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II THE EFFECTS OF ADDITIONAL CONTRIBUTIONS ON STATUTORY HEALTH INSURANCE CHOICES IN GERMANY

Abstract

Germany's statutory health insurance (SHI) system has been radically changed in the year 2009 by the introduction of premium equality across all SHI funds. As of today, all funds charge the same price, which is 15.5% of each insurant's gross income. The option to charge additional contributions as a flat, monthly per head amount in case funds cannot cover their costs has only scarcely been used so far. However, research predicts that this current state of premium equality is soon to be changed (PFISTER, 2009, EIBICH et al., 2011). Based on KICK and LITTICH (2011), I conduct a choice-based conjoint experiment and include the new pricing signal of additional contributions. I find that price is not the dominating criterion on the current market, but equally important to voluntary coverage options. Corporate reputation and a provider's brand name lose importance, but are still a major quality signal within consumers' choice decisions. The brand name TK (*Technical Health Insurance Fund*), as reputational leader, provides additional value for insurants. TK is able to charge up to €1.46 additional contributions from each insurant per month without falling behind their competitors. Compared to the general contribution rate of 15.5% of each insurant's gross income, of course, €1.46 seems rather low. However, the statutory health insurance funds that already charged additional contributions from their members collected between €5 and €16 per month and head. Using this rational reveals that TK is able to charge close to 10% of the additional contribution range simply due to their reputational advantage. Thus, corporate reputation proves to enhance a fund's bargaining position towards its potential insurants, as it allows charging and justifying price premiums. A second empirical study reveals that people lack knowledge about funds' benefit and coverage portfolios and the SHI system in general. Insurants consistently overestimate funds with comparably higher corporate reputation regarding their benefit and coverage details of selected performance categories. Implications for practitioners and policy makers are discussed.

1 Motivation

The German statutory health insurance (SHI) market before the year 2009 has historically been highly price driven. Contribution rates were by far more important than any benefit, coverage, or service details. Research also confirms that the main reason for insurants to change or pick their SHI fund depended on the basic question whether equal healthcare coverage can be obtained for a better price (GREB et al., 2002, ZOK, 1999). As funds constantly tried to underprice each other, the market situation fostered a high tendency towards a positive risk selection behavior and was even labeled “manacled” or “constrained” competition (cf. BROWN and AMELUNG, 1999, p. 76, REINHARDT, 1999, p. 92). In other words, it was best for SHI companies to acquire only low risk assets, meaning healthy people that are not costly, to keep prices down (BODE, 2003, p. 439, PIMPERTZ, 2007, p. 24).

With the introduction of the *Act to Strengthen Competition (Wettbewerbsstärkungsgesetz)* in 2009, the German government tried to counteract the mainly price driven competition on the SHI market (MARQUIS et al., 2007, NOORDEWIER et al., 1989). By setting contribution rates equally to 15.5% of each insurant’s gross income, the reform’s intention was to create a SHI system that is especially differentiated by offered benefits. The reform aimed to create a new basis for competition in terms of quality rather than price on both the primary (i.e., SHI and insurants) as well as the secondary (i.e., SHI and health care providers) market (GERMAN BUNDESTAG, 2006). Since price as the major differentiation criterion broke away, SHI funds had to react promptly to counteract a potential loss of insurants. They quickly established a diverse benefit and service environment to retain their customer base.

KICK and LITTICH (2011) show that under the situation of premium equality, consumers indeed attach more importance to benefit and coverage details. The authors identified elective tariffs, bonus programs, complementary insurance, voluntary coverage, and customer services as the main drivers of consumer choice. They further state that voluntary coverage options are the most important criterion within consumers’ choice decisions with about 35%. Thus, the basic message on a market of premium equality comes back to the simple question where to get the best coverage options and benefits for the same price. The brand name, and subsequently a fund’s corporate reputation, ranked third with an importance score of about 15% following elective tariffs with approximately 20%. Brand and reputation can, therefore, be seen as one of the most important aspects for funds to differentiate on the current market and proved to be of

higher importance than extended customer service, bonus programs and complementary insurance offers. Thus, brand name and reputation help to take over the signaling effect on a former price dominated market within a SHI landscape of premium equality and help insurants to reduce the high market complexity in the SHI system (FOMBRUN and VAN RIEL, 1997, GERLINGER et al., 2007, PASSON et al., 2009).

