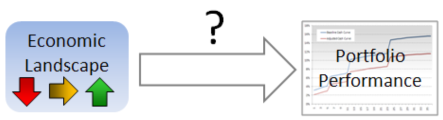
Economic Stress Testing using Customer Susceptibility

Understanding Customers' Economic Susceptibility

The remit of a comprehensive stress testing solution is very wide, needing to cover potential impacts from many areas, from market changes to operational stress. But it is the problematic area of economic change that is at the forefront of people's minds. Euristix have undertaken extensive research in this area and have worked with a number of key clients to develop an innovative methodology to create an economic scenario testing framework. In this short paper, we will present some of the key concepts here to provide some food for thought on this knotty but interesting subject.

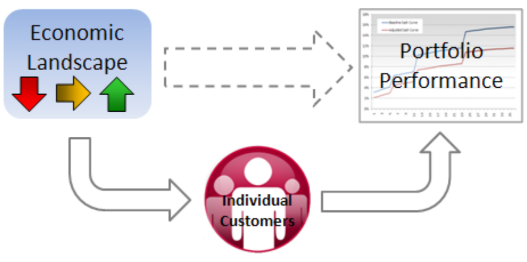
The Missing Link

As discussed in our previous stress testing review paper (available here), the key difficulty in economic scenario testing stems from understanding how a change in the economic landscape will impact on portfolio performance. Using past historical data is misleading, resulting in models which capture the mechanisms of previous economic downturn events rather than the real causality. The truth is that the link between high level economic factors such as base rate, employment levels and house prices and the portfolio performance are incredibly complex.



The reason for this, and also the crux of the Euristix approach, is that portfolio performance is not driven directly by the economy, but by the customer base. This is true for any consumer based credit business, from specialist mortgage or sub-prime lenders through to debt collection agencies. The reason that economic changes impact the portfolio is because those economic changes are having a direct effect on the individuals in the portfolio, changing their situations and resulting behaviour.

Adding this key component to the stress testing picture casts the problem in an entirely new light. Stress-testing shifts from being about identifying an esoteric link between the economy and high level portfolio performance to being about understanding consumers – something that risk managers have been focused on for years. Economic changes directly impact on the affordability, equity,



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liquidity and attitude of individual consumers, driving changes in performance and giving the portfolio level changes that we are all so keen to understand.

Understanding the susceptibility of individuals to different economic shocks is key to developing a stress-testing framework, and not just at portfolio or segment level, but at customer level. Homeowners are more susceptible to interest rate increases as variable rate mortgage payments shoot up; rising CPI will hit the man supporting a family of three far more than the 20 year old youth still living at home. Once viewed at an individual level it is much easier to identify the direct impact of economic changes. And if the financial situation is fully understood, including all the incomes and outgoings, then no historical data is required to understand the severity of a loss of earnings or the impact of a fall in house prices.

So, with a detailed enough understanding of individual consumers, it is possible to translate any change in economic climate directly onto changes in the circumstances of those individuals, as judged through measures such as disposable income, equity, liquidity, etc. Naturally different individuals will be more susceptible to certain shocks than others. But what about the second link in the chain, the connection between these individual circumstances and resulting performance? Here we are on more familiar ground; a great deal of risk management practice in consumer finance is based on the idea that different customer circumstances drive different behaviours. It is no great leap of faith to accept that measures such as affordability and equity, alongside standard credit risk dimensions, are key drivers of consumer performance. This has proven to be true whether looking at mortgage payments or debt recoveries performance, although obviously the mechanisms differ.

The Bigger Picture

The methodology above outlines one possible approach to the stress testing problem; one that we have successfully applied in a number of sectors. The customer susceptibility view provides that missing link between economic climate and portfolio performance. However the full ramifications of this approach go much further. This solution begins to build a view of economic susceptibility at a customer level, allowing for granular segmentation and much deeper understanding. Now an economic scenario results not only in a portfolio level view of the impact, but the identification of exactly which segments of the customer base will be most affected.

From a risk and portfolio management perspective this is invaluable. Downturn scenarios can be used to give an indication of the most high risk groups (from an economic rather than risk perspective) and the book could be engineered to reduce volatility. Scenario testing results can actually feed into underwriting decisions for example, enabling a distinction between two individuals carrying equal credit risk in the current climate but where one is far more susceptible to interest rate rises. In an economic upturn this framework can be used to identify growth

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opportunities or which debt to keep or sell. Using central forecasts for the immediate economic future it becomes possible to maximise the value of the business at a customer level based on performance which takes full account of the changing economy.

There are, of course, complications. None of us know our customer circumstances quite as well as we would like. Not every piece of information required to ascertain a customer's financial situation will be available. But these issues can be overcome through a number of means, from sourcing additional data to applying models to fill in the gaps. And the benefits of deriving a true view of performance in a changing economy can be priceless. The other option is to return to the dark days of trying to determine what a 0.3% rise in inflation means for the portfolio arrears rates… and we have already seen how far that got us!

If you would like to discuss any of the points above, or if you would like any further information on the research carried out by Euristix, then please contact Paul Matthews at paul.matthews@euristix.com.