

2017

ICC TRADE REGISTER REPORT

GLOBAL RISKS IN TRADE FINANCE

Market Trends >

Analysis of Trade Finance Products >

Analysis of Export Finance Products >

Regulatory Updates >

What this means for Investors >



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ABOUT THE INTERNATIONAL CHAMBER OF COMMERCE (ICC)

The International Chamber of Commerce (ICC) is the world's largest business organisation with a network of over 6 million members in more than 100 countries. We work to promote international trade, responsible business conduct and a global approach to regulation through a unique mix of advocacy and standard setting activities – together with market-leading dispute resolution services. Our members include many of the world's largest companies, SMEs, business associations and local chambers of commerce.

In 2017 the ICC was granted Observer Status at the United Nations General Assembly (UNGA), the first time a private sector organisation has been admitted formally into the United Nations system.



For more information please visit: www.iccwbo.org

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Visit the ICC Banking Commission website:

<https://iccwbo.org/global-issues-trends/banking-finance/>

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The ICC Banking Commission is the largest commission of the ICC. It has established itself as the authoritative voice for the Trade Finance industry, setting the standards and benchmarks for industry practices. The Commission is delighted to continue working on this project with its two Trade Register Project partners: The Boston Consulting Group (BCG) and Global Credit Data (GCD).

As always, the ICC Banking Commission extends special thanks to our 22 Member Banks:

AKA Bank	J.P. Morgan Chase
ANZ	KfW IPEX-Bank
Bank of America Merrill Lynch	Mizuho
Bank of China	Rand Merchant Bank
Barclays	Santander
BMO Financial Group	Société Générale
BNP Paribas	Standard Bank
Crédit Agricole CIB	Standard Chartered Bank
Deutsche Bank	Sumitomo Mitsui Banking Corp
HSBC	UniCredit
ING	Wells Fargo

The findings of this Report are based on their underlying data sets and financial and resource contributions. Their continued financial support, investment of time and resources, and uncommon focus on the bigger picture lets us collect increasingly robust and meaningful data to produce this Report each year.

Finally, the ICC Banking Commission would like to thank the Project leadership: Krishnan Ramadurai, Chair, ICC Trade Register Project; David Bischof, Project Manager; our team of Senior Technical Advisors, Henri d'Ambrières of HDA Conseil in France, Hugo Verschoren of ING Bank in Belgium and Alexander R. Malaket of OPUS Advisory in Canada (Deputy Head, ICCBanking Commission Executive Committee); Olivier Paul, Head of Policy, ICC Banking Commission; Sukand Ramachandran, Jarryd Porter, Ravi Hanspal, and Campbell Leckie of BCG; and Philip Winckle, Rob Korako, and Michaël Dhaenens of GCD – the whole team has been instrumental in the design and execution of the 2017 Trade Register Project.

OUR PARTNERS

The ICC Banking Commission's ambition since the creation of the ICC Trade Register in 2009 was always to continue to develop and improve the Trade Register as an important source of quality, trusted data and robust analytics aimed at supporting advocacy efforts and enhancing market understanding of the nature of Trade Finance among industry stakeholders. For 2016 and onwards, the ICC Banking Commission engaged in a strategic partnership with The Boston Consulting Group (BCG) and Global Credit Data (GCD) with an aim to leverage each other's strengths and expertise in order to successfully continue ICC's mission and ambition with the Trade Register Project.



Global Credit Data's (GCD's) objectives, as set out in its Articles of Association, include providing its members with credit data collection, analysis and research, contributing to a better understanding of credit risk and promoting quality standardisation and transparency of data to improve credit risk management. The ICC relies on GCD's data-collection and analysis competencies to remain focused on core strategic and advocacy activities.

GCD is a non-profit association owned by over 50 Member Banks. Its mission is simple – to help banks better understand and model their credit risks through data pooling and benchmarking activities. GCD started collecting data in 2005 as the Pan European Credit Data Consortium (PECDC), with the goal of helping banks to develop Basel II-compliant Loss Given Default (LGD) and Exposure at Default (EAD) models. Member Banks have exclusive access to this database and use it to successfully support their IRB Advanced accreditation applications.

It now covers over 120,000 non-retail defaulted loan facilities from around the world. In 2009, GCD introduced a Probability of Default (PD) database which now covers more than 10 years of data and helps banks to calibrate and benchmark their PD master scales in use for Basel II and III Advanced and Foundation models.

In 2014, PECDC changed its name to The Global Credit Data Consortium (GCD) to reflect the growth in membership of US and Canadian banks. In 2017 GCD introduced a Benchmarking Platform where members can compare their forward looking PD, EAD and LGD estimates against those of peer banks. The robustness and capacity of GCD's data collection and management infrastructure makes GCD databases one of the leading global standards for credit risk data pooling.

GCD Member Banks not only benefit from exclusive rights and access to credit databases and analytics, but also from knowledge and research facilitation possible via the unique industry association. Through a variety of forums such as workshops, webinars and surveys, GCD facilitates discussion in key strategic areas including LGD modelling, stress testing, Comprehensive Capital Analysis and Review (CCAR) and International Financial Reporting Standards 9 (IFRS9) modelling. Highlights include the North American and European GCD conferences held each year. The value of GCD membership extends beyond the data itself, to a deep network of highly experienced credit risk professionals.

GCD Members are owners of the association and its data. They have a prominent role in steering the GCD's strategic direction to keep activities member-centric and drive the "by Banks for Banks" credo.



THE BOSTON CONSULTING GROUP

The Boston Consulting Group (BCG) has played a leading role in the development of the Trade Register Report by contributing a strategic, value-focused perspective.

BCG is a global management consulting firm and the world's leading advisor on business strategy. BCG partners with clients from the private, public and not-for-profit sectors in all regions to identify their highest-value opportunities, address their most critical challenges, and transform their enterprises.

BCG's expertise in the Financial Institutions sector spans all major topic areas to give global, regional and local banks detailed insight, knowledge and analysis across markets. Trade Finance is an established and growing topic area for BCG's Corporate and Transaction Banking practices. BCG has worked on more than 20 recent Trade Finance-related projects globally on industry questions and challenges such as market entry and growth, pricing, cost reduction, operations, and digital change and transformation.

BCG continues to support the broader Trade Finance community with thought leadership, including a recent SIBOS 2017 paper "Digital Innovation in Trade Finance: Have We Reached a Tipping Point" in collaboration with SWIFT. By partnering with the ICC Trade Register Project, BCG aims to bring additional strategic insight, commercial and technical industry perspectives to the table, to ensure maximal value for the reader base as a whole.

BCG was founded in 1963. It is a private company with more than 90 offices in 50 countries. For more information, please visit bcg.com

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FOREWORD FROM THE CHAIR OF THE ICC TRADE REGISTER PROJECT

The ICC's annual Trade Register Project, a flagship publication of the ICC Banking Commission, encompasses data collection and analysis, an annual report and a related advocacy program.



Krishnan Ramadurai

Chair, ICC Trade Register Project

The ICC's annual Trade Register Project is the only authoritative source of Trade Finance and Export Finance-related credit risk and default data.

This year's Report builds on the progress and evolution of earlier years, and is aided significantly by the partnership forged between the International Chamber of Commerce (ICC), The Boston Consulting Group (BCG) and Global Credit Data (GCD). Our new approach has delivered significant improvements in project planning and execution, data collection, the analytical methodology, and the quality of the Trade Register report itself.

The current edition of the Report substantiates the findings of past reports, and the core conclusions are consistent even as the quality and robustness of our data and methodology improve. This year's data includes over USD 11 trillion worth of Trade Finance and Export Finance transactions, once again illustrating the low-level default rates across obligors with Trade Finance and Export Finance exposures.

The Trade Register Project continues to provide critical, objective support to the narrative of favourable credit risk and default experience in Trade Finance and Export Finance. It is the only credible source of data and analysis on this aspect of banking, and has achieved the type of visibility that prompted one regulator to caution that a discontinuation of this effort might be seen as a matter of concern by regulatory authorities.

It's important to point out that the leading institutions that contribute their time, resources and proprietary data to the Trade Register have generated benefit for the entire industry. These institutions face a genuine challenge – how do we justify continued investment when a free-rider problem exists. We are working with our member banks to address this legitimate concern, while concurrently seeking greater engagement and new members.

As the Trade Register is fact-based and data-supported, it plays a fundamental role in putting forward advocacy messages to the Basel Committee and other regulatory bodies. This role is reflected in the final rules published by the Basel Committee in December 2017. As these final rules will need to be translated into jurisdiction-specific rules and regulations, the Trade Register report and our advocacy program are increasingly relevant in the run-up to the implementation of these final rules and regulations in 2020.

The Trade Register's continuing involvement, in line with what our member banks, market participants and regulators require, is key to its ongoing efficacy. In the coming year, our team will focus on strengthening the ICC/BCG/GCD partnership, expanding the scope of the Trade Register's coverage, continuing to sharpen our messaging, and working with the Basel Committee and other regulatory authorities. We want to raise the quality and level of discourse, and continue to seek risk-aligned, consistent capital treatment of Trade Finance – a very attractive real-economy business with enviable default and risk characteristics.

We welcome your comments, feedback and suggestions for enhancing the Trade Register Report.



EXECUTIVE SUMMARY

Trade Finance and Export Finance are critical banking products (Figure 1) that are fundamental to the growth of international trade. Not only do these products provide importers and exporters with multiple methods of financing and a range of proven risk mitigation options, they also allow them to transact with confidence across borders – often with unfamiliar counterparties. As the banking environment continues to evolve and respond to the challenges of globalisation, increased competitive pressures and increased regulatory scrutiny, Trade Finance and Export Finance will also need to adapt and evolve.

This context makes it more critical than ever for banks to understand the risk profiles of their Trade Finance and Export Finance products. The ICC Trade Register was established to provide banks and regulators with a transparent view of the credit-related risks and characteristics of Trade Finance using a rich, data-driven approach. The detailed findings and commentary in this Report are a tool for discussion about global trade issues and Trade Finance policy and regulatory decisions. To facilitate these discussions, we regularly refine our methodology to reflect the requirements of the Basel accords.

The product mix within the global market of Trade Finance is shifting; traditional products are declining as supply chain finance and lower-cost open account transactions see increased market share. In parallel, banks are adapting to increasing compliance and regulatory requirements, with the unintended consequence of placing pressure on product margins that are already in decline. Banks are responding by increasing their digital efforts to improve efficiency and drive down cost, but implementing these strategies is a significant operational challenge in itself.

For Trade Finance, the ICC Trade Register data suggests that overall Expected Losses have remained flat or fallen as already low default rates ticked down in 2016 across most products (Figures 2 and 3). This is in line with the uptick in global GDP (Gross Domestic Product) and improvement in the overall credit profile. As a result of the low default rates and relatively short times to maturity, Trade Finance products

maintain their favourable credit risk profiles relative to comparable asset classes such as corporate and small- to medium-sized enterprise (SME) lending.

Export Finance, on the other hand, has seen a slight increase in Expected Losses driven by small growth in default rates in 2016. This growth in default rates has been consistent across all asset categories except Financial Institutions, with a small spike in Sovereign defaults in one African country presenting the most notable, albeit isolated, incident. Regional results are more mixed, with most of the increase in defaults occurring in the Americas and Africa. Canada and Brazil have driven most of the increase in the Americas, whereas the Sovereign defaults explain the African result. Despite this, overall risk in Export Finance remains very low, particularly given Export Credit Agency (ECA) backing.

As it did in 2016, this year's ICC Trade Register provides critical information for banks about Trade Finance modelling, and presents a strong case for appropriate treatment of Trade Finance as an asset class by regulators. The introduction of International Financial Reporting Standards (IFRS) 9 Accounting Rules for credit impairment sets the accounting standards of financial assets in most countries – a key area for banks globally that includes Trade Finance obligations such as Letters of Credit and Guarantees. From 2018 all banks subject to IFRS 9 will book credit loss provisions for Trade Finance earlier, and for higher amounts, and the low loss rates presented in this Report provide an important input into this modelling.¹ In addition, the pooled industry level data presented in this Report provides external market participants with a useful reference point for comparing Trade Finance provision rates to other asset classes.

1. See Regulatory Environment for further discussion of the IFRS 9 impact.

Basel III reforms have been introduced to address wide variations in reported risk-weighted assets and reduce incentives for banks to minimise risk weights in their internal models. While the capital output floor reduces incentives to move portfolios to the IRB approach, questions remain as to whether the stress test or regulatory reported ratios will be the binding constraint for banks.

Looking forward, the ICC is continually exploring ways to improve the Trade Register. For instance, we are broadening the scope of data collection in 2018 to include Supply Chain and Receivable Finance. Other options being considered are expanding Export Finance to cover non-OECD ECAs, including transactions covered by certain multilaterals, and changes to data-gathering infrastructure.

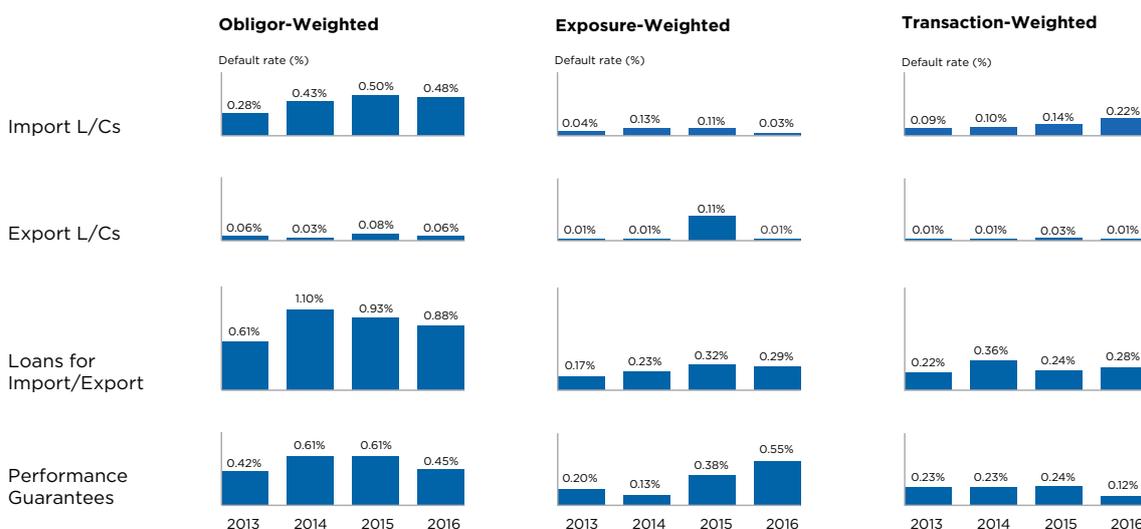
As investor interest in Trade Finance continues to grow, a case exists for Trade Finance to be recognised as an investable asset class by institutional investors.

FIGURE 1:
Products included within Trade Finance and Export Finance²

Trade Finance	Export Finance
<ul style="list-style-type: none"> • Import Letters of Credit • Export Letters of Credit • Loans for Import/Export • Performance Guarantees and Standby Letters of Credit 	<ul style="list-style-type: none"> • Products for which an OECD ECA has provided a state-backed guarantee or insurance to the Trade Finance Bank

FIGURE 2:
Summary of Default Rate Trends

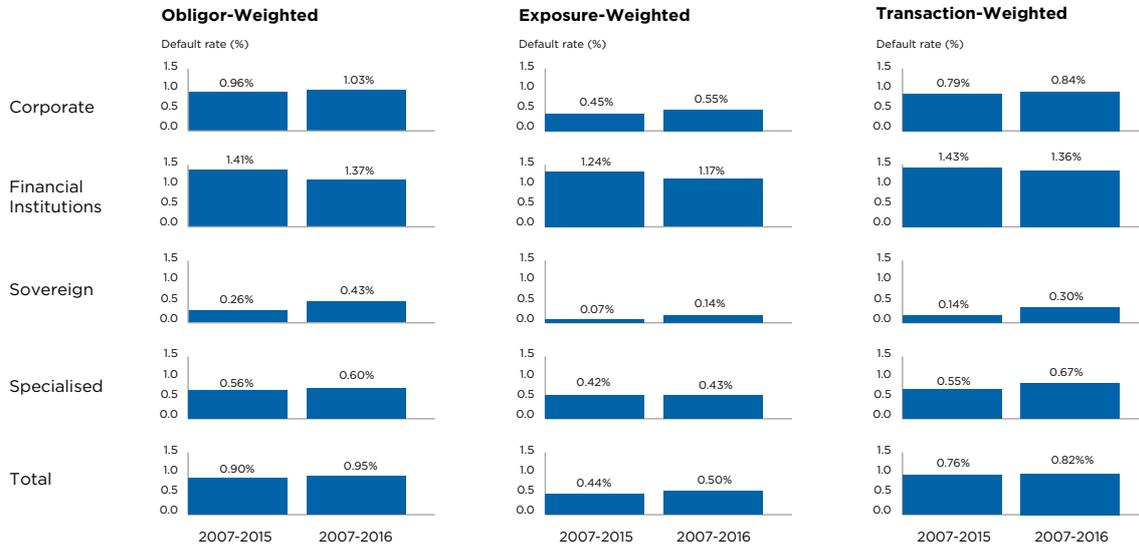
Trade Finance, 2013–2016



Source: ICC Trade Register 2017.

2. See Appendix A for detailed Trade Finance and Export Finance product definitions.

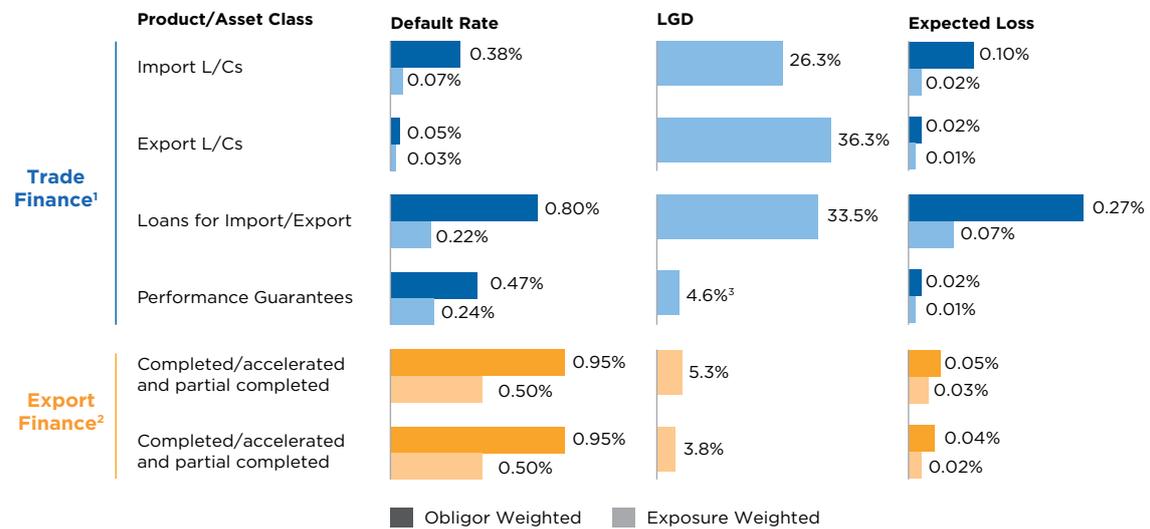
Export Finance, 2007–2016



Source: ICC Trade Register 2017.

FIGURE 3:

Summary of Expected Loss findings for Trade Finance, 2008–2016, and Export Finance, 2007–2016



1. 2008–2016 2. 2007–2016 3. Accounts for 7.6% observed 'Claim Rate' (i.e. applying CCF to LGD)

Source: ICC Trade Register 2017.

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INTRODUCTION TO THE ICC TRADE REGISTER REPORT

Context of the Report

The ICC Trade Register Report presents a global view of the credit risk profiles of the Trade Finance and Export Finance transactions. The Trade Register demonstrates the low-risk nature of the transactions that enable global trade and the trillions of dollars in economic value that flow from these commercial activities.

The ICC Banking Commission has prepared this Report in collaboration with GCD and BCG.

The Report draws on data from 25 Trade Finance and Export Finance banks³ – a representative set of Trade Finance and Export Finance transactions globally that amount to more than 20 million transactions in total and an exposure in excess of USD 11 trillion. The combination of Import Letters of Credit, Export Letters of Credit, and Performance Guarantee exposures in the Trade Register for 2016 is equal to approximately 40% of global traditional Trade Finance Flows.⁴

The data is analysed by BCG, GCD, Member Bank specialists, and the ICC Banking Commission Project Team and Senior Technical Advisors. The methodology used is consistent with the approach used in past years and, over time, the Trade Register Project has evolved to increasingly align with the Basel framework, while also providing a practitioner's view of credit risks within Trade Finance and Export Finance.