However, by passing the *SHI-Financial Act (GKV-Finanzierungsgesetz)* in 2010, the German government opened up the possibility to deviate from the premium equality of 15.5% (GERMAN BUNDESTAG, 2010). In case SHI funds are no longer able to cover their costs, they can charge an additional contribution from their insurants. This additional payment, in contrast to the regular contribution, does not depend on insurants' income, but is invoiced from every insured person within one specific SHI fund to a maximum of 1% of the earnings ceiling for mandatory SHI, which is around € 40 per month (BUCHNER and WASEM, 2009). The meaning and importance of these additional premiums can be separated into two effects. First, a strong psychological effect, which arises out of directly charging a flat, monetary amount from the insurant, second, a strong pricing signal which allows comparison of plain sums of money instead of net percentages from gross income (SCHULZE EHRING and KÖSTER, 2010). Right now, coffers of SHI funds are well-stocked and the new opportunity of additional contributions is only scarcely used on today's market¹. The German Department of Health states that for the years 2010, 2011, and 2012 only a few (7 out of 145) SHI funds already have or will charge additional premiums (GERMAN FEDERAL DEPARTMENT OF HEALTH, 2010). However, the situation is expected to change during the next years. An economical downswing and a rise in health care expenditures are just two reasons for the prediction of experts that funds cannot avoid charging additional contributions from their members in the near future (PFISTER, 2009, EIBICH et al., 2011, BUCHNER and WASEM, 2009). Press and media also widely discussed the

¹ Please note that "today" refers to the market situation in 2012. Two major reasons made it necessary to not focus on the current market situation in 2014. First, data of both empirical studies were collected in 2012 under the light of the former market situation and after insurants have had first experiences with additional contributions. Second, in the year 2014, none of the SHI funds charge additional contributions. In fact, financial resources of SHI funds currently even allow reimbursing contributions back to SHI insurants. For example, TK reimbursed €80 to each member in the year 2013 (TECHNIKER KRANKENKASSE, 2014). As research clearly predicts a prospective increase in health care expenditures and a return to a market with additional contributions (cf. PFISTER, 2009, EIBICH et al., 2011), the focus of this paper lays on the 2012 market situation where in October 2012, one out of 145 SHI funds was charging additional contributions from their members but insurants have become highly aware of this new opportunity.

new pricing signal and shaped consumers' perceptions about the imminent market with additional contributions.

The reintroduction of a new pricing signal on the German SHI market is expected to change the current SHI system and will show a major impact on health insurance choices. In this light, the study at hand wants to contribute to previous research in a fourfold way. First, I revisit the approach of KICK and LITTICH (2011) and replicate their findings on drivers of SHI choices on the German market. Second, I provide insights about the SHI choice decision under the new situation with additional contributions. I enhance the choice-based conjoint approach of KICK and LITTICH (2011) by including the attribute "additional contribution" as the new price signal and contrast the results to the market of premium equality. One main focus will be put on the interplay between price and corporate reputation, as corporate reputation was taking over the signaling role of price on a market with no price differences. Third, including a monetary amount into the choice experiment enables to extract detailed information for SHI funds about product design and pricing aspects. I derive insights about the monetary equivalents, certain coverage options or quality signals are able to compensate and shed light on the question of what the ideal SHI bundle looks like when additional contributions come into play. Fourth and last, through conducting a second empirical study, I verify the choice-based conjoint approaches of KICK and LITTICH (2011) and the study at hand. I reveal that consumers indeed lack knowledge about the SHI funds offerings (cf. e.g., HAENECKE, 2001, TSCHULIN and DIETRICH, 2010) and face enormous market complexity (cf. e.g., DEVLIN, 2007) that argues in favor of signaling mechanisms like brand name or corporate reputation and confirms the appropriateness of the choice-based conjoint approaches.

After elaborating the theoretical framework for my study, I design and conduct a choice-based conjoint experiment to answer my hypotheses. The result section will show that the replication under premium equality has been successful, that additional contributions, indeed, change SHI choices, and that benefit, coverage, and service details as well as corporate reputation and the brand name are able to compensate additional contributions. Next, the design and results of the second empirical study are presented and discussed. The final chapter of the paper at hand presents final implications for practitioners and policy makers. Health insurance funds obtain valuable information on how to design their offerings in the predicted situation of premium inequality and on the changing importance of their corporate reputation. Furthermore, I provide policy makers in Germany and in countries with similar healthcare systems (e.g., Netherlands)

with insights about the effectiveness of recent reforms as well as possible improvements in the design of future reforms.

