus already have potential expert knowledge about the topic were not considered separately mainly due to the arguments by Mussweiler (2000) that the anchor heuristic works in a comparable fashion for experts and non-experts alike. Additionally, electric toothbrushes, while no low-price good, can still be considered as low involvement goods and thus the arguments from the preceding sections on low involvement goods hold.

Processing the data set in the proposed fashion reduces it to 163 participants providing a decent cross-section of the German population.

While incentives have been used to motivate participants to take part in the survey (a raffle with the chance of winning Amazon gift cards of 10€ each) Wright and Anderson (1989) show that in particular the anchor heuristic works unperturbed by incentives used in the study.

3.2. Analytical Framework

Participants of the survey were randomly assigned to one of four groups resulting from crossing low and high anchors with a positive and negative framing. Due to the randomness of the assignment procedure all four resulting groups report comparable participant numbers (38 to 45).

After an introduction of the general aim of the study the anchor has been set by providing the participant with information on average prices of electrical toothbrushes (124.99€ as the high price anchor and 54.99€ as the low price anchor). While some rudimentary information on the type of toothbrush has been used an artificial brand name and a company logo have been implemented to avoid unintentional recognition of the brand and thus implicit assumptions about the quality of the toothbrush and correspondingly an assumption about potential prices (Aggarwal, 2004; Hankuk & Aggarwal, 2003).

The framing heuristic has been implemented by showing the participants price increases or decreases of 15€ on the base price. It could be argued that using a price increase or decrease independent of the size of the price anchor might distort relative perceptions of the participants - opposed to determining increases and decreases as a share of the base constant - as prospect theory implies a relative frame of reference for the participants. However, using an anchor-dependent price change might on the other hand imply that in low price environments different advertising strategies are implemented per se and thus directly impact the goal of this study.

To tackle the underlying question, the analytical part is split into two parts. In the first part a two-factor variance analysis is conducted with the two factors being the anchor (low and high) and the framing variable (positive and negative). This part assures that the direct effects of both variables can be interpreted and establishes the effect sizes of the direct effects as compared to the interaction effect.

In the second part robustness checks are performed. In this regard instead of the two-factor-variance analysis a linear regression approach is considered.

4. Analysis of Anchor and Framing Effects

4.1.   Individual and Interactional Effects

Table 1 summarizes means and standard deviations for the willingness-to-buy variable (Likert scale, 1 to 8) in the four distinct groups resulting from the combination of the anchor and the framing variable. The marginal statistics show that high anchors and positive frames both emit a positive effect on the willingness-to-buy whereas in general the means are small with regards to the theoretical average of 4.5 showing that toothbrushes are a good that on average does not generate significant customer interest and could thus be safely be classified as a low involvement good. The values of the means paint a picture which does not indicate any significant interaction effects.

Table 1 Means and standard deviations for the four groups

	Positive Framing	Negative Framing	Marginal Statistics
High Anchor	M = 4.56; SD = 1.97	M = 2.28; SD = 1.38	M = 3.50; SD = 2.05
Low Anchor	M = 3.12; SD = 1.61	M = 1.71; SD = 1.11	M = 2.44; SD = 1.56
Marginal Statistics	M = 3.87; SD = 1.94	M = 2.00; SD = 1.28	M = 2.99; SD = 1.90

The situation where a high anchor is used in a positive frame where the average willingness-to-buy exceeds the theoretical average. From a marketing point of view this stresses the aspect that even with low involvement goods that might be of little initial interest to customers using decent anchoring and framing strategies can result in significant results, in particular comparing the high anchor - positive frame outcome with the low anchor - negative frame outcome - an increase of 2.79 points on the willingness-to-buy scale and thus an increase with regards to the maximum of almost 35%.

Turning to variance analysis to study the impact of the two heuristics and their interaction on the willingness-to-buy. Before the variance analysis itself has been conducted preliminary tests have shown that the variables are not normally distributed and the variances in the different groups are significantly inhomogeneous as is already visible from the statistics in Table 1. In addition, the four groups have different sample sizes. To assure that variance analysis still provides consistent and unbiased results the F_{max}-Test by Tabachnik and Fidell (2007) has been conducted showing that the difference in sample sizes between the four sub-groups is unproblematic. Steven (2007) strengthens this argument by pointing out that variance inhomogeneity only becomes a problem when the sample sizes diverge by a factor of more than 1.5 which is not the case in this study.

Figure 1 Graphical Representation of the Anchor (left) and the Framing (right) Effect
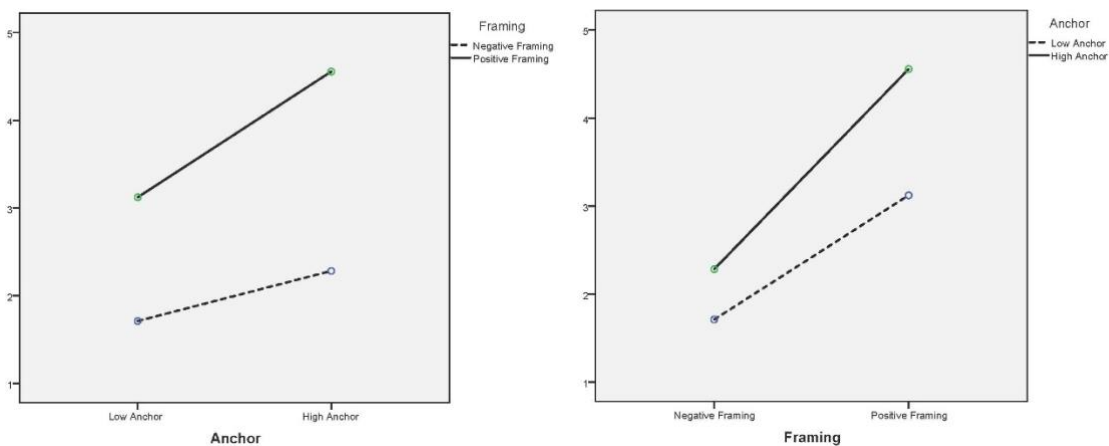
Variance analysis results in the two graphs in Figure 1 illustrating the anchor and the framing heuristic. Both direct effects - anchoring and framing - are strictly ordinal - in both graphs the lines do not intersect - and the direct effects can thus be interpreted. Additionally, both lines are not perfectly parallel suggesting that an interaction effect might be possible. The results from the two-factor variance analysis are summarized in Table 2 the last row of the table reports the overall results for the corrected model. The effect strength of 0.329 shows that the model

consisting of only anchor and framing effect as well as their interaction is able to explain almost one third of the variance of the willingness-to-buy. That this is a considerable share is established by the highly significant F-test preceding this result.

