12 September 2012

Sent by email to: EBA-CP-2012-09@eba.europa.eu

European Banking Authority
Tower 42
25 Old Broad Street
London EC2N 1HQ

Consultative Document: "Draft Regulatory Technical Standards for credit valuation adjustment risk on the determination of a proxy spread and the specification of a limited number of smaller portfolios" (EBA/CP/2012/09)

Dear Sir or Madam,

This letter contains the response of Nomura Holdings, Inc. ("Nomura") to the consultation Paper on "Draft Regulatory Technical Standards for credit valuation adjustment risk on the determination of a proxy spread and the specification of a limited number of smaller portfolios" of July 2012.

Yours sincerely,

Eduardo Epperlein

Global Head of Risk Methodology

Nomura

cc: Lewis O'Donald, Global Chief Risk Officer, Nomura

Yuji Nakata, Head of Group Risk Management, Nomura

Patrick Howard, Head of Market & Quantitative Risk, Nomura

Q1. Please specify if the VaR proxy methodology always takes into account rating, region and industry when determining the proxy spread for the VaR model? Will the minimum prescribed granularity for rating, industry and region in Article 5, if made applicable to Article 4.1, impact institutions" current methodologies for proxy spread modelling of counterparties in the trading book? If yes, please specify and assess the overall effect on an institution.

For computing VaR on credit spread risk on illiquid names, Nomura's internal VaR model uses rating, country, region, sector, tenor as categories; Illiquid names are then mapped to individual liquid time series. An additional specific risk component is then added to capture the idiosyncratic risk component of the illiquid names.

Nomura considers that the methodologies applied to the internal VaR model are not necessarily appropriate for determining the proxy spread for determining CVARisk, as the purpose of internal VaR model is to capture the historical market volatility and correlation of spread returns. To compute CVARisk for illiquid names, a model should capture the current credit spread level (not the return) structure based on exogenous parameters such as rating, region, sector.

Overall the optimal model should capture at the same time market current spread level structure, historical spread return volatility, and historical spread return correlation for illiquid names. Unfortunately industry and academia have not provided a solution to this problem. As a result, Nomura recommends that two distinct models should be applied to compute CVARisk and VaR on CVARisk.

Overall the EBA proposed framework should account for the above limitations. A practical solution should allow banks to use different models for computing CVARisk (current spread level model) and VaR on CVARisk (historical return spread model).

Q2. Will the proposed use of the extended VaR proxy methodology and/or the minimum prescribed granularity for rating, industry and region when determining a proxy spread for CVA risk impact institutions" current methodologies for proxy spread modelling? If yes, please specify and assess the overall effect on an institution.

The sector granularity proposed in the RTS draft is not standard. For computing CVARisk, we would recommend 1) defining a minimum requirement (corporate, sovereign, financial) or/and 2) aligning to a recognised standard classification, such as the Industry Classification Benchmark (ICB).

In addition, the dominant factor for computing CVARisk is rating as it drives directly the duration of the underlying CVA trade. It is therefore important to have sufficient rating granularity.

Q3. Please provide information and data concerning the availability of CDS data relevant to the intersection of sub-categories ("rating", "industry" and "region") and the application of the aggregation rules specified in Article 5.8

Q4. Please provide any information as to the difference in own funds requirements for the portfolio of counterparties following the application of Article 5.8 and Article 5.9 and the policy options described in the explanatory box.

Nomura feels that Article 5.8 of the RTS draft is too prescriptive with the aggregation methodology that should be used. In appendix 2, Nomura proposes an alternative model based on a cross-section methodology. This alternative approach is different from the "intersection" methodology prescribed in the RTS draft and we believe it to be superior

We therefore request that the EBA considers rewording Article 5.8 to allow for more flexibility in the choice of methodology.

Q5. Do the proposed thresholds of 15% for the number and 10% for the size of smaller portfolios, together with the definitions, provide an incentive for institutions to limit their portfolio exposures not covered by the Internal Model Method (IMM)?

Q6. Will 15% and/or 10% cause any impact for your institution? If there will be an impact, please specify and assess the overall effect on the institution.