While the Report format has varied, the objectives of the Trade Register Project stay the same:

- Provide an objective, transparent view of the credit-related risk profile and characteristics of Trade Finance and Export Finance using rich, data-driven approach with the intention of contributing to relevant informed policy and regulatory decisions
- Advance the understanding of Trade Finance and Export Finance, its importance to global trade and its highly effective global risk mitigation capability to a broad range of parties

- Promote understanding of the international regulations affecting bank capital requirements for Trade Finance and Export Finance, and their history and objectives, in order to create a uniform global view of this industry as part of the ICC Banking Commission's commitment to effective and collaborative advocacy

This year's Report continues the findings from past years – that Trade Finance and Export Finance continues to present a low risk.

Report Scope

The scope of the ICC Trade Register Project has continued to evolve over recent years to include, for example, an expanded geographic reach, number and diversity of contributors, volume and quality of data, and alignment of analytical methods to the Basel Approach.

Gathering representative data from a multitude of banks internationally is complex, and as a result the Trade Register and this Report focuses on the products and risks listed below.

The Trade Finance product scope includes:

- Import Letters of Credit (referred to as Import L/Cs in this Report)
- Export Letters of Credit (referred to as Export L/Cs in this Report)
- Loans for Import/Export
- Performance Guarantees and Standby Letters of Credit (referred to as Performance Guarantees in this Report)

The scope of Export Finance products is limited to products for which an OECD ECA has provided a state-backed guarantee or insurance to the Trade Finance Bank. The Project Team intends to explore the extension of data collection to non-OECD Export Credit Agency-backed Export Finance and some multilateral entities.

The risk scope is currently restricted to credit risk.

3. 22 Member Banks contributed to the Report in 2017, but the ICC Trade Register contains data from 25 banks in total across all years.
4. BCG Trade Finance Model.

Overview of Methodology

An important methodological imperative for the Trade Register to date has been to align the analysis and calculations to a Basel-compliant view, as the Basel regulations provide a uniform methodology with which to assess and manage credit-related risk.

There has been a multi-year effort, which is still ongoing, to align the Trade Register's data structure, methodology detail and calculations more closely with the Basel approach. Specific explanations of the methodology and calculations are mentioned in the relevant sections and a full discussion on Export Finance calculations is included in Appendix A. Significant improvements to data collection and methodology include:

- Probability of Default (PD) reported at an obligor level and is able to be compared with default rates at both exposure level and transaction level
- Loss Given Default (LGD) figures calculated per product group based on transactional data
- Increased insight into Exposure at Default (EAD), with further work to be done to derive robust results for all products

Reported Expected Loss (EL) figures produced are consistent with the underlying Basel methodology for the calculation of EL across various asset classes (e.g. Sovereign, Bank, Corporates). In comparisons with other Basel-compliant data, care is needed when comparing the different weighting methods of obligor, transaction and volume. While exposure volume weighted data gives a good insight into the effects of defaults and losses on the banking industry, the normal default rates and LGD rates used and reported by banks are based on obligor or transaction weightings. In the case of obligor and transaction weighted data, equal weight is given to small and large borrowers and transactions, meaning this data is more representative of smaller borrowers and transactions.

Representativeness of Pooled Data

There has been continued discussion during the last year about the need for users of pooled data to prove that the data represents the portfolios to which it is being compared. The degree of representativeness will depend on the use of the data. For example, to calculate the overall industry average default rate for Import L/C borrowers, the average of the total data set may need to be adjusted to take account of regional data concentrations. To use the data to benchmark the modelling of a particular portfolio, the user would need to take into account the borrower countries, facility types, borrower types, industries and sizes. The ICC Trade Register is looking at ways to anonymise and return the detailed data to contributors to allow them to create customised reference data sets for their own purposes.

The ICC Trade Register is based on data pooled voluntarily by banks active in Trade Finance. Given that these banks represent a large proportion of global Trade Finance business, the data sets are globally representative, but may not be applicable to specific countries or regions.

Technical and immaterial defaults

In exercises such as the Trade Register, a consistent definition of default is a necessary element of data pooling and analysis within banks and across banks. Each of the three elements measured – PD, EAD and LGD – use the presence of a default event as their starting point.

Much discussion among stakeholders has focused on the need to exclude “technical defaults” and “immaterial defaults” from the data sets, as these events inflate the default numbers without providing information about true credit events. An example is a late payment of a small amount by an otherwise high-quality borrower (e.g. rated A by S&P). This borrower may have missed a small fee payment for 90 days for administrative reasons, and then subsequently remedied the situation by bringing the payment up to date. If this case was reported as a default under the 90-day payment definition, the entire borrower would need to be placed in default, and a default of an A-grade counterparty would be recorded. The LGD would then be calculated as a full recovery (i.e. zero LGD) case. While there would be no change to the net loss of the bank and no provisions made, a higher-than-reasonable default rate would be recorded, which could result in higher-than-reasonable future PD estimates.

However, banks do need to record all true credit default cases, regardless of final outcome. A borrower default resulting from a true credit event will often result in zero loss to the bank after a successful workout.

A common situation is where a borrower that is suffering from a lack of working capital and, unable to gain an increase in borrowing lines from its existing bank, goes into default due to lack of funds to pay its import letters of credit. The borrower may be able to remedy this by arranging full refinancing with another bank for a higher amount, and within a few months the first bank has recognised a full repayment. Such a case is often referred to as a “cured” default, and is one of the reasons why the LGD data shows so many zero loss cases, resulting in the typical bimodal distribution.

Regulators have assisted banks in drawing the line between technical or immaterial defaults and cured cases by clarifying these rules. In 2016, the European Banking Authority (EBA) issued guidelines⁵ on the application of the definition of default. The guidelines included the definition of a non-retail material missed payment as greater than EUR 500 or 1% of exposure. Smaller payment amounts are not defined as a default event by themselves, although if a bank considers them evidence of unlikelihood to pay then they must place the obligor in default at that time. In addition, the EBA specifically identified that payment failures arising from banks’ own processing problems are not required to be treated as default events, regardless of the amount. These events are termed “technical past due situations”.

5. The final report providing guidelines on the application of the technical default can be found at <http://www.eba.europa.eu>

TRADE FINANCE: STATE OF THE MARKET

Market Trends in Trade Finance

BCG perspectives using the ICC Global Survey on Trade Finance and Supply Chain Finance 2017 (ICC Global Survey) and Bank interviews

Supply chain finance and open account transactions gain market share amid declining traditional products

The relative decline of traditional Trade Finance and rise of Supply Chain Finance (SCF) and open account activity continues. SWIFT messaging volumes, as represented by volumes of Category 7 – Documentary Credits and Guarantees, and Category 4 – Documentary Collections messages, decreased by 4.7% in 2016.⁶ While this is less than the 5.0% decline in 2015, it still marked the sixth consecutive year of overall SWIFT messaging volume declines.⁷ Message Type (MT) 700 (Letters of Credit) messaging volumes also fell by 2.8%, a third straight year of decline, pushing MT 700 volumes to their lowest levels since 2009.⁸ Discussions with Trade Finance experts also supported this potential decline in the use of traditional documentary Trade Finance products.

Results from the ICC Global Survey also support this view, with almost 80% of respondents believing that traditional Trade Finance will stagnate or decrease in importance. Twenty-nine percent of respondents identified SCF as a key area for development and 38% responded that SCF has the greatest growth potential. Given this, some countries and companies may continue to favour documentary trade, but the general decrease in trade risk is likely to support the shift towards open account. In addition, improved technology, such as digital invoicing, continues to make SCF an easier product to use.

Regulatory and compliance factors continue to be a major challenge for banks

While banks need to navigate a changing product mix, they also face increasingly challenging compliance and regulatory requirements. Over half of ICC Global Survey respondents believe that either compliance (30% of respondents) or regulations (an additional 21% of respondents) represent the biggest short-term issue for Trade Finance.

Moreover, Know Your Customer (KYC) concerns (29%) are the biggest factor in rejecting Trade Finance deals. Around 70%-80% of survey respondents agree or strongly agree that Anti-Money Laundering (AML) and KYC requirements and Basel regulations are barriers to providing Trade Finance.

The challenge of meeting compliance and regulatory requirements in an affordable way could be addressed with a robust digital strategy; roughly 80% of survey respondents agree or strongly agree that technology could help reduce the expense and difficulty of meeting compliance requirements.

Trade banks focus digital efforts on efficiencies in the face of pricing pressures

Increased cost pressure (partially caused by reducing fraud and money-laundering, and complying with necessary regulations) combined with increased price competition has placed considerable strain on Trade Finance product margins. While banks are taking multiple approaches to evolving their digital trade operations, much of the effort is focused on increasing efficiency and reducing costs. This efficiency and cost push can be attributed to corporate desire for lower prices coupled with cost pressure – issues reflected in the ICC Global Survey. Thirty percent of survey respondents said that their clients most often requested favourable pricing from them and conversations with Trade Finance experts confirmed intense price competition among trade banks. Regarding costs, 23% of respondents believed that cost control was the biggest challenge to Trade Finance operations units. Another 18% listed limitations posed by traditional technologies as the major Trade Finance challenge. These results suggest the need for a strong and well-planned digital strategy to tackle the issues of the increased cost pressures and compliance and regulatory challenges confronting the Trade Finance industry.

6. Garg, H. SWIFT. 2017. SWIFT Trade Finance traffic – 2016 statistics. Published in 2017 Rethinking Trade & Finance: An ICC Private Sector Development Perspective.

7. See note 6.

8. See note 6.

FEATURE:

Trade Finance Funding Gap for SMEs – Big Gap, Little Risk⁹

Steven Beck, Head of Trade and Supply Chain Finance, Asian Development Bank (ADB);
Benno Ferrarini, Senior Economist, Economic Research and Regional Cooperation Department of the ADB

The Asian Development Bank's (ADB's) Trade Finance Gaps, Growth, and Jobs Survey quantifies the gaps in the global market for Trade Finance and their impact on growth and jobs. The most recent survey (September 2017) found that the Trade Finance gap stands at USD 1.5 trillion in 2016.¹⁰

Access to Trade Finance is particularly difficult for small and medium-sized enterprises (SMEs) because they often lack collateral, a documented history of past commercial transactions, and sufficient knowledge of the financial industry and instruments on offer. In addition, banks in industrialised countries are cutting relationships with smaller banks in emerging markets, and many SMEs in these markets are clients of these smaller banks. According to the survey, 57% of Trade Finance requests by SMEs are rejected, compared to only 10% by multinational companies. Asian economies in particular are highly dependent on SMEs, which account for 98% of all companies. The lack of financing they encounter has an adverse impact on economic growth and employment in the region at the aggregate level.¹¹

The ADB gap study, combined with the ICC Trade Finance Register, which the ADB initiated in 2009 and housed at the ICC Banking Commission, make for an interesting dichotomy: significant market gaps on a risk that is demonstrably low.

Efforts to close the gap

Governments across Asia have been implementing a range of policies and programs to improve SME access to Trade Finance. For example, the Philippines' central bank set up a credit fund to guarantee bank lending to SMEs and cooperatives, and India and Thailand established SME-focused development banks. Some countries in the region, including Japan, have set up public credit registries to help banks gather information to decide on SME loan requests.

Others, including China and Thailand, have enacted legal frameworks to help endow SMEs with the collateral demanded by banks.¹²

Technology is also starting to make a difference, spurred by leaders in the global e-commerce sector. Amazon and PayPal have established their own lending operations, mostly to SMEs, and other platforms, such as Alibaba and eBay, provide training and advice especially targeted at smaller companies. The minimum size of loans is smaller than those of regular bank loans, and access and disbursement times are considerably shorter. While these new forms of lending have seen rapid growth in developed countries and the PRC, they have yet to penetrate other emerging markets where the demand for SME financing and the potential for innovation is highest.¹³

In emerging economies, Distributed Ledger Technology (DLT) is expected to make a real difference to Trade Finance, especially for SMEs. Broadly accessible and scalable smart contracts will execute automatic money transfers as merchandise ships across international borders and predefined commercial and financial trigger events take place. Automation through DLT is estimated to cut costs drastically and broaden financial access to SMEs that are currently excluded from cumbersome Trade Finance processes that involve layers of paperwork and bureaucratic hurdles.

9. This note draws on Ferrarini, B., J. Maupin, and M. Hinojales. 2018. Distributed Ledger Technologies for Developing Asia. Asian Development Bank Economics Working Paper Series (forthcoming).
10. Asian Development Bank. 2017. 2017 Trade Finance Gaps, Growth, and Jobs Survey. Asian Development Bank. September 2017. Asian Development Bank. September 2017.
11. Asian Development Bank Institute (ADBI). 2016. SMEs in Developing Asia—New Approaches to Overcoming Market Failures. <https://www.adb.org/sites/default/files/publication/214476/adbi-smes-developing-asia.pdf>.
12. See note 10.
13. The Banker. 2017. "Small Firms Go Global." <http://www.thebanker.com/World/Asia-Pacific/Is-technology-enough-to-plug-the-SME-financing-gap>.

Despite these interesting developments in technology and their application to Trade Finance for SMEs, the ADB's study still suggests that technology is not closing the gap. While technology is reducing the cost of delivering finance to SMEs, it is not alleviating two other major impediments to providing SMEs with finance: helping assess performance risks; and complying with anti-financial crimes requirements. For technology to address these two impediments, basic infrastructure needs standards and rules.

In addition, there are also important regulatory obstacles to consider. For example, a textile producer in Asia can now get financing from their local bank to produce goods using an Export L/C issued by a European bank as collateral. The local regulator also allows that bank to use this L/C as collateral to calculate lower Risk Weighed Assets (RWAs). It will take some time before regulators in all countries will have changed their policies to enable banks to work with DLT.

Technology's ability to close the gap is a long way off

DLT-based Trade Finance platforms need to be ready for real-world applications beyond their current proof of concept or early pilot stage. For a Trade Finance platform to operate on DLT and for automated smart contracts, it will need to bring on board banks, insurance companies, shipping agents, freight forwarders, ports and customs. Coordination and implementation difficulties will take time to sort out, but some progress is being reported.¹⁴

Trade Finance is also heavily paper-based and its platforms operate in silos. The systems that monitor supply chains and trade transactions do not communicate with DLT platforms. Until all component parts of a Trade Finance transaction have been digitised and made inter-operable, the diffusion of new technologies into the general economy is bound to be slow and limited.¹⁵

14. Arnold, Martin. 2017. "Banks Team up with IBM in Trade Finance Blockchain." *Financial Times*, October 4. <https://www.ft.com/content/7dc8738c-a922-11e7-93c5-648314d2c72c>.

15. See note 10.

Three recommendations to close the gaps

International organisations such as the ICC and ADB can play an important role in removing obstacles to technology's potential impact on the gap by:

- (i) Leveraging the ICC's unique role in creating rules for trade
- (ii) Promoting the global adoption of a harmonised system of digital identities for companies
- (iii) Diffusing global digital standards

Rules for trade

Internationally accepted rules for trade are needed to underpin the development of technology in trade. Before 1937 there were no rules to govern international trade, which is why the ICC created incoterms in 1937 and ultimately Uniform Customs and Practices. Today, we stand at the beginning of a new age of trade – digital trade. And again, as in the 1930s, no international rules exist to clarify and legitimise digital processes and documents. Rules are required to fuel this new, more inclusive burst of trade. The ICC is uniquely placed to play this critical role at the dawn of this new era.

Harmonised digital identities

In 2010 the G20 mandated the creation of a global identification system for companies. In response, the Financial Stability Board created the Global Legal Entity Identifier Foundation (GLEIF) in 2014, which established the system and enrolled over 600,000 companies with a Legal Entity Identifier (LEI). In addition to providing a unique digital identification for companies, the GLEIF system assists banks to access a more holistic view of a transacting entity: who they are, which companies they own, and which invoices are theirs. Global adoption of GLEIF will help lay the foundation for accessing and tracking the huge amounts of data necessary for anti-financial crimes due diligence and for finding information in future metadata to assess performance and other risks that are vital for Trade Finance decisions. The identification system is well established and tested. Now it is up to governments and international organisations to drive

global adoption and create incentives for companies to acquire LEIs. Global adoption has the potential to be transformative for the inclusion of SMEs in Trade Finance.¹⁶

Global digital standards

A further enabling factor is the appearance of global digital standard initiatives such as the World Trade Board's Digital Standards in Trade (DST), due to be launched in the first quarter of 2018, and the ICC Digitalisation of Trade Finance Working Group, launched in 2017. The DST aims to provide fully digitised and seamless end-to-end trade transactions worldwide to help the participants in a trade transaction to communicate and share data. The DST will adopt and create new standards, rather than duplicate existing ones. Unlike banks, shipping or freight forwarders that focus on standardising documents within their industry groups, DST's horizontal approach breaks barriers by bringing these disparate parts together: from buyers and sellers to shipping, ports, customs, logistics and finance. Through the provision of technical assistance and capacity building, ADB and other multilateral development banks can support DST and the adoption of common standards by developing country stakeholders.¹⁷

The ICC Digitalisation of Trade Finance Working Group aims to identify strategies to overcome the constraints of digitalising Trade Finance, such as the reliance on paper-based practices, a lack of recognition of the legal status of electronic documents, uncertainty over standards, and a general lack of clear legal and regulatory frameworks. The core activities are threefold:

- (i) Evaluate ICC rules such as Uniform Customs and Practice for Documentary Credits (UCP), in order to assess e-compatibility and to ensure they are e-compliant, such that banks can accept data rather than documents

- (ii) Develop a set of minimum standards for the digital connectivity of service providers to remove uncertainty in the industry and accelerate the uptake of digitalisation, especially across legal, liability, information security and technology domains
- (iii) Examine the legal status and practical issues related to the validity and value of data and documents in digitised form

Conclusion

Large global market gaps for Trade Finance persist, with concentrations in Asia and Africa. SMEs are the most underserved segment of the market. Paradoxically, the ICC Trade Register continues to demonstrate that Trade Finance is a relatively low risk form of finance.

Efforts to close the gap continue, with big hopes placed on technology. But for technology to truly bite into the gap, significant advances are necessary. To underpin these advances and create a true global digital ecosystem for trade, three pieces of basic infrastructure are needed: the ICC's rules for digitised trade; GLEIF's harmonised digital identities; and broad cross-industry and government acceptance of digital standards.

Critics are right to say these efforts will take time. A journey of a thousand miles begins with one step.

16. Beck, Steven. 2016. "A Global ID System that could Revolutionize Finance." Asian Development Blog, December 1. <https://blogs.adb.org/blog/global-id-system-could-revolutionize-finance>.

17. World Trade Board. 2017. Digital Standards for Trade (DST): A World Trade Board Initiative. Mimeo.

FEATURE:

Trends in Supply Chain Finance and Open Account

Alexander Malaket, Deputy Head of the Executive Committee, ICC Banking Commission

To date, the ICC Trade Register has focused on traditional Trade Finance products such as Documentary Credits, Guarantees and related loans. These products, when taken in aggregate, still enable about 10% of cross-border merchandise trade. There has, however, been a clear and decisive global shift to trade on Open Account terms, and even the staunchest supports of L/C-based trade, such as the MENA Region, are joining this movement.

The Trade Register needs to link more directly to the majority of global trade activity. To do this, it needs to expand its product coverage and data collection to the Supply Chain Finance (SCF) techniques aimed at supporting trade as it currently takes place.

The experiences of the Trade Register to date, both in Trade Finance and Export Finance, will help to establish a solid foundation for the extension of the scope of the Register into SCF.

Extending the scope of the Trade Register into SCF will be fundamentally different to the experience of data collection and advocacy related to traditional products. When the Trade Register first started to cover traditional products, the Trade Finance industry had long relied on anecdotal evidence on the characteristics of Trade Finance, had engaged late in the process of the Basel Committee, and was therefore in reactive, defensive mode and had to act quickly on several fronts.

The regulatory treatment of SCF (along with the accounting and reporting treatment) are still evolving, and this allows for dialogue, advocacy and engagement between regulatory authorities and industry leaders. Ideally, this will enable the design and promulgation of regulatory regimes that align with the risk characteristics of SCF, achieve

regulatory objectives, and do not introduce adverse, unintended consequences into the trade system.