Table 2 Results - Two-factor Variance Analysis

Effects	F	Significance	η_p^2
Intercept	558.694	0.000	0.778
Anchor	16.493	0.000	0.094
Framing	55.704	0.000	0.259
Interaction	3.049	0.083	0.019
Model	25.982	0.000	0.329

In the rows above it of particular interest are the partial effect strengths of the two direct and the interaction effects. With an effect strength of 0.259 the framing effect is clearly the dominant factor driving willingness-to-buy alone being able to explain more than one quarter of its variance. The anchor effect is roughly 40% the size of the framing effect with an effect strength just below 0.1. Both of these direct effects are highly significant at a significance level of less than 1%. The interaction effect of a low price anchor combined with a positive framing reports an effect size of only 0.019 - about one fifth of the strength of the anchor effect or only 7.3% of the framing effect - and thus can only explain about 2% of the variance of the willingness-to-buy. While at first this looks like a negligibly marginal effect it still is weakly significant at a significance level of 8.3%. The weak significance in this context stems mostly from the comparatively small number of observations - with the power rule indicating a sample size of 649 for the effect to become significant at the 5% level.

This result implies that while framing and price anchors play a significantly more important role in determining overall willingness-to-buy there exists an additional non-negligible effect of price-based advertisements in the presence of a low price anchor.

While this already answers the question posed in an earlier section as to the difference of advertisements in different price environments it does not provide answers as to the type of differences and whether these differences remain stable if socio-demographic characteristics of the customers are considered as well. In this course in the next section an extended linear regression model is run to assure stability of the reported results.

4.2.   Robustness Checks

The base regression model considered in this section uses the z-standardized anchor and framing variable as regressors and the willingness-to-buy variable as regressant.

The base model is extended by including dummy variables for gender (0 male, 1 female), age (under 18, 18-24, 25-44, older than 44 - with older than 44 being the reference group) and income (0€-500€, 501€-1000€, 1001€-2000€, more than 2000€ - with more than 2000€ being the reference group). Table 3 summarizes the results of the five different models run. The first

row for each variable reports the coefficient, the second row reports the standard error and the third row the corresponding signifance levels, i.e. p-values. For the F-statistic the second row contains the p-values of the respective F-test.

Table 3 Results - Regression Analysis

Variable	Model 1 Base Model	Model 2 Incl. Gender	Model 3 Incl. Age	Model 4 Incl. Income	Model 5 Full Model
Anchor	-0.515	-0.505	-0.508	-0.520	-0.503
	(0.124)	(0.124)	(0.120)	(0.124)	(0.123)
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Framing	0.929	0.934	0.914	0.935	0.916
	(0.124)	(0.124)	(0.121)	(0.123)	(0.123)
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Interaction	-0.216	-0.222	-0.234	-0.225	-0.235
	(0.124)	(0.124)	(0.121)	(0.124)	(0.123)
	(0.073)	(0.076)	(0.055)	(0.071)	(0.059)
Gender	-	-0.212	-	-	-0.081
		(0.400)			(0.265)
		(0.400)			(0.761)
Age (under 18)	-	-	2.369	-	2.117
			(0.688)		(0.786)
			(0.001)		(0.008)
Age (18-24)	-	-	1.015	-	0.846
			(0.485)		(0.582)
			(0.038)		(0.148)
Age (25-44)	-	-	0.757	-	0.661
			(0.518)		(0.568)
			(0.146)		(0.246)
Income (less than 500)	-	-	-	0.891	0.296
				(0.391)	(0.488)
				(0.024)	(0.545)
Income (500-1000)	-	-	-	0.489	0.206
				(0.388)	(0.451)
				(0.209)	(0.649)
Income (1001-2000)	-	-	-	0.378	0.094
				(0.376)	(0.441)
				(0.316)	(0.832)
Constant	2.984	3.286	2.032	2.507	2.129
	(0.123)	(0.378)	(0.461)	(0.306)	(0.634)
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
R^2	0.329	0.332	0.380	0.352	0.383
F	25.982	19.629	15.948	14.115	9.450
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

While the three socio-demographic variables in general do not emit a significant impact on overall model quality as the R^2 in no model exceeds 0.383 (with its adjusted version never becoming larger than 0.356). Thus, it is not surprising that the effect sizes of anchor and framing effect as well as the interaction terms remain stable within very narrow bounds. In particular the interaction term remains significant in all five models - even though only weakly - implying

that though small the proposed effect of advertisements in the presence of low price anchors consistently persists.

Considering the results from the variance analysis in the previous section it does not surprise that the framing effect (implemented as 0 representing a negative frame and 1 a positive frame) reports a positive sign and the anchor effect (implemented as 0 representing a high anchor and 1 a low anchor) reports a negative sign. This implementation scheme has been adopted to easier interpret the interaction term which is the product of anchor and framing effect (implemented as 1 for a low anchor and a positive framing and 0 in all other cases). Referring to the results in Table 1 and the signs of the direct effects it does not surprise that the interaction effect also reports a negative sign.

One additional result from the table is worth pointing out. While willingness-to-buy is generally higher in younger participants it can be noted that it is the only variable which at least slightly reduces the framing effect. This could point to a potential moderating effect that age has on the willingness-to-buy as well as on the strength of the framing effects or as it slightly diminishes the effect of the anchoring effect as well on the relevance of heuristics in general. The relevance of age as a moderator might actually have been even more relevant in the unprocessed data set as age is strongly correlated with income and the implemented data set has been specifically processed to avoid biases due to changes in income.

The strong correlation between age and income also explains why income is considered alone in model 4 emits an effect on willingness-to-buy while in the total model its effect becomes insignificant.