Q7. Which of the three definitions of "size of portfolio" as defined in Article 2(4) would you use to determine the 10% size ratio? Please provide reasons for the selected definition and details of any alternative options you would propose.
Where possible please provide relevant data to support your response.

In the Article 2(1), EBA defines regulatory netting set as homogeneous, i.e. containing only IMM or only non-IMM trades. Hence, legal netting sets containing both types of trades should be divided into two regulatory netting sets.

Article 7.1 requires that the number of non-IMM netting set shall be less than 15% of the total netting set. In the case of Nomura, most of our legal netting set contains some non-IMM trades and we expect to fail this test. Based on initial analysis of Nomura's portfolio, we would require the boundary to be set to 25%

Article 7.2 focuses on size which is a more appropriate measure and in-line with the IMM-coverage measure used by most of banks. Options 1 and 2 seem the most sensible.

Annex - Nomura's proposed "cross-section" methodology for proxy CDS spreads and recovery rates

1. Introduction

Article 373(1) of the draft Capital Requirements Regulation (CRR) states that in calculating Advanced CVA capital charge, where a counterparty does not have liquid CDS spreads, institutions "shall use a proxy spread that is appropriate having regard to the rating, region and industry of the counterparty". The EBA draft Regulatory Technical Standards (RTS) lays down further rules about the way in which proxy spreads (and LGDs) should be calculated. In particular, Article 5.8 implies that the proxy spread should use "the intersection of relevant sub-categories of rating, industry and region". The EBA provided oral clarification at their 19 July 2012 Roundtable Meeting on CVA Risk that this means that in calculating a proxy spread, an institution should use liquid spreads from only those obligors whose rating, industry *and* region match those of the counterparty. For example, the proxy spread of a BBB-rated European Financial should be the average of liquid BBB-rated European Financial spreads.

We (Nomura) believe that Article 5.8 and the interpretation described above are overly prescriptive, and force institutions to use a proxy methodology that is sub-optimal. We would like to use instead a "cross-section" methodology, that is still based on rating, region and industry sector, but which avoids many of the problems associated with the "intersection" methodology prescribed in the EBA draft RTS. We therefore request that Article 5.8 be reworded to allow the cross-section methodology. This annex describes the cross-section methodology, and explains why we believe it to be preferable to an approach based on intersections of categories.

2. The Cross-Section Method

We set the proxy spread for a given obligor to be the product of five factors:

1) a global factor
2) a factor for the industry sector of the obligor
3) a factor for the region of the obligor
4) a factor for the rating of the obligor
5) a factor for the seniority of the obligor

In symbols, we can write the proxy spread of obligor i as:

$$S_i^{proxy} = M_{glob} M_{sctr(i)} M_{rgn(i)} M_{rtg(i)} M_{snty(i)}$$

Here $sctr(i)$, $rgn(i)$, $rtg(i)$ and $snty(i)$ denote respectively the sector, region, rating and seniority of obligor i. For example, for a senior unsecured claim on a European financial company rated BBB, we would have:

$$S_i^{proxy} = M_{glob} M_{FIN} M_{EUR} M_{BBB} M_{SEN}$$

Note therefore the key assumption of this methodology: that there is a single multiplicative factor for (e.g.) all European obligors, independent of the sector, rating and seniority of those obligors. Similarly, there is a single multiplicative factor for all Financial obligors, independent of the region, rating and seniority of those obligors – and so on.

This means that when we calibrate the proxy spread factors to liquid CDS spreads, we are using (for example) information from all BBB-rated obligors in calibrating M_{BBB}. Each factor is therefore represented by a reasonable number of obligors.

We can use exactly the same methodology for proxy LGDs, simply replacing spreads with recovery rates.

3. Calibration to Market Data

Markit provide a daily file ("CDS Composites by Convention V5") of liquid CDS spreads and recovery rates (compiled by dealer poll), together with the number of contributors (at the 5y point). The file also contains sectors, regions and ratings. This gives us a high-quality and independent data source for calibrating the proxy spread and LGD factors.

