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Building structured products: Like manufacturing a complex, abstract car

Singapore Management University

BUILDING STRUCTURED PRODUCTS: LIKE MANUFACTURING A COMPLEX, ABSTRACT CAR

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What are structured products, and how do they fit in with clients' needs and the banks' range of services? Experts from Standard Chartered Bank's (SCB) structuring business provided their take at SMU's Lee Kong Chian School of Business Public Lecture.

Vinod Aachi, managing director and global head of structuring, explained that as a global universal bank, SCB covers two broad spectrums of clientele: the institutional or corporate clients, and the retail clients.

Corporate clients are served through two business models. The universal model provides a range of services that businesses would typically require, including trade finance, deposits, cash management, loans, bonds and equity issuance, mergers and acquisitions advisory and other corporate advisory services. The focused model provides a more narrow range of expertise, such as advisory services. The retail side of this business serves the ultra high net worth to the mass markets.

Creating an ecosystem

Corporate clients mainly have liability requirements, for example, the need to borrow money. SCB sees its role as to manage their clients' risks, as well as to manage the bank's own risks.

Aachi gave an illustration of how a bank might help a corporate client through the structuring of a suitable financial product: A Dutch beer-maker with a subsidiary in Malawi has a need to convert the Malawi currency, the Kwacha, into Euros. However, there might not be a ready market for the currency pair, thereby requiring a structure to fulfil the beer maker’s conversion needs. This is where the beer-maker might find it useful to have

a discussion with the bank on how this structure can be developed or whether a bespoke solution can be created.

Other more liquid pairs such as the dollar (USD) and the yen (JPY) already have a ready foreign currency (FX) market and the conversion between these two currencies would likely be an electronic transaction, requiring no similar discussions with the bank.

He estimates that 50 to 70 per cent of the bank's business is straightforward, like the transactional nature of the USD-JPY conversion while the remainder has various levels of complexity, for example, providing a client with access to an IPO in Mongolia, where the bank might create a note that replicates the economic performance of the underlying stock.

Banks can add value when providing a service that has complexity, for instance, matching clients with counterparties that have similar but opposing requirements (e.g. the beer maker's need for the Kwacha with a counterparty that has a need for the Euro) while ensuring that local and international regulations are met (e.g. currency transaction restrictions on cross-border trades).

These complexities have both qualitative and quantitative dimensions. The qualitative aspect might involve understanding regulatory constrains while the quantitative aspect involves creating mathematical models. Aachi said there are about 40 people at SCB whose jobs are centred on building quantitative models, and that they tend to be computer programmers with strong financial knowledge.

Traders use this "eco-system" of qualitative know-how and quantitative models to create structured products. Aachi estimates that a product that has a ready client, ready counterparties and no regulatory constrains might take three to four months from inception to launch.

However, a product like the Dutch beer-maker's requirement might take years to launch, if it launches at all. Generally, the more external constrains there are, such as having to satisfy regulators or interact with other subsidiaries across the world, the more time would be required; while the more control the bank has over the product, the faster it can be to bring it to market.

The business of structure

Structured products departments would usually comprise client coverage or sales personnel, a structuring team who creates the products, and risk management which is typically handled by the trader, said Rahul Darbari, director of structured products trading at SCB.

FX options have various uses. 'Corporates' might hedge their transactional FX risks arising from current account transactions such as exports and imports. They may also have assets and liabilities that are in non-functional currencies, thus creating translation FX risks for their balance sheets.

Yet another FX risk might be contingent, arising during mergers and acquisitions. Hedging their FX risk exposures allow them to lock in conversion rates at their budgeted rates or better, protecting them from currency volatility, or allowing yield enhancement on their assets. Instruments such spot FX, forwards and zero-cost hedges can be used to hedge FX risks, and structures can be devised to enable better-than-the-forward, cost-effective hedging.

An important question though, is how does the bank profit from creating such structures? In the case of FX products, Darbari said that it is either through fees, a trading margin, or spread. They generally do not take views on the underlying assets.

A common misconception is that traders placed calculated directional bets in the hope of making money. In actual fact, that only describes the job of proprietary traders, which after the financial crisis, has become a

much rarer breed. The clients might have a view on the asset that they would like to trade on, or a hedging need that he wishes to fulfil. The banks then provide the mechanism for him, facilitating the trade and benefitting from a fee or a margin, through providing liquidity. The traders would then seek to hedge out their positions against other traders. Naturally, the difficulty of hedging and managing the hedge increases with the complexity of the financial asset traded.

“It is not different from manufacturing cars,” Aachi explained. “Structuring in banking is nothing but manufacturing financial products except that financial products tend to be abstract”. He added that the bank takes great care to explain to its clients the risks and potential outcomes, equipping them with an understanding of the products.

While a common tool used to price options is the Black-Scholes model, Darbari contends that “Black-Scholes is the most abused concept in finance.” While more robust than other option pricing models because of its no-arbitrage principal, the assumptions of the model, such as a constant volatility and a lognormal distribution of price, do not hold. There is a 'volatility smile', where for currency options, implied volatility tends to be lowest at-the-money, with higher volatility further out. Also, there is usually a skew to the distribution curve, making it non log-normal.

Nonetheless, Black-Scholes is a starting point on discovering the option price, and each trading desk is likely to make their own price adjustments to account for deviations from the assumptions. “Black-Scholes is like English. Everyone speaks their own dialects but when they come together, they speak in English,” said Aachi.

On the kinds of people suitable to work in structuring, Aachi said that it is a combination of both aptitude and attitude. He quipped that dropouts might find a place there, while PhDs might not, if both possess sufficient aptitude but the dropout has a better attitude and is hungry for success. “Most of the stuff we do is not rocket science, it’s about doing it and doing it well.”

"Much of the improvements and innovations in the financial space are incremental and this also applies even in fast growing technology areas such as biotechnology," he added. "Revolutions are few and far between."