

19/12/2014

Basel Committee
on Banking Supervision

Response to the consultative document: Operational risk - Revision to the simpler approaches

The Swedish Bankers' Association appreciates the opportunity to comment on the Basel Committees' policy proposal for new operational risk capital requirements. In summary we strongly object to introducing the proposed Business Indicator (BI) method. The rationale put forward by the Committee in favour of the BI has no empirical support. For some of the arguments empirical results are presented but the conclusions of these results are false; BI is not statistically proven to be a good indicator. Replacing the current methods with BI will at best have no benefits while we fear that it will hamper risk management capabilities and be a step away from best practice. Any new method should lead to an improvement in the assessment of operational risk before being implemented by the Committee. The recommendation is to develop a methodology that captures the operational risk exposure. Such a methodology needs to account for the internal structure and complexity of the financial institution, as well as its risk management framework. The current Standardized method should be regarded as a better method than the proposed one since it tries to account for the internal structure. Until a better alternative is presented the current methods should be kept.

General Comments

It is well agreed upon that the current Basic Indicator Approach (BIA) is ill suited due to the fact that it only takes gross income into account, and by doing so it is unable to capture differences in the internal structure and the complexity of a financial institution. The Standardized Approach (SA) tries to correct for this complexity shortcoming by diversifying income by business lines. The proposed BI method is a major step backwards from the SA and, just as the BIA, completely ignores the internal structure and the complexity of the operations. This is a major fault and will result in the fact that financial institutions with high operational risk exposure will be relatively under-capitalized while institutions with low exposure will be relatively overcapitalized. Furthermore, this may due to the competitive bias give institutions incentives to change their structure and complexity in favour of a higher operational risk exposure. The resulting outcome with the proposed BI method could thus be that the financial sector will become more exposed to operational risk. We believe that

the proposal should address the impact of income volatility from higher risk businesses and, at a minimum, should continue to use business lines to differentiate the inherent operational risk profiles of the underlying business activities.

One argument put forward, in the Consultative Document, in favour of BI over the current approaches is that:

During the financial crisis, bank financial performance resulting in lower GI challenged the underpinning assumption that revenue, and more specifically GI, was the most effective proxy for operational risk. The most common situation involved banks experiencing a decline in their GI due to systemic or bank-specific events, including those involving operational risk losses, and seeing a commensurate decline in operational risk capital when intuitively this should have either stayed at the same level or increased. (page 5)

With this said it would have been interesting to see how BI responds in such a setting. Unfortunately no such comparison is presented by the Committee. For this reason we have examined this issue briefly and found that BI responds in the same manner as the current BIA. Banks that experience a decline in their capital requirements based on GI will experience an equal decline in their requirement based on BI (see appendix for a description of the analysis). We agree with the Consultative Document that a proxy for operational risk should not decrease due to systemic or bank specific events. However, we do not see that the suggested replacement of GI solves this issue.

Looking more in detail at the components of the BI reveals, by pure logic, that it is an inappropriate measure. Some of the components of BI have no intuitive connection to operational losses. For instance it is very difficult to see why a reduction in interest expense would increase the operational risk exposure. Likewise, it is difficult to understand why it is beneficial to have a net interest income equal to zero. Well-ordered banks with high credibility that are able to have low interest expenses, with the BI method, are punished when it instead should be the other way around. The current BI is thus inconsistent from a risk perspective, e.g. it punishes banks making profitable business through the interest component although profitability is the best protection against future losses.

Besides being a step backwards, the BI method also introduces a progressivity while the current methods are a flat rate system with respect to size. The firm conclusion in the consultation is that such progressivity has empirical support in the presented analysis. Unfortunately there is no support for such a conclusion in the presented analysis. This means further that the proposed buckets have no empirical support. Why this is the case is explained in detail below where we comment on the empirical analysis.

Our comment on the empirical analysis shows that:

- There is no empirical support for the progressivity
- There is no empirical support for BI
- BI is not a superior measure compared to gross income
- The design of the analysis is fundamentally erroneous since:
 - o if the OpCar is true then the use of BI is redundant
 - o if the OpCar is false then any analysis, even if properly conducted, has no value

In light of this it is very difficult to support the proposed method.