Calibration of the cross-sectional factors (M_{glob}, M_{FIN}, etc) to market data is straightforward, and proceeds as follows. If we number the factors from Global = 1 through the sectors, regions, ratings and seniorities, then we can write the model as:

$$y_i = \sum_{j=1}^{n} A_{ij} x_j$$

Here $y_i = \log(S_i^{proxy})$, $x_j = \log(M_j)$, and n is the number of factors (i.e. n is the total number of sectors, regions, ratings and seniorities, plus 1 for the global factor). A is a matrix of 1s and 0s, where A_{ij} is 1 if the sector, region, rating or seniority of obligor i is j, and 0 otherwise. Below are a few rows of an example matrix A:

Markit Ticker	Markit Short Name	Seniority	Global	Financials	Consumer Goods	Consumer Services	Industrials	Government	Utilities	Basic Materials	Energy	Telecommunications	Technology	Healthcare	North America	Europe	Japan	Asia ex-Japan	Australasia	Africa & Middle East	Latin America	AAA	AA	A	BBB	BB	B	CCC	Senior	Sub
AEP	Amern Elec Pwr Co Inc	Senior	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
RABOBK	Rabobank Nederland	Sub	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
SNE	Sony Corp	Senior	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0
SOAF	Rep South Africa	Senior	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0

We want to find the optimal x that makes the proxy spreads S^{proxy} as close as possible to the market spreads S^{mkt}. Here we define "as close as possible" to mean "minimising total squared difference in log spreads", so finding the optimal x simply consists of performing a linear regression. The table below shows example spread and recovery factors, calibrated to

Markit data from 30 July 2012. We also show the number of distinct liquid obligors in each category.

	Spread Factor	Recovery Factor	Num Obligors
Global	193.8	34.2%	1700
Financials	1.689	0.988	483
Consumer Goods	0.831	1.022	208
Consumer Services	0.915	1.014	188
Industrials	0.914	1.012	164
Utilities	0.976	1.010	127
Government	1.342	0.889	118
Basic Materials	0.989	1.028	117
Energy	1.032	1.000	110
Telecommunications	0.816	1.001	75
Technology	1.115	1.004	57
Healthcare	0.701	1.040	53
North America	0.851	1.126	712
Europe	1.119	1.115	565
Japan	0.901	0.978	188
Asia ex-Japan	0.957	1.136	128
Australasia	1.140	1.127	44
Latin America	1.001	0.791	34
Africa & Middle East	1.068	0.805	29
AAA	0.240	1.119	16
AA	0.417	1.048	102
A	0.500	1.021	472
BBB	0.754	1.014	688
BB	1.645	0.997	251
B	2.971	0.949	130
CCC	5.432	0.870	41
Senior	1	1	1551
Sub	1.238	0.553	149

4. Cross-Section vs Intersection

We now compare the cross-section and intersection methods, and explain why we prefer the cross-section method.

4.1 Empty Intersections

The most obvious problem with the intersection method is that typically there are many sector/region/rating intersections containing few or no liquid obligors. For example, the table below shows the number of liquid obligors by sector/region/rating, using the same Markit data as in the cross-section example above (30 July 2012). Here we have used the broadest possible choice of sectors, regions and ratings that comply with the EBA draft RTS (apart from the addition of Japan as a region, which is clearly important for Nomura), but we still see a large number of empty (or nearly empty) buckets.

Sector	Region	Rating	Num Obligors
Financial Services	North America	AA-AAA	9
Financial Services	North America	A	43
Financial Services	North America	BBB	55
Financial Services	North America	BB	17
Financial Services	North America	B	6
Financial Services	North America	CCC	6
Financial Services	Europe	AA-AAA	13
Financial Services	Europe	A	64
Financial Services	Europe	BBB	37
Financial Services	Europe	BB	16
Financial Services	Europe	B	8
Financial Services	Europe	CCC	4
Financial Services	Japan	AA-AAA	1
Financial Services	Japan	A	12
Financial Services	Japan	BBB	10
Financial Services	Japan	BB	1
Financial Services	Japan	B	1
Financial Services	Japan	CCC	0
Financial Services	Asia ex-Japan	AA-AAA	8
Financial Services	Asia ex-Japan	A	26
Financial Services	Asia ex-Japan	BBB	12
Financial Services	Asia ex-Japan	BB	0