5. Conclusions

The present study considered the anchor and the framing heuristic introduced more than four decades ago by Kahneman et al. (1974). Opposed to most of the previous studies where anchor and framing heuristic have been studied separately and in designs that did not come close to field experiments this study proposes first results for an interaction of anchor and framing heuristic if considered together. The impact sizes of both heuristics have been compared implying that the framing heuristic is significantly more important - by a factor of about 2.5 - with regards to willingness-to-buy as compared to the anchor heuristic. The interaction effect generated via the interplay of both variables even though rather small by itself - only one fifth of the effect of the anchor heuristic nevertheless plays a consistent and relevant role in explaining the overall willingness-to-buy.

Applied to the underlying business situation of price-oriented advertisements it has been established that advertisements / price reductions under established low or high price anchors or in consistently low or high price environments work significantly different than those in environments with no specific price structure.

In this context this study might act as an initial impulse with regards to the question whether it is the difference of high and low-price environments that affect the differences in advertisement effectiveness per se or whether classical high or low price suppliers might even be furthermore divided into sub-groups and in how far the arguments by Hardie (1993) hold and effects are weaker in environments with consistent low or high price structures.

Even though it operates only as a first initial impulse it provides valuable insights for advertising professionals operating where either the environment or specific measures like recommended retail prices have already established price anchors in customers.

The study operates under the caveat that a focus is put on only two aspects of the price evaluation process. Considering Monroe (1990) where a larger number of impact factors are discussed the two heuristics considered reflect only a small share. Nevertheless, as shown in the preceding analysis this selection of only two heuristics already manages to explain roughly one third of the willingness-to-buy.

Additional research is furthermore required in testing whether the uttered willingness-to-buy translates into the concrete act of buying the product more frequently.

While the study aimed at providing a cross-section of the German population it still falls short in particular with regards to older participants. It would thus be a valuable addition to this study to extend it to the group of older people - aged 65 and up. In the same direction it can be argued that while this study aims to mirror the online shopping situation it still is no full-fledged field experimental design and especially suppliers in low or high price environments might be interesting in how far these results will hold in the field.

References

Aggarwal, P. (2004). The Effects of Brand Relationship Norms on Consumer Attitudes and Behavior. *Journal of Consumer Research*, *31*(1), 87–101.

Alevy, J. E., Landry, C., & List, J. A. (2015). Field experiments on the anchoring of economic valuations. *Economic Inquiry*, *53*(3), 1522–1538.

Bagga, T., & Bhatt, M. (2013). A Study of Intrinsic and Extrinsic Factors Influencing Consumer Buying Behavior Online. *Asia-Pacific Journal of Management*, *9*(1), 77–90.

Chaiken, S. (1980). Heuristic Versus Systematic Information Processing and the Use of Source Versus Message Cues in Persuasion. *Journal of Personality and Social Psychology*, *39*(5), 752–766.

Chen, S.-F. S., Monroe, K. B., & Lou, Y.-C. (1998). The Effects of Framing Price Promotion Messages on Consumers' Perceptions and Purchase Intentions. *Journal of Retailing*, *74*(3), 353–372.

Chernev, A., Boeckenholt, U., & Goodman, J. (2015). Choice Overload: A Conceptual Review and Meta-Analysis. *Journal of Consumer Psychology*, *25*(2), 333–358.

Epley, N., & Gilovich, T. (2006). The Anchoring- and Adjustment Heuristic. *Psychological Science*, *17*(4), 311–318.

Erkel, S.-E. (2007). *Der Einfluss von Ankern auf Verkaufsergebnisse in telefonischen Verkaufsgesprächen*. Kassel: Universität Kassel.

Frankish, K. (2009). *In Two Minds: Dual Processes and Beyond*. Oxford University Press.

Frisch, D. (1993). Reasons for Framing Effects. *Organizational Behavior and Human Decision Processes*, *54*(3), 399–429.

Furnham, A., & Boo, H. C. (2011). A Literature Review of the Anchoring Effect. *Journal of Socio-Economics*, *40*(1), 35–42.

Gloeckner, A., & Witteman, C. (2009). Beyond Dual-Process Models: A Categorisation of Processes Underlying Intuitive Judgement and Decision Making. *Thinking & Reasoning*, *16*(1), 1–25.

Hankuk, T. C., & Aggarwal, P. (2003). When Gains exceed Losses. Attribute Trade-Offs and Prospect Theory. *Advances in Consumer Research*, *30*(1), 118–124.

Hardie, B.G.S. (1993). Modelling Loss Aversion and Reference Dependence Effects on Brand Choice. *Marketing Science*, *124*, 378–394.

Iyengar, S., & Lepper, M. (2000). When Choice is Demotivating: Can one Desire too much of a good Thing. *Journal of Personality and Social Psychology*, *79*(6), 995–1006.

Kahneman, D., Slovic, P., & Tversky, A. (1974). Judgement under Uncertainty. Heuristics and Biases. *Science*, *184*(4157), 1124–1131.

Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision Under Risk. *Econometrica*, *47*, 263–291.

Kahneman, D., & Tversky, A. (1984). Choices, Values and Frames. *American Psychologist*, *39*(4), 341–350.

Kahneman, D., & Tversky, A. (2000). *Choices, Values and Frames*. Cambridge University Press.

Kool, W., McGuire, J. T., Rosen, Z. B., & Botvinick, M. M. (2010). Decision Making and the Avoidance of Cognitive Demand. *Journal of Experimental Psychology: General*, *139*, 665–682.

Levin, I. P. (1987). Associative Effects of Information Framing. *Bulletin of the Psychonomic Society*, *25*(2), 85–86.

Monroe, K. B. (1973). Buyers' Subjective Perceptions of Price. *Journal of Marketing Research*, *10*(1), 70–80.

Monroe, K. B. (1990). *Pricing. Making Profitable Decisions* (2nd ed.). McGraw-Hill.

Mussweiler, T. (2000). The Use of Category and Exemplar Knowledge in the Solution of Anchoring Tasks. *Journal of Personality and Social Psychology*, *78*(6), 1038–1052.

Mussweiler, T., Strack, F., & Pfeiffer. T. (2000). Overcoming the Inevitable Anchoring Effect. Considering the Opposite Compensates for Selective Accessibility. *Personality and Social Psychology Bulletin*, *26*(9), 1142–1150.

Rinn, P. (2018). *Smart-Pricing: Einfluss des Ankereffekts in der individualisierten Preisgestaltung auf die Kaufentschedung - eine empirische Untersuchung* (1st ed.). Unpublished Bachelor-Thesis.