2 Theoretical Background and Hypotheses

2.1 Effects of Benefit Differentiation

Especially after the *Act to Strengthen Competition* took effect in 2009, many small SHI funds that followed a low-price strategy felt increased pressure. Their unique differentiation criterion was taken away by premium equality. Hence, small SHI funds had and still have to expand their portfolio of benefits and services drastically to keep pace with the big SHI funds, which already have a stable and well equipped benefit and service system in place. Basically, it comes back to the concept of “bargaining power”, where funds have to negotiate attractive group contracts with the actual health care service providers like hospitals, pharmaceutical industry or physicians to keep costs down. Thus, a big wave of mergers and acquisitions could be seen as a logical consequence. The “*Central Federal Association of Health Insurance Funds*” recorded a disappearance of 52 SHI funds from 221 in 2008 to 169 in spring 2010 (GKV-SPITZENVERBAND, 2012). Up to the end of 2012, they predict that the number of statutory sickness funds even declines to a total of 145. The change of thinking away from pure pricing aspects to a balanced benefit, coverage, and service system resulted in a variety of different benefit and service bundles and individualization possibilities. Press reports shortly after the introduction left the impression that SHI funds wanted to outdo each other in quickly offering more and more variable elective tariffs, bonus programs, or complementary insurances with an ubiquitous number of different names and labels (cf. e.g., SCHULZE EHRLING and WEBER, 2007, SCHULZE EHRLING and KÖSTER, 2010, HÖPPNER et al., 2005).

KICK and LITTICH (2011) identified five major differentiation attributes that funds use to fill the gap of a missing pricing signal². In the benefit and service sector, the most important differentiation attributes that arose out of the premium equality on the German SHI market are: *Elective Tariffs, Bonus Programs, Complementary Insurance, Customer Service, and Voluntary Benefits/Coverage*³.

² Recent SHI research confirms this selection (cf. e.g., BRAU and LIPPI BRUNI, 2008, GATES et al., 2000, GREB et al., 2002, KERSSSENS and GROENEWEGER, 2005, KOLSTAD and CHERNEW, 2009, SCHULZE EHRLING and KÖSTER, 2010, SCHULZE EHRLING and WEBER, 2007, VAN DEN BERG et al., 2008).

³ For detailed information of differentiation attributes please refer to KICK and LITTICH (2011). The paper can also be found as the first document in this dissertation.

Extensive desk research confirmed that all of the upper differentiation attributes are still valid and play a crucial role in communication and marketing activities of sickness funds on today's market. Consequently, I expect the same coverage and service attributes to still show a significant influence onto insurants' SHI choice decision when additional contributions come into play. Therefore, I hypothesize:

H_{1a-e}: The offer of (a) elective tariffs, (b) bonus programs, (c) complementary insurance, (d) customer service aspects, and (e) voluntary benefits/coverage still positively influences the choice of SHI on a market with additional contributions.

As the influence of these attributes was shown by KICK and LITICH (2011) under premium equality, I expect the new pricing signal to take over a dominant role within SHI choice decisions again (cf. MARQUIS et al., 2007, NOORDEWIER et al., 1989)⁴. Consequently, I propose that benefit and service differentiation attributes will lose importance in a market with additional contributions:

H_{1f-j}: (f) Elective tariffs, (g) bonus programs, (h) complementary insurance, (i) customer service aspects, and (j) voluntary benefits/coverage will be less important in a market with contribution differences than in a market of premium equality.

2.2 Quality Signals in Consumer Choice Decisions on the SHI Market

Throughout the last decades, consumers' choice decisions have been one of the key concepts in marketing research, and they are undoubtedly one of the main drivers of sales and corporate performance (MEFFERT, 2000, KELLER and LEHMANN, 2006). Being a very complex process in consumers' minds, consumers' choice was subject of extensive research throughout various industries and product categories. Research tried to shed light onto aspects that influence people's choice decisions and give advice for market participants on how to design and construct their products and services as well as their communication and marketing efforts in order to enhance the likelihood of a positive consumer choice (JACOBY et al., 1974, KROEBER-RIEL, 1992, THALER, 1985, TROMMSDORFF, 2004). When reasoning consumer behavior with the "Standard Economic model", we always deal with a rational consumer. "Homo Oeconomicus" "[...] choose[s] the best things [he] can afford" (VARIAN, 2006, p. 33). But what exactly is meant by "the best things they can afford"? From a theoretical point of view, this

⁴ Detailed deliberations regarding the dominating role of price can be found in the subsequent paragraph.