Expanding the scope of the Trade Register to cover SCF will require several fundamentally important steps. These include:

- Agreement on the scope of SCF techniques covered
- Agreement on a common set of definitions based on the Standard Definitions for Techniques of Supply Chain Finance
- Engagement with the largest group feasible of banks

The ICC Banking Commission has previously explored opportunities for collaboration with Factors Chain International on factoring-related data collection and analysis. Additionally, Payables Finance programs have shown the greatest uptake over the past numerous years, with indications that Distributor Finance solutions are also now gaining momentum. Leading providers of SCF are looking at the best ways to offer much-needed pre-shipment finance to clients, which makes it reasonable to expect an increasing critical mass around other SCF techniques and transactions in the short term.

Building upon the Standard Definitions, the Trade Register will benefit from the creation of a common SCF data dictionary for the project once it is approved. Additionally, nuanced differences in regulatory definitions from practitioner understandings need to be identified quickly, and a path forward agreed, to develop advocacy approaches on a solid and commonly understood foundation. Under the Trade Register, for example, there is a disconnect between the technical, regulatory definition of a “default”, compared with how practitioners define a default at transactional level.

Expanding the scope of the Trade Register to cover SCF solutions will demand careful and thoughtful planning, clarity on the nature and objectives of SCF-related advocacy efforts, identification and engagement of appropriate stakeholders in banks, and decisions on the best way to address non-bank providers and their experience.

Advocacy in SCF must be underpinned by education, high levels of industry engagement, and robust data and analytical methodology.

SCF techniques, and their efficacy in financing trade in the context of complex global supply chains, are linked directly to enabling SMEs to engage in international commerce and contribute to international development and economic inclusion. They have the potential to change to facilitate greater trade flows and increased economic value-creation, and reposition trade as a driver of the global economic system. As we expand to add SCF into the ICC Trade Register Project and the related flagship Report, the lessons and successes of the Trade Register to date will be at the core of a thoughtful planning process.

ANALYSIS OF TRADE FINANCE

Overview of Findings

The ICC Trade Register's filtered data set contains USD 10.5 trillion of exposures (Figure 4), and more than 20 million transactions (Figure 5) from 2008–2016 across Trade Finance products: Import L/Cs, Export L/Cs, Loans for Import/Export, and Performance Guarantees. This data is used to carry out detailed analysis of the credit risk characteristics of these products.

This year's findings support the findings of previous years: Trade Finance products present banks with low levels of credit risk. Default rates from 2008–2016 are low across all products and all regions. Weighted by

obligors, default rates are 0.38% for Import L/Cs, 0.05% for Export L/Cs, 0.80% for Loans for Import/Export, and 0.47% for Performance Guarantees (Figure 6). These trends reverse the growth in defaults in 2015 for Import L/Cs, Export L/Cs, and Performance Guarantees, while extending the fall in defaults for Loans for Import/Export. Synchronised growth in global GDP across developed and emerging markets, combined with low interest rates, has driven the decrease in defaults.

FIGURE 4:

Total Exposure and Default Rate by Exposure, by Product, 2008–2016

Product	Total Exposures (USD K)	Defaulting Exposures (USD K)	Default Rate by Exposure (%)
Import L/Cs	2,466,312,181	1,748,126	0.07%
Export L/Cs	1,488,669,003	488,847	0.03%
Loans for Import/Export	4,824,223,699	10,420,011	0.22%
Performance Guarantees	1,683,654,997	4,124,653	0.24%

FIGURE 5:

Total Transactions and Default Rate by Transaction, by Product, 2008–2016

Product	Total Transactions	Defaulting Transactions	Default Rate by Transactions (%)
Import L/Cs	5,049,504	5,710	0.11%
Export L/Cs	2,309,831	211	0.01%
Loans for Import/Export	10,612,117	24,803	0.23%
Performance Guarantees	2,669,709	4,642	0.17%

FIGURE 6:

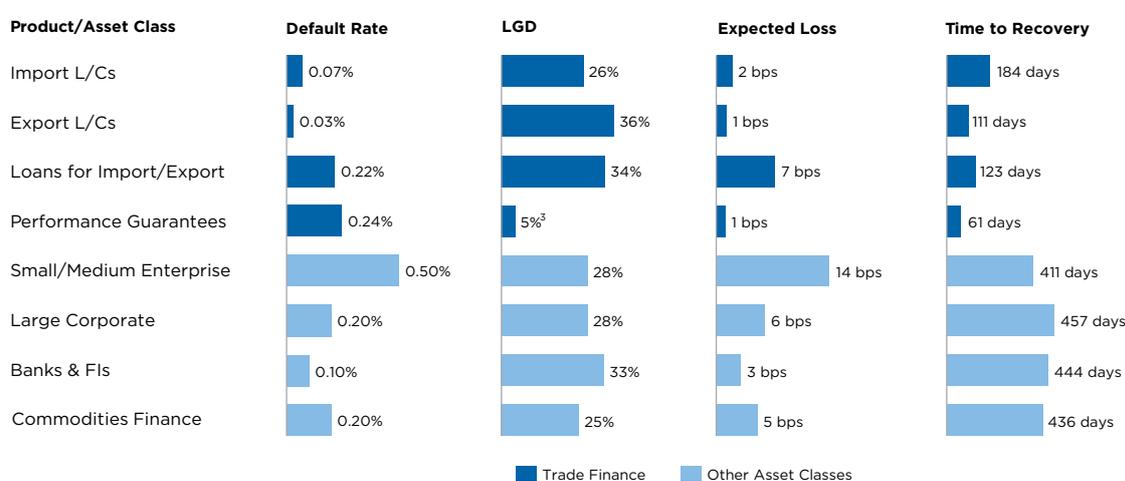
Total Obligors and Default Rate by Obligor by Product, 2008–2016

Product	Total Obligors	Defaulting Obligors	Default Rate by Obligors (%)
Import L/Cs	200,115	757	0.38%
Export L/Cs	134,286	65	0.05%
Loans for Import/Export	255,598	2,052	0.80%
Performance Guarantees	304,229	1,424	0.47%

From 2008–2016, Loss Given Default (LGD) rates are 26.3% for Import L/Cs, 36.3% for Export L/Cs, and 33.5% for Loans for Import/Export. For Performance Guarantees the LGD is 60.3%, but in practice this is 4.6% when factoring in the low claim rate and negligible losses as a consequence.

As seen in previous years, time to recovery is exceptionally short for Trade Finance products – six months or less on average – compared with over one year for other asset classes (Figure 7). This is due to the inherent characteristics of Trade Finance products and the underlying collateral.

FIGURE 7:
Comparison of Trade Finance to other Asset Classes



1. Accounts for 7.6% observed 'Claim Rate' (i.e. applying CCF to LGD). Source: ICC Trade Register 2017.

It is important to note that some caution is needed when making comparisons between Trade Finance and other Asset Classes (Figure 7) as the data pools and methodology differ between the two sets of calculations. Please see *Benchmarking: Comparison of Trade Finance to other Asset Classes* in Appendix A for further details.”

These low Probabilities of Default (PDs) and LGDs combine to result in low exposure-weighted Expected Losses (EL) across all products from 2008–2016: 0.02% for Import L/Cs, 0.01% for Export L/Cs, 0.07% for Loans for Import/Export, and 0.01% for Performance Guarantees (Figure 8). These levels are very similar to results seen in last year’s Report.

In the 2017 Trade Register, as part of an ongoing effort to align the analysis with regulatory standards, obligor-weighted EL calculations (Figure 9) have also been included for all products. These ELs are 0.10%

for Import L/Cs, 0.02% for Export L/Cs, 0.27% for Loans for Import/Export, and 0.02% for Performance Guarantees.

As expected, obligor-weighted ELs are higher than exposure-weighted ELs, purely due to the higher default rates for obligor-weighted observations seen in the default rate table above. The exposure-weighted data gives more weight to larger exposures, which normally correspond to larger borrowers. The observations suggest that larger obligors have lower default rates than smaller obligors, confirming (as expected) other industry data showing that larger obligors tend to have better ratings than smaller obligors, and better rated obligors typically have lower default rates.

Average effective maturities remain short – under six months – across all products, except for the typically longer-maturity Performance Guarantees.

FIGURE 8:

Overview of Exposure-Weighted Default Rate, LGD and Expected Loss by Product, 2008–2016

Product	Default Rate by Exposures	Exposure at Default	Loss Given Default	Expected Loss
Import L/Cs	0.07%	100	26.3%	0.02%
Export L/Cs	0.03%	100	36.3%	0.01%
Loans for Import/Export	0.22%	100	33.5%	0.07%
Perf. Guarantees Applying CCF to EAD	0.24%	7.6	60.3%	0.01%
Perf. Guarantees Applying CCF to LGD	0.24%	100	4.6%	0.01%

FIGURE 9:

Overview of Obligor-Weighted Default Rate, LGD and Expected Loss by Product, 2008–2016

Product	Default Rate by Obligor	Exposure at Default	Loss Given Default ¹⁸	Expected Loss ¹⁹
Import L/Cs	0.38%	100	26.3%	0.10%
Export L/Cs	0.05%	100	36.3%	0.02%
Loans for Import/Export	0.80%	100	33.5%	0.27%
Perf. Guarantees Applying CCF to EAD	0.47%	7.6	60.3%	0.02%
Perf. Guarantees Applying CCF to LGD	0.47%	100	4.6%	0.02%

It is important to note that the Credit Conversion Factor (CCF) for Letters of Credit (L/C) and Performance Guarantees are set at 20% and 50% under the Standardised and IRB-Foundation Approaches, with the percentages reflecting the likelihood of these off-balance sheet products becoming on-balance sheet assets. This may also be interpreted to mean for an L/C and a Guarantee of USD 100 each, one would expect a loss of USD 20 and USD 50 respectively upon default, but before any recovery (e.g. sale of collateral). While the LGD of 26.3% is in line with the 20% CCF applicable to L/Cs, the 4.6% LGD reported for Performance Guarantees with a notional value of 100 is significantly lower than the 50% CCF banks are required to apply under current regulations. Given that the 50% CCF, when set initially by the Basel committee, made some allowance for maturity, and as maturity is measured independently under the IRB approach, there is a strong case for lowering the CCF to at least 20% for Guarantees.

Observed Average Maturity

In general, the longer the maturity of a bank's credit exposure, the higher the risk; more can go wrong and the bank may be unable to reduce its exposure to a failing borrower.

Trade Finance products typically have short contractual maturities and are often issued on a transaction-by-transaction basis (i.e. they are not revolving facilities). This is positive for banks that can manage risk by ceasing to underwrite trade business for Trade Finance customers with deteriorating credit quality.

Trade Register analysis shows the average contractual maturity for Trade Finance products is 116 days for Import L/Cs, 133 days for Export L/Cs, 150 days for Loans for Import/Export, and 594 days for Performance Guarantees. Variation in the maturities shows that banks are willing to underwrite a wide variety of business, even within individual products (Figure 10).

18. These LGD numbers are exposure-weighted, as per Figure 8. See Appendix A, Report Limitations, for further details.

19. Calculation of obligor-weighted Expected Loss uses exposure-weighted Loss Given Default.

Performance Guarantees stand out with a significantly longer average maturity than other Trade Finance products, as they are often used for long-term projects or long-term contractual obligations. Despite this difference, they are used by clients to finance

tangible economic projects that could involve trade activity, and their risk is managed by banks in a similar fashion to other Trade Finance products. For these reasons, Performance Guarantees are included in the Trade Register.

FIGURE 10:
Average Maturity by Trade Finance Product, 2008–2016

Product	Average Maturity	10th Percentile	90th Percentile
Import L/Cs	116.2	72.3	196.7
Export L/Cs	132.6	73.6	248.6
Loans for Import/Export	149.7	69.0	362.7
Performance Guarantees	594.4	332.4	1,168.2

Trends in Default Rates

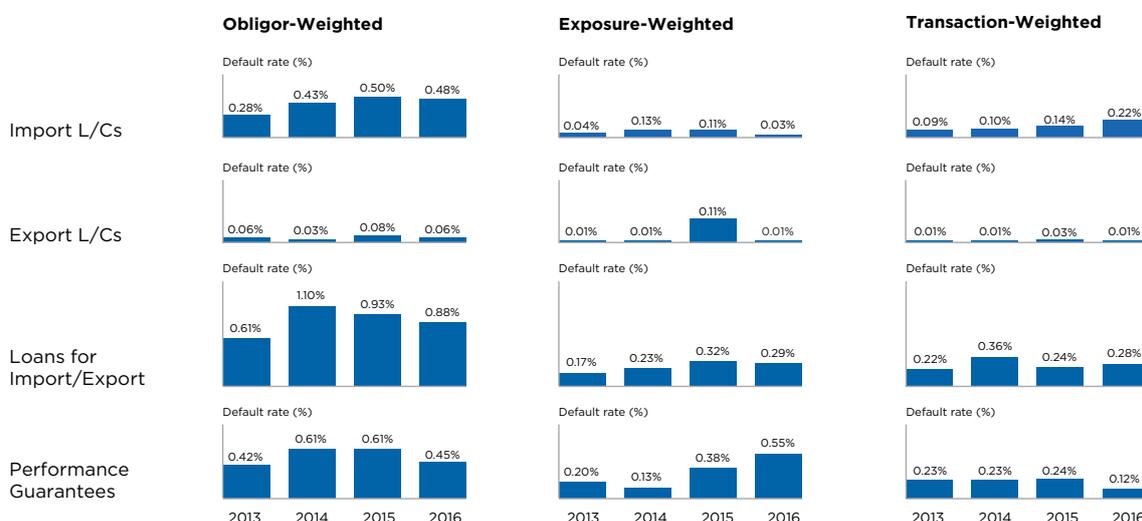
After showing growth in 2015, default rates have mostly declined in 2016, particularly weighted by obligor and exposure (Figure 11).

Weighted by obligors, default rates have fallen across all product types. Exposure-weighted default rates have also declined across all products except Performance Guarantees. Default rates weighted by transactions have been mixed: Export L/Cs and Performance Guarantees have seen a decline in defaults, whereas Import L/Cs

and Loans for Import/Export have seen some growth. It is important to note that transactions defaults can reflect operational issues and delays in receipt of payment, which may result in technical transaction-level defaults without the obligor itself being in default.

To make sure these results are not affected by new members in the sample, we ran the same analysis for banks that have been members since 2013. The trends remained consistent across all product types and regions.

FIGURE 11:
Summary of Default Rate Trends for Trade Finance, 2013–2016



Source: ICC Trade Register 2017.

Import L/Cs

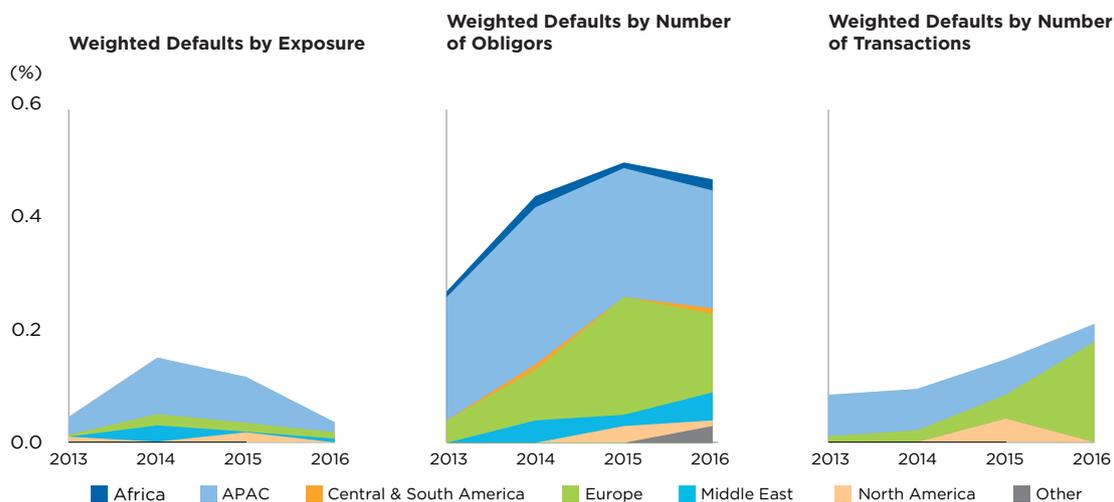
Default rates for Import L/Cs appear to be declining when weighted by obligor or exposure, but rising when weighted by transactions (Figures 12–14).

Weighted by obligor, the default rate has declined from 0.50% in 2015 to 0.48% in 2016. This decline is mostly attributable to Europe and APAC, while the Middle East is growing. The decline in Europe and APAC is likely a consequence of the pick-up in GDP growth

in the European region and improvement in the credit environment. Growth in defaults in the Middle East is to be expected as a trickle-down effect from lower oil prices.

This same decline is visible in exposure-weighted defaults, with APAC seeing a significant fall in 2016. While global transaction defaults appear to have spiked, this growth is dominated by an isolated incident in Europe.

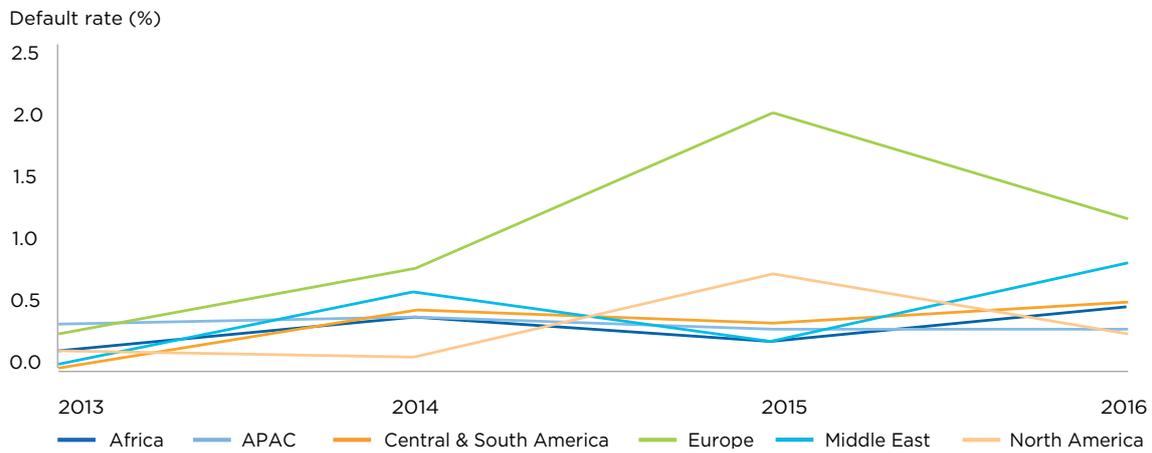
FIGURE 12:
Import L/Cs Default Rates by Region (Weighted), 2013–2016



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

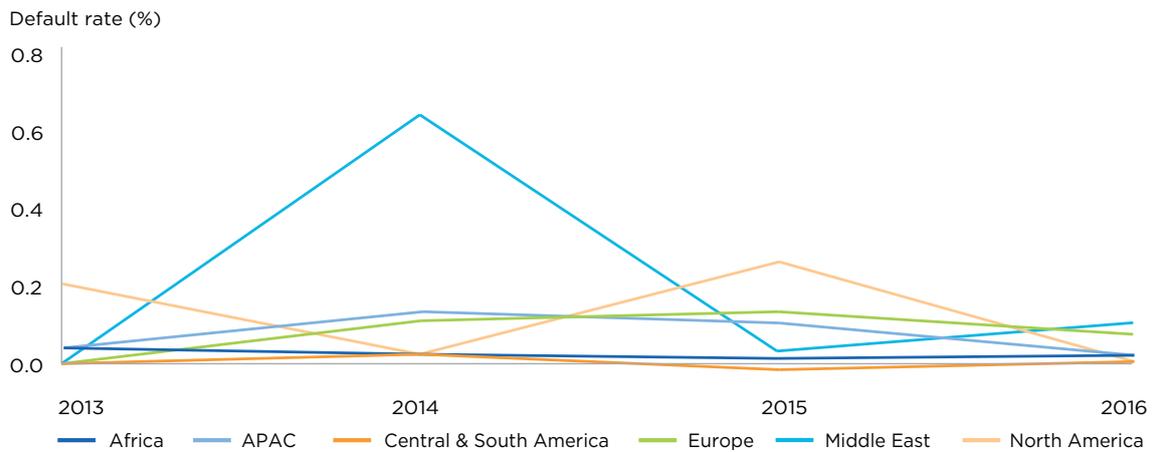
FIGURE 13:
Import L/Cs Default Rates by Region (Absolute), 2013–2016

