ICC/GCD 2022
PERFORMANCE GUARANTEES PAPER

Context

This paper[1] *assesses the empirical level of Credit Conversion Factors (CCF[2]) for Performance Guarantees or Technical Guarantees as referred in CRR3* [3].

As part of this update, the methodology and the data collection have been enhanced to align with risk modelling practices banks deploy for regulatory capital calculations. This shifts the focus from the total portfolio of all customers to only defaulted customers (in line with regulatory requirements for LGD modelling), and therefore uses a portfolio of defaulted customers and associated payments made under guarantees issued by these defaulted customers to estimate empirical CCFs.

The analysis done to estimate empirical CCFs for performance guarantees was based on a data set collated by Global Credit Data (GCD)[4] from its consortium member banks. The total GCD defaulted data set covers cases where the borrower has defaulted (using the Basel definition) and it is composed of data from more than 55 member banks. The lending footprint, facilities, and borrower types as well as collateral practices of the GCD member banks are merged in the database. The International Chamber of Commerce (ICC) Banking Commission advocacy Group acknowledged the representativeness based on the geographical distribution of the contributing banks (list is in the Appendix). Data in scope covers an historical period of 20 years.

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1 This paper updates a joint publication (2019) by the International Chamber of Commerce (ICC) and the Global Credit Data (GCD) Consortium[5] on claims made and paid, of performance guarantees

2 The CCF defined here is the conversion rate of off-balance sheet exposure to on-balance sheet exposure (by way of a payment on a claim) measured after default on issued amounts for those guarantees

3 CRR3 Article 111 and Annex Bucket 2 includes performance bonds, bid bonds, warranties and standby letters of credit related to particular transactions and similar transaction-related contingent items; also termed as 'technical guarantees' in certain jurisdictions.

4 The Global Credit Data Consortium (GCD) is a non-profit association owned by 55+ member banks. GCD operates pooled data bases on a "give to get" basis, meaning that members who supply high quality data receive detailed data from all other contributors in return. The robustness of GCD's data collection infrastructure helps place the GCD databases as the global standard for credit risk data pooling. For more info, visit www.globalcreditdata.org or contact secretary@globalcreditdata.org

Conclusions

Based on an analysis of the data collected the paper establishes:

An average credit conversion factor (CCF) of 10%+/- moc[5] for defaulted customers with a portfolio[6] of **performance guarantees** outstanding from date of default; this indicates the low conversion rate from off-balance sheet to on-balance sheet exposures for these products which only pay out when there are failures in the underlying contract/agreement even after a customer default has occurred. As the GCD data pool has been collated over a period of 20 years and covers a larger cross-section of global banks the data is not only robust but is also a representative data set.

This validates the case for applying a 20% CCF in determining Exposure-At-Default (EAD), for performance guarantees when calculating Risk Weighted Assets (RWA) for capital purposes.

Additionally, data has been collected from ICC member banks on

- Claim rates and paid rates for the **overall book** (containing both performing and defaulted exposures):

  This is similar to the earlier exercise done in 2019. It provides an additional reference point for readers to understand the underlying CCF numbers from an overall portfolio perspective. These numbers reinforce **the low claims made and paid rates** for the overall portfolios (0.2% for performance and 1.7% for financial). This data has been submitted by 17 Trade Register (TR) member banks (five more than last time).

Importantly, the case for applying a 20% CCF for performance guarantees based on empirical data is strong (The empirical data collected for financial guarantees also establishes a case for revisiting the 100% CCF for these guarantees).

Methodology

The methodology uses a portfolio of defaulted customers as the starting point for collecting paid amounts on performance and financial guarantees issued by these defaulted customers. The reference data set is then used to estimate empirical CCF, where the **CCF is defined by the following ratio**.

CCF (assessed at each facility, consistent with regulatory guidance on prudential CCF calibration):

$$\frac{\textit{Money paid out under claims made for a guarantee type (i.e. Perf, Fin) after the date of default}}{\textit{Outstanding exposure (issued amount) of the same guarantee type as on the date of default}}$$

The CCF is calculated for each facility and then averaged.

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5 Margin of Conservatism (moc) must be defined to account for data limitations and can be based on confidence interval of the sample mean (see Technical Appendix)

6 Portfolio consolidated from 36 GCD member banks (list in appendix)

Results

The methodology has been applied to the GCD data pool of defaulted customers with **performance guarantees** facilities (time span 2000-2018). Table 1 shows performance guarantees products. The average CCF for these products is 10%.