would mean a pure trust on obvious and rational product/service hard facts that create consumer specific value based on their individual preference functions. More precisely, the only important drivers of a rational consumer's choice decision should be observable product characteristics like price, quality or other criteria that all together form a total value that, compared to alternative options, tips the balance pro or con a certain product or service. An additional assumption is the unrestricted and immediate access to information on the product/service market without transaction costs (VARIAN, 2006). These assumptions of rationality, of course, cannot be met in reality, because a lot of product characteristics and information are not directly observable, not accessible or simply not possible to evaluate or experience. Thus, most consumer decisions are made intuitively and are mostly derived in an elusive and inexplicable way. Almost all decisions are systematically biased by cognitive and especially emotional influences that are difficult to observe (ETZIONI, 2011, HO et al., 2006, JACOBY et al., 1974, KAHNEMANN, 2003). Consumers are exposed to a vast amount of information and marketing signals when considering the most suitable product. Due to limited processing capacity and the resulting information overload, consumers often do not have well-defined existing preferences, but construct them by using a variety of strategies and heuristics contingent on task demands (BETTMANN et al., 1998). These preferences vary from consumer to consumer, but the challenge for marketers is always the same. The key is to focus on marketing strategies which maximize the number of people willing to buy a certain product. Literature could identify experienced quality, followed by price, product attributes and marketing signals like brand names and corporate reputation as the most important drivers for consumers' choice (KIRIMANI and RAO, 2000, ZEITHAML, 1988). In case of a credence good like SHI⁵, quality of a specific product/service cannot be observed beforehand. Thus, consumers' focus shifts from experienced quality to the construct of perceived quality. In order to create a high perceived quality among customers, signals are an appropriate mechanism to convey unobservable quality of a product or service (KIRIMANI and RAO, 2000). Signaling may be particularly effective in complex markets, markets for relatively new products or services, or in markets for products

⁵ Literature provides three product categories on the basis of the ability to evaluate the quality of goods and services before and after utilization: search, experience and credence goods (DARBY and KARNI, 1973). Regarding search products, consumers are able to get full information of the quality before making their buying decision. For experience goods, the quality cannot be evaluated before but after the product was purchased and consumed. SHI plans could, thus, be seen as classical experience goods. However, the quality and features of a SHI contract cannot be observed immediately after the product was purchased. Insurance cases are needed to actually evaluate the quality of a respective health insurance plan (cf. DARBY and KARNI, 1973, EMONS, 1997). As an insurance case cannot be predicted or planned in advance, I argue that the category of credence goods fits SHI best.

about which the consumer is relatively uninformed and has no possibilities of accessing information (KIRIMANI and RAO, 2000, BETTMANN et al., 1998). They argue that as the complexity of the product/service increases, consumers are likely to resort to simpler heuristics and selective information processing, often reducing decision effectiveness (cf. also CHERNEV, 2003). Marketing literature provides important insights into quality signaling mechanisms and their related trade-offs with observable and comprehensible product attributes. Price, as the most important quality proxy, is highly important when it is the only available cue, but shows a fast decrease of importance when more quality indicators are available (RAO et al., 1999, ZEITHAML, 1988). In the consumer mindset, a higher price automatically transfers into a higher perceived quality of the offered products and services. However, on the market of SHI the situation is different. The German government (still) strictly regulates which health services are covered by SHI funds. The lists of drugs, treatment methods, outpatient care etc. as well as the respective coverage rates a SHI company has to reimburse, are predefined by law and form the so-called standard benefit catalogue (GERMAN FEDERAL DEPARTMENT OF HEALTH, 2011). Within those rigid reimbursement guidelines, approximately 98% of benefits are defined as mandatory payments that a SHI fund is required to reimburse (HÖPPNER et al., 2005, SCHULZE EHRING and KÖSTER, 2010). These strict regulations act like a safety net for insureds in a way since they do not have to worry about the major benefits and services as long as they are insured with any SHI fund. As the majority of benefits and services are independently from any price variation, I hypothesize:

H_{2a}: Additional contributions negatively influence the choice of a SHI fund.

The German market for SHI has been dominated by price before premium equality of 2009 (MARQUIS et al., 2007, NOORDEWIER et al., 1989). Now that a new price signal in forms of additional contributions is returning to the market, I propose that the German SHI market will, again, react very price sensitive (cf. SCHUT et al., 2003) and hypothesize:

H_{2b}: Additional contributions will be the most important attribute within SHI choices.