Schneider, W., & Shiffrin, R. M. (1977a). Controlled and Automatic Human Information Processing I. Detection, Search, and Attention. *Psychological Review*, *84*(1), 1–66.

Schneider, W., & Shiffrin, R. M. (1977b). Controlled and Automatic Human Information Processing II. Perceptual Learning, Automatic Attending and a General Theory. *Psychological Review*, *84*(2), 127–190.

Simon, H. A. (1956). Rational Choice and the Structure of the Environment. *Psychological Review*, *63*, 129–138.

Stanovich, K. E., & West, R. F. (2000). Individual Differences in Reasoning: Implications for the Rationality Debate? *Behavioral and Brain Sciences*, *23*(5), 645–664.

Steven, J. P. (2007). *Intermediate Statistics. A Modern Approach* (3rd ed.). Lawrence Erlbaum Associates.

Stroop, J. R. (1935). Studies of Interference in Serial Verbal Reactions. *Journal of Experimental Psychology*, *18*, 643–662.

Tabachnik, B. G., & Fidell, L. S. (2007). *Using Multivariate Statistics* (5th ed.). Pearson.

Thaler, R. (1980). Towards a Positive Theory of Consumer Choice. *Journal of Economic Behavior & Organization*, *1*(1), 39–60.

Tversky, A., & Kahneman, D. (1981). The Framing of Decisions and the Psychology of Choice. *Science*, *211*(4481), 453–458.

Tversky, A., & Kahneman, D. (1992). Advances in Prospect Theory. Cumulative Representation of Uncertainty. *Journal of Risk and Uncertainty*, *5*(4), 297–323.

Wansink, B., Kent, R. J., & Hoch, S. J. (1998). An Anchoring and Adjustment Model of Purchase Quantity Decisions. *Journal of Marketing Research*, *35*(1), 71–81.

Wason, P. C., & Evans, J.S.B.T. (1975). Dual Processes in Reasoning. *Cognition*, *3*(2), 141–154.

Weisstein, F. L., Monroe, K. B., & Kukar-Kinney, M. (2013). Effects of Price Framing on Consumers' Perceptions of Online Dynamic Pricing Practices. *Journal of the Academy of Marketing Science*, *41*(5), 501–514.

Wright, W. F., & Anderson, U. (1989). Effects of Situation Familiarity and Financial Incentives on use of the Anchoring and Adjustment Heuristic for Probability Assessment. *Organizational Behavior and Human Decision Processes*, *44*(1), 68–82.

Wu, C. S., Cheng, F. F., & Lin, H. H. (2008). Exploring Anchoring Effect and the Moderating Role of Repeated Anchor in Electronic Commerce. *Behavior & Information Technology*, *27*(1), 31–42.

Zajonc, R. B. (1980). Feeling and Thinking: Preferences need no Inferences. *American Psychologist*, *35*, 151–175.

EIIW Diskussionsbeiträge

EIIW Discussion Papers

No. 173 **Welfens P.J.J; Perret K.J.:** Structural Change, Specialization and Growth in EU 25, January 2010

No. 174 **Welfens P.J.J.; Perret K.J.; Erdem D.:** Global Economic Sustainability Indicator: Analysis and Policy Options for the Copenhagen Process, February 2010

No. 175 **Welfens, P.J.J.:** Rating, Kapitalmarktsignale und Risikomanagement: Reformansätze nach der Transatlantischen Bankenkrise, Februar 2010

No. 176 **Mahmutovic, Z.:** Patendatenbank: Implementierung und Nutzung, Juli 2010

No. 177 **Welfens, P.J.J.:** Toward a New Concept of Universal Services: The Role of Digital Mobile Services and Network Neutrality, November 2010

No. 178 **Perret J.K.:** A Core-Periphery Pattern in Russia – Twin Peaks or a Rat´s Tail, December 2010

No. 179 **Welfens P.J.J.:** New Open Economy Policy Perspectives: Modified Golden Rule and Hybrid Welfare, December 2010

No. 180 **Welfens P.J.J.:** European and Global Reform Requirements for Overcoming the Banking Crisis, December 2010

No. 181 **Szanyi, M.:** Industrial Clusters: Concepts and Empirical Evidence from East-Central Europe, December 2010

No. 182 **Szalavetz, A.:** The Hungarian automotive sector – a comparative CEE perspective with special emphasis on structural change, December 2010

No. 183 **Welfens, P.J.J.; Perret, K.J.; Erdem, D.:** The Hungarian ICT sector – a comparative CEE perspective with special emphasis on structural change, December 2010

No. 184 **Lengyel, B.:** Regional clustering tendencies of the Hungarian automotive and ICT industries in the first half of the 2000's, December 2010

No. 185 **Schröder, C.:** Regionale und unternehmensspezifische Faktoren einer hohen Wachstumsdynamik von IKT Unternehmen in Deutschland; Dezember 2010

No. 186 **Emons, O.:** Innovation and Specialization Dynamics in the European Automotive Sector: Comparative Analysis of Cooperation & Application Network, October 2010

No. 187 **Welfens, P.J.J.:** The Twin Crisis: From the Transatlantic Banking Crisis to the Euro Crisis? January 2011

No. 188 **Welfens, P.J.J.:** Green ICT Dynamics: Key Issues and Findings for Germany, March 2012

No. 189 **Erdem, D.:** Foreign Direct Investments, Energy Efficiency and Innovation Dynamics, July 2011

No. 190 **Welfens, P.J.J.:** Atomstromkosten und -risiken: Haftpflichtfragen und Optionen rationaler Wirtschaftspolitik, Mai 2011

No. 191 **Welfens, P.J.J.:** Towards a Euro Fiscal Union: Reinforced Fiscal and Macroeconomic Coordination and Surveillance is Not Enough, January 2012

No. 192 **Irawan, T.:** ICT and economic development: Conclusion from IO Analysis for Selected ASEAN Member States, November 2013

No. 193 **Welfens, P.J.J.; Perret, J.:** Information & Communication Technology and True Real GDP: Economic Analysis and Findings for Selected Countries, February 2014

No. 194 **Schröder, C.:** Dynamics of ICT Cooperation Networks in Selected German ICT Clusters, August 2013

No. 195 **Welfens, P.J.J.; Jungmittag, A.:** Telecommunications Dynamics, Output and Employment, September 2013