Table 1: Performance guarantees CCF (In EURm)

Facility type	Number of defaulted facilities	CCF (avg. of paid/ issued at facility level)
Bid or performance bond	264	14%
Trade related payment guarantee	176	19%
Other trade related bonds	1,333	8%
Total performance guarantees	**1,773**	**10%**

From a business practice perspective, it is important to understand that not all guarantees are claimed for defaulted customers[7]. Further issuing banks often extend claims subject to a mutual agreement between applicant and beneficiary, or do not pay claims if they are discrepant or subject to a legal stay order obtained by the applicant. This often results in a bank not needing to pay out against these guarantees.

Is there an impact of economic downturns (credit cycle) on the CCF for performance guarantees?

The observation of downturn effects in historical data is typically complicated by short time series and few data points, especially for low defaulted portfolios. Nonetheless, GCD data can provide useful insight.

By taking a closer look at the timing of the underlying recovery cash flows in historical data, it is possible to extract a meaningful co-movement[8] of CCF and the economy or credit cycle.

Table n. 2 shows average CCF by year of peak cashflow. Buckets of five years are displayed.

Table 2: CCF by year of Peak Cashflow

Year of peak cashflow	Number of defaulted facilities	CCF (avg. of paid/ issued at facility level)
2001-2005	142	23%
2006-2010	564	11%
2011-2015	943	7%
2016-2020	124	8%
Total performance guarantees	**1,773**	**10%**

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7 In many cases, even if the customer is in declared insolvency, he is still able to fulfil its technical obligation regarding certain projects, which explains that not all the guarantees with a defaulted customer are claimed. In some occasions, project may be completed or close to completion which allows to avoid claims.

8 For example, when a default occurs during an economic downturn, e.g. in 2008-2009, the cashflows of those loans can happen after it, therefore be dispersed over periods of time, during which economic conditions are likely to change. Cashflows can be informed and impacted by the macro economy conditions post default.

The period 2001 to 2005 were years when large corporate defaults featured high-profile defaults (like Enron and World Com) occurred. The average CCF in that period was influenced by a few high-profile defaults identified above.

In contrast, the 2007/08 GFC was essentially a financial crisis emanating from within the banking system, where 2/3 of losses were mark-to-market losses, albeit running into trillions. This explains why economic actors did not anticipate any credit crunch prior to the crisis, leaving average CCF at a lower level in 2007/08 in comparison to 2001/2005, which saw higher losses emanating from corporate obligors.

The average CCF ranges from 7% in benign credit cycle, up to 23% in crisis credit cycle, which validates the case for applying a through-the-cycle 20% CCF in determining Exposure-At-Default (EAD), for performance guarantees.

APPENDIX

1. Performance guarantee products explained

Market practice: It is market convention to issue guarantees subject to the provisions of the 'International Chamber of Commerce (ICC) rules Uniform Rules for Demand Guarantees (URDG) 2010, revision, ICC publication 758'. These rules having been endorsed by international organisations, multilateral financial institutions, bank regulators, lawmakers and professional federations. We broadly categorise these types of guarantees.

Bid bond/tender bond is an undertaking issued on behalf of the applicant that typically supports the applicants bid on a project for a government entity or public/private partnership. The bid often requires a specific form of Guarantee for a bid to be accepted and so amendments may be very difficult to negotiate.

Advance payment guarantee/bond is an undertaking issued on behalf of the applicant to cover receipt of an advance payment for a commercial or trade-related contract and can be claimed if the applicant does not meet its obligations under the terms of the contract.

Performance guarantee/bond is a Guarantee which guarantees a performance-based obligation to deliver some equipment or services on an agreed date. That is, an obligation that is wholly non-financial in nature (or in which the *primary* obligation is non-financial in nature). An example would be where the client of a bank has contracted with another party to perform a service and asks its bank to provide a Guarantee which can be called by the other party upon failure of performance.

Retention guarantee/bond is a Guarantee which is closely linked to performance-based obligations on equipment or services during the warranty period. That is, an obligation that is wholly non-financial in nature (or in which the *primary* obligation is non-financial in nature).

Financial guarantee/bond is an undertaking issued on behalf of the applicant that supports a financial obligation of the applicant where no goods are services are exchanged.

Lease or rent guarantee/bond is an undertaking issued to secure the obligations of a renter or lessee under a lease of property.