Financial Services	Asia ex-Japan	B	0
Financial Services	Asia ex-Japan	CCC	0
Financial Services	Rest of World	AA-AAA	0
Financial Services	Rest of World	A	7
Financial Services	Rest of World	BBB	3
Financial Services	Rest of World	BB	1
Financial Services	Rest of World	B	0
Financial Services	Rest of World	CCC	0
Non-Financial Services	North America	AA-AAA	1
Non-Financial Services	North America	A	19
Non-Financial Services	North America	BBB	47
Non-Financial Services	North America	BB	20
Non-Financial Services	North America	B	30
Non-Financial Services	North America	CCC	8
Non-Financial Services	Europe	AA-AAA	1
Non-Financial Services	Europe	A	12
Non-Financial Services	Europe	BBB	42
Non-Financial Services	Europe	BB	15
Non-Financial Services	Europe	B	8
Non-Financial Services	Europe	CCC	1
Non-Financial Services	Japan	AA-AAA	7
Non-Financial Services	Japan	A	4
Non-Financial Services	Japan	BBB	12
Non-Financial Services	Japan	BB	2
Non-Financial Services	Japan	B	0
Non-Financial Services	Japan	CCC	0
Non-Financial Services	Asia ex-Japan	AA-AAA	4
Non-Financial Services	Asia ex-Japan	A	7
Non-Financial Services	Asia ex-Japan	BBB	7
Non-Financial Services	Asia ex-Japan	BB	3
Non-Financial Services	Asia ex-Japan	B	1
Non-Financial Services	Asia ex-Japan	CCC	0
Non-Financial Services	Rest of World	AA-AAA	0
Non-Financial Services	Rest of World	A	2

Non-Financial Services	Rest of World	BBB	2
Non-Financial Services	Rest of World	BB	1
Non-Financial Services	Rest of World	B	0
Non-Financial Services	Rest of World	CCC	0
Industrial Production	North America	AA-AAA	3
Industrial Production	North America	A	21
Industrial Production	North America	BBB	23
Industrial Production	North America	BB	15
Industrial Production	North America	B	9
Industrial Production	North America	CCC	1
Industrial Production	Europe	AA-AAA	0
Industrial Production	Europe	A	9
Industrial Production	Europe	BBB	23
Industrial Production	Europe	BB	9
Industrial Production	Europe	B	3
Industrial Production	Europe	CCC	0
Industrial Production	Japan	AA-AAA	0
Industrial Production	Japan	A	8
Industrial Production	Japan	BBB	18
Industrial Production	Japan	BB	6
Industrial Production	Japan	B	0
Industrial Production	Japan	CCC	0
Industrial Production	Asia ex-Japan	AA-AAA	0
Industrial Production	Asia ex-Japan	A	2
Industrial Production	Asia ex-Japan	BBB	6
Industrial Production	Asia ex-Japan	BB	3
Industrial Production	Asia ex-Japan	B	0
Industrial Production	Asia ex-Japan	CCC	0
Industrial Production	Rest of World	AA-AAA	0
Industrial Production	Rest of World	A	0
Industrial Production	Rest of World	BBB	0
Industrial Production	Rest of World	BB	0
Industrial Production	Rest of World	B	0
Industrial Production	Rest of World	CCC	0

Raw Materials	North America	AA-AAA	0
Raw Materials	North America	A	7
Raw Materials	North America	BBB	27
Raw Materials	North America	BB	10
Raw Materials	North America	B	1
Raw Materials	North America	CCC	0
Raw Materials	Europe	AA-AAA	0
Raw Materials	Europe	A	7
Raw Materials	Europe	BBB	14
Raw Materials	Europe	BB	5
Raw Materials	Europe	B	4
Raw Materials	Europe	CCC	0
Raw Materials	Japan	AA-AAA	0
Raw Materials	Japan	A	7
Raw Materials	Japan	BBB	14
Raw Materials	Japan	BB	5
Raw Materials	Japan	B	0
Raw Materials	Japan	CCC	0
Raw Materials	Asia ex-Japan	AA-AAA	0
Raw Materials	Asia ex-Japan	A	4
Raw Materials	Asia ex-Japan	BBB	2
Raw Materials	Asia ex-Japan	BB	0
Raw Materials	Asia ex-Japan	B	0
Raw Materials	Asia ex-Japan	CCC	0
Raw Materials	Rest of World	AA-AAA	0
Raw Materials	Rest of World	A	1
Raw Materials	Rest of World	BBB	5
Raw Materials	Rest of World	BB	1
Raw Materials	Rest of World	B	0
Raw Materials	Rest of World	CCC	0
Other Sectors	North America	AA-AAA	13
Other Sectors	North America	A	69
Other Sectors	North America	BBB	141
Other Sectors	North America	BB	46