Average default rate by obligors



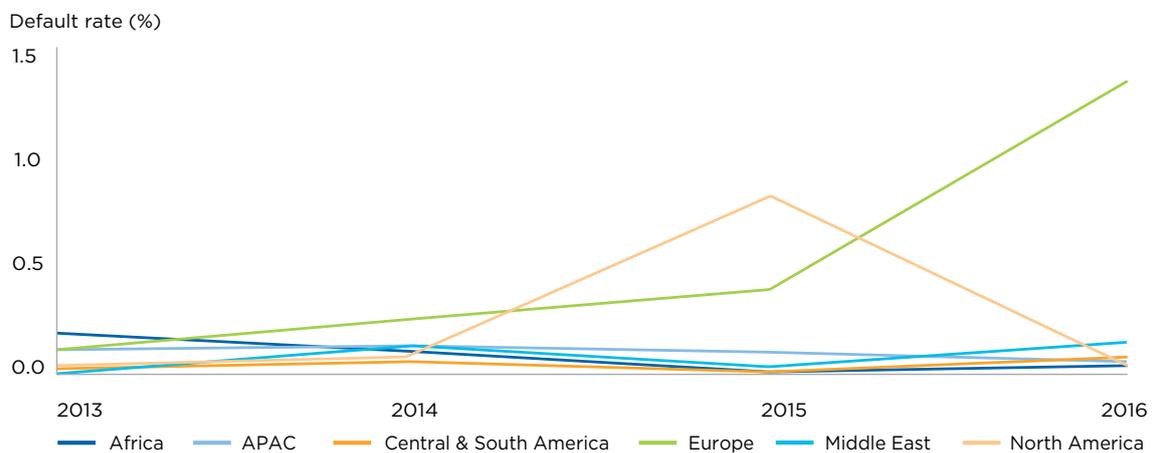
Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

Average default rate by exposures



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

Average default rate by transactions

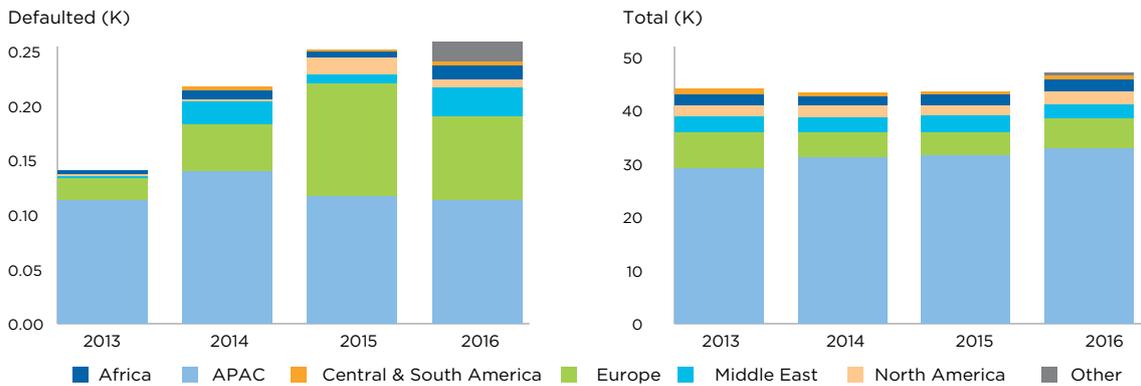


Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

FIGURE 14:
Import L/Cs Total and Defaulted Volumes by Region, 2013–2016

Total and defaulted obligors

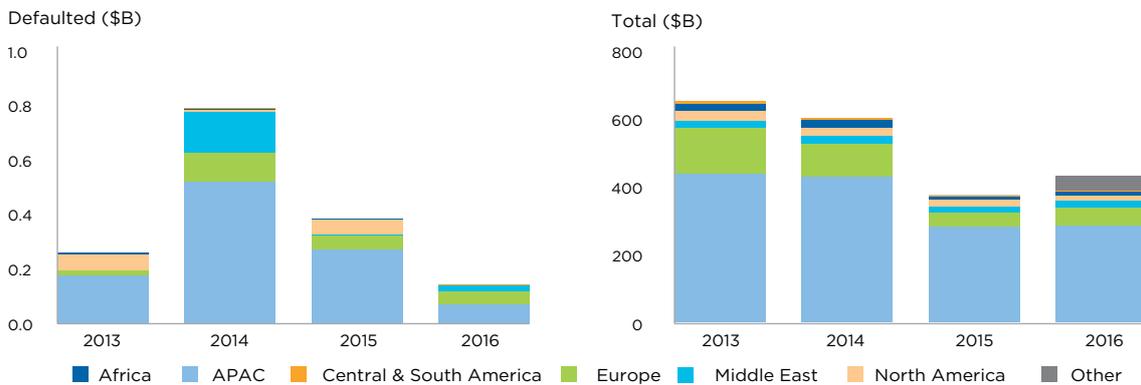
Obligors



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

Total and defaulted exposures

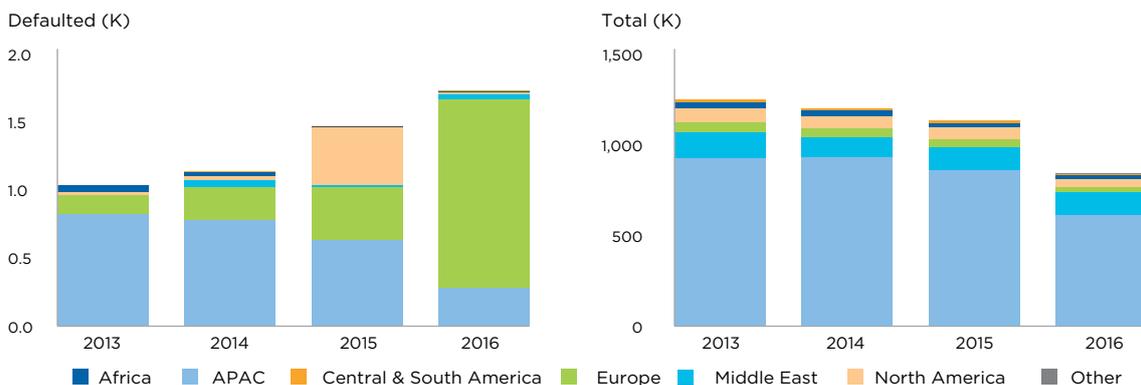
Exposures



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

Total and defaulted transactions

Transactions

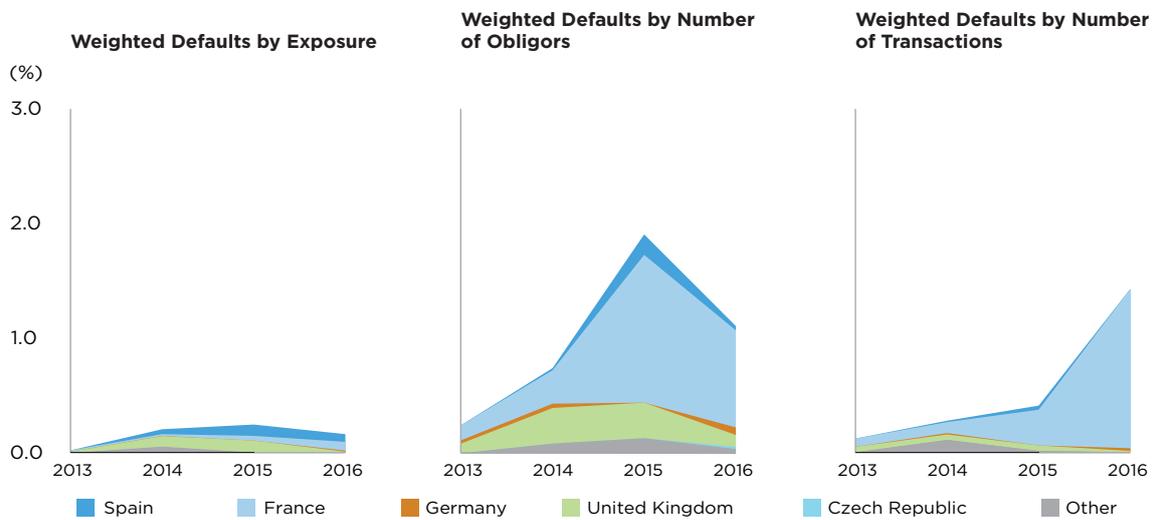


Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

Europe's Import L/C default rates have diverged across obligors, exposures, and transactions in 2016 (Figure 15); obligor and exposure-weighted defaults are down from 2015, but transaction-weighted defaults are up significantly. The obligor-weighted default rate has fallen to 1.18% – well down from the 2015 spike of 2.03%, but still significantly

higher than the global average of 0.48%. Exposure-weighted defaults tell a similar story, down from 2015 levels (0.09% vs. 0.13% in 2015), but remaining above the global average of 0.03%. Conversely, transaction-weighted defaults have risen significantly to 1.20% in 2016 from 0.34% in 2015.

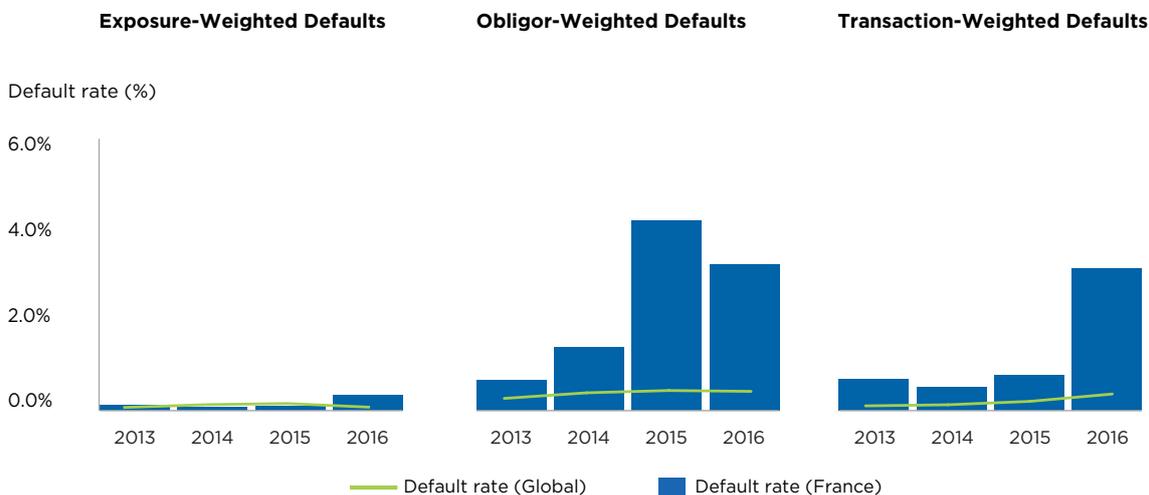
FIGURE 15:
Import L/Cs Default Rates in Europe (Weighted), 2013–2016



France in particular has seen significant variation across the three measures from 2015–2016 (Figure 16). Obligor-weighted defaults have dropped from 4.16% in 2015 to 3.12% in 2016. Exposure-weighted defaults, however, have risen from 0.10% to 0.36%. This rise was supported by a large spike in the number of transaction defaults, with the default rate jumping to 2.88% (up from 0.72% in 2015). As in prior years, the average

exposure per defaulted obligor is well below the overall average (USD 0.4 million for defaults vs. USD 3.9 million overall), suggesting the defaults tend to come from smaller obligors. These results are isolated to a single bank, and are driven by a small number of corporates trading in France where several short-term deals took place with counterparties in default as part of a restructuring exercise.

FIGURE 16:
Import L/Cs Default Rates in France (Absolute), 2013–2016

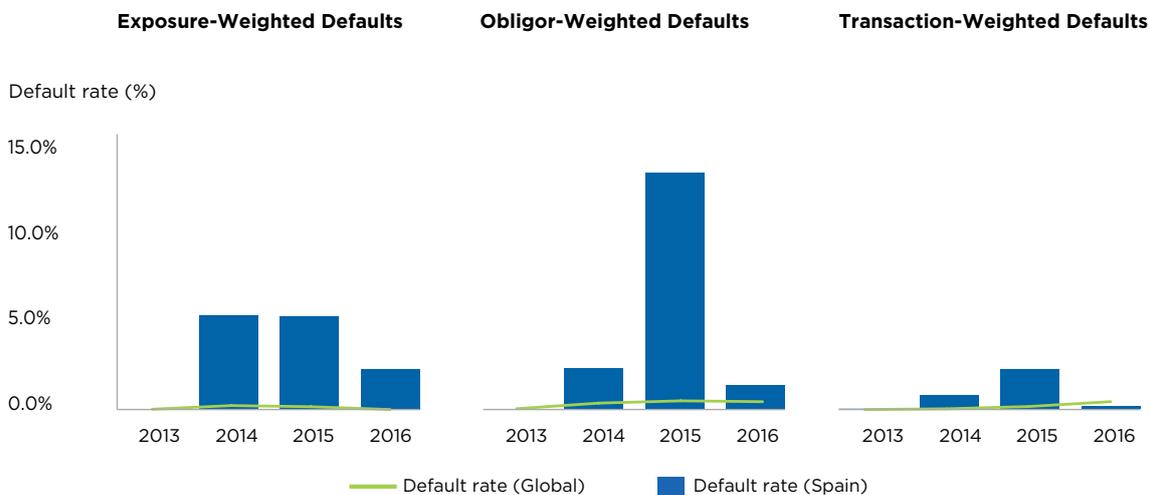


Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

In recent years **Spain** has seen relatively high levels of default, but this has subsided somewhat in 2016 (Figure 17). The obligor-weighted default rate, which reached 12.90% last year in a relatively small sample of 62 obligors, fell to 1.33% in 2016 as the sample increased to 150. Likewise, exposure-weighted defaults fell from 4.93% to 2.13%, and transaction-weighted defaults fell from 2.12% to 0.15%. The decline in defaults is

unsurprising given the gradual recovery of the Spanish economy. In addition, last year’s spike in defaults was largely driven by small sample size, and default rates would be expected to normalise as the sample size increases. Part of the increased sample is driven by two new members to the Trade Register, but default rate trends remain directionally the same when these new members are excluded from the sample.

FIGURE 17:
Import L/Cs Default Rates in Spain (Absolute), 2013–2016

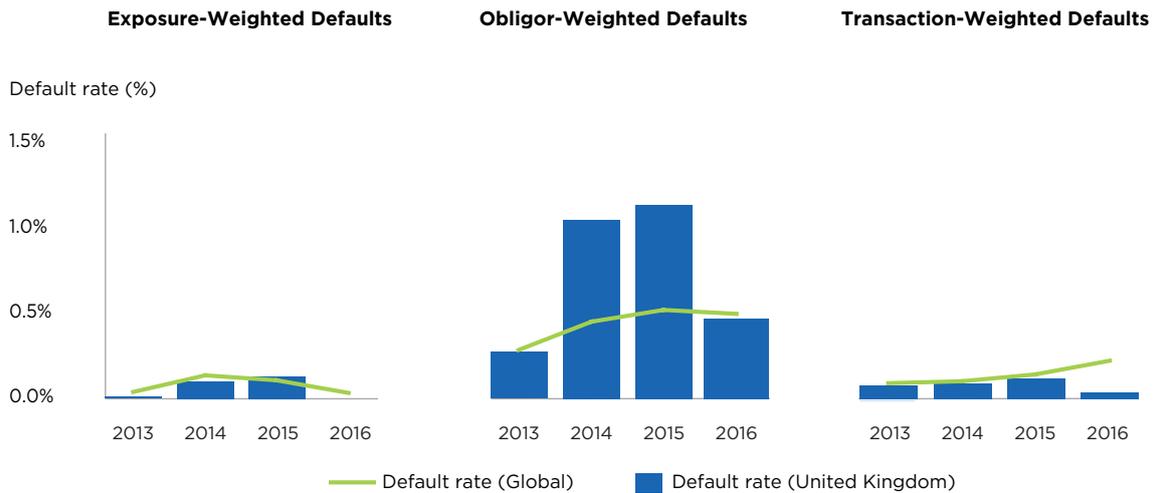


Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

The **UK** has seen a fall in defaults from its elevated 2015 results (Figure 18). The obligor-weighted default rate (0.45% in 2016 vs. 1.09% in 2015), exposure-weighted

default rate (0.01% in 2016 vs. 0.13% in 2015) and transaction-weighted default rate (0.04% in 2016 vs. 0.11% in 2015) all declined significantly in 2016.

FIGURE 18:
Import L/Cs Default Rates in United Kingdom (Absolute), 2013–2016

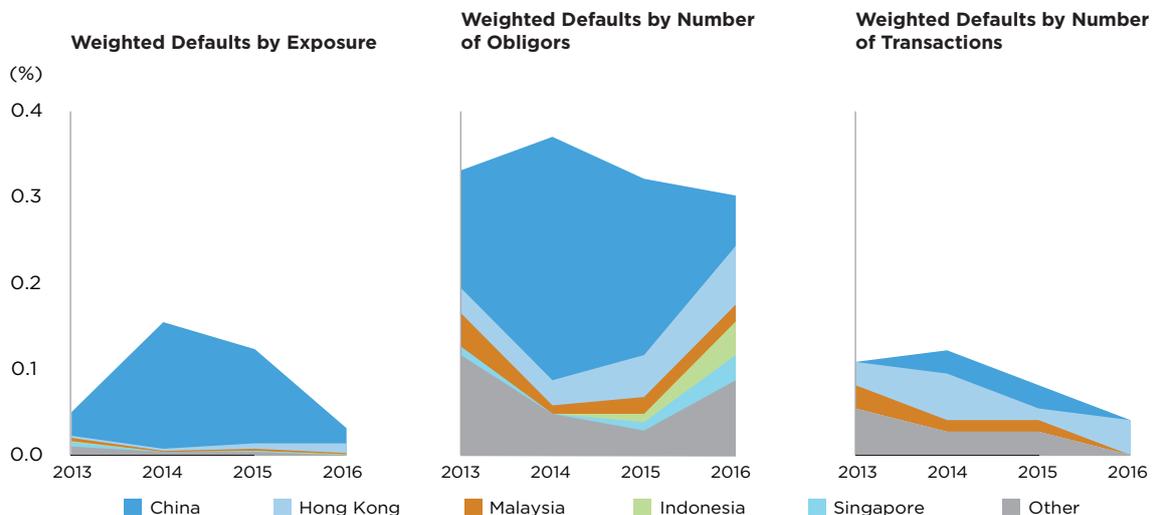


Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

In **APAC**, obligor-weighted defaults, exposure-weighted defaults, and transaction-weighted defaults all declined in 2016 (Figure 19). Obligor-weighted defaults continued to fall, from 0.32% in 2015 to 0.30% in 2016. Exposure-weighted defaults fell significantly

from 0.10% in 2015 to 0.02% in 2016. Similarly, transaction-weighted defaults have continued a multi-year steady downward trend, reaching 0.05% in 2016 (vs. 0.08% in 2015). Despite recent fluctuations, these rates all remain below their respective global averages.

FIGURE 19:
Import L/Cs Default Rates in APAC (Weighted), 2013–2016

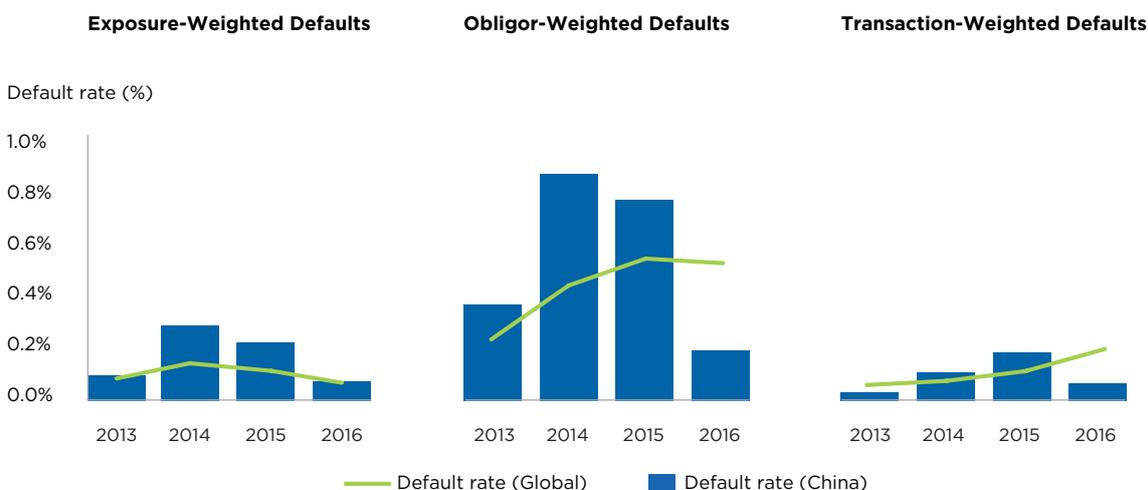


Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

China experienced a significant decline in defaults, with obligor, transaction and exposure-weighted default rates falling in 2016 (Figure 20). Obligor-weighted defaults continued to decline, reaching 0.23% in 2016 (0.76% in 2015). Exposure-weighted

defaults also fell significantly, from 0.20% in 2015 to 0.04% in 2016. Interestingly, this was combined with a strong multi-year decline in absolute exposure volumes in China within the sample data, which have fallen from USD 192 billion in 2013 to USD 104 billion in 2016.