The first four of these guarantees are performance related, while the last two, characterised as Financial Bonds, can be regarded as a credit substitute alongside loan guarantees and standby letters of credit to support loan facilities. *Performance guarantees* are a special class of contingent liabilities which share the following characteristics:

- Not expected to be drawn (unlike L/Cs)
- Drawing is dependent on a commercial event (e.g. a contract breach)
- Not issued in support of loans and other financial obligations

1.1 Parties involved

- Issuing bank: promises to pay on first demand and receives an indemnity from its customer
- Beneficiary/recipient: receives the guarantee and may claim or not. They may do this through their own bank.
- Obligor/customer: requests issuance of the guarantee and promises to reimburse the issuing bank if the issuing bank repays the beneficiary under a valid claim presented by the beneficiary.

1.2 Performance guarantees in a default context

Performance guarantees may be claimed by the beneficiary regardless of whether the obligor is in default with their bank or not.

No default: Claim triggered and paid from customer's funds with obligor/customer not in default as per banks internal definition of default, which is also consistent with the regulatory definition of default. Though the customer has sufficient funds, because the claim has been triggered and found to be valid, it has to be paid. However, it does not necessarily translate into a loss.

Default: Claim triggered and paid from customer funds with obligor/customer in default as per banks' internal definition of default (or paid from bank funds if the customer does not have sufficient funds). As obligor is classified as defaulted customer and as a claim has been triggered the transaction counts as a defaulted transaction. If customer has sufficient funds no loss may be triggered. However, there is a strong likelihood that the transaction (or part thereof) will incur a loss as the obligor is in default.

Terms definition

Table 3: Table of terms definition

Term	Definition
Issued amount	Total outstanding exposure of a guarantee type (i.e. Perf, Fin) as on the date of default
Paid amount	Total money paid out under claims made for a guarantee type (i.e. Perf, Fin) after the date of default

2. Global Credit Data (GCD): Data and methodology

GCD started collecting historical loss data in 2004, to which member banks have exclusive access. GCD data only covers cases where the borrower has defaulted (using the Basel definition). This database now totals over 302,000 non-retail defaulted loan facilities from around the world.

The total GCD defaulted data set is composed of data from the banks who have chosen to be GCD members. These banks' geographical lending footprint, facilities, and borrower types as well as collateral practices are merged in the database.

In this report GCD bases the analytics on a filtered data set: using specific products, (performance guarantees and financial guarantees) and combining elements of representativeness and data quality. The three facility types that GCD classes as performance guarantees are trade related payment guarantee, other trade related bonds, and trade finance bid or perf bond.

The different elements and the reasons for filtering are:

- **Exclusion of unresolved facilities.** Loss given default is most accurately calculated on closed (resolved) cases, where the outcome is anything from full repayment to complete loss, or something in between. Although GCD collects unresolved cases, the ultimate LGD cannot be calculated until the default is resolved.

- **Exclusion of facilities defaulted prior 2000.** Although the earliest entry in the GCD database dates back to 1983, for some banks it is difficult to deliver all the data elements required to identify cured cases for older defaults consistently with newer defaults.

- **Exclusion of data from former member banks**. When a member bank resigns from the association and/or from a Data Pool, the most recent defaulted years that it has submitted must be incomplete as it would no longer participate to submit/update its defaults.

- **Exclusion data quality issue.** GCD applies a series of validation rules during the submission process which prevents inconsistent or incomplete data from being accepted automatically. This is the major data quality insurance that protects the database. The validation rules are updated and amended as required by our members for every submission. That said, some entries were integrated into the database before certain validation rules had been implemented. For this exercise, data points with errors that affect the integrity of the database (e.g. the event date at default must be the same for all facilities of a given borrower) or the correct calculation of LGD (e.g. balancing the cash flow between the transaction and the history table) were excluded.

The structure of the GCD database reflects the full complexity of the legal relationship between a bank lender and a borrower. Usually, a single company borrower might have multiple types of facilities (revolving loans, term loans, performance guarantee facility etc.). The database is designed to deal with the simplest through to the most complex deals and GCD member banks can access the whole deals structure on facility and obligor levels. For this report, figures are aggregated at facility level.

2.1 Representativeness of GCD data sample

GCD performance guarantee and financial guarantee data are provided by 36 worldwide banks. The ICC Banking Commission Advocacy Group confirms that contributing banks, as listed below, do constitute a representative sample of the performance guarantees and financial guarantees market**.**