We consider that any revision to assessing the operational risk exposure needs to account for the internal structure and complexity of the financial institution, as well as its risk management framework. The current Standardized method should be regarded as a better method than the proposed one. A replacement of the current method could only be justified if it actually is an improvement. Even if BI is not too complicated to calculate it still would lead to significant implementation costs and change management at banks for no additional improvement in operational risk management.

We strongly recommend the Basel Committee to develop a measure that truly captures the operational risk exposure. That method should reflect the negative outcome seen in the banking industry from trading intensive business operations where unsymmetrical bonus driven business models have been applied. Further analysis is also needed regarding the level of operational risk as the level is highly dependent on the jurisdictions in which a bank operates.

Comments on the empirical analysis

In the consultative document two main conclusions are drawn based on the empirical analysis: one, the progressivity in the BI coefficient, and secondly, that BI is a superior measure. In Figure 2 we present a flowchart over the conducted empirical analysis on which these conclusions are drawn.

The only argument put forward for a non-linear model, i.e. the progressivity, is based on a residual analysis of a misspecified linear estimation. It is however well known that such misspecification will lead to biased results. Instead of rejecting the linear model and concluding that a non-linear model is needed we strongly recommend that the estimation of the linear model is done on a correctly specified model, i.e. by including the intercept.

That the residuals from the misspecified model which is used in the analysis are biased is illustrated in Figure 1. It is clear that the residuals from the estimated line

will have a clear and distinct pattern exactly in the same way as found in the consultative document: "they [the residuals] tended to follow a linear decreasing pattern". It is correctly concluded that the estimated model is misspecified, both by rejecting the normality test for the residuals and by observing the low level of significance. Unfortunately the obvious omission in the estimated linear model is overlooked and instead it is claimed as proof for rejection of all linear models. Based on the analysis carried out it is not possible to conclude that a linear model is not appropriate; all it says is that a linear model which forces the intercept to be zero is not appropriate. There are no other results presented to support the progressivity with respect to BI.

How the resulting coefficients were obtained is also highly unclear with only a vague formulation: "*The function parameters were estimated by minimising a kind of adjusted R-squared adapted to the specific framework*". First of all it is very difficult to interpret what is meant by **a kind of adjusted R-squared**. Second, it is surprising that R-squared is used at all given that it is also stated that "*...it is well known that R² is an inadequate and inappropriate measure for non-linear regression*". The only empirical support for the proposed coefficients seems thus to be based on a statistic which is deemed as inadequate by the committee itself.

In the consultation it is also stated that "*the results showed the significant superiority of the BI over all the investigated indicators in capturing a bank's operational risk exposure*". There are two major objections against such statements. First, unless the reader is extremely careful it gives the impression that there is statistical support for that BI is able to proxy the operational risk exposure. This is however not true, the analysis gives no indication if BI is good or bad in explaining operational risk exposure. The analysis only shows that BI is better than the other investigated variables. The BI can be better than the other variables and still be useless in explaining operational risk exposure simply because the other variables are even worse. Given the conducted analysis at hand one could just as well rephrase the findings as: of all the useless explanatory variables BI is the least useless. The second objection against the statement above questions the finding that it is superior over the other variables. The problem is that BI, which should be the independent variable, contains operational losses, which at the same time is the larger part of the dependent variable (see Figure 2). It could very well be so that it is the operational loss component of the BI which is driving the whole superiority of BI. If the superiority of BI still prevails after excluding the operational loss component then it could be said that it is better than the other variables. But, *nota bene*, even if superiority is confirmed the first objection is still present.

If somehow further analysis would show that BI is a good explanatory variable, what would this actually tell us? It is important to remember that it is not the operational risk exposure that is the dependent variable, what we instead have is an

approximation of this exposure based on the average of the 99.9 percentile of six assumed distributions. If this is not a good approximation it means that all the empirical analysis is useless. That is, we could find good explanatory variables for the approximation but this would not tell us anything about the real operational risk exposure. Simply the fact that six different assumed distributions are used indicates that there is no firm consensus that any of these are a good description of the real distribution.

