Why Do Investors Buy Structured Products? *A Behavioral Finance Explanation*

Dominik Helberger

Dominik Helberger
is a head of Business Owner Advisory in Zurich, Switzerland.
dominik.helberger@berenberg.ch

Humans don't always play by the rules. Since its inception in the beginning of the new millennium, the market for equity-linked investment "certificates" has grown significantly. Within only few a years, structured products turned into a new asset class, with a multibillion euro investment volume. While the market for equity-linked certificates in the Anglo-Saxon arena (i.e., U.S. and U.K.) is minor, the market could rapidly expand in continental Europe after supportive changes have taken place in some financial market regulations.

The success of this new asset class is surprising. Certificates have several well-known disadvantages compared with direct investment in the underlying securities. Why do investors buy certificates? The default of the investment bank Lehman Brothers highlighted the fact that structured products, like bonds, are linked to the well being of the issuing bank. In addition, the certificate market is fragmented into many subcategories, with thousands of small issues. At the end of 2010, more than €100 billion in more than 500,000 certificates were listed in Germany alone (German Derivatives Association [2010]). But many issues are without volume because it is difficult for the issuers to judge ex ante which product idea will attract investor demand. Therefore, the secondary market (if there is any) can be exposed to intransparent pricing due to low market volumes and over-the-counter trading. A better understanding of the reasons for the demand can help issuers to reduce the number of issues, thereby increasing market transparency for investors.

Furthermore, certificates have only some advantages compared with direct investments. While taking the various disadvantages into consideration, it does not appear reasonable that the great success of certificates can be solely explained by the investment decisions of perfectly rational investors. For the past 30 years, behavioral finance research has analyzed several psychological mechanisms that result in limited rational behavior. But certificates are only rarely discussed in the behavioral finance literature. Kahneman, Higgins, and Riepe [1998] refer to the market for structured products as the possibility to "shoot for riches," meaning it is possible to make low-risk investments through hedging strategies as well as maintain the ability to generate additional income. Lopes [1989] found that in the stock market, individuals like to combine security with the possibility of some additional return (through buying single options in addition to equity positions).

Shefrin and Statman [2000] make reference to mental accounting and structured products. It is plausible for numerous structured products to satisfy both the need for security and the desire for additional return and, therefore, make the extreme conclusions from mental accounting unnecessary. Walter [2007] suspects that structured products satisfy the desire of investors to protect individual, but not all, assets. Stulz [1996], for example, investigated this peculiarity. Walter also addresses the question of why investors are willing to pay a comparatively high margin for structured products. In this context, he refers to the probability weighting function of prospect theory. Structured products are consistent with the tendency of the decision maker to select safe/safer alternatives. The question here is whether certificates can be attractive compared with a direct investment in the underlying if the valuation of gains and losses is based not on rational but on limited rational behavior.

THE MARKET FOR STRUCTURED PRODUCTS AND CLASSIFICATIONS

The German certificate market—along with the Swiss—is the largest worldwide. The German market alone experienced a double-digit rate of growth, accumulating more than 200,000 products (Swiss Structured Products Association [2008]). Structured products have a remarkable investment volume and product variety, as shown in Exhibit 1 (classic bond structures are not included).

"Participation products" replicate the growth of the underlying, and are, in part, provided with a restricted protection against losses. Products with "yield enhancement" can achieve a positive market performance, even with lateral movements in the underlying. "Capital protection products" guarantee a certain amount of repayment on the capital employed. "Leverage products" are classic options, similar to puts and calls, and are not relevant to this article. As an example, bonus certificates, from the class of "participation products," will be more thoroughly discussed in the following section. The dissertation on which this article is based discusses additional types of participation products (see Helberger [2009]), which are frequently mentioned in the literature (for example, capped bonus certificates, discount certificates, guaranteed certificates, and reverse convertibles, compared with, e.g., Bank Vontobel [2006]; Tolle et al. [2006]; Sarasin & Cie [2007]; HSBC [2008]).

BONUS CERTIFICATES

Detailed definitions of bonus certificates can be found, for example, in Tolle et al. [2008] or HSBC [2008]. The gain/loss profile of a bonus certificate in the general case is shown in Exhibit 2 (interest rates and interest rate effects are not taken into consideration).

Bonus certificates (BC) allow for the full realization of price gains (S_1) from the underlying. At the same time, they offer a minimum rate of return (bonus level [BL]), as long as the value of the bonus certificate does not fall below the barrier (protection level [PL]) $S(BC)_{PL}$. If, between the purchase and maturity, the stock price fails to generate a performance, and the barrier $S(BC)_{PL}$ was not undercut, then the structure guarantees a minimum price as high as the bonus level $S(BC)_{BL}$. In the case of negative market performance, the extent of this right remains at a previously defined maximum negative performance level $S(BC)_{PL}$. This thus offers limited

EXHIBIT 1
Categorization Scheme for Structured Products as Given by the Swiss Structured Products Association

Leverage-Products	Participation-Products	Yield Enhancement-Products	Capital Protection-Products
Warrants (W.)	Tracker-Certificate	Discount Certificate	Capital Protect. excl. Cap.
Spread W.	Bonus-Certificate	Barrier-Discount-Certificate	Exchangeable-Certificate
Knock-out W.	Outperformance Cert.	Reverse-Convertibles	Capital Protect. incl. Cap
Mini-Futures	Outperf.-Bonus-Cert.	Barrier Reverse-Convertibles	Capital Protection incl. Coupon
	Airbag Certificate	Barrier Range Reverse-Conv.	Capital Protection incl. Knock-Out
	Twin-Win Certificate	Capped-Outperformance Cert.	
		Express Certificate	
		Capped-Bonus-Certificate	

Note: Cert. = certificate, W = warrants.