Table 4: List of GCD member banks contributing to the sample

GCD member banks submitting guarantees data		
ABN AMRO	FirstRand RMB	Raiffeisen Bank International
Bank of Montreal	HSBC Group	Royal Bank of Canada
Bank of Tokyo Mitsubishi	Hypo Vereinsbank	Royal Bank of Scotland
Barclays Bank	ING	Santander
BNP Paribas	KfW Bankengruppe	Scotiabank
Commerzbank	Lloyds Banking Group	Skandinaviska Enskilda Banken
Commonwealth Bank of Australia	Mizuho	Société Générale
Crédit Agricole CIB	MUFG Union Bank	SpareBank 1 Gruppen
Crédit Suisse	National Australia Bank	Standard Bank of S.A.
Danske Bank	Natixis	Svenska Handelsbanken
DNB Bank	NIBC	Wells Fargo
Dresdner	Rabobank	Westpac Banking Corporation

Table 5: Regional distribution of GCD member Banks contributing to the sample

Europe	North America	Rest of the world
ABN AMRO	Bank of Montreal	Bank of Tokyo Mitsubushi
Barclays Bank	Mizuho	Commonwealth Bank of Australia
BNP Paribas	MUFG Union Bank	National Australia Bank
Commerzbank	Royal Bank of Canada	Westpac Banking Corporation
Crédit Agricole CIB	Scotiabank	FirstRand RMB
Crédit Suisse	Wells Fargo	Standard Bank of S.A.
Danske Bank		
DNB Bank		
Dresdner		
HSBC Group		
Hypo Vereinsbank		
ING		
KfW Bankengruppe		
Lloyds Banking Group		
Natixis		
NIBC		
Rabobank		
Raiffeisen Bank International		
Royal Bank of Scotland		
Santander		
Skandinaviska Enskilda Banken		
Société Générale		
SpareBank 1 Gruppen		
Svenska Handelsbanken		

2.2 Confidence Interval (CI)/Margin of Conservatism (MOC) of the estimate of the CCF based on the sample of data

Often in statistics we use confidence intervals to estimate the value of a population parameter with a certain level of confidence. Every confidence interval takes on the following form:

Confidence Interval = [lower bound, upper bound]

We use the following formula to calculate a confidence interval for a population mean (here average CCF):

Confidence Interval = x +/- z*(s/√n)

where:

x: sample mean

z: the z-critical value, depends on the confidence level,

s: sample standard deviation

n: sample size

3. Claims made and paid on overall portfolio

Table 6: Claims made and paid on overall portfolio

Type of guarantee	Year	Number of gtees issued	Number of gtees claimed or extended	Claim rate	Number of gtees paid out	Claim paid rate	Number of gtees extended (not paid)	Ultimate drawing rate (Number of gtees paid out vs number issued)	Count of lender
Performance	2016	366,010	15,301	4%	827	5%	14,146	0.2%	16
	2017	356,850	14,930	4%	858	6%	13,635	0.2%	16
	2018	426,503	18,224	4%	964	5%	16,700	0.2%	17
	2019	319,817	15,425	5%	631	4%	14,643	0.2%	11
	2020	371,872	12,730	3%	609	5%	11,876	0.2%	11
	Total	1841,052	76,610	4%	3,889	5%	71,000	0.2%	17
Financial	2016	59,597	3,596	6%	839	23%	2,815	1.4%	14
	2017	59,280	3,375	6%	930	28%	2,388	1.6%	14
	2018	59,771	3,608	6%	738	20%	2,406	1.2%	15
	2019	44,330	2,303	5%	717	31%	1,582	1.6%	10
	2020	55,598	3,309	6%	1,510	46%	1,647	2.7%	10
	Total	278,576	16,191	6%	4,734	29%	10,838	1.7%	15

ABOUT THE INTERNATIONAL CHAMBER OF COMMERCE (ICC)

The International Chamber of Commerce (ICC) is the institutional representative of more than 45 million companies in over 100 countries. ICC's core mission is to make business work for everyone, every day, everywhere.

Through a unique mix of advocacy, solutions and standard setting, we promote international trade, responsible business conduct and a global approach to regulation, in addition to providing market-leading dispute resolution services.

Our members include many of the world's leading companies, SMEs, business associations and local chambers of commerce.

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ABOUT THE GLOBAL CREDIT DATA CONSORTIUM (GCD)

Since 2004, the Global Credit Data Consortium (GCD) is owned by 50+ member banks and collects, pools, and distributes back anonymized internal credit risk data from banks' loan books, to support modelling of Probability of Default (PD), Loss Given Default (LGD), and Exposure at Default (EAD) in compliance with prudential regulatory requirement.

The PD database covers 18 years of quarterly rating migration, default rates and PDs calibration. The LGD database now totals over 350,000 non-retail defaulted loans from around the world and over 155,000 borrowers covering 11 Basel asset classes.

The robustness of GCD's data collection and quality infrastructure helps place GCD's databases as the global standard for credit risk data pooling.

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