FIGURE 20:
Import L/Cs Default Rates in China (Absolute), 2013-2016

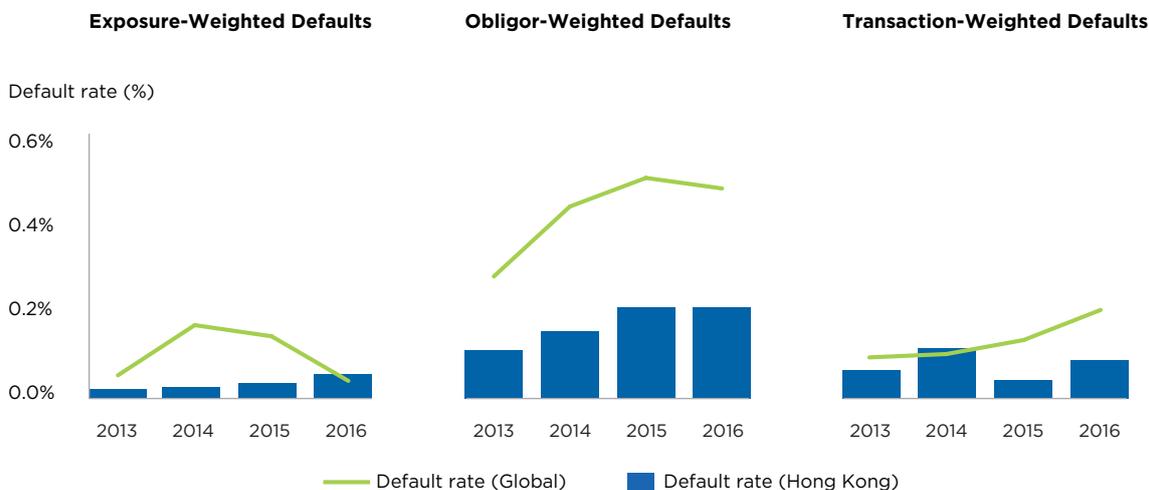


Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

Hong Kong has seen minimal growth in default rates, with obligors climbing from 0.24% in 2015 to 0.25% in 2016, exposure-weighted default rates up from 0.02% in 2015

to 0.04% in 2016, and transactions up from 0.05% to 0.10% (Figure 21). However, these rates all remain below or near the global averages.

FIGURE 21:
Import L/Cs Default Rates in Hong Kong (Absolute), 2013-2016

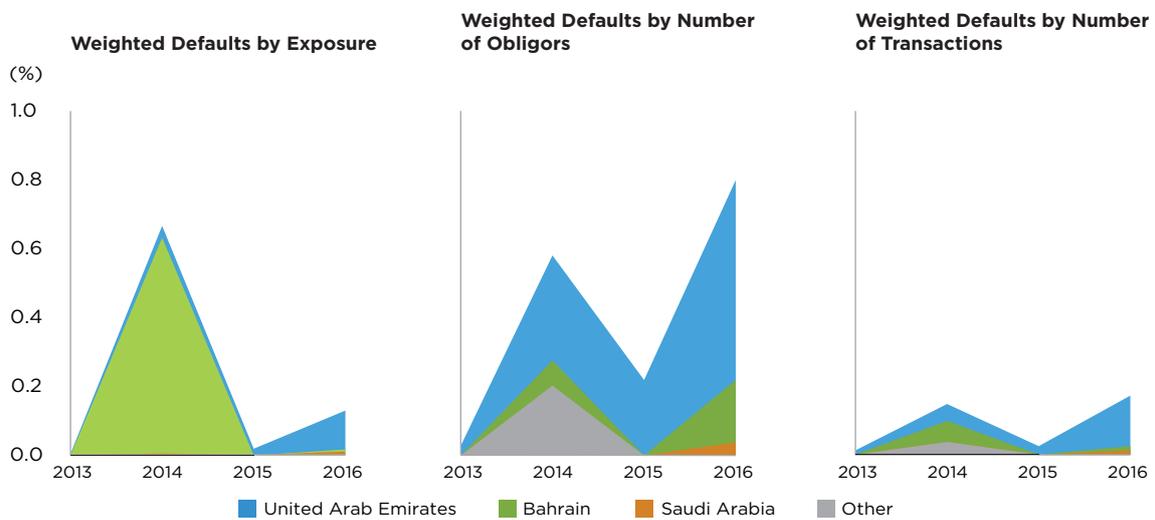


Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

The **Middle East** saw the most significant spike in defaults by obligors, with the default rate climbing from 0.23% in 2015 to 0.83% in 2016 (Figure 22). This result was supported by growth in the exposure-weighted default rate from 0.02% to 0.11% in the same period. Transaction-weighted defaults also increased from 0.02% to 0.13%. This represents a return to high obligor-weighted default levels

seen in the region in 2014, even though the exposure-weighted defaults are significantly lower (0.11% in 2016 vs. 0.67% in 2014). It is likely that these increased defaults are partially driven by the trickle-down impact of lower oil prices. The growth was driven by both the UAE and Bahrain, albeit with differing trends.

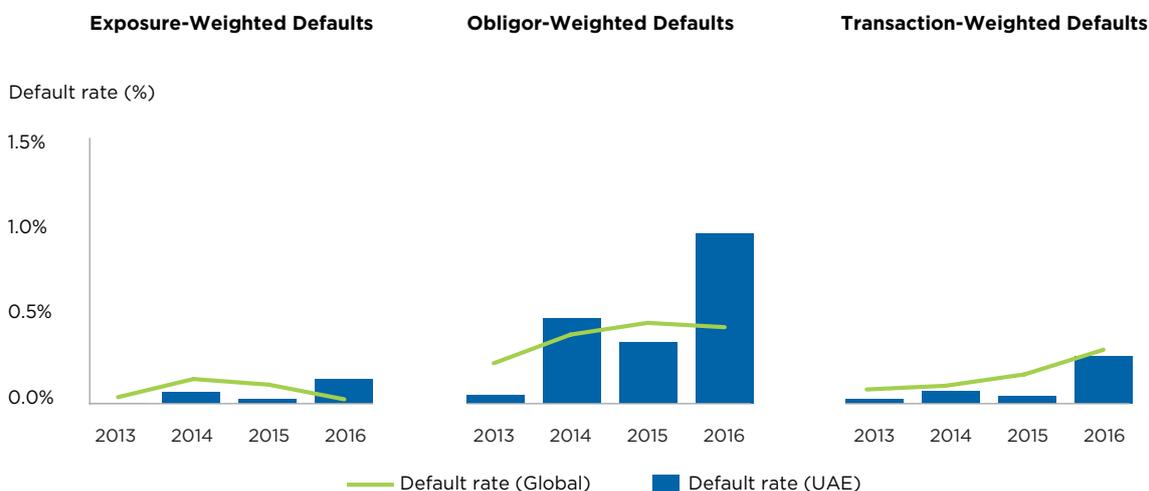
FIGURE 22:
Import L/Cs Default Rates in Middle East (Weighted), 2013–2016



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

The **UAE** is the largest trade location in the Middle East, and it saw significant growth in 2016 (Figure 23). Obligor-weighted defaults are up to 1.03% from 0.36% in 2015, supported by growth in exposure-weighted defaults (0.16% in 2016 vs. 0.03% in 2015) and transaction-weighted defaults (0.21% in 2016 vs. 0.03% in 2015). While obligor default rates appear high, this represents only 16 defaults out of around 1,500 obligors, and the average exposure on defaulting obligors (USD 1.4 million) is much lower than the average exposure of all obligors in the country (USD 9.5 million). The majority of this growth is driven by defaults from one bank that suffered abnormally high defaults in the region in 2016.

FIGURE 23:
Import L/Cs Default Rates in UAE (Absolute), 2013-2016



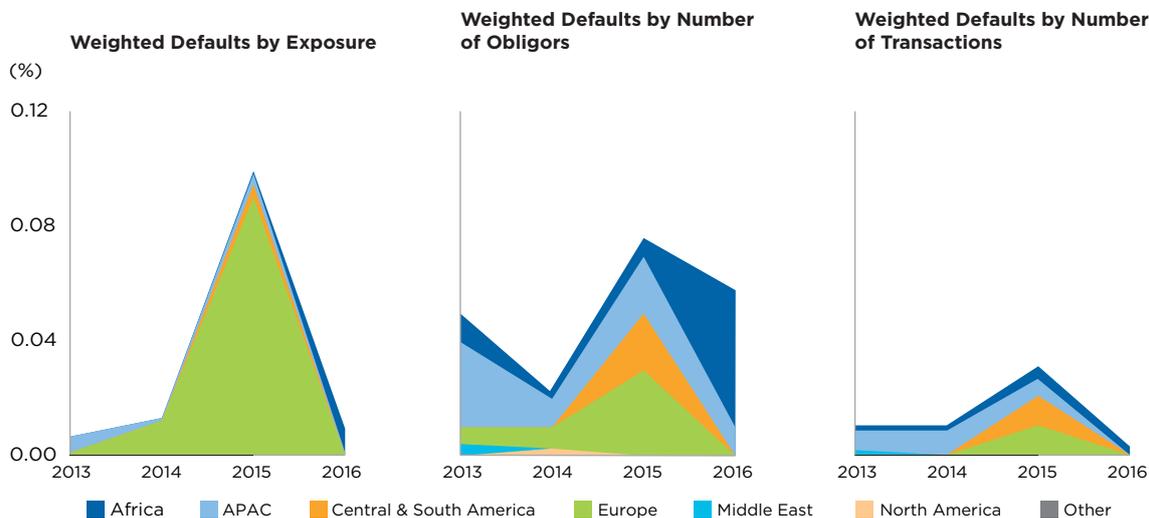
Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

While **Bahrain** is much smaller than the UAE, it has seen a jump in obligor-weighted defaults from 0.00% in 2015 to 2.24% in 2016. However, the overall number of obligor defaults is very low at five, and the growth in transaction and exposure defaults is modest.

Export L/Cs

Export L/C default rates have broadly remained level or declined in 2016, and remain very low relative to other products (Figures 24-26). Obligor-weighted defaults have fallen slightly from 0.08% in 2015 to 0.06% in 2016, while exposure-weighted defaults have dropped significantly from 0.11% in 2015 to 0.01% in 2016. Transaction-weighted defaults have seen a similar decline, dropping from 0.03% to 0.01% in the same period.

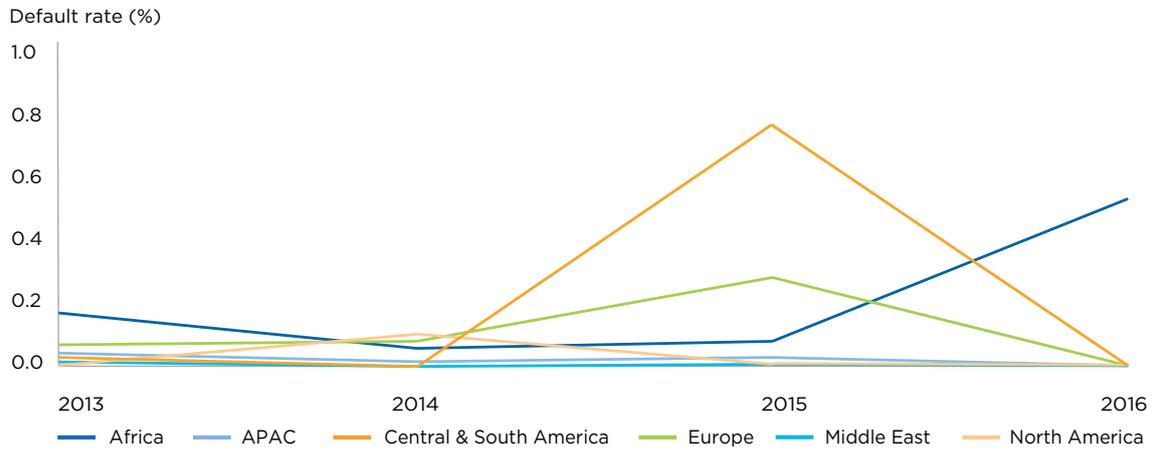
FIGURE 24:
Export L/Cs Default Rates by Region (Weighted), 2013-2016



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

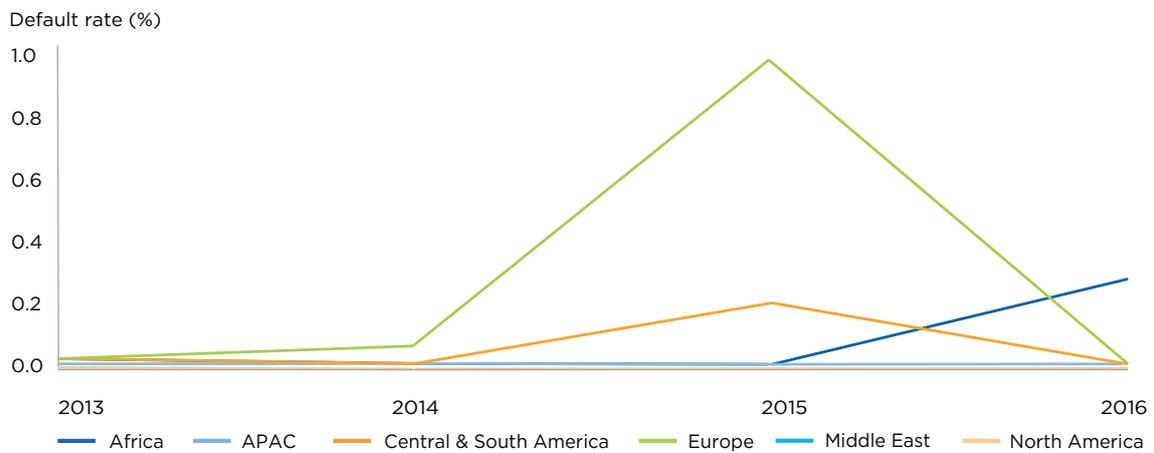
FIGURE 25:
Export L/Cs Default Rates by Region (Absolute), 2013–2016

Average default rate by obligors



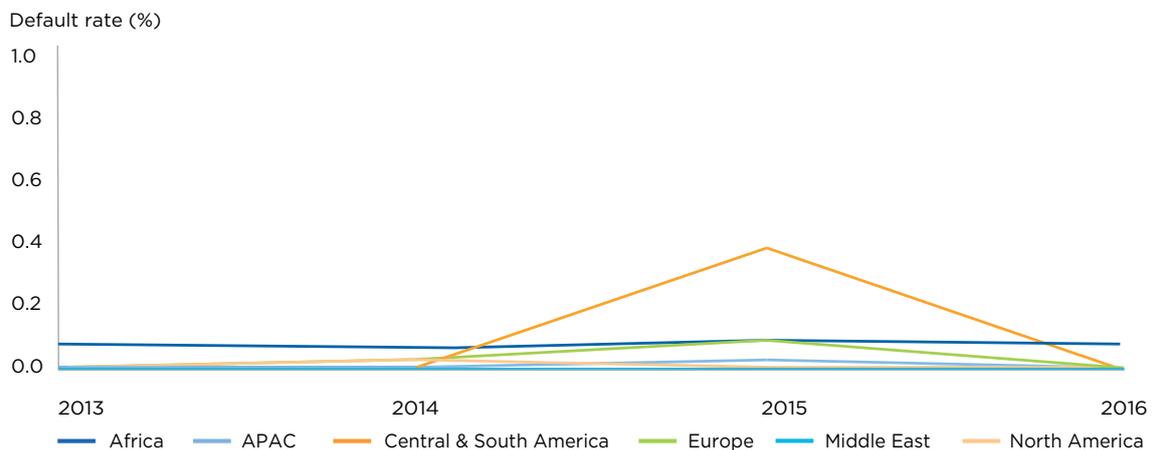
Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

Average default rate by exposures



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

Average default rate by transactions

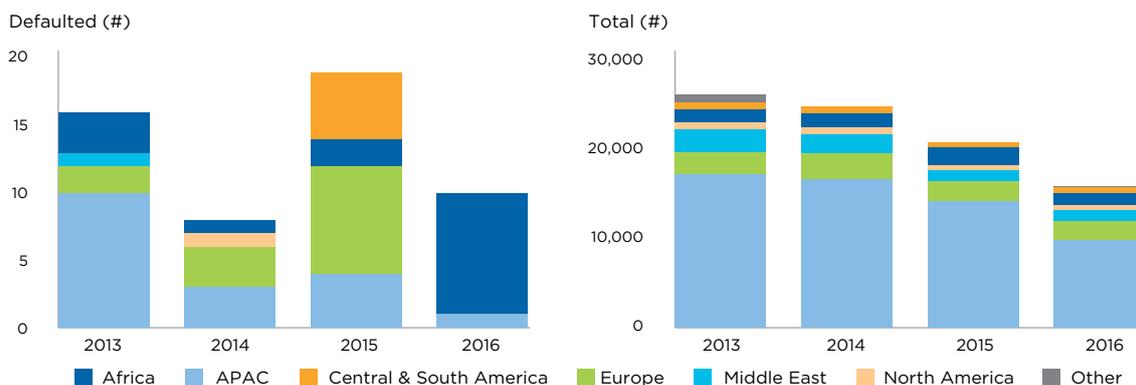


Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

FIGURE 26:
Export L/Cs Total and Defaulted Volumes by Region, 2013–2016

Total and defaulted obligors

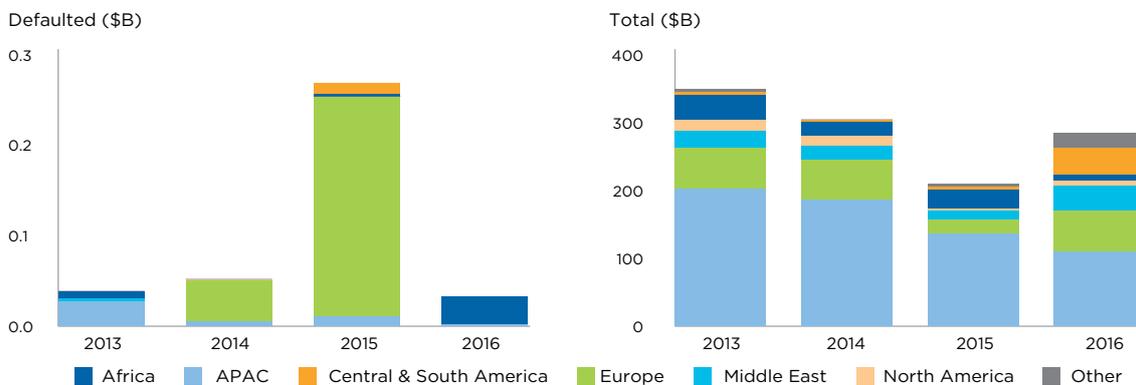
Obligors



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

Total and defaulted exposures

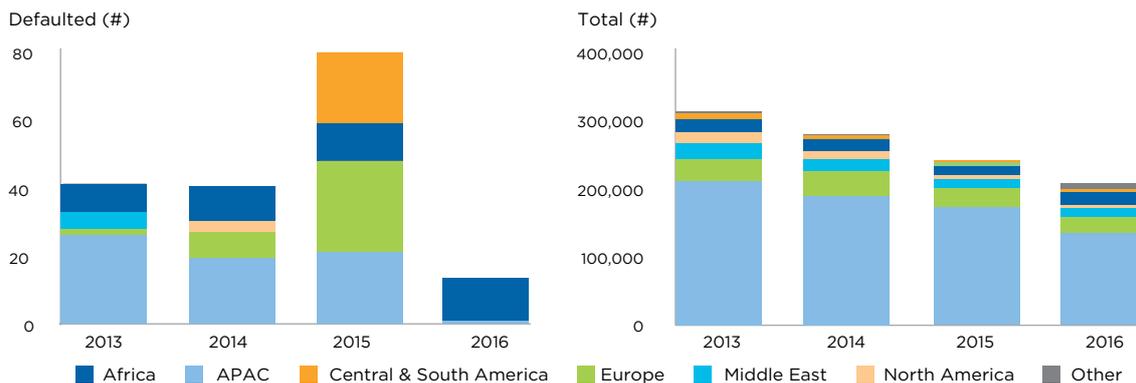
Exposures



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

Total and defaulted transactions

Transactions



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

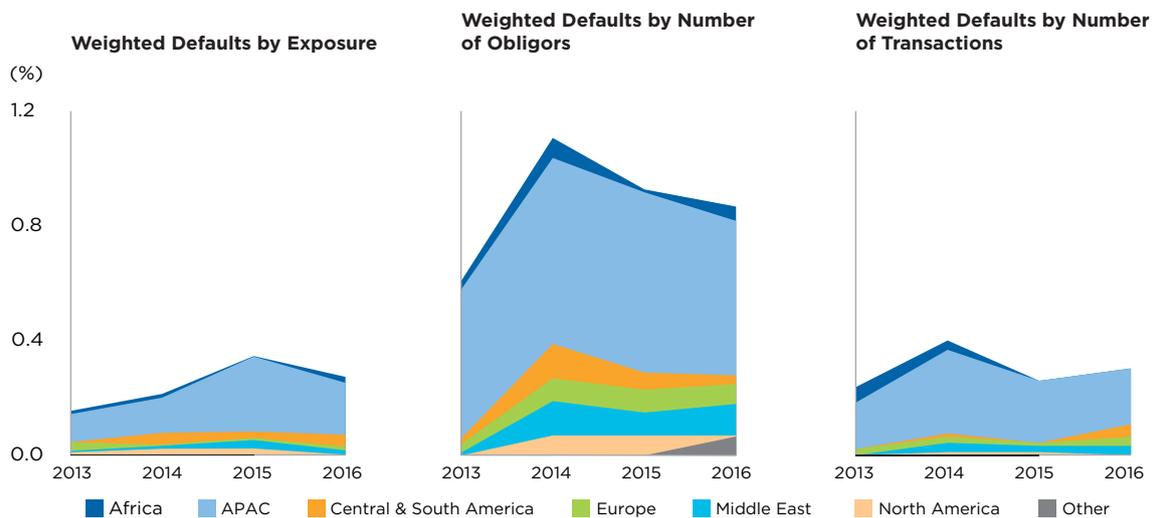
Africa has driven most of the defaults in Export L/Cs across obligors, exposures and transactions – nine of the 10 defaulting obligors and 94% of defaulted exposures were from Africa. Defaults rates in Africa are at elevated but reasonable levels (given the small sample size of defaults); 0.59% for obligors, 0.27% for exposure, and 0.07% for transactions.

