The present funding crisis might have been less severe if we had a more lively derivates market. Troy Martin of Acadametrics explores the problem for residential property, which is in something of a Catch 22 situation

House rules on derivatives

Last month we discussed uses to which house price indices are put ('World of the house price index is about to change') and promised to lift the lid on the mysteries of house price indices, investment markets, derivatives, hedges and the like. We now consider conditions for a successful house price derivatives market.

Recent figures indicate that trading in UK property derivatives totalled about £10bn in the last year: £8bn was in commercial property derivatives, based on the IPD index; £1.8bn was in residential property derivatives based on the Halifax index. The first and most obvious question is: why is the trading in residential property derivatives such a minuscule percentage of the total value of the underlying asset?

The answer can be found by looking at the conditions for a successful derivatives market. First, you need a large, liquid cash market because participants are then likely to have an interest in hedging and speculation. The Catch 22 for residential property, despite the substantial underlying asset base, is that the current derivatives market is relatively illiquid. Of course, there is no objective marker on the level of liquidity needed, and markets have traded successfully with lower liquidity, but it is clearly an issue.

The next fundamental condition is diversity of opinion. Derivatives markets are successful if there is enough diversity of opinion for there to be sufficient numbers of buyers and sellers – thus creating the liquid market. In the UK there seem to be many natural sellers of residential property exposure – building societies, banks, home owners, building firms – but fewer natural buyers such as asset managers, real estate investors, pension funds and life assurance funds.

Another fundamental is that return on the derivatives' underlying asset should be uncertain and/or unpredictable. This creates the need for hedging, and thus for more buyers' and sellers' participation. If at certain times the returns show a clear trend, it can be difficult to find investors willing to take positions against the trend. The relatively illiquid and inefficient housing market, with its predictable trending, creates a significant barrier to creating the high trading volume that is required. By the same argument, short-term volatility in a market creates the need for hedging and thus generates liquidity from short-term investors. The housing market cannot take advantage of such conditions. Indeed, it has been argued that the housing market is attractive (to pension funds, for example) because its prices are not volatile.

The easier it is to make arbitrage between the real cash market and the derivatives market, the more liquidity there will be in the market. Such trades are difficult if not impossible to undertake in residential property unless you use, for example, swaps on the return of residential property portfolios; but a significant increase in market liquidity would be needed before even this were possible.

Interestingly, this creates another potential problem as traditional derivative pricing models rely on arbitrage, and arbitrageurs provide liquidity.

As well as suitable conditions, some fundamental underlying instruments need to be in place to provide a platform for successful trading. In essence, the price of the underlying asset has to be accepted by all market participants; it has to be objectively verifiable and no-one should be able to manipulate it.

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Put simply, this means that, to avoid conflicts of interests, no index from a mortgage bank or building society can be used because they and their customers are expected to be major participants in the market. The same might also be said to a degree for the other credible index providers such as Hometrack and Rightmove. This is why we suggested last month that only a new index such as the FT House Price Index (FTHPI), might be right for the investment markets because, in addition to its independence, it fulfils the criteria for tracking the price trends closely by using as much of the market as possible – both cash purchases and mortgaged property.

Troy Martin

It may be that lack of liquidity and acceptance by investors is in part directly related to the degree to which, thus far, the existing indices have fulfilled the fundamental conditions of an index required to support a derivative, namely that:

- it should be replicable;
- its construction should be transparent;
- it should have sufficient historical data;
- it should be timely;
- it should be maintained by a neutral party;
- it should be publicly available; and
- it should fulfill the mathematical requirements of monotonicity, linear homogeneity, dimensionality, commensurability and the ability to aggregate from sub-indices.

Existing UK house-price indices, apart from the FTHPI, cannot fulfil these requirements simply because they were created to show the performance of the house market without considering "investability"; and they particularly struggle with the requirement to be independently replicable.

As we look forward, the idea of several different regional or district-based contracts makes intuitive sense as well as being relevant to the hedgers. But once again, it splits liquidity. The liquidity challenge demands low transaction costs and a clearing house guaranteeing the contracts; thus pointing to exchange-traded markets rather than OTC. Next month we will focus on this liquidity challenge: who we expect to be participating in this market – and why.

We will also consider the potential participants in the house market market and their motivations for investment.