No. 196 **Feiguine, G.; Solojova, J.:** ICT Investment and Internationalization of the Russian Economy, September 2013

No. 197 **Kubielas, S.; Olender-Skorek, M.:** ICT Modernization in Central and Eastern Europe, May 2014 Trade and Foreign Direct Investment New Theoretical Approach and Empirical Findings for US Exports & European Exports

No. 198 **Feiguine, G.; Solovjova, J.:** Significance of Foreign Direct Investment for the Development of Russian ICT sector, May 2014

No. 199 **Feiguine, G.; Solovjova, J.:** ICT Modernization and Globalization: Russian Perspectives, February 2012

No. 200 **Syraya, O.:** Mobile Telecommunications and Digital Innovations, May 2014

No. 201 **Tan, A.:** Harnessing the Power if ICT and Innovation Case Study Singapore, March 2014

No. 202 **Udalov, V.:** Political-Economic Aspects of Renewable Energy: Voting on the Level of Renewable Energy Support, November 2014

No. 203 **Welfens, P.J.J.:** Overcoming the EU Crisis and Prospects for a Political Union, March 2014

No. 204 **Welfens, P.J.J.; Irawan, T.:** Trade and Foreign Direct Investment: New Theoretical Approach and Empirical Findings for US Exports and European Exports, November 2014

No. 205 **Welfens, P.J.J.:** Competition in Telecommunications and Internet Services: Problems with Asymmetric Regulations, December 2014

No. 206 **Welfens, P.J.J.:** Innovation, Inequality and a Golden Rule for Growth in an Economy with Cobb-Douglas Function and an R&D Sector

No. 207 **Jens K. Perret.:** Comments on the Impact of Knowledge on Economic Growth across the Regions of the Russian Federation

No. 208 **Welfens, P.J.J.; Irawan T.:** European Innovations Dynamics and US Economic Impact: Theory and Empirical Analysis, June 2015

No. 209 **Welfens, P.J.J.:** Transatlantisches Freihandelsabkommen EU-USA: Befunde zu den TTIP-Vorteilen und Anmerkungen zur TTIP-Debatte, Juni 2015

No. 210 **Welfens, P.J.J.:** Overcoming the Euro Crisis and Prospects for a Political Union, July 2015

No. 211 **Welfens, P.J.J.:** Schumpeterian Macroeconomic Production Function for Open Economies: A New Endogenous Knowledge and Output Analysis, January 2016

No. 212 **Jungmittag, A.; Welfens, P.J.J.:** Beyond EU-US Trade Dynamics: TTIP Effects Related to Foreign Direct Investment and Innovation, February 2016

No. 213 **Welfens, P.J.J.:** Misleading TTIP analysis in the 6th/7th May 2016 issue of DER SPIEGEL, May 2016

No. 214 **Welfens, P.J.J.:** TTIP-Fehlanalyse im SPIEGEL Heft 6. Mai 2016, Mai 2016

No. 215 **Welfens, P.J.J.; Irawan, T.; Perret, J.K.:** True Investment-GDP Ratio in a World Economy with Investment in Information & Communication Technology, June 2016

No. 216 **Welfens, P.J.J.:** EU-Osterweiterung: Anpassungsprozesse, Binnenmarktdynamik und Euro-Perspektiven, August 2016

No. 217 **Perret, J.K.:** A Spatial Knowledge Production Function Approach for the Regions of the Russian Federation, June 2016

No. 218 **Korus, A.:** Currency Overvaluation and R&D Spending, September 2016

No. 219 **Welfens, P.J.J.:** Cameron's Information Disaster in the Referendum of 2016: An Exit from Brexit? September 2016

No. 220 **Welfens, P.J.J.:** Qualitätswettbewerb, Produktinnovationen und Schumpetersche Prozesse in internationalen Märkten, October 2016

No. 221 **Jungmittag, A.:** Techno-Globalisierung, October 2016

No. 222 **Dachs, B.:** Techno-Globalisierung als Motor des Aufholprozesses im österreichischen Innovationssystem, October 2016

No. 223 **Perret, J.K.:** Strukturwandel in der Europäischen Union am Beispiel ausgewählter Leitmärkte mit besonderem Bezug auf die Innovationstätigkeit der Mitgliedsländer, October 2016

No. 224 **Irawan, T.; Welfens, P.J.J.:** ICT Dynamics and Regional Trade Bias in Asia: Theory and Empirical Aspects, October 2016

No. 225 **Korus, A.:** Erneuerbare Energien und Leitmärkte in der EU und Deutschland, October 2016

No. 226 **Dachs, B.; Budde, B.:** Fallstudie Nachhaltiges Bauen und Lead Markets in Österreich, October 2016

No. 227 **Welfens, P.J.J.:** eHealth: Grundlagen der Digitalen Gesundheitswirtschaft und Leitmarktperspektiven, October 2016

No. 228 **Korus, A.:** Innovationsorientierte öffentliche Beschaffung und Leitmärkte: Politische Initiativen in der EU, October 2016

No. 230 **Nan, Yu:** Innovation of renewable energy generation technologies at a regional level in China: A study based on patent data analysis, December 2016

No. 231 **Welfens, P.J.J; Debes, C.:** Globale Nachhaltigkeit 2017: Ergebnisse zum EIIW-vita Nachhaltigkeitsindikator, März 2018

No. 232 **Welfens, P.J.J.:** Negative Welfare Effects from Enhanced International M&As in the Post-BREXIT-Referendum UK, April 2017

No. 233 **Udalov, V.; Welfens, P.J.J.:** Digital and Competing Information Sources: Impact on Environmental Concern und Prospects for Cooperation, April 2017

No. 234 **Welfens, P.J.J.:** The True Cost of BREXIT for the UK: A Research Note, October 2017

No. 235 **Welfens, P.J.J.; Hanrahan, D.:** BREXIT: Key Analytical Issues and Insights from Revised Economic Forecasts, January 2018

No. 236 **Welfens, P.J.J.:** Techno-Globalisierung, Leitmärkte und Strukturwandel in wirtschaftspolitischer Sicht, August 2017

No. 238 **Welfens, P.J.J.:** Foreign Financial Deregulation under Flexible and Fixed Exchange Rates, June 2017