However, caution is needed when interpreting regional data. The Trade Register region shows the location of the bank’s direct customer for a given product. For Import L/Cs, the region is the same as the country of risk. For an Export L/C, the risk arises on the other side of the transaction – the importer’s country. This means defaults on Export L/Cs are driven by banks in the importing country, rather than the importing business itself.

Loans for Import/Export

FIGURE 27:

Loans for Import/Export Default Rates by Region (Weighted), 2013–2016



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

A small decline in obligor and exposure-weighted default rates for Loans for Import/Export occurred in 2016, while transaction-weighted defaults are slightly elevated from 2015 (Figures 27–29). Obligor-weighted defaults declined for the second year running, from 0.93% in 2015 to 0.88% in 2016. Exposure-weighted defaults reversed their 2015 growth of 0.32% to 0.29% in 2016. Transactions, conversely, showed moderate growth in 2016, from 0.24% to 0.28% suggesting defaults are from smaller, more frequent transactions.

The decline in obligor-weighted defaults was driven mostly by a contraction in the dominant region for this product, APAC, with European and North American defaults also falling. The fall in APAC (0.81% in 2016 vs. 0.86% in 2015) is largely a result of China’s obligor-weighted default rate reducing from 1.60% in 2015 to 0.55% in 2016. However, credit growth in China may be masking underlying issues, and a spike in default rates in the future cannot be ruled out.

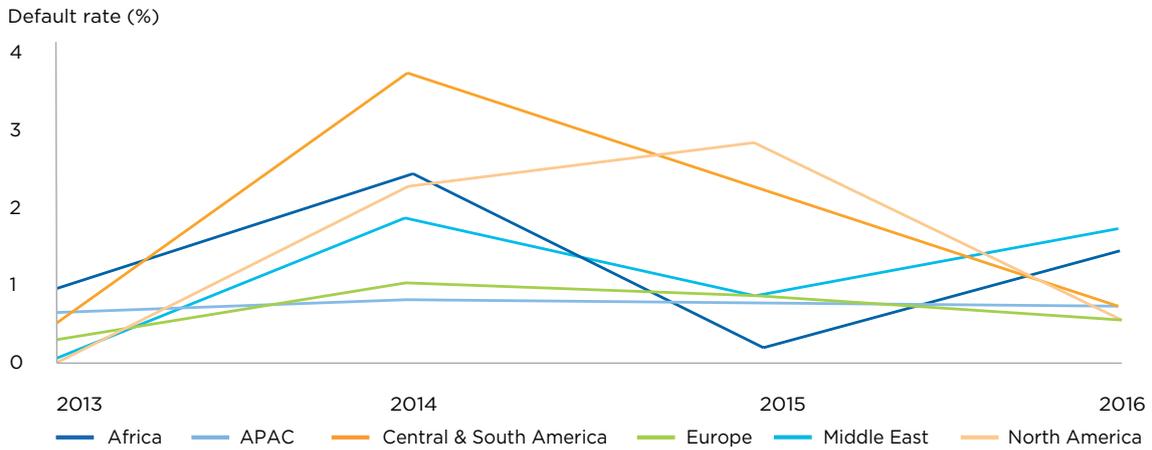
This was partially offset by the Indian obligor-weighted default rate growing from 0.35% to 1.17% in that period. The Indian banking sector is currently suffering from systemic non-performing asset (NPA) issues, which is likely to be driving this spike.

The Middle East and Africa saw their default rates increase in 2016 after falling in 2015. Africa's obligor-weighted default rate spiked largely due to events in Ghana, where defaults grew from 0.46% in 2015 to 10.98% in 2016 (albeit with only nine defaults). Middle East obligor defaults also grew, driven by the UAE where absolute volumes halved while defaults remained flat, resulting in the default rate increasing from 1.34% in 2015 to 2.62% in 2016. This trend did not hold for exposures, where defaulted exposures declined at a faster rate than absolute exposures, driving the default rate down from 1.05% in 2015 to 0.74% in 2016. These results are driven by poor economic conditions and sector-specific defaults within these countries.

Central and South America interestingly saw growth in exposure and transaction-weighted defaults, despite a decline in the obligor default rate. This is explained by the default of a single, relatively large individual obligor in Brazil in 2016 that has run into difficulties while executing a specific project.

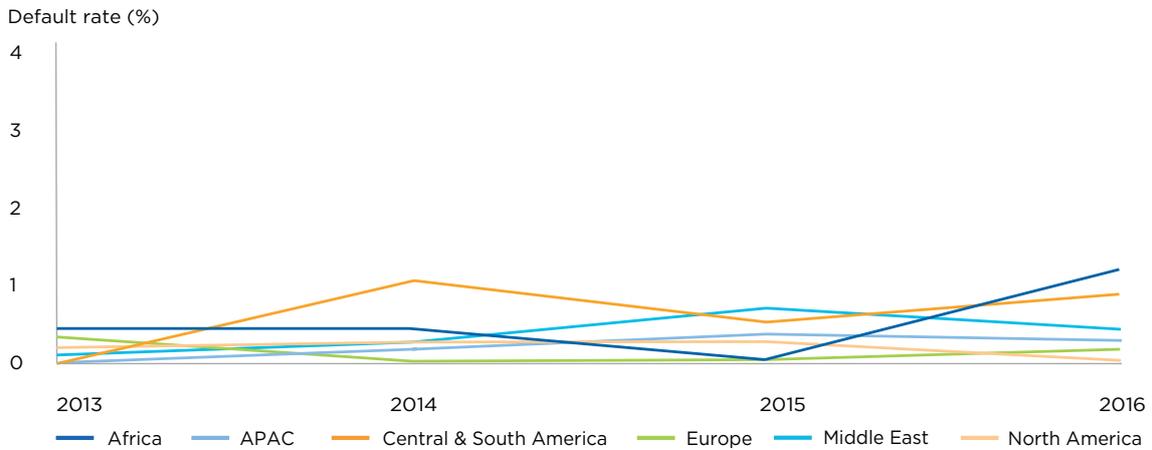
FIGURE 28:
Loans for Import/Export Default Rates by Region (Absolute), 2013-2016

Average default rate by obligors



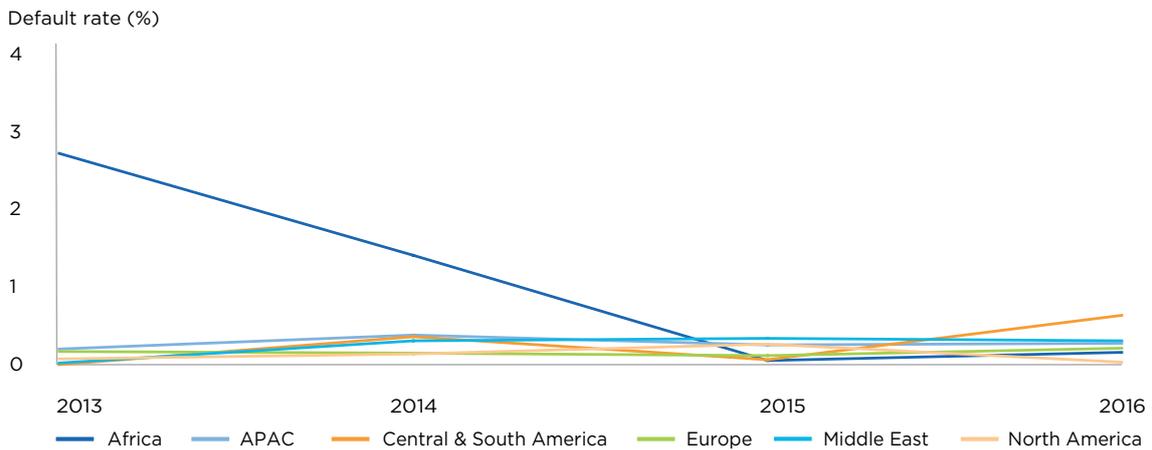
Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

Average default rate by exposures



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

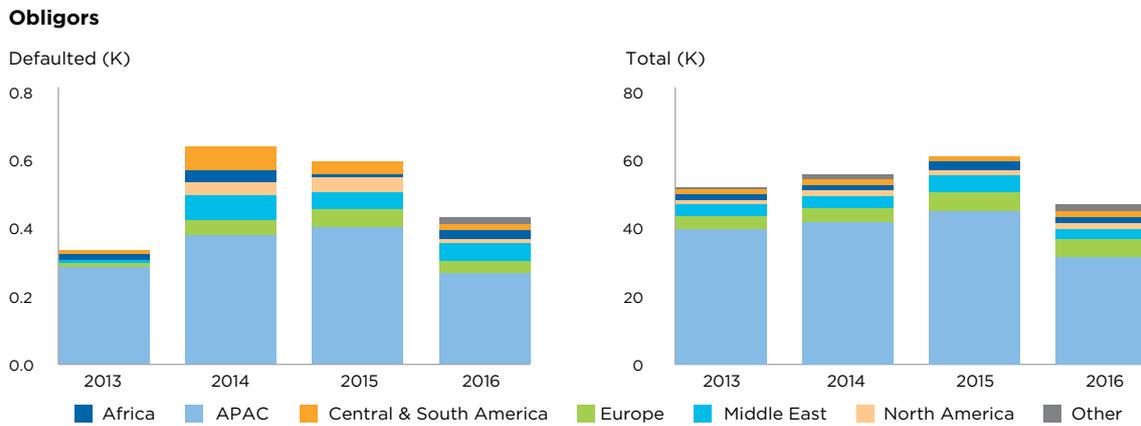
Average default rate by transactions



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

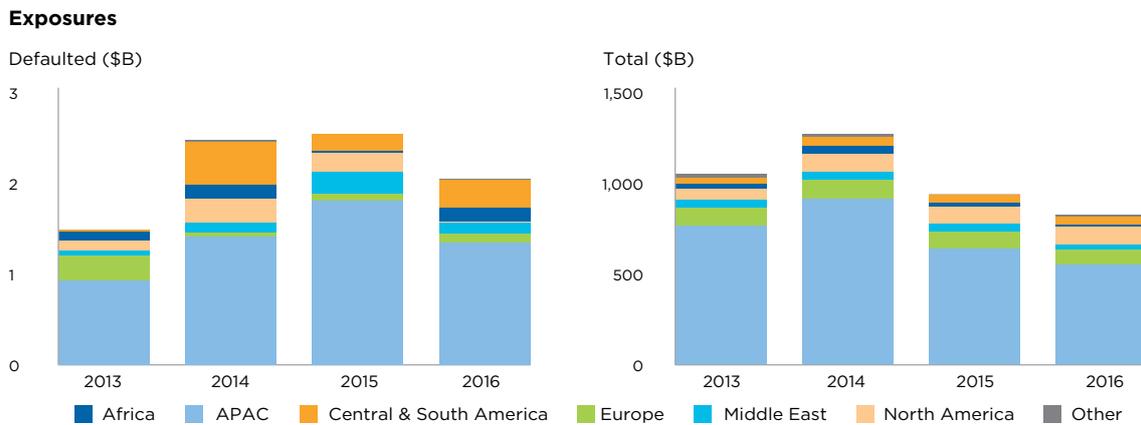
FIGURE 29:
Loans for Import/Export Total and Defaulted Volumes by Region, 2013–2016

Total and defaulted obligors



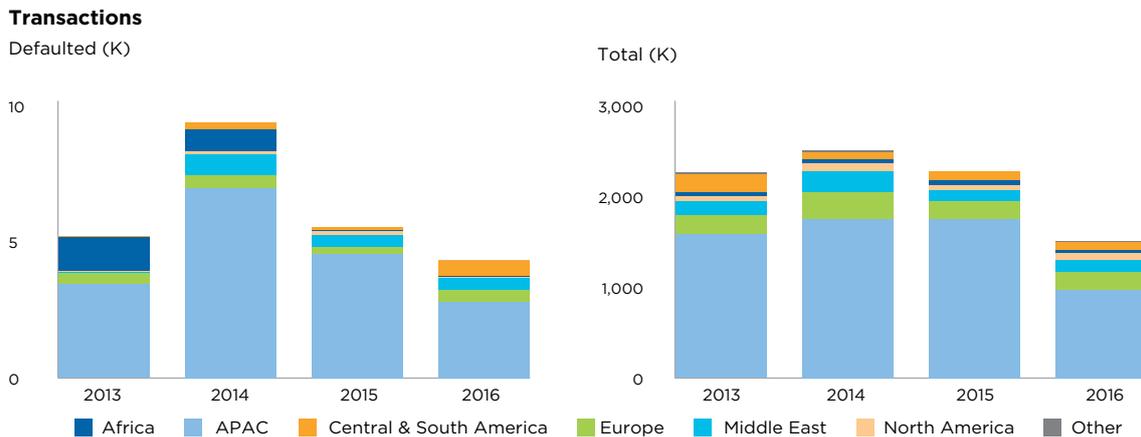
Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

Total and defaulted exposures



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

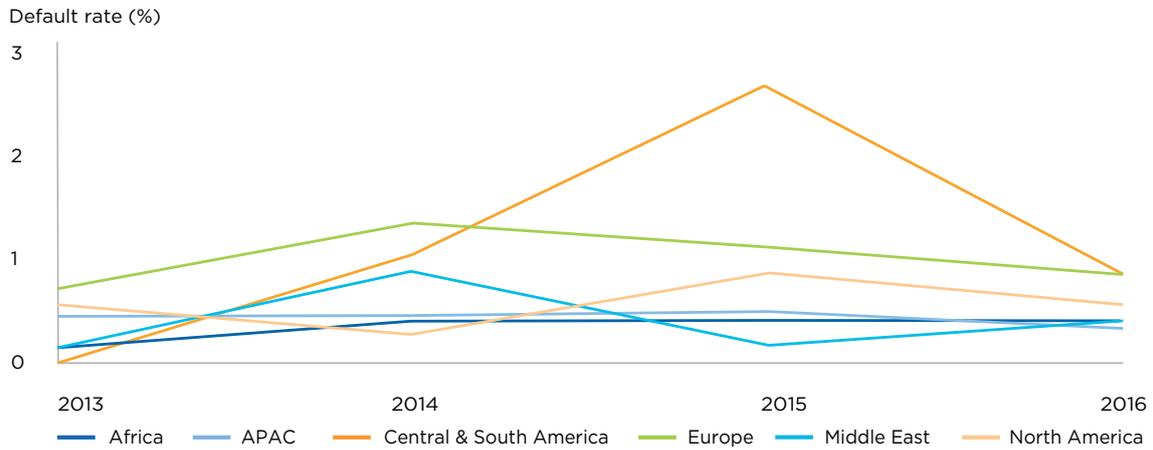
Total and defaulted transactions



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

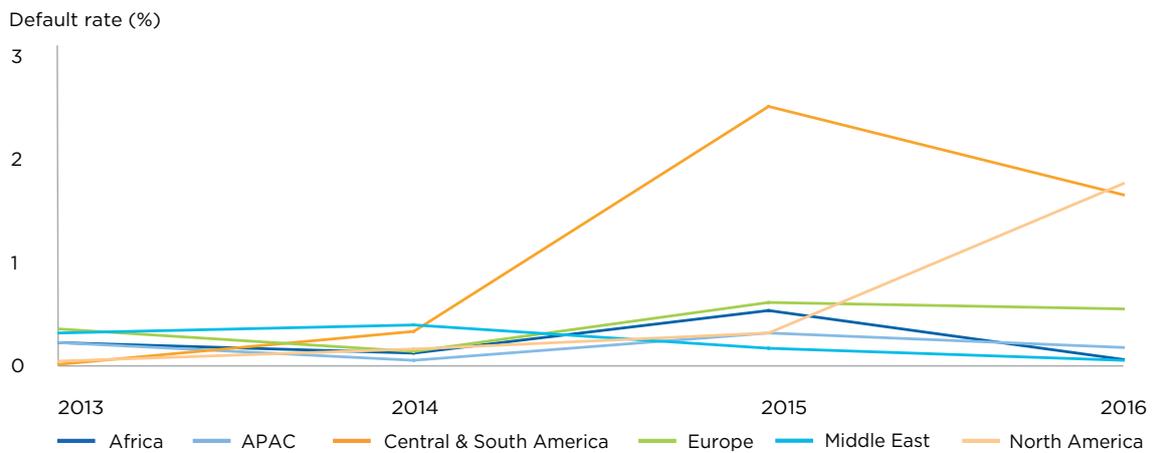
FIGURE 30:
Performance Guarantee Default Rates by Region (Absolute), 2013–2016

Average default rate by obligors



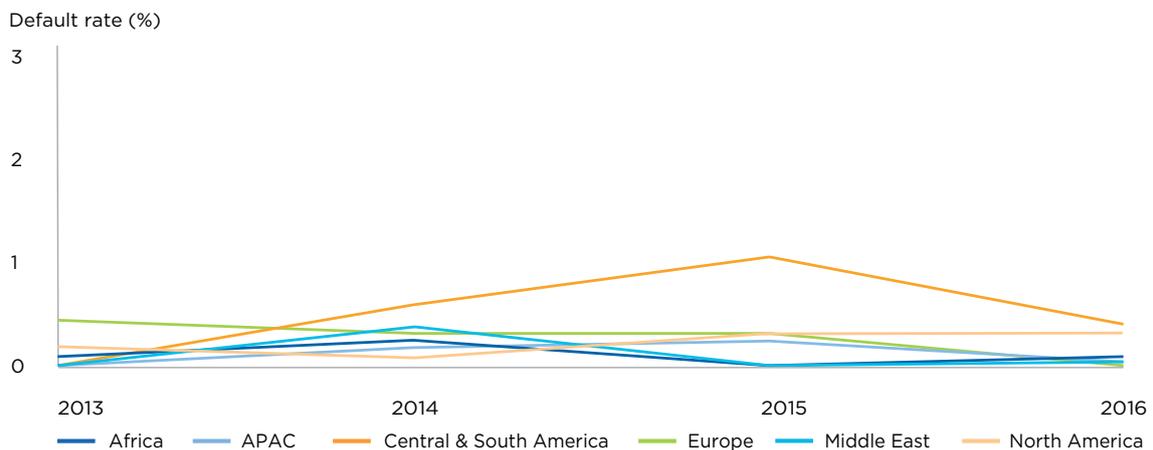
Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