Imagine now that the average of these assumed distributions is a good approximation of the operational risk exposure. Then it would actually make sense to have this approximation as the dependent variable. But in this case it would be completely redundant to find the best explanatory variable simply because we already would have the answer to how big the operational risk exposure is. There would be no need for the use of BI, or any other indicator, since we could simply get what we want by combining internal operational loss data with the assumed distributions.

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Figure 1: Illustration of OLS bias when omitting the intercept

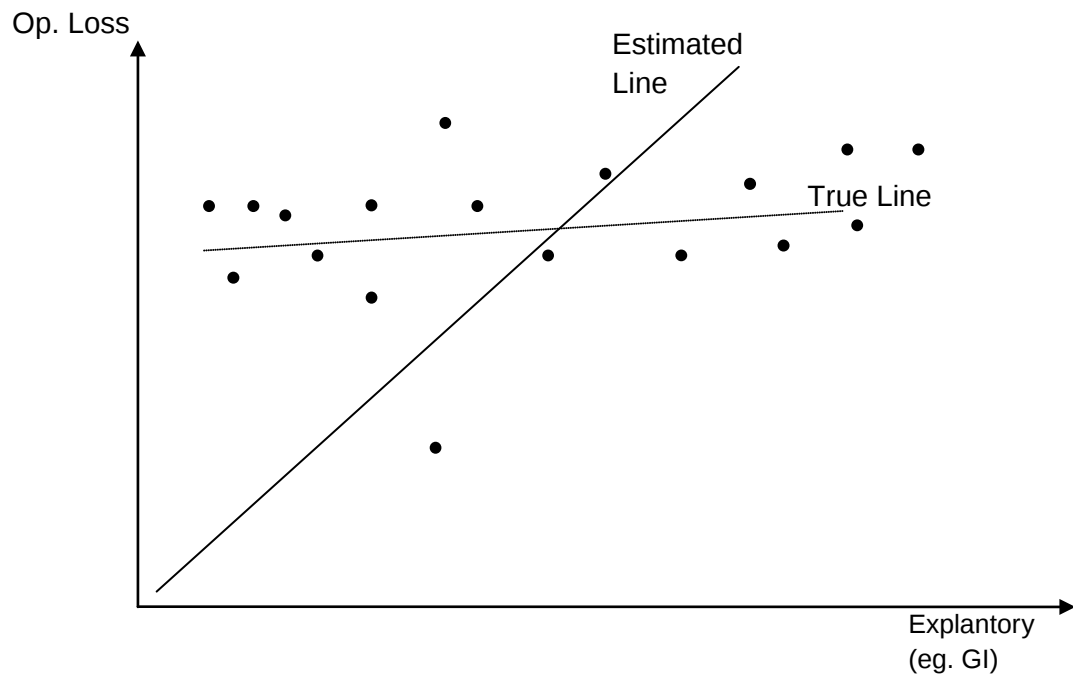
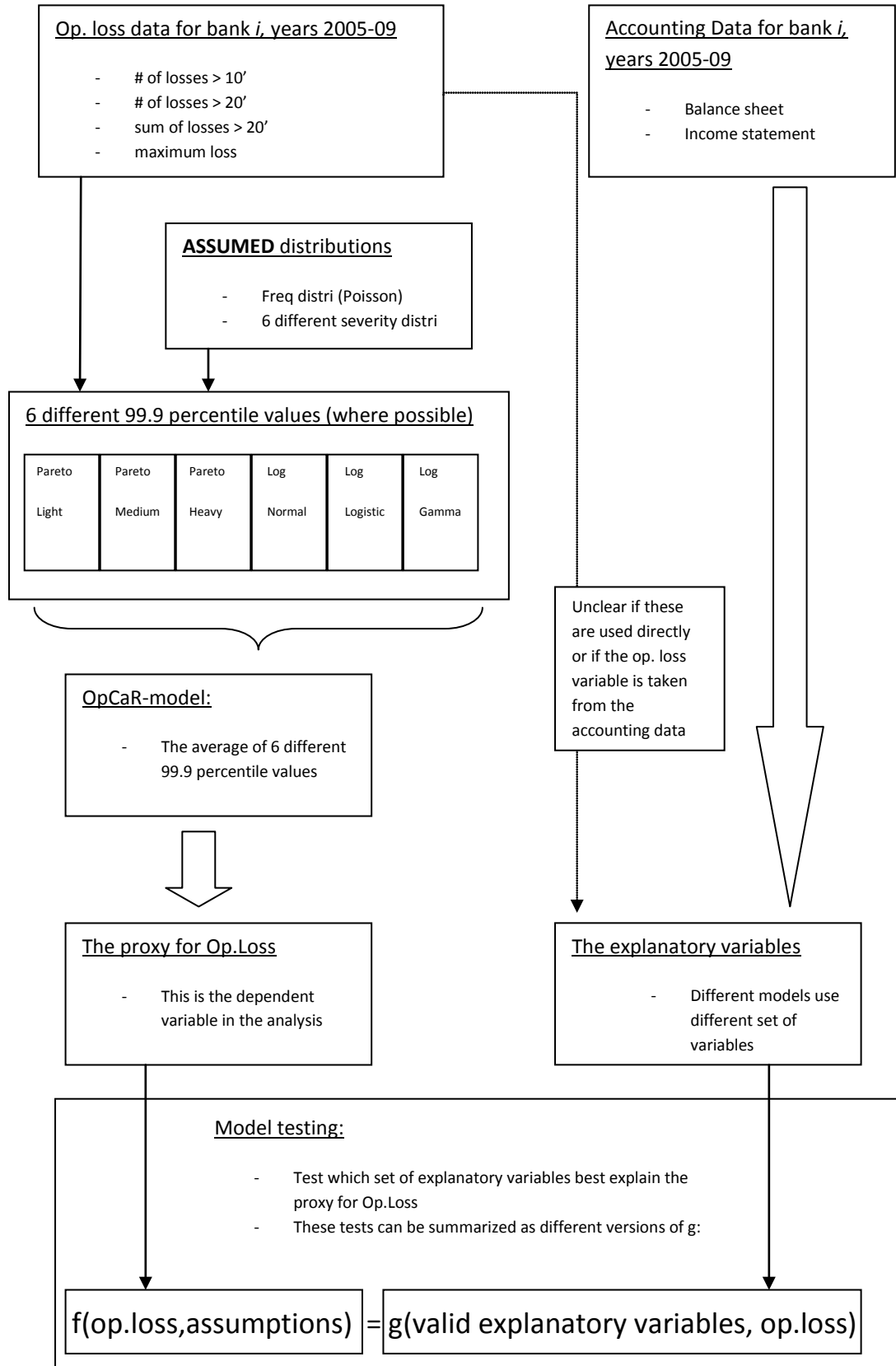