Other Sectors	North America	B	32
Other Sectors	North America	CCC	8
Other Sectors	Europe	AA-AAA	22
Other Sectors	Europe	A	43
Other Sectors	Europe	BBB	79
Other Sectors	Europe	BB	23
Other Sectors	Europe	B	5
Other Sectors	Europe	CCC	1
Other Sectors	Japan	AA-AAA	17
Other Sectors	Japan	A	22
Other Sectors	Japan	BBB	24
Other Sectors	Japan	BB	7
Other Sectors	Japan	B	2
Other Sectors	Japan	CCC	0
Other Sectors	Asia ex-Japan	AA-AAA	9
Other Sectors	Asia ex-Japan	A	23
Other Sectors	Asia ex-Japan	BBB	26
Other Sectors	Asia ex-Japan	BB	7
Other Sectors	Asia ex-Japan	B	3
Other Sectors	Asia ex-Japan	CCC	0
Other Sectors	Rest of World	AA-AAA	2
Other Sectors	Rest of World	A	8
Other Sectors	Rest of World	BBB	15
Other Sectors	Rest of World	BB	8
Other Sectors	Rest of World	B	6
Other Sectors	Rest of World	CCC	1

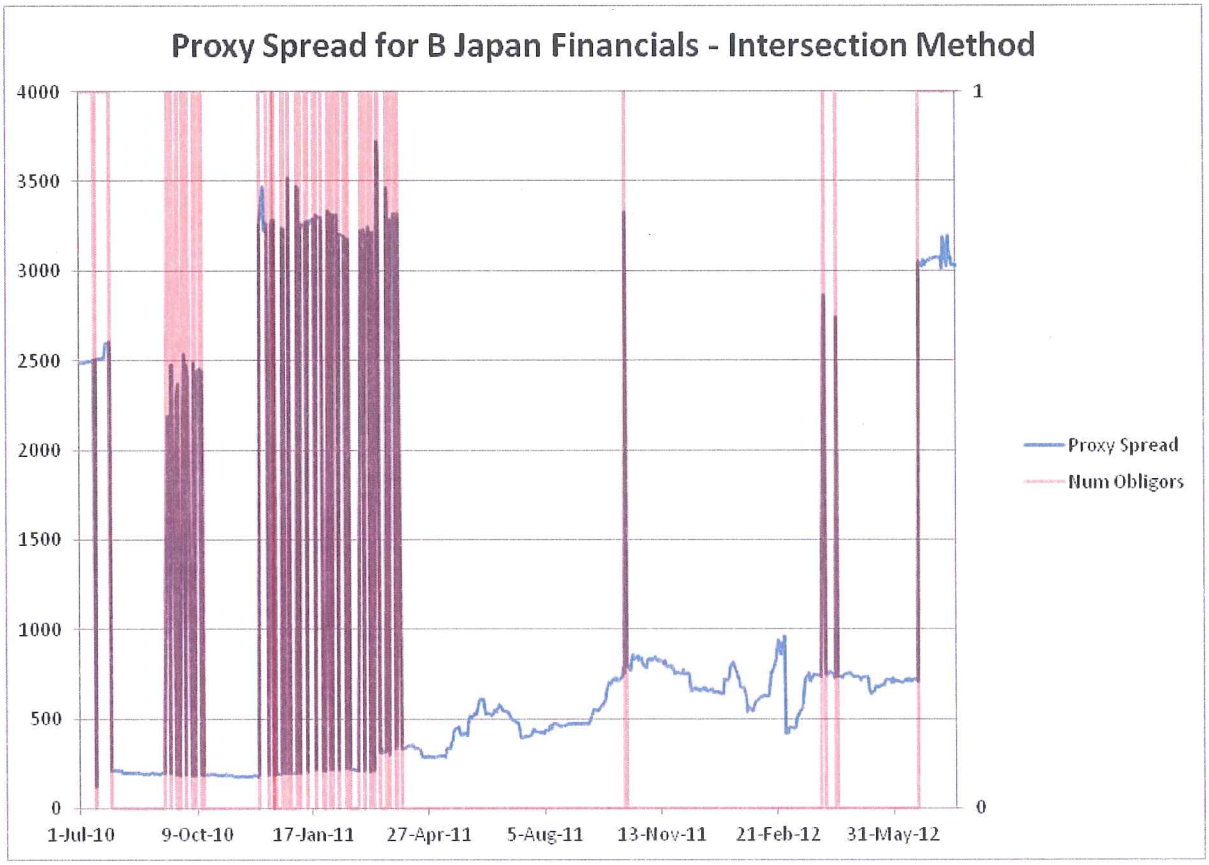
According to Article 5.8 of the draft RTS, empty buckets should be proxied by aggregating "within the sub-category for either industry or region." It is not clear exactly what this means, but we might guess that for example the empty (Financial Services, Asia ex-Japan, BB) bucket could be proxied using the average spread across all BB Financials. We note that this aggregation is somewhat arbitrary and results in a loss of information. By comparison the cross-section method does not require any such aggregation.

