Procyclicality of credit rating systems: How to manage it

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ABSTRACT

The recent Eurozone financial crisis has highlighted the need for stable rating systems to assess banks' portfolio risks abstracting from the current cyclical conditions.

This paper evaluates the characteristics of a Point in Time (PiT) rating approach for the estimation of firms' credit risk in terms of procyclicality. To this end I first estimate a logit model for the probability default (PD) of a set of Italian non-financial firms during the period 2006–2012, then, in order to address the issue of rating stability (hedging against rating changes) during the financial crisis, I study the effectiveness of ex post smoothing of PDs in terms of obligors' migration among rating risk grades. As a by-product I further discuss and analyse the role played by the choice of rating scale in producing ratings stability.

The results show that ex post PD smoothing is able to remove business cycle effects on the credit risk estimates and to produce a mitigation of obligors' migration among risk grades over time. The rating scale choice also has a significant impact on rating stability. These findings have important policy implications in banking sector practices in terms of the stability of the financial system.

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1. Introduction

The deep economic and financial crisis that has recently affected many European countries has faced the problem of building up reliable credit rating systems to evaluate the degree of banking sector exposures and the financial risks in the Euro Area. To this purpose, the possibility of using

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banks' portfolio rating methodologies looking to the long term rather than the short run has been discussed in different contexts—the most known of these concerns the current debate on the role of rating agencies in producing credit risk default assessments able to take into account the effects of business cycle phases on obligors' creditworthiness.

This study contributes to such an important debate by describing and analysing the issue of setting up a rating system to estimate banks' portfolio credit risk that takes adequate account of business cycle conditions. More in detail it assesses both theoretically and empirically, the consequences of possible intervention measures into such a framework, aimed at reducing rating procyclicality (and gaining financial stability), in terms of rating consistency and accuracy.

A credit rating system can be defined as a procedure that assigns an individual Probability Default (PD) to each obligor on the basis of its financial soundness and/or the general macroeconomic conditions through a model and/or a set of rules. Obligors with similar individual PDs are then grouped (or mapped) into an ordinal rating scale consisting of different rating grades (or risk buckets) through a given function (or mapping algorithm). An average pooled PD is finally assigned to all the obligors sharing the same rating grade.

In monitoring a bank portfolio credit risk two main rating philosophies can be considered: the so-called "Point in Time (PiT)" and the "Through the cycle (TtC)" approaches. As we know, a PiT rating system produces an obligor Probability Default that is countercyclical and associated with macroeconomic short run variations. It means that the estimated obligor Probability Default (PD) will increase during recessions and decrease during expansions. The use of PiT PD can thus possibly amplify the procyclicality of the credit market and more in general of the financial sector. A TtC rating approach, on the contrary, produces a smoothed PD obtained by removing the cyclical factors in the data[1]. The smoothed PDs therefore reflect a long run credit risk profile of firms (obligors) and it appears more stable and less volatile over time. In this respect the building up of TtC rating systems to evaluate obligors' defaults (considering a long run perspective), would allow us to avoid undesirable procyclical effects on the banking and financial sectors due to the business cycle.

Although many banks and rating agencies already use a TtC perspective in evaluating probability defaults, in the Basel Regulatory framework[2] and more in detail within the Eurosystem credit assessment framework (ECAF)[3], a clear definition of what perspective a rating system should adopt in measuring PD associated with the obligors is not given and both PiT and TtC rating approaches are allowed[4].

With regard to the rating philosophy choice, it is important to note that while from a bank risk management perspective the use of a PiT rating would ensure a better credit risk assessment, from a central bank monetary policy and macroprudential point of view a TtC approach would produce better results in terms of countercyclical monetary policy objectives and containing the procyclical effects on the financial system. The central bank monetary policy operations are in fact based on the amount of financial assets eligible as collateral[5] that eventually depends on the portfolio credit rating philosophy that is adopted as well as the macroprudential policies aiming to reduce procyclicality that are based on TtC financial reporting and risk measurement.

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[1] The smoothing techniques usually applied are based on moving averages or judgmental procedures.

[2] BIS (2010) Basel Committee on Banking Supervision's Guidance for national authorities operating the countercyclical capital buffer.

[3] The ECAF is a set of procedures, rules and techniques defined within the Eurosystem in order to achieve high credit standards for all the eligible assets within the Eurozone.

[4] Within the ECAF four main credit assessment instruments are used, namely ECAIs, IRBs, RTs and ICASs. Some of them use PiT perspectives while some others are more in line with a TtC view. This heterogeneity in the obligors' creditworthiness assessment can create inconsistency in comparison exercises between various credit assessments tools (i.e. benchmarking).

[5] If the PD increases, the effect on the amount of collateral pledged in the Eurosystem credit assessment framework is to reduce the quantity of eligible collateral, while if the PD decreases, the effect is an increase.