No. 239 **Welfens, P.J.J.; Kadiric, S.:** Neuere Finanzmarktaspekte von Bankenkrise, QE-Politik und EU-Bankenaufsicht, July 2017

No. 240 **Welfens, P.J.J.; Hanrahan, D.:** The BREXIT Dynamics: British and EU27 Challenges after the EU Referendum, May 2017

No. 241 **Welfens, P.J.J.; Baier, F.:** BREXIT and FDI: Key Issues and New Empirical Findings, January 2018

No. 242 **Welfens, P.J.J.:** International Risk Management in BREXIT and Policy Options, March 2018

No. 243 **Korus, A.; Celebi, K.:** The Impact of Brexit on the British Pound/Euro Exchange rate The Impact of Brexit on the British Pound/Euro Exchange rate, April 2018

No. 244 **Welfens, P.J.J.; Yushkova, E.:** IKT-Sektor in China und Wirtschaftsbeziehungen zu Deutschland, April 2018

No. 245 **Udalov, V.:** Analysis of Individual Renewable Energy Support: An Enhanced Model, June 2018

No. 246 **Welfens, P.J.J.:** Lack of International Risk Management in BREXIT? July 18 2018

No. 247 **Xiong, T.; Welfens, P.J.J.:** The Effects of Foreign Direct Investment on Regional Innovation Capacity in China, June 2018

No. 248 **Welfens, P.J.J.:** New Marshall-Lerner Conditions for an Economy with Outward and Two-Way Foreign Direct Investment, July 2018, Updated February 2019

No. 249 **Welfens, P.J.J.; Xiong, T.:** BREXIT Perspectives: Financial Market Dynamics, Welfare Aspects and Problems from Slower Growth, September 2018

No. 250 **Welfens, P.J.J.; Udalov, V.:** International Inequality Dynamics: Issues and Evidence of a Redistribution Kuznets Curve, September 2018

No. 251 **Kadiric, S.; Korus, A.:** The Effects of Brexit on Corporate Yield Spreads: Evidence from UK and Eurozone Corporate Bond Markets, September 2018

No. 252 **Welfens, P.J.J.:** Import Tariffs, Foreign Direct Investment and Innovation: A New View on Growth and Protectionism, December 2018

No. 253 **Welfens, P.J.J.:** Explaining Trumpism as a Structural US Problem: New Insights and Transatlantic Plus Global Economic Perspectives, October 2018

No. 254 **Baier, F.J.; Welfens, P.J.J.:** The UK's Banking FDI Flows and Total British FDI: A Dynamic BREXIT Analysis, November 2018

No. 255 **Welfens, P.J.J.; Yu, N.; Hanrahan, D.; Schmuelling, B; Fechtner, H.:** Electrical Bus Mobility in the EU and China: Technological, Ecological and Economic Policy Perspectives, December 2018

No. 256 **Welfens, P.J.J.; Baier, F.; Kadiric, S.; Korus, A.; Xiong, T.:** EU28 Capital Market Perspectives of a Hard BREXIT: Theory, Empirical Findings and Policy Options, March 2019

No. 257 **Welfens, P.J.J.:** Council of Economic Advisers: Biased Per Capita Consumption Comparison of the US with Europe, March 2019 (forthcoming)

No. 258 **Welfens, P.J.J.:** Wirtschaftspolitik-Fehlorientierung des Westens nach 1989: Bankenkrise, Globalisierungs-Ordnungsdefizit und Desintegrationsdruck, April 2019

No. 259 **Welfens, P.J.J.:** CO2-Steuer, Zertifikate-Handel und Innovationsförderung als Klimapolitik-Instrumente, June 2019

No. 260 **Welfens, P.J.J.:** BREXIT- Wirtschaftsperspektiven für Deutschland und NRW: Mittel- und langfristige Effekte & Politikoptionen, June 2019

No. 261 **Baier, F.J.:** Foreign Direct Investment and Tax: OECD Gravity Modelling in a World with International Financial Institutions, August 2019

No. 262 **Welfens, P.J.J.:** Rationale Klimapolitik für das Erreichen des Ziels Klimaneutralität: NRW-Deutschland-EU-G20Plus, Oktober 2019

No. 263 **Welfens, P.J.J.:** After Eastern German State Elections 2019: Germany Facing Serious Politico-Economic Problems, September 2019

No. 264 **Jungmittag, A.; Welfens, Paul J.J.:** EU-US Trade Post-Trump Perspectives: TTIP Aspects Related to Foreign Direct Investment and Innovation, November 2019

No. 265 **Welfens, P.J.J.:** Financial Markets and Oil Prices in a Schumpeterian Context of CO2-Allowance Markets, December 2019

No. 266 **Welfens, P.J.J.; Xiong, T.:** US MNCs' Reinvested Earnings and Investment in EU Countries: New Thoughts on Feldstein-Horioka, December 2019, *forthcoming*

No. 267 **Welfens, P.J.J.; Celebi, K.:** CO2 Allowance Price Dynamics and Stock Markets in EU Countries: Empirical Findings and Global CO2-Perspectives, January 2020

No. 268 **Celebi, K.:** Quo Vadis, Britain? – Implications of the Brexit Process on the UK's Real Economy, January 2020

No. 269 **Welfens, P.J.J.:** The Optimum Import Tariff in the Presence of Outward Foreign Direct Investment, January 2020

No. 270 **Welfens, P.J.J.:** Macroeconomic Aspects of the Coronavirus Epidemic: Eurozone, EU, US and Chinese Perspectives, March 2020

No. 271 **Kadiric, S.:** The Determinants of Sovereign Risk Premiums in the UK and the European Government Bond Market: The Impact of Brexit, March 2020

No. 272 **Welfens, P.J.J.:** Macroeconomic and Health Care Aspects of the Coronavirus Epidemic: EU, US and Global Perspectives, April 2020

No. 273 **Welfens, P.J.J.:** Corona World Recession and Health System Crisis: Shocks Not Understood So Far, May 2020

No. 274 **Bretschger, L.; Grieg, E.; Welfens, P.J.J.; Xiong, T.:** Corona Fatality Development, Medical Indicators and the Environment: Empirical Evidence for OECD Countries, June 2020

No. 275 **Welfens, P.J.J.:** Doubts on the Role of Disturbance Variance in New Keynesian Models and Suggested Refinements, October 2020