4.2 Historical Stability

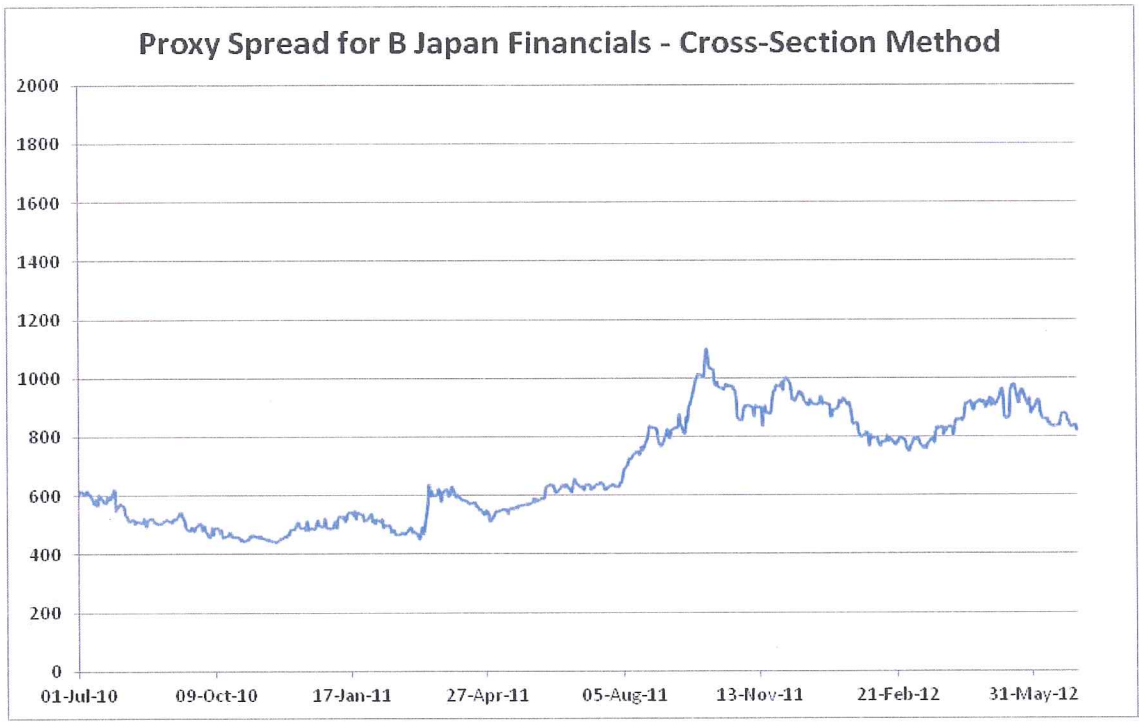
Another problem with the intersection approach (and perhaps the most significant one from a practical perspective) is the historical behaviour of its proxy spreads. An obligor changing buckets (e.g. due to a rating migration) causes the proxy spreads of those buckets to jump. This will typically have the largest effect on buckets containing few liquid obligors. And if in addition this means one of the buckets switches between requiring and not requiring aggregation, the spread jump can be even more severe.

