

<b>Pitcher's Name</b>	Anamaria Cociorva	<b>FoR category</b>	Empirical Corporate Finance - credit ratings	<b>Date Completed</b>	11.05.2016
<b>(A) Working Title</b>	<b>Credit rating standards around the world</b>				
<b>(B) Basic Research Question</b>	Do credit rating standards vary in a cross-country setting? If yes, how do country-specific regulation and competition drive this variation?				
<b>(C) Key paper(s)</b>	Alp, Aysun. "Structural shifts in credit rating standards." <i>The Journal of Finance</i> 68.6 (2012): 2435-2470. Opp, Christian C., Marcus M. Opp, and Milton Harris. "Rating agencies in the face of regulation." <i>Journal of Financial Economics</i> 108.1 (2013): 46-61.				
<b>(D) Motivation/Puzzle</b>	While theoretical models on credit ratings such as the one on Opp et al. (2013) explain how different market imperfections lead to <i>rating inflation</i> , empirical evidence on US corporate ratings (Alp,2012; Baghai et al.,2014) suggests that rating standards have actually become <i>more conservative</i> over time. Since these empirical studies use time fixed effects as a proxy for stringency, the results might be driven by omitted variables which are time varying but constant across firms (and therefore can't be included in the fixed effects regression). By using an extended sample of rated firms across different countries, I address this limitation by including relevant country-specific variables. To this end, the empirical analysis will focus specifically on the impact of rating-based regulation and competition, since these factors have important policy implications and their impact on ratings' accuracy is not yet understood.				
<b>THREE</b>	<b>Three</b> core aspects of any empirical research project i.e. the "IDioTs" guide				
<b>(E) Idea?</b>	By exploiting cross-country variation, this paper would be the first to investigate how the interplay between firm-specific and country-specific factors affect rating standards. I test this by employing a novel, two-step approach. In the first part of this empirical exercise, I will follow related literature (Blume et al.,1998; Alp,2012; Baghai et al., 2014) and model firm ratings as a function of several firm-specific variables and year fixed effects .For this stage of my analysis, the variables of interest are year indicators, which can be interpreted as a proxy for rating standards. However, while previous studies estimate this model using only US firms, I will perform this analysis for a large cross-section of countries, obtaining therefore country-specific year indicators. In the second step, I will regress the estimated year indicators against a series of country-specific macroeconomic variables, creditor rights indices, and proxies for competition and rating-based regulations. To my knowledge, this method hasn't been used so far in the credit ratings' literature, and its main advantage is that it is possible to investigate how much of the variation in rating standards is explained by factors that affect firm creditworthiness, and how much is explained by other "exogenous" factors, such as competition or regulations. Otherwise said, this empirical setting allows me to answer an important research question that has remained unanswered so far: <i>are variations in credit rating standards justified by fundamentals or not?</i>				
<b>(F) Data?</b>	<u>Sample</u> The sample will consist of a panel of listed firms with an S&P rating from US, Europe, South America and Asia. Since time variation of rating standards is one of the focal points of the paper, a longer time period is preferable (for comparison with related research, the start date should be 1985-1986, but this also depends on data availability). The selection of countries will be based on the number of rated companies, and availability of country-specific data and rating regulations. <u>Variables</u> Step 1: For the first part of the analysis, I will collect several firm-specific variables as in e.g. Alp (2012) <sup>1</sup> from Orbis and Capital IQ databases, which contain accounting and market data on international firms. Rating data will be collected from Capital IQ and Bloomberg. Step 2: In addition to the more standard macroeconomic data used in sovereign rating prediction (see e.g. Cantor and Packer, 1998) which I have already collected for another paper, I will use a recent index of creditor rights developed by Hart et al(2008) <sup>2</sup> , the national market shares of other rating agencies as a proxy for				

<sup>1</sup> These factors have become a "standard" in related research, with different proxies being used for: interest coverage, size, profitability, leverage, market variables, financial constraints and investment opportunities

<sup>2</sup> This is an updated version of the index developed in the seminal work of La porta et al. (2000), where several critiques were addressed, and the focus switched from "theoretical" to "actual" enforcement of various bankruptcy and debt renegotiation laws. This index exhibits larger time variation, being thus more suited for inclusion in a panel regression.