Figure 2: Flowchart of the empirical analysis



Appendix: Response of BI and GI during crisis

The consultative document confirm an important shortcoming of the current simpler approaches which is that the capital requirement will decrease when gross income decreases due to systemic or bank specific events. To see if the BI measure solves this problem we have collected the latest annual reports of a number of European banks recently in or near crisis. Note that all these banks where in distress during at least one of these years, and one bank even bankrupted, so even if the sample is small it is representative for the issue at hand.

For each year we have calculated BI and gross income based on the annual reports, and from this we are able to obtain the capital requirements based on BI and the current BIA. Of interest is to see how the capital requirements will change from year to year for each bank. For this reason we calculate the ratios between the capital requirement of one year and the preceding year. If this ratio is above one it means that the capital requirement has increased, and if it is below it means that it has decreased. The ratios based on BIA and BI are presented in Table 1.

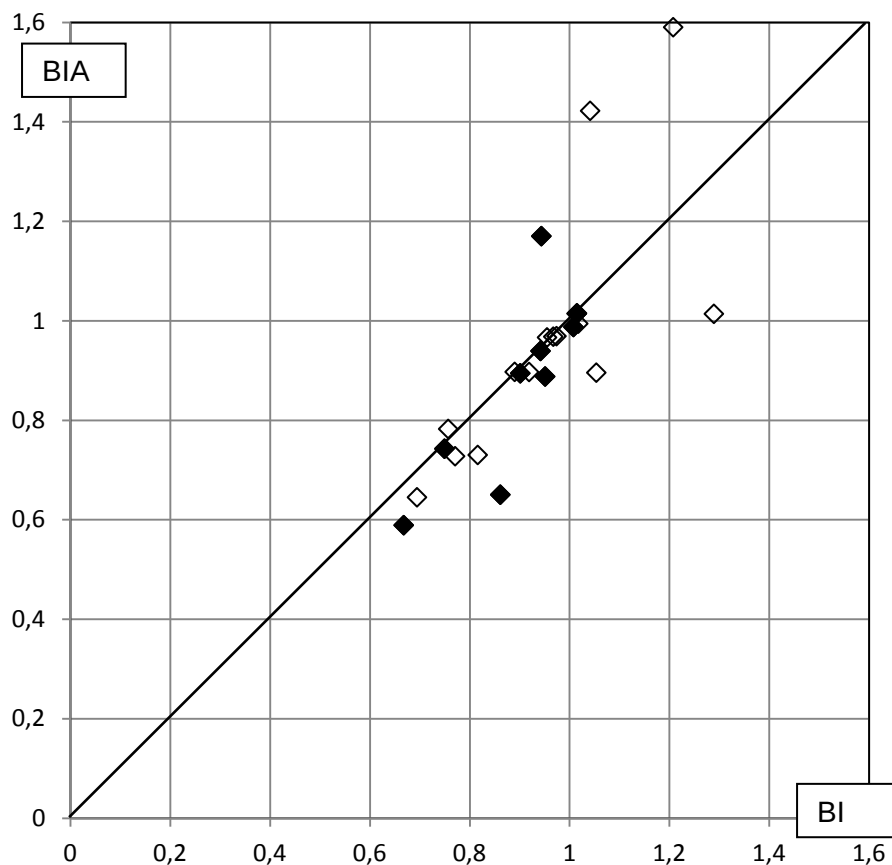
Table 1: Ratios based on BI and GI, per bank and year. Bold indicates year of crisis.

Year (t)	Bank	BIA ratio (year_t / year_t-1)	BI ratio (year_t / year_t-1)
2013	Alphabank	1,59	1,21
2012	Alphabank	0,65	0,86
2011	Alphabank	1,01	1,01
2013	Caixa Geral de Depositos	0,73	0,77
2012	Caixa Geral de Depositos	0,94	0,94
2011	Caixa Geral de Depositos	0,99	1,02
2013	Catalunya Banc	1,02	1,01
2012	Catalunya Banc	0,97	0,97
2013	Espiritus	0,65	0,69
2012	Espiritus	1,17	0,94
2011	Espiritus	1,01	1,29
2013	Eurobank	0,90	0,92
2012	Eurobank	0,74	0,75
2011	Eurobank	0,89	0,95
2011	Laiki	1,42	1,04
2013	Millennium BCP	0,73	0,82
2012	Millennium BCP	0,90	0,89
2011	Millennium BCP	0,90	1,05
2013	The Co-operative Bank	0,59	0,67
2012	The Co-operative Bank	0,99	1,01
2011	The Co-operative Bank	0,97	0,95
2013	Ulster Bank	0,97	0,97
2012	Ulster Bank	0,89	0,90
2011	Ulster Bank	0,78	0,76

If these ratios are equal it means that the capital requirements changes equally between the two approaches. Since a major shortcoming of the BIA approach is that it reduces capital requirements during a year of distress it is expected that the BIA ratio will be below one in such a case, and for BI to be better measure its' ratio should stay around one, or at least decrease less than the BIA ratio. If it is a year of distress then it is marked with bold in the table.

From the table it is clear that there is no major difference between how BIA and BI responds in a period of crisis. The complete sample correlation is high, 0.76, but not perfect. However, the observations which reduce the correlation are mainly ones where BIA has increased more than BI, and thus not giving support for BI over BIA. This is also evident in a scatter plot which is presented in

Figure 3: Scatterplot of BIA and BI ratios, filled markers indicate year of crisis



In the figure the filled markers indicated a year of distress and most of the observations line up on the 45 degree line, meaning that BIA and BI respond equally, hence it is clear that there is no major difference between BIA and BI. All but one observation of those that diverge from the 45 degree move in the same direction (i.e. below of above one) and there is no evidence that BI is superior over BIA.

In general, years of distress imply a reduction in the capital requirement, but BI does not seem to be any remedy of this problem. To draw any firm conclusions, a larger sample would be needed which hopefully will be accomplished before a new measure is introduced.