The graph below illustrates this problem with the example of the (Financial Services, Japan, B) bucket. The red line shows the number of obligors in the bucket, which has varied historically between 0 and 1, and the blue line shows the proxy spread. Since we have set the minimum number of obligors per bucket at 1, each time the bucket is empty we have to use aggregation to compute the proxy spread – in this case setting it to the average of all (Financial Services, B) liquid spreads. The one obligor in the bucket (Aiful Corp) has a spread which is typically much wider than the aggregated spread, so the proxy spread jumps dramatically each time Aiful Corp enters or leaves the bucket (which is mostly the result of days on which there were insufficiently many Markit contributors for that obligor).

Note that this is just one example of this problem – there are many others.

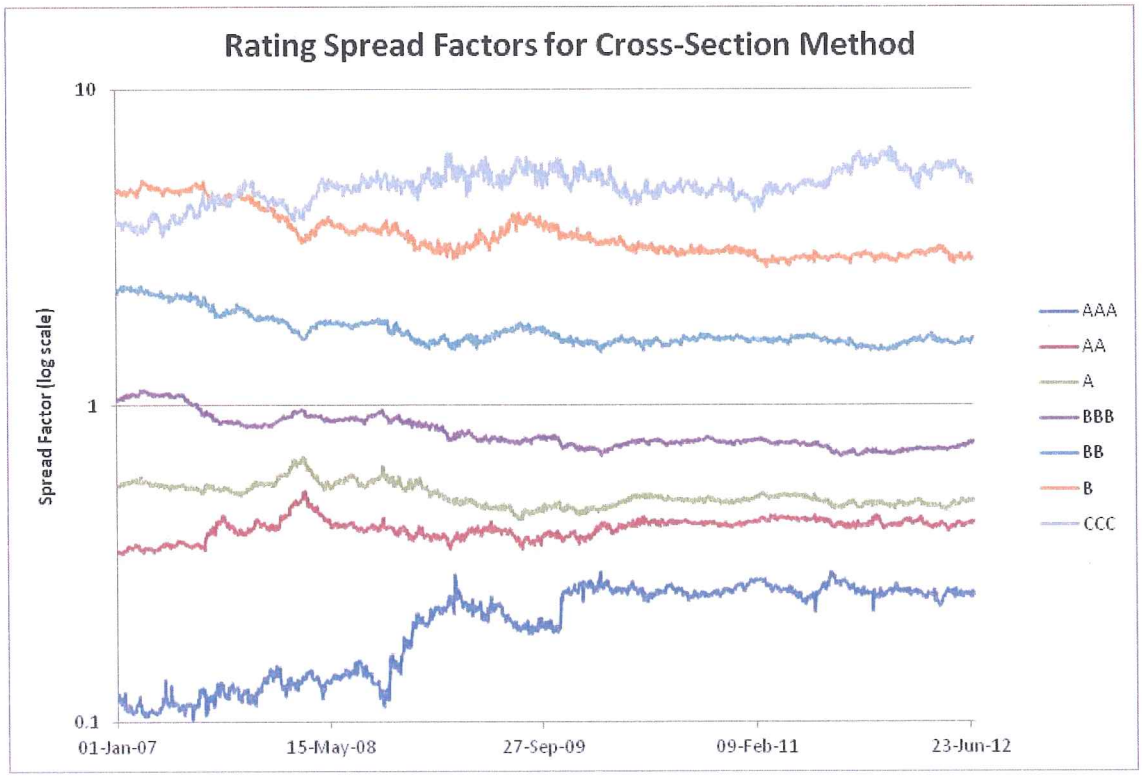


By contrast, the cross-section method has a proxy spread that is much more stable historically:

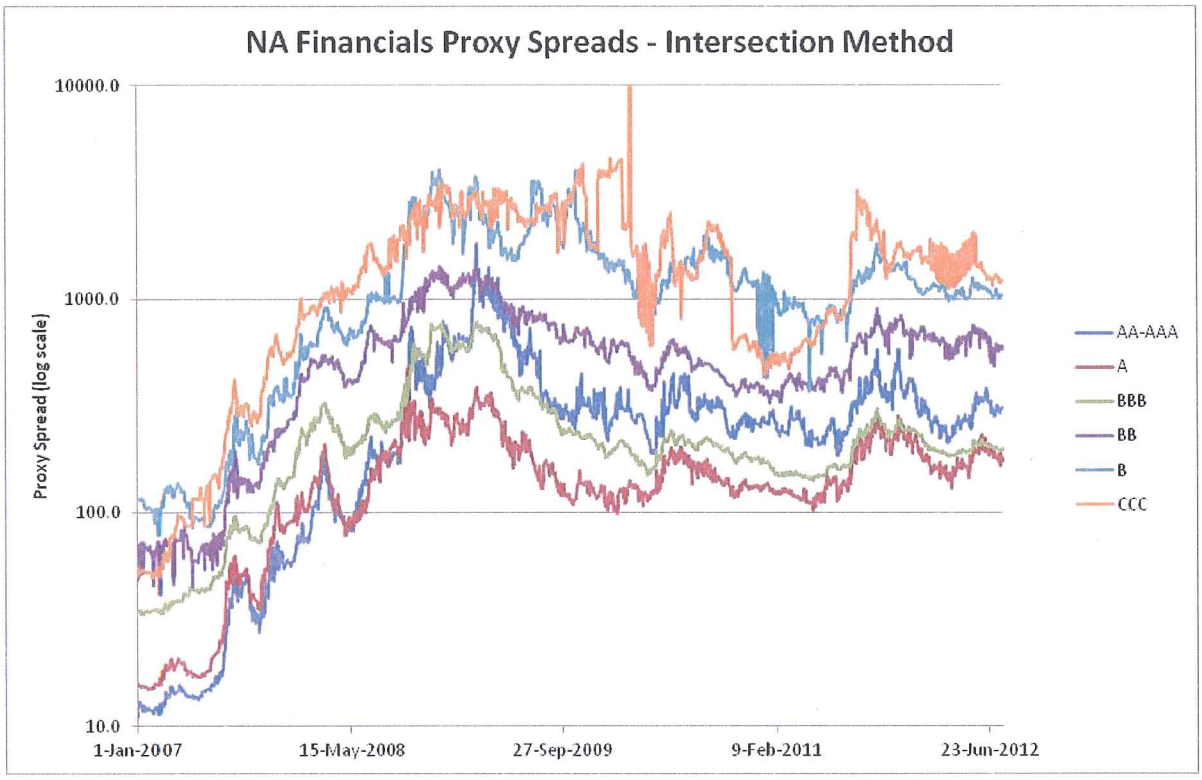


4.3 Monotonicity by Rating

Out of rating, region and sector, rating is the strongest indicator of CDS spread. We can see from the table in section 3 that the cross-sectional spread factors for 30 July 2012 are monotonic in rating – a worse rating has a wider proxy spread. And as the graph below shows, this has almost always been the case historically.



By contrast, the intersection method is much less likely to produce monotonic proxy spreads by rating, as illustrated by the graph below of North American Financials proxy spreads. Notice in particular how the proxy spread for the top rating category (AA-AAA) is very often wider than those for both the A and BBB categories. Typically this is caused by one or two wide obligors which are rated AA- or better; because there are only a small number of other obligors in that bucket, the average spread is therefore rather wide. This behaviour is certainly counterintuitive and seems to indicate that the methodology is underperforming.



4.4 Granularity of Categories

When choosing sector, region and rating categories, there is a trade-off to be made. If the categories are too fine then there will be too few liquid obligors in some categories; if they are too broad then we lose potentially important information about the obligors.

With the cross-section method we have the flexibility to set the categories much finer than we could with the intersection method, since the cross-section method is much less likely to have sparsely-populated categories. This increases the accuracy of the cross-section method compared to the intersection method.