	<p>competition, and an indicator variable taking a value of 1 for the year in which the respective country implemented the Standardized Approach of Basel II (data on this is publicly available on BIS website<sup>3</sup>). To the best of my knowledge, these variables haven't been used so far in the credit ratings' literature.<sup>4</sup></p> <p><u>Data challenges</u></p> <ul style="list-style-type: none"> <li>• Possibly very large sample size (significant data collection cost since more databases need to be matched) =&gt; can be reduced by focusing on one industry and on the countries which have a significant number of rated firms and available country-specific data (i.e. the creditor rights index is only available for 41 countries); alternatively, one could focus on the countries that exhibit larger variation in the variables of interest.</li> <li>• Validity of the "regulation" variable, since it is survey-based.</li> </ul>
<b>(G) Tools?</b>	Standard panel OLS regression (I could estimate as well ordered probit as a robustness test, but the coefficients will be biased when including fixed effects due to incidental parameter problem (see e.g. Lancaster, 2000))
<b>TWO</b>	<b>Two</b> key questions
<b>(H) What's New?</b>	<p>(1) investigating cross-sectional variation in credit rating standards</p> <p>(2) impact of competition and rating-based regulations on credit rating standards</p>
<b>(I) So What?</b>	<p>First, since Baghai et al. (2014) show that rating conservatism has a significant negative effect on firm value, by increasing cost of debt and limiting investment opportunities, it is important to investigate whether this conservatism is specific for US firms only, or it is a widespread phenomenon, as well as to provide further evidence that this conservatism is indeed not justified by firm fundamentals<sup>5</sup>.</p> <p>Second, a better understanding on how rating-contingent regulations affect rating standards is crucial, especially in Europe's case, where there is no equivalent to the Dodd-Frank Act. While reliance on external credit ratings was already sharply criticized in e.g. Danielsson et al (2001), more recent research revealed that the IRB approach has also important downsides (Blundell-Wignall and Atkinson, 2011). Therefore, my results could contribute to a better risk/benefit analysis of both approaches, before the final implementation of Basel III.</p> <p>Lastly, the project could also provide new, valuable insights into how competition affects the rating standards<sup>6</sup>. This could have direct implications for the debate surrounding certification requirements for rating agencies outside US<sup>7</sup>. Since ESMA regards increased competition as beneficial, it is important to assess whether this is indeed the case for European countries</p>
<b>ONE</b>	<b>One</b> bottom line
<b>(J) Contribution?</b>	This paper attempts to bridge the gap between the theoretical models and empirical evidence on credit rating standards, by looking at both cross sectional and time variation in credit rating standards for a large panel of countries, and investigating thus in a novel setting the impact of regulations and CRA competition.
<b>(K) Other Considerations</b>	<p>As the data collection will involve extensive work, collaboration is highly desirable.</p> <p>Further ideas: finding a good proxy for rating-based regulations, ideally in a "natural experiment" setting. Having an international sample provides the advantage of conducting "placebo" tests as well, such as i.e. testing whether introducing SOX had any effect on rating standards outside US<sup>8</sup>.</p> <p>Target journal: 1<sup>st</sup> tier Finance (e.g. Journal of Finance)</p>

<sup>3</sup> This data can be collected from the annual survey's conducted by BIS, which are available on their website: <http://www.bis.org/fsi/fsipapers.htm?m=3%7C17%7C161>. The survey differentiates between credit and operational risk, and their respective approaches (standardized/IRB/advanced) as well as the degree of implementation (which ranges from 1 being "unpublished draft" to 4 being "final rule in force"). The surveys, which are conducted on an annual basis, reveal that there is significant cross-country variation in the extent of implementation, as well differences in the implementation year (which varies from 2008 to 2014)

<sup>4</sup> Except for Becker and Millbourn (2011), who use industry variation in Fitch market share for US firms as a proxy for competition ; however, my measure would be more accurate since it will also include other CRAs which have a relative high market share in specific countries (i.e. local Japanese rating agencies), and it can also be firm-specific in the sense that I can count how many CRAs rate the same firm.

<sup>5</sup> If ratings have been more lenient in the past, an increased stringency at present would imply more accurate ratings, which means that this stringency is justified.

<sup>6</sup> The model of Opp et al (2012) favors competition, while the empirical findings in Becker and Millbourn (2012) suggest that it affects negatively rating quality.

<sup>7</sup> In Europe, such certification requirements have been recently introduced by ESMA.

<sup>8</sup> Alp(2012) find that ratings have become relatively more stringent after SOX.

## Additional References

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