Average default rate by exposures



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

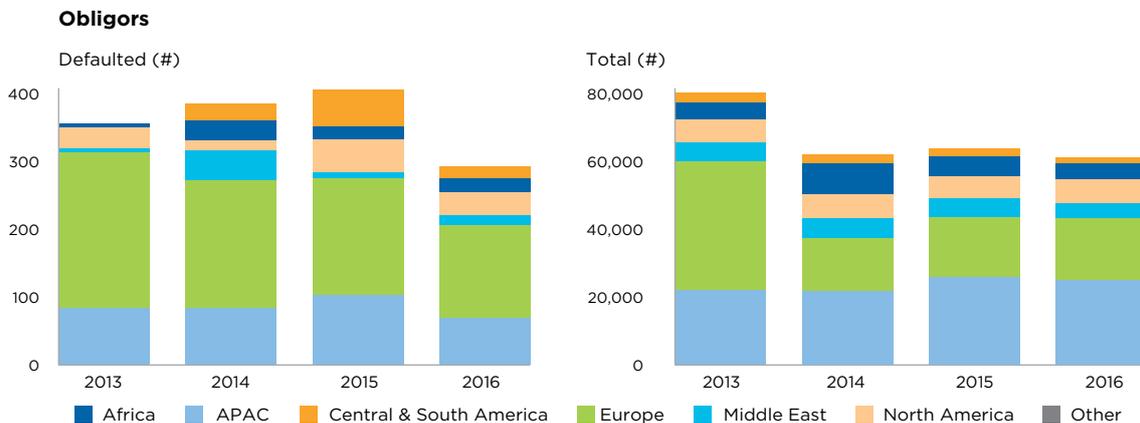
Average default rate by transactions



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

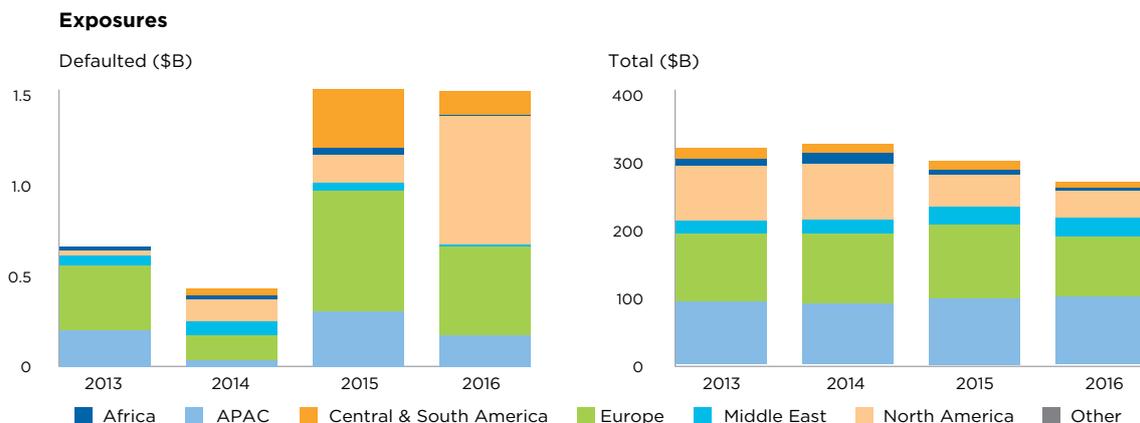
FIGURE 31:
Performance Guarantees Total and Defaulted Volumes by Region, 2008–2016

Total and defaulted obligors



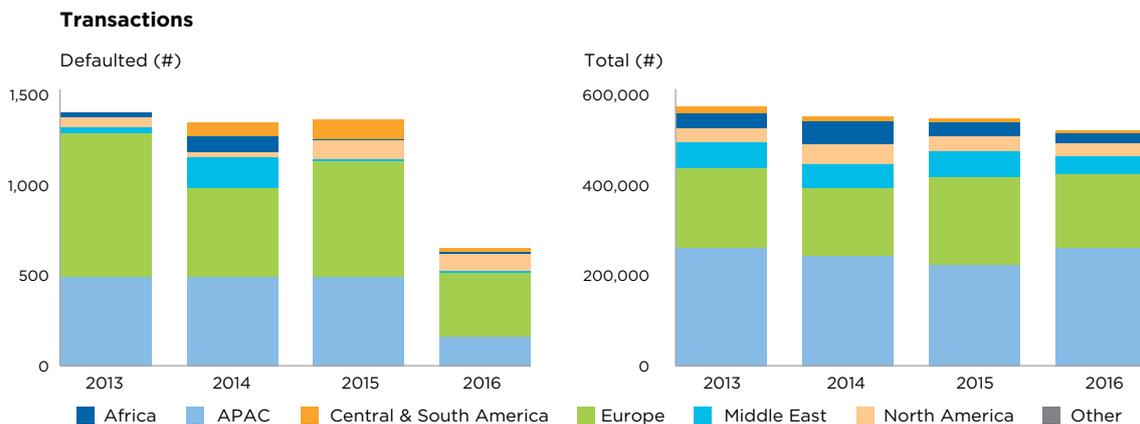
Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

Total and defaulted exposures



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

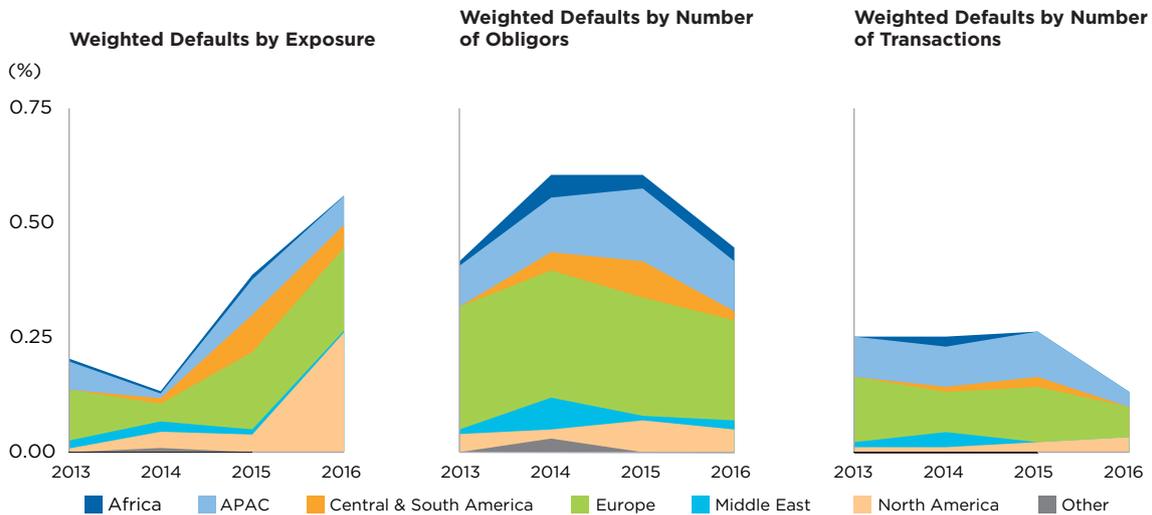
Total and defaulted transactions



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

FIGURE 32:

Performance Guarantees Default Rates by Region (Weighted), 2013–2016



Performance Guarantees

Performance Guarantees (also known as Standby L/Cs in the US) have the highest default rate of the Trade Finance products, as has typically been the case in the past.

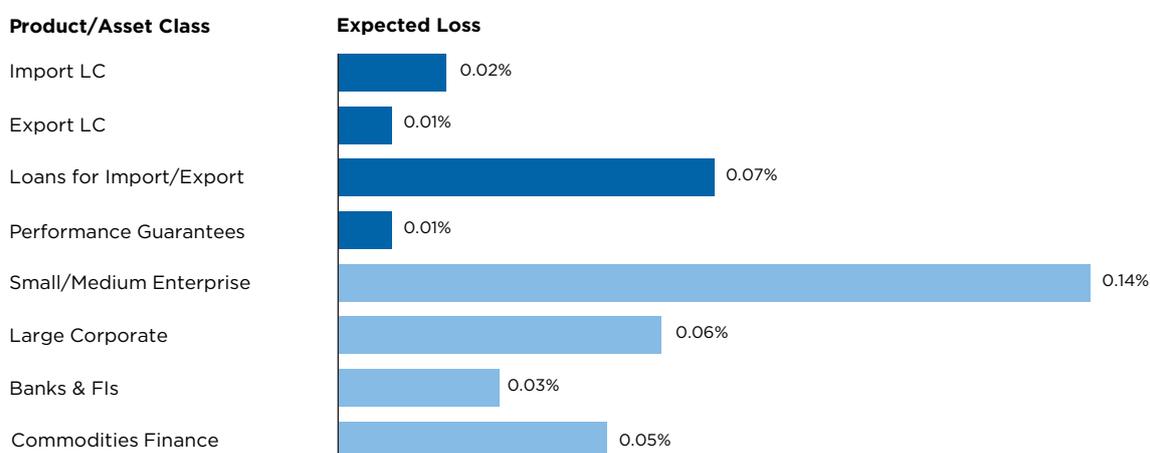
The obligor-weighted default rate has fallen in 2016 to 0.45%, down from 0.61% in 2015. Transaction defaults have moved in a similar direction while the exposure weighted-default rate continued to climb (Figures 30–32).

Obligor defaults fell across the three largest regions in this product – APAC, Europe, and North America – with the Middle East showing the only significant growth.

Exposure-weighted defaults fell across almost all regions; however, significant growth in North America from 0.31% in 2015 to 1.76% in 2016 propped up the overall growth rate. This growth is isolated to the US, where exposure-weighted defaults grew from 0.18% to 2.04% from 2015 to 2016, despite obligor defaults falling from 0.63% to 0.35%. This was driven by one obligor in particular, who was assigned non-accrual status at the regulator’s request – a relatively uncommon event – and was subsequently downgraded internally to a default rating. However, no claims have yet been made against the underlying guarantees.

Middle East obligor-defaults grew from 0.13% in 2015 to 0.34% in 2016. The UAE was the major driver of this increase. Overall default rates in the region still remain below the global average of 0.45% in 2016. In addition, exposure-weighted defaults remain very low in the UAE (0.03%) and the Middle East overall (0.04%) in 2016 – well below the global average of 0.55%. This suggests defaulted obligors are typically much smaller than an average obligor.

FIGURE 33:
Expected Loss of Trade Finance and Other Asset Classes, 2008–2016



Source: ICC Trade Register 2017.

Trends in Loss Given Default and Expected Loss Analysis

Trade Finance products continue to have comparable Expected Loss (EL) figures to other similar Asset Classes (Figure 33).

As in 2015, the 2016 results show Export L/Cs (0.01%), Performance Guarantees (0.01%), and Import L/Cs (0.02%) have the lowest expected losses. Import L/Cs and Performance Guarantees retain the same expected loss as last year, whereas Export L/Cs have fallen slightly from 2015 (0.02%) due to the combination of a significantly lower default rate in 2016 and a higher recovery rate.

Loans for Import/Export have a higher expected loss than other Trade Finance products (0.07%), as a result of their higher default rate.

The relative contribution of default rate or Probability of Default (PD), exposure at default (EAD), and Loss Given Default (LGD) to the low EL of Trade Finance products can be seen overleaf (Figure 34).

As in last year's report, we used two alternate methods to calculate EL for Performance Guarantees. In the first methodology, used before 2016, we apply the claim rate to the EAD, which results in a higher LGD. In the alternative methodology, the claim rate is applied to the LGD, resulting in a higher EAD and a correspondingly lower LGD.

This claim rate fell from 8.5% in the time period (2008–2015) analysed in the 2016 Report to 7.6% this year (2008–2016), driven by an increase in the overall volume of transactions in the database.²⁰ This growth is attributable largely to the targeted initiatives and operational efficiency improvements of one bank. More detail on these methodologies is in Appendix A: Approach to Analysis.

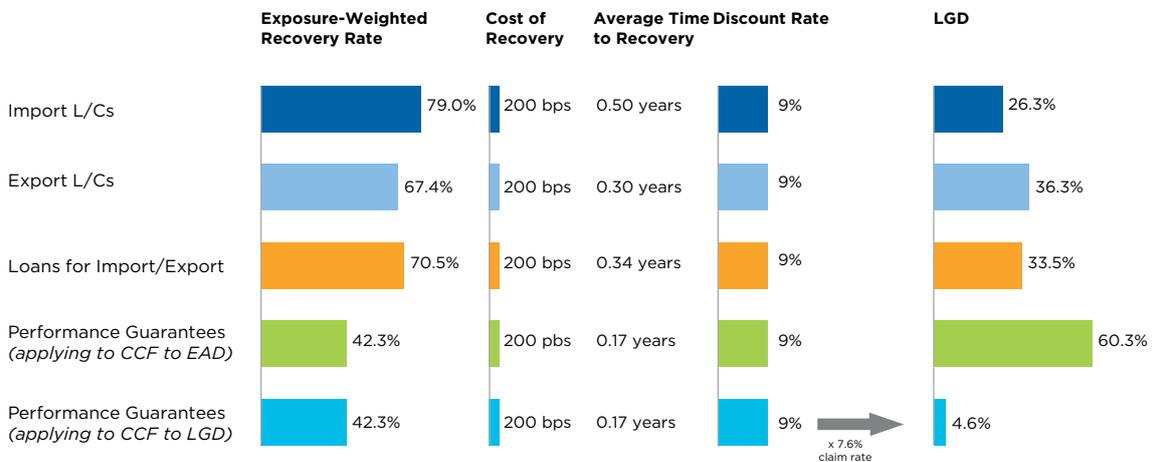
20. Claim rate is calculated as the % of all performance guarantee transactions where a successful claim was made.

FIGURE 34:
Expected Loss Breakdown for Trade Finance Products, 2008–2016



1. Accounts for 7.6% observed 'Claim Rate'. Source: ICC Trade Register 2017.

FIGURE 35:
LGD Calculation for Trade Finance Products, 2008–2016

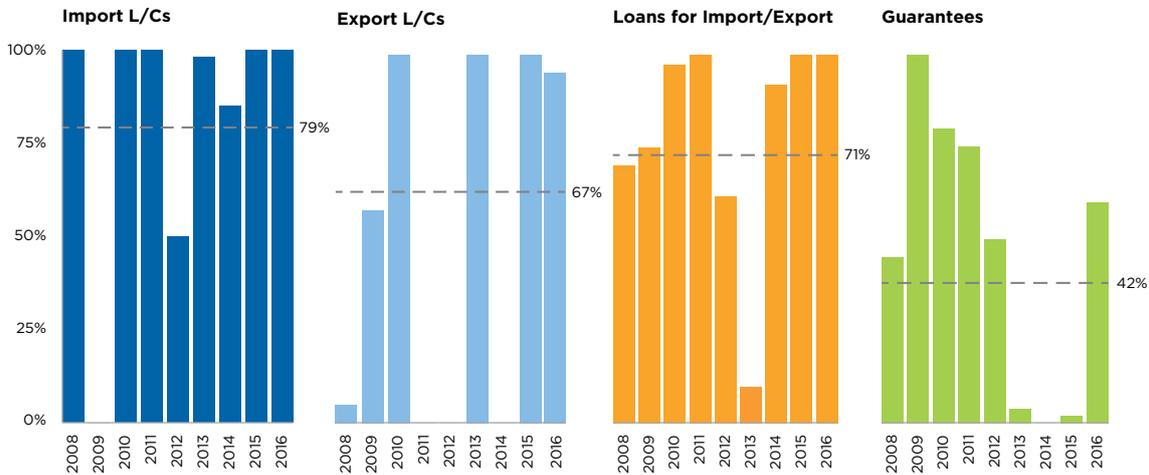


Source: ICC Trade Register 2017.

While LGD rates are relatively low across all products, significant differences remain between them – driven mostly by recovery rate differentials (Figure 35). The time series of recovery rates (Figure 36) shows that recovery rates for all products in 2016 were higher than the 2008–2015 average. Import L/Cs, Export L/Cs, and Loans for

Import/Export all had recovery rates of close to 100%, explaining why their LGD is improved compared to 2015. In recent years, Performance Guarantee recovery rates have been heavily driven by major losses across Ukraine and South Africa, before returning to a more typical 63% in 2016.

FIGURE 36:
Average Exposure-Weighted Recovery Rates for Trade Finance Products, 2008–2016

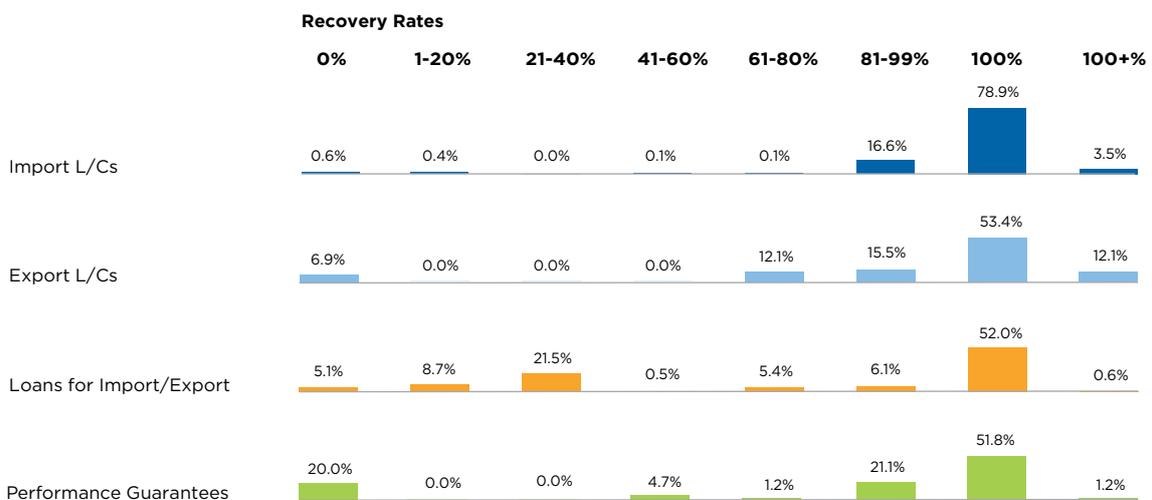


Source: ICC Trade Register 2017.

The distribution of recovery rates is similarly positive, with a significant majority of transactions having recovery rates of 80% or greater, and at least half of transactions having 100% recovery rates across all products (Figure 37). Loans for Import/Export and Performance Guarantees have

more variation in recovery rates, with Loans seeing 35% of transactions recover 40% or less, and Performance Guarantees seeing 20% of transactions with 0% recovered. However, low default rates and low claim rates for Performance Guarantees resulted in continued low Expected Losses.

FIGURE 37:
Distribution of Recovery Rates Across Trade Finance Products, 2008–2016



Source: ICC Trade Register 2017.