The marketing and quality signal corporate reputation, and a company's brand name respectively, serve as an important proxy for more detailed quality evaluations and judgments. A superior brand's claim about unobservable quality will likely be true, because a well-known brand name could not be established if the products or services did not fulfill certain quality standards. The same argument holds true for other basically intangible product attributes like

warranty (ERDEM and SWAIT, 1998, KIRIMANI and RAO, 2000, TIROLE, 1988). This effect becomes increasingly important in service industries (YOON et al., 1993, KOTHA et al., 2001), such as the SHI sector, in which consumers know very little about the product and face a high market complexity (DEVLIN, 2007, HAENECKE, 2001). I consequently hypothesize:

H_{3a}: A SHI fund's brand name, and its favorable corporate reputation respectively, significantly influences the choice of SHI on a market with additional contribution.

Following KICK and LITTICH (2011), corporate reputation and a company's brand name took over the most important signaling role on the market of premium equality. I expect additional contributions to reverse this effect — away from “more coverage for the same price” to a pre-2009 situation of “where to get the same coverage for a better price”. Therefore, I hypothesize that the brand name and corporate reputation of a SHI fund also lose importance within SHI choice decisions when additional contributions come into play:

H_{3b}: A SHI fund's brand name and its favorable corporate reputation respectively, will lose importance on a market with additional contributions compared to the situation of premium equality.

3 Study I: Additional Contributions and Consumer Choice

3.1 Design

To model consumers' choice decisions in a realistic way (cf. CHAKRABORTY et al., 1994), I use conjoint analysis to investigate consumers' choice decisions on the SHI market. In particular, a choice-based conjoint analysis (CBCA, also: discrete choice analysis) is applied, similar to related research in the health care sector (cf. e.g., STENSRUD et al., 1997, VAN DEN BERG et al., 2008, BRAU and LIPPI BRUNI, 2008). Following KICK and LITTICH (2011), I replicate the approach and feed all six attributes (i.e., *SHI brand*, *elective tariff*, *bonus program*, *complementary insurance*, *voluntary coverage*, *service package*) with their respective levels into the CBCA. All attributes and levels were again confirmed by extensive desk research to assure a proper modeling of the current SHI choice decision. Given the fact that respondents might lack knowledge about the different options of SHI funds, information screens were presented in the CBCA choice task. A detailed description of the single attributes and their respective levels were included via hyperlinks into the choice screens. Thus, participants always had the possibility to gather additional information. Similar to KICK and LITTICH (2011), close

to 50% of participants used these options to clarify attributes and levels when making choice decisions⁶.

SHI Brand. As corporate reputation scores cannot be directly implemented into the CBCA screen, SHI brand names are used. For replication purposes I also decided to use real SHI brands analogously to GATES et al. (2000). Brand names of the four biggest nationwide SHI funds in terms of coverage of German SHI insurants were included: *AOK* (27.1%), *Barmer GEK* (12.3%), *TK* (11.5%), and *DAK* (9.5%) (cf. AOK BUNDESVERBAND, 2012, BARMER GEK, 2012, DAK GESUNDHEIT, 2012, TECHNIKER KRANKENKASSE, 2012).

Elective Tariffs. Analogous to KICK and LITTICH (2011), I included the three major voluntary elective tariff options into the CBCA design. The deductible tariff offers bonus payments for taking over a cost deductible; the contribution refund tariff pays back up to one month's premium (i.e., 15.5% of an insurant's gross income) in case no medical services are used besides routine check-ups; the cost reimbursement tariff grants bonus payments in case medical services are paid in advance out of each insurant's own pocket which are partly reimbursed by the SHI fund later.

Bonus Program. Bonus programs basically reward health-conscious behavior like fitness club memberships, regular check-ups, or courses on nutrition or mental health. Insurants collect points similar to loyalty programs that can be exchanged in monetary or non-monetary rewards.

Complementary Insurance. In cooperation with private health insurers in the background, SHI funds can act as a broker for complementary insurance offers. As the variety of different possible complementary insurances is huge, I follow KICK and LITTICH (2011) and include binary Yes/No levels in case SHI funds have or have not set up cooperation models to offer complementary insurances.

Voluntary Coverage. As the German government strictly regulates about 98% of all health care services a SHI fund is bound to reimburse, only the remaining 2% allow for individual differentiation among funds. Even though there is also a catalogue defining what is possible within the 2%, it is up to each fund to pick certain options of that scope and enhance their

⁶ The numbers were generated based on the click-rates on the info-screen links divided by all participants. 250 respondents participated in the CBCA-online survey and the individual click-rate of each screen, on average, was 108.

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