No. 277 **Bretschger, L.; Grieg, E.; Welfens, P.J.J.; Xiong, T.:** COVID-19 Infections and Fatalities Developments: Empirical Evidence for OECD Countries and Newly Industrialized Economies, September 2020

No. 279 **Welfens, P.J.J.:** Product Innovations, Process Innovations and Foreign Direct Investment: New Theoretical Aspects and Empirical Findings, December 2020

No. 280 **Zander, T.:** Does corruption matter for FDI flows in the OECD? A gravity analysis, October 2020

No. 281 **Celebi, K.; Welfens, P.J.J:** The Economic Impact of Trump: Conclusions from an Impact Evaluation Analysis, October 2020

No. 283 **Welfens, P.J.J:** Optimal Inward Foreign Direct Investment Share within an International M&A Setting, November 2020

No. 285 **Hanrahan, D.:** Tax Challenges of the Digitalized Economy, December 14th 2020

No. 286 **Welfens, P.J.J:** Corona-Impfpolitik-Perspektiven: Grundlagen, Probleme und Strategieoptionen, December 19th 2020 (Vorabversion)

No. 287 **Welfens, P.J.J.; Wilke, A.:** Urban Wind Energy Production Potential: New Opportunities, December 21st 2020

No. 288 **Welfens, P.J.J.:** The Background of Trumpism and its Main Economic Effects, December 30th 2020

No. 289 **Gries, T.; Welfens, P.J.J.:** Testing as an Approach to Control the Corona Epidemic Dynamics and Avoid Lockdowns, January 11th 2021

No. 290 **Gries, T.; Welfens, P.J.J.:** Testen als Ansatz zur Kontrolle der Corona-Epidemie und zur Vermeidung von Lockdowns, January 11th 2021

No. 291 **Celebi, K.; Welfens, P.J.J.:** The Stock Market, Labor-Income Risk and Unemployment in the US: Empirical Findings and Policy Implications, January 27th 2021

No. 295 **Welfens, P.J.J.:** Nationale und globale Impfstoffbeschaffung in einer Pandemie-Situation: Rationale Patent-Ersatzoption, February 18th 2021

No. 296 **Welfens, P.J.J.:** National and Global Vaccine Procurement in a Pandemic Situation: Rational Patent Replacement Option, April 7th 2021

No. 297 **Welfens, P.J.J.:** Gesundheitsförderung und Klimapolitik: Neue Krankenversicherungs-Perspektiven zu Marktdynamik und Klimafortschritt, March 24th 2021

No. 299 **Dauenhauer, C.; Perret J.K.:** Determinants of Purchasing Behavior – On the Interaction of Price Anchors and the Framing of Price Changes, April 9th 2021

Weitere Beiträge von Interesse:

Titels of related interest:

Paul J.J. Welfens (2019), Klimaschutzpolitik - Das Ende der Komfortzone: Neue wirtschaftliche und internationale Perspektiven zur Klimadebatte, Springer Heidelberg

Paul J.J. Welfens (2019), The Global Trump - Structural US Populism and Economic Conflicts with Europe and Asia, Palgrave Macmillan London

Paul J.J. Welfens (2018), Brexit aus Versehen: Europäische Union zwischen Desintegration und neuer EU, 2.A, Springer Heidelberg

Paul J.J. Welfens; Samir Kadiric (2018), Bankenaufsicht, Unkonventionelle Geldpolitik und Bankenregulierung, DeGruyter Oldenbourg

Paul J.J. Welfens (2017), An Accidental BREXIT: New EU and Transatlantic Economic Perspectives, Palgrave Macmillan London

Paul J.J. Welfens (2017), Macro Innovation Dynamics and the Golden Age, New Insights into Schumpeterian Dynamics, Inequality and Economic Growth, Springer Heidelberg

Paul J.J. Welfens (Nov. 2016), Brexit aus Versehen: Europäische Union zwischen Desintegration und neuer EU, Springer Heidelberg

Paul J.J. Welfens; Jens K. Perret; Tony Irawan; Evgeniya Yushkova (2015), Towards Global Sustainability, Springer Berlin Heidelberg

Paul J.J. Welfens; A. Korus; T. Irawan (2014), Transatlantisches Handels- und Investitionsabkommen: Handels-, Wachstums- und industrielle Beschäftigungsdynamik in Deutschland, den USA und Europa, Lucius & Lucius Stuttgart

Paul J.J. Welfens (2013), Grundlagen der Wirtschaftspolitik, 5. Auflage, Springer Berlin Heidelberg

Paul J.J. Welfens (2013), Social Security and Economic Globalization, Springer Berlin Heidelberg

Paul J.J. Welfens (2012), Clusters in Automotive and Information & Communication Technology, Springer Berlin Heidelberg

Paul J.J. Welfens (2011), Innovations in Macroeconomics, 3rd revised and enlarged edition, Springer Berlin Heidelberg

Paul J.J. Welfens (2011), Zukunftsfähige Wirtschaftspolitik für Deutschland und Europa, Springer Berlin Heidelberg

Paul J.J. Welfens; Cillian Ryan, eds. (2011), Financial Market Integration and Growth, Springer Berlin Heidelberg

Raimund Bleischwitz; Paul J.J. Welfens; Zhong Xiang Zhang (2011), International Economics of Resource Efficiency, Physica-Verlag Heidelberg

Paul J.J. Welfens; John T. Addison (2009), Innovation, Employment and Growth Policy Issues in the EU and the US, Springer Berlin Heidelberg

Paul J.J. Welfens; Suthiphand Chirathivat; Franz Knipping (2009), EU – ASEAN, Springer Berlin Heidelberg

Paul J.J. Welfens; Ellen Walther-Klaus (2008), Digital Excellence, Springer Berlin Heidelberg

Huub Meijers; Bernhard Dachs; Paul J.J. Welfens (2008), Internationalisation of European ICT Activities, Springer Berlin Heidelberg

Richard Tilly; Paul J.J. Welfens; Michael Heise (2007), 50 Years of EU Economic Dynamics, Springer Berlin Heidelberg

Paul J.J. Welfens; Mathias Weske (2007), Digital Economic Dynamics, Springer Berlin Heidelberg

Paul J.J. Welfens; Franz Knipping; Suthiphand Chirathivat (2006), Integration in Asia and Europe, Springer Berlin Heidelberg

Edward M. Graham; Nina Oding; Paul J.J. Welfens (2005), Internationalization and Economic Policy Reforms in Transition Countries, Springer Berlin Heidelberg

Paul J.J. Welfens; Anna Wziatek-Kubiak (2005), Structural Change and Exchange Rate Dynamics, Springer Berlin Heidelberg

Paul J.J. Welfens; Peter Zoche; Andre Jungmittag; Bernd Beckert; Martina Joisten (2005), Internetwirtschaft 2010, Physica-Verlag Heidelberg

Evgeny Gavrilenkov; Paul J.J. Welfens; Ralf Wiegert (2004), Economic Opening Up and Growth in Russia, Springer Berlin Heidelberg

John T. Addison; Paul J.J. Welfens (2003), Labor Markets and Social Security, Springer Berlin Heidelberg

Timothy Lane; Nina Oding; Paul J.J. Welfens (2003), Real and Financial Economic Dynamics in Russia and Eastern Europe, Springer Berlin Heidelberg

Claude E. Barfield; Günter S. Heiduk; Paul J.J. Welfens (2003), Internet, Economic Growth and Globalization, Springer Berlin Heidelberg

Thomas Gries; Andre Jungmittag; Paul J.J. Welfens (2003), Neue Wachstums- und Innovationspolitik in Deutschland und Europa, Physica-Verlag Heidelberg

Hermann-Josef Bunte; Paul J.J. Welfens (2002), Wettbewerbsdynamik und Marktabgrenzung auf Telekommunikationsmärkten, Springer Berlin Heidelberg

Paul J.J. Welfens; Ralf Wiegert (2002), Transformationskrise und neue Wirtschaftsreformen in Russland, Physica-Verlag Heidelberg

Paul J.J. Welfens; Andre Jungmittag (2002), Internet, Telekomliberalisierung und Wirtschaftswachstum, Springer Berlin Heidelberg

Paul J.J. Welfens (2002), Interneteconomics.net, Springer Berlin Heidelberg

David B. Audretsch; Paul J.J. Welfens (2002), The New Economy and Economic Growth in Europe and the US, Springer Berlin Heidelberg

Paul J.J. Welfens (2001), European Monetary Union and Exchange Rate Dynamics, Springer Berlin Heidelberg

Paul J.J. Welfens (2001), Internationalization of the Economy and Environmental Policy Options, Springer Berlin Heidelberg

Paul J.J. Welfens (2001), Stabilizing and Integrating the Balkans, Springer Berlin Heidelberg

Richard Tilly; Paul J.J. Welfens (2000), Economic Globalization, International Organizations and Crisis Management, Springer Berlin Heidelberg

Paul J.J. Welfens; Evgeny Gavrilenkov (2000), Restructuring, Stabilizing and Modernizing the New Russia, Springer Berlin Heidelberg

Paul J.J. Welfens; Klaus Gloede; Hans Gerhard Strohe; Dieter Wagner (1999), Systemtransformation in Deutschland und Rußland, Physica-Verlag Heidelberg

Paul J.J. Welfens; Cornelius Graack (1999), Technologieorientierte Unternehmensgründungen und Mittelstandspolitik in Europa, Physica-Verlag Heidelberg

Paul J.J. Welfens; George Yarrow; Ruslan Grinberg; Cornelius Graack (1999), Towards Competition in Network Industries, Springer Berlin Heidelberg

Paul J.J. Welfens (1999), Globalization of the Economy, Unemployment and Innovation, Springer Berlin Heidelberg

Paul J.J. Welfens (1999), EU Eastern Enlargement and the Russian Transformation Crisis, Springer Berlin Heidelberg

Paul J.J. Welfens; S. Jungbluth; H. Meyer; John T. Addison; David B. Audretsch; Thomas Gries; Hariolf Grupp (1999), Globalization, Economic Growth and Innovation Dynamics, Springer Berlin Heidelberg

Paul J.J. Welfens; David B. Audretsch; John T. Addison; Hariolf Grupp (1998), Technological Competition, Employment and Innovation Policies in OECD Countries, Springer Berlin Heidelberg

John T. Addison; Paul J.J. Welfens (1998), Labor Markets and Social Security, Springer Berlin Heidelberg

Axel Börsch-Supan; Jürgen von Hagen; Paul J.J. Welfens (1997), Wirtschaftspolitik und Weltwirtschaft, Springer Berlin Heidelberg

Paul J.J. Welfens; George Yarrow (1997), Telecommunications and Energy in Systemic Transformation, Springer Berlin Heidelberg

Jürgen v. Hagen; Paul J.J. Welfens; Axel Börsch-Supan (1997), Springers Handbuch der Volkswirtschaftslehre 2, Springer Berlin Heidelberg

Paul J.J. Welfens; Holger C. Wolf (1997), Banking, International Capital Flows and Growth in Europe, Springer Berlin Heidelberg

Paul J.J. Welfens (1997), European Monetary Union, Springer Berlin Heidelberg

Richard Tilly; Paul J.J. Welfens (1996), European Economic Integration as a Challenge to Industry and Government, Springer Berlin Heidelberg

Jürgen v. Hagen; Axel Börsch-Supan; Paul J.J. Welfens (1996), Springers Handbuch der Volkswirtschaftslehre 1, Springer Berlin Heidelberg

Paul J.J. Welfens (1996), Economic Aspects of German Unification, Springer Berlin Heidelberg

Paul J.J. Welfens; Cornelius Graack (1996), Telekommunikationswirtschaft, Springer Berlin Heidelberg

Paul J.J. Welfens (1996), European Monetary Integration, Springer Berlin Heidelberg

Michael W. Klein; Paul J.J. Welfens (1992), Multinationals in the New Europe and Global Trade, Springer Berlin Heidelberg

Paul J.J. Welfens (1992), Economic Aspects of German Unification, Springer Berlin Heidelberg

Paul J.J. Welfens (1992), Market-oriented Systemic Transformations in Eastern Europe, Springer Berlin Heidelberg

Paul J.J. Welfens (1990), Internationalisierung von Wirtschaft und Wirtschaftspolitik, Springer Berlin Heidelberg

Paul J.J. Welfens; Leszek Balcerowicz (1988), Innovationsdynamik im Systemvergleich, Physica-Verlag Heidelberg