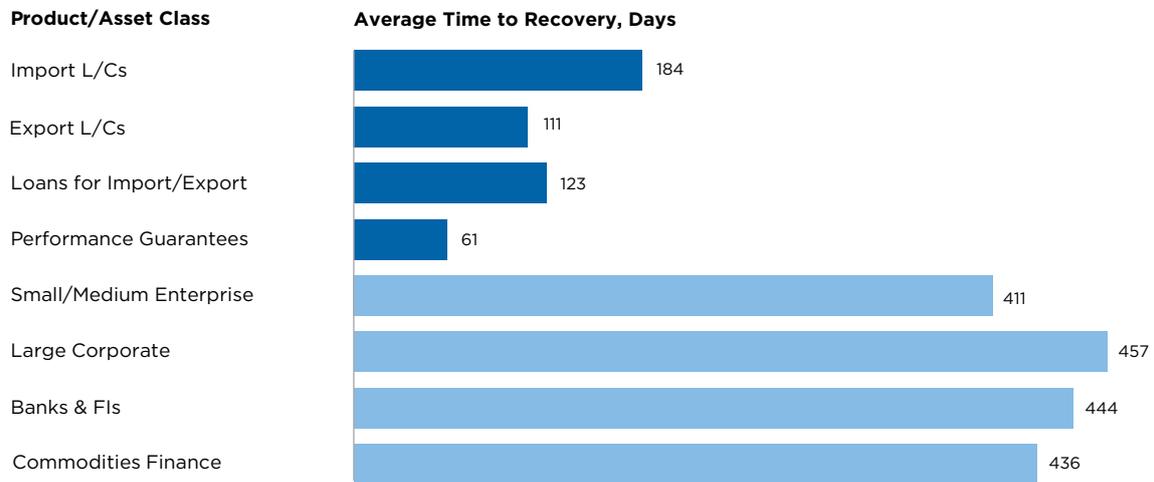
Time to recovery is also a critical component of the LGD calculation, and the observed time to recovery across Trade Finance products shows Trade Finance products have significantly shorter times to maturity than other comparable Asset Classes (Figure 38).

One potential explanation is that, when it comes to Trade Finance products, banks can take ownership of underlying goods and sell

them quickly, depending on the product. This results in the exposure being held on the balance sheet for a short time, reducing the discount factor on the potential loss.

However, some caution is needed regarding the comparability of data between the Trade Register and other Asset Class benchmarks.

FIGURE 38:
Average Time to Recovery Between Trade Finance and Other Asset Classes, 2008–2016



Source: ICC Trade Register 2017.

ANALYSIS OF EXPORT FINANCE

Overview of Findings

The ICC Trade Register contains a filtered data set of over USD 670 billion of exposures in Export Finance, across 40,000 transactions from 2007–2016. This huge dataset allows us to conduct meaningful analysis on the Probability of Default (PD), Loss Given Default (LGD), and thereby the Expected Loss (EL).

The findings in 2017 support the long-running conclusions that Export Finance is a very low risk for banks. This finding is due to its low ELs, which derives from low LGDs comparable to below-investment grade project finance and corporate finance assets. Export Finance has a particularly low LGD in the Trade Register's data, partly because most transactions are covered by OECD-backed Export Credit Agencies (ECAs) at approximately 95% of their value, which minimises the sum a bank may need to pay out directly. The LGDs are sufficiently low such that the PDs do not significantly impact the ELs.

Looking at completed cases only, from 2007–2016, the exposure-weighted default rate has been 0.50% with an LGD of 3.8%, resulting in an EL of 0.019%. This is a fractionally higher EL than reported in 2007–2015 due to a small increase in the exposure-weighted default rate from 0.44% to 0.50%.

When completed/accelerated and partial completed cases are included, the LGD is 5.3%, resulting in an EL of 0.026%.

Risk Characteristics of Export Finance Products

Export Finance products within the scope of the ICC Trade Register are Export Credits with the backing of an OECD member-based ECA, representing the full faith and credit of their respective governments. While these in-scope Export Finance transactions have different product characteristics from the transaction included in the Trade Finance component of this Report, their risk profile is similarly low.

This low risk is largely a function of the ECA coverage. Losses are limited unless the ECA itself defaults, which is unlikely because the in-scope ECAs are sponsored by high-income, investment-grade-rated OECD governments. For instance, if an obligor defaults on a loan with 95% coverage from an ECA, the bank can expect recoveries of up to 95% from the ECA for:

- Outstanding principal at the point of default
- Interest contractually due but unpaid
- Direct costs associated with recovery from the customer (including, for example, legal fees)

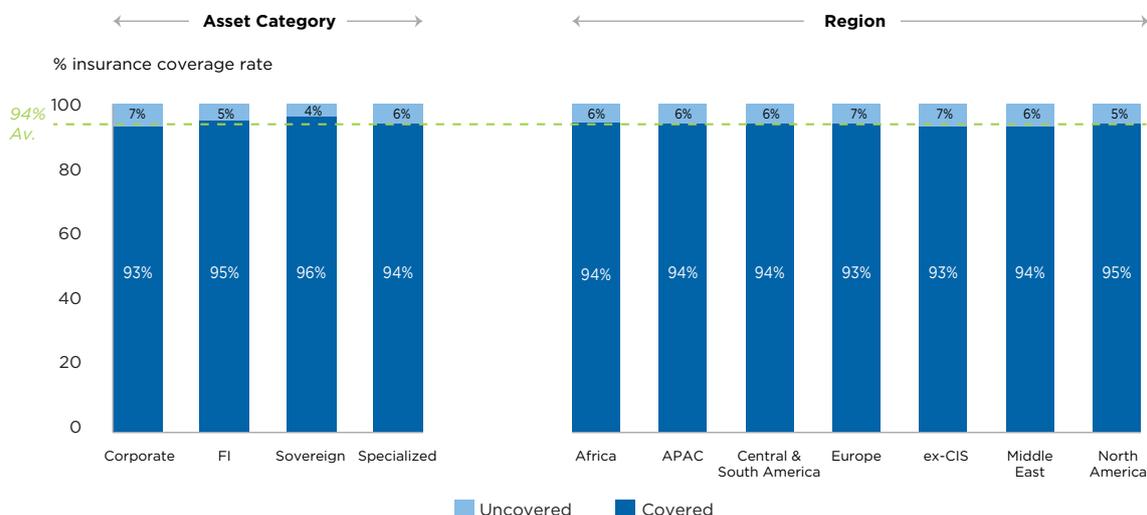
While the average level of cover in our data from 2007–2016 is 94%, the level of cover does vary slightly across products and regions (Figure 39). For Sovereign obligors, the rate of cover is the rate of cover of the political risk because they do not present a commercial risk. For other obligors, comprehensive cover is considered to reflect the portion of the transaction covered for both political and commercial risks. Observing the regional differences, Europe and ex-CIS²¹ sit slightly below the average at 93%, while all other regions are at or above the average.

If an obligor ultimately makes good on its obligations, the recoveries, the recoveries are shared between the bank and the ECAs in proportion to their uncovered and covered portions, as the ECA is subrogated in the rights of the bank after indemnification.

21. Ex-CIS (Commonwealth of Independent States) countries: Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Turkmenistan, Ukraine, Uzbekistan.

FIGURE 39:

Average ECA Insurance Coverage Rate by Asset Category and Region, 2007-2016



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

Observed Average Maturity

Export Finance products have significantly longer maturities than Trade Finance products. While the unweighted average tenor is relatively similar across the Export Finance products, there are some distinct skews. Similar to last year, 46% of all products have an original maturity of 10-15 years, and a further 9% have maturities of 15 years or longer (Figure 40). Financial Institutions (FI) have the widest spread of maturities, with 22% of products maturing within five years, and 17% maturing in 15 years or longer.

Sovereign assets and Specialised assets tend to be skewed to longer maturities, with greater than 70% of exposures maturing in 10 years or longer across both asset classes. Corporate assets tend to be in the middle of the range – 81% of transactions mature between five and 15 years.

As with last year, the exposure-weighted average tenor is longer than the transaction-weighted average tenor, suggesting larger transactions continue to have longer maturities than smaller transactions on average.

FIGURE 40:

Average Maturity by Asset Category, 2007-2016

Asset Category	5 years or less	5 - 10 years	10 - 15 years	15 years or more	Transaction Weighted Average Tenor	Exposure Weighted Average Tenor
Corporate	13%	39%	43%	5%	9.9	11.7
FI	22%	37%	23%	17%	10.1	11.5
Sovereign	3%	26%	55%	16%	12.4	12.8
Specialised	2%	21%	72%	4%	11.7	12.0
Total	12%	33%	46%	9%	11.0	12.0

Trends in Default Rates

Following the trend from 2015, default rates gradually rose in 2016 across obligors, exposures, and transactions. Obligor defaults are up from 0.90% in 2015 to 0.95% in 2016, exposure defaults are up from 0.44% in 2015 to 0.50% in 2016, and transaction defaults are up from 0.76% in 2015 to 0.82% in 2016 (Figure 41).

Across asset categories, Sovereign defaults have experienced the greatest increase in 2016, while Corporate and Specialised assets also show slight growth. Sovereign obligor-

weighted defaults have jumped significantly from 0.26% from 2007–2015 to 0.43% in 2007–2016, driven by a single idiosyncratic situation that impacted multiple banks, related to one African Government. While negative macro-economic factors have caused liquidity issues in this country, these debt obligations are expected to be honoured in 2018 after it received loans in 2017 from the IMF and African Development Bank.

FI assets, conversely, have seen a slight decrease in default rates across obligors, exposures, and transactions.

FIGURE 41:

Asset Category Export Finance Defaults by Obligor, Transaction and Exposure, 2007-2016 (vs. 2007-2015)

Asset Category	Defaults by Obligor		Defaults by Exposure		Defaults by Transaction	
	2007-2015	2007-2016	2007-2015	2007-2016	2007-2015	2007-2016
Corporate	0.96%	1.03%	0.45%	0.55%	0.79%	0.84%
Financial Institutions	1.41%	1.37%	1.24%	1.17%	1.43%	1.36%
Sovereign	0.26%	0.43%	0.07%	0.14%	0.14%	0.30%
Specialised	0.56%	0.60%	0.42%	0.43%	0.55%	0.67%
Total	0.90%	0.95%	0.44%	0.50%	0.76%	0.82%

Default rate movements were mixed among the regions, with Europe, the Middle East and ex-Commonwealth of Independent States (CIS) seeing slight decreases in defaults, while other regions – particularly the Americas – had varying levels of growth (Figure 42).

FIGURE 42:

Regional Export Finance Defaults by Obligor, Transaction and Exposure, 2007-2016 (vs. 2007-2015)

Asset Category	Defaults by Obligor		Defaults by Exposure		Defaults by Transaction	
	2007-2015	2007-2016	2007-2015	2007-2016	2007-2015	2007-2016
Africa	0.67%	0.89%	0.27%	0.41%	0.56%	0.76%
APAC	0.53%	0.60%	0.34%	0.37%	0.34%	0.39%
Central & South America	0.85%	1.00%	0.17%	0.55%	0.49%	0.62%
Europe	0.57%	0.55%	0.37%	0.34%	0.58%	0.55%
ex-CIS	1.28%	1.23%	1.08%	0.99%	1.30%	1.23%
Middle East	2.64%	2.44%	1.10%	1.01%	2.29%	2.16%
North America	0.07%	0.47%	0.04%	0.11%	0.07%	0.56%
Total	0.90%	0.95%	0.44%	0.50%	0.76%	0.82%

North America saw the most significant growth of these regions, with obligor-weighted defaults jumping from 0.07% from 2007-2015 to 0.47% in 2007-2016. These defaults came from Canada, but while obligor defaults are up significantly, exposure-weighted defaults have only moved from 0.04% to 0.11% in that time period. This suggests that despite the increased volume of defaults, the size of the defaults has been relatively small. North American default rates overall remain well below the global average.

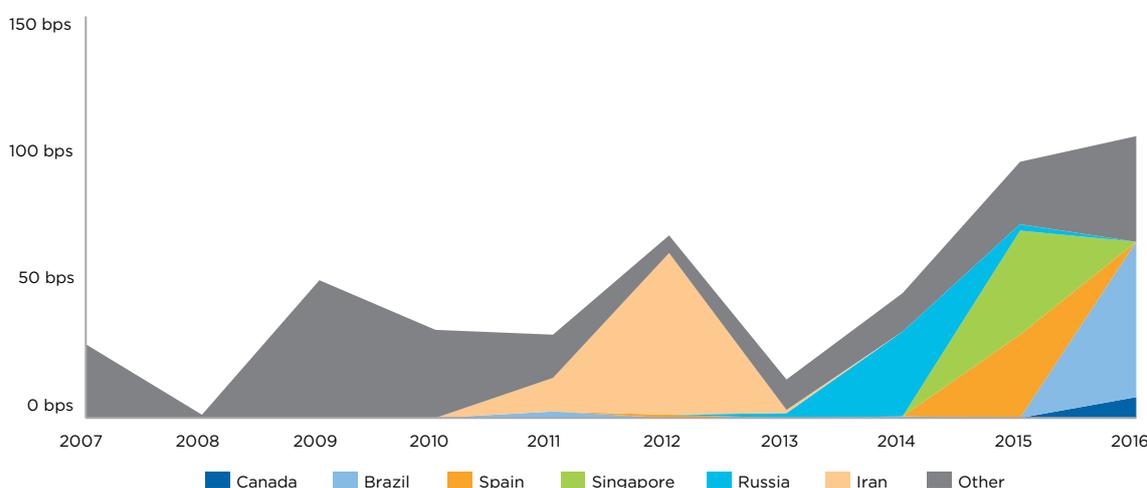
In Central and South America, obligor default rates have grown from 0.85% in 2007-2015 to 1.00% in 2007-2016, supported by even

greater growth in exposure-weighted defaults (up from 0.17% to 0.55%). This suggests the additional defaults are of a reasonable size. This exposure-weighted default growth has been driven exclusively by defaults in Brazil.

Defaults tend to vary significantly by region from year to year, most likely because many defaults are driven by idiosyncratic shocks such as political conflicts and sanctions (Figure 43). ECA-backed trade transactions frequently involve higher-risk markets, including those with idiosyncratic characteristics, which makes this finding unsurprising.

FIGURE 43:

Export Finance Exposure-Weighted Default Rates by Country, 2007-2016



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

Trends in Loss Given Default and Expected Loss Analysis

Observed Recovery Rate

The 2017 Trade Register shows an observed recovery rate of 96.9% for Completed/Accelerated and Partial Completed Cases from 2007–2016 (Figure 44), down slightly from 97.1% in 2007–2015. This year's recovery rate remains well above 95% as ECA recovery amounts include coverage for principal, interest, and costs.

While Figure 44 shows the overall level of recoveries before and after customer recoveries are attributed to the ECA, recoveries are post-attribution in subsequent tables.

FIGURE 44:

Export Finance Observed Recovery, 2007–2016, Pre- and Post-Attribution of Customer Recoveries for ECA Completed/Accelerated and Partial Completed Cases

	Exposure (USD M)	ECA Recovery (USD M)	Customer Recovery (USD M)	Total Recoveries
Pre-attribution of Customer Recoveries	1,413	1,163	208	96.9%
Post-attribution of Customer Recoveries (observed recovery rate)	1,413	1,359	11	96.9%

Loss Given Default

Loss Given Default was calculated using the same approach as in previous years – a discounting and recovery cost approach. This requires a transaction level discounting calculation, and a standard addition of 1.0% to account for the exposure recovery cost.

This year, the LGD was 5.3% for ECA completed/accelerated and partially completed cases (Figure 45), level with last year. Despite the loss rate being slightly higher, it was offset by a slightly shorter time to recovery in 2016.

For completed cases from 2007–2016, the LGD of 3.8% was slightly below last year's LGD of 4.0%. While looking at completed cases strips out recent defaults for which recovery activities haven't been completed, which explains the lower LGD, it also reduces the data from 217 partially completed cases to 80 fully completed transactions.

FIGURE 45:

Recoveries and Estimated LGD for Partially Completed and Fully Completed Cases, 2007–2016

	ECA Recoveries	Customer Recoveries	Total Recoveries	Loss Rate	Dis- counting	Costs	LGD
ECA completed/accelerated and partial completed cases	96.2%	0.8%	96.9%	3.1%	1.3%	1.0%	5.3%
ECA completed and customer completed cases	97.7%	1.7%	99.4%	0.6%	2.2%	1.0%	3.8%

Expected Loss

The EL for ECA completed/accelerated and partially completed ECA cases in 2007–2016 is 0.026% (Figure 46), up slightly from 0.024% in 2007–2015. This is driven mostly by

the exposure weighted customer default rate growing from 0.45% in 2007–2015 to 0.50% in 2007–2016. The EL for fully completed cases is 0.019%, broadly in line with 0.018% last year.

FIGURE 46:

Estimated Expected Loss for Export Finance Products Using Exposure-Weighted Default Rate, 2007–2016

	Exposure-Weighted Customer Default Rate	Exposure at Default	Loss Given Default	Expected Loss
ECA completed/accelerated and partial completed cases	0.50%	100%	5.3%	0.026%
ECA completed and customer completed cases	0.50%	100%	3.8%	0.019%

FIGURE 47:

Estimated Expected Loss for Export Finance Products Using Obligor-Weighted Default Rate, 2007–2016

	Obligor-Weighted Customer Default Rate	Exposure at Default	Loss Given Default ²²	Expected Loss
ECA completed/accelerated and partial completed cases	0.95%	100%	5.3%	0.051%
ECA completed and customer completed cases	0.95%	100%	3.8%	0.036%

22. These LGD numbers are exposure-weighted, as per Figure 46. See Appendix A, Report Limitations for further details.

As we saw in Trade Finance products, obligor-weighted ELs are higher than exposure-weighted ELs, as a result of the higher obligor-weighted default rate. As in Trade Finance, exposure-weighted data gives more weight to larger, and therefore typically better rated obligors, resulting in a lower default rate on average.

CASE STUDY:

THE EVOLUTION OF THE ECA WORLD

Henri d'Ambrières, Manager, HDA Conseil

In the 1990s, the Export Credit Agency world was an exclusive club of public Export Credit Agencies (or ECAs) established in some rich OECD countries. Their long-term activities were mostly focused on supporting exporters through Export Credits.

Over the last 15 years, this world has changed dramatically for two different reasons:

- The emergence of new players, mostly in developing countries
- Globalisation, which makes it more difficult to fully source one project in one country

The emergence of new ECA players

The first ECA (ECGD, now known as UKEF) is almost 100 years old. Other ECAs were created over the following decades in several OECD countries. At their inception, their activities were mostly focused on short-term covers but they entered gradually into longer-term activities. The first G7 summit, held in 1976, agreed on a Consensus to bring order to official export financing, with a focus on interest rate subsidies. In 1978 this Consensus became the first Arrangement on officially supported Export Credits. It was ratified by 12 OECD participants (Australia, Canada, the EU-9, Finland, Greece, Japan, Norway, Portugal, Spain, Sweden, Switzerland and the US).

New Zealand and South Korea (which was a developing country in the 1950s but joined the OECD in 1996 and is now the world's eleventh largest economy) became later participants to the Arrangement. On the other hand, after several European countries joined the EU-28, the Arrangement now has nine participants in 2017. In another change, the United Kingdom may become the tenth participant in the future. And since 2011, Brazil has also been a party to the Sub-Agreement on civil aircrafts (also called ASU for Aircrafts Sub-Agreement).

However, several countries that support their exporters with long-term export credits do not participate in the Arrangement. Some are OECD members which did not join the Arrangement (e.g. Turkey, Mexico). Other countries are not members of the OECD and have old ECAs, such as Malaysia with the MECIB established in 1977, or large ECAs in China, India, Russia or South Africa. The International Working Group on Export Credit (IWG), including the nine participants to the Arrangement and nine other countries (China, Brazil, India, Indonesia, Israel, Malaysia, the Russian Federation, South Africa and Turkey), was created in 2012 to enlarge the Arrangement. However, at this stage there is no sign that an agreement might be reached to define a more global framework applying to more exporting countries.

One reason in favour of an agreement is the recognition of the Arrangement by the WTO. In 1995, the WTO Agreement on Subsidies and Countervailing Measures mentioned that any country that complies with the Arrangement's provisions would not be subject to WTO prohibitions on export credits.

On the contrary, some countries question the need to adopt rules designed by developed countries to manage internal competition.

The ECAs of the OECD countries often consider that their role is contra-cyclical; they close market gaps when they appear and then they have to disappear. Hence, they were very active from 2007 until 2012, but their role has declined since then. In addition, a special agreement for aircraft (ASU) led to a dramatic reduction of export credits in this segment. As wished by the ECAs, new export credits for aircraft went from USD 30 billion in 2012 to USD 9 billion in 2016. At the same time, other ECAs see export credits as commercial tools to help their exporters win contracts.

Some other players also began to appear in the insurance of long-term trade loans:

- Multilaterals insurers: MIGA was created in 1988 by the World Bank. Since then, other development banks or multilateral organisations created have similar vehicles such as ICIEC, ATI or Afreximbank. They often use private insurers to syndicate their risks.
- Private insurers: For many years, private insurers have offered long-term political covers. This market has developed dramatically over the last two decades. Private insurers mostly proposed political covers, which were accepted by some regulators as a good tool to reduce ex-ante provisions; they appeared inefficient when some private borrowers defaulted for commercial reasons after