MEMO

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IRB Rating Philosophy (Systems sensitivity to cyclicality)

Definitions

To describe the rating systems cyclical properties the FSA uses the following concepts related to rating sensitivity:

1) through-the-cycle (TTC), where changes in the business cycle do not affect ratings and PD estimates and the portfolio PD only changes over time due to portfolio composition and/or changes in the customers' non-cyclical characteristics,

2) point-in-time (PIT), where changes in the economy are fully reflected in the ratings and PD estimates, and

3) hybrid, where changes in the economy affect ratings and PD estimates, but the fluctuations are more dampened than a 100 % PIT model.

The choice between the TTC, PIT and hybrid models is termed chosen rating philosophy.

FSA believes that a rating system's cyclicality first and foremost depends on the type and relative weighting of input variables included in the models. To the extent input variables change in line with the business cycle, the PD is also expected to change. Furthermore, PD can only be affected to the extent that input variables are updated.

Changes in market conditions can often appear with a time lag; when macroeconomic conditions change it can take a very long time before economic effects feed into, for example, corporate customers' accounts.

According to the FSA's interpretation, cyclicality does not necessarily depend on how many years of data are used in the development of the system as a model can be very sensitive even if many years of data are

used. However, the model may be overly sensitive to macroeconomic shifts if a particularly short time window (i.e. only a portion of the business cycle) was used in the development phase.

In practice all rating systems are expected to have an element of cyclicality. It is very normal that most, if not all, PD models employ some cyclical variables, typically with some considerable weighting.

The FSA's expectation of the institutions

The following general points represent the FSA's policies and expectations for IRB institutions regarding rating philosophy:

1) Institutions can freely choose and must explicitly declare their rating philosophy.

2) They should also analyze the degree of cyclicality initially in the development phase of the rating system and on a regular basis (at least annually). The analysis should include both qualitative and quantitative factors. An institution must be both able to explain why the rating system has certain properties and on a best effort basis substantiate this with data. The analysis should address fluctuations in PD estimates and how fast the rating system reacts to changing economic conditions. If an institution believes its model is hybrid, the institution must explicitly declare and quantify the degree of cyclicality with some reasonable precision.

3) The choice of rating philosophy should be reflected in all relevant contexts. This is true at least in relation to the calibration and validation. Furthermore, the institution should take the rating philosophy into account in connection with the determination of capital requirements and stress testing.

4) The FSA may allow estimates from PIT or hybrid models to be translated into TTC levels. It requires, at minimum, that:

i) the TTC PD is calculated on data that include the banking crisis period in early 1990s. The FSA may authorize another period if it is more conservative,

ii) the institution can show that it is able to identify structural changes affecting TTC PD that may not be seen in the historical data, and

iii) the institution can show that TTC PD does not change from year to year with the advent of new data unless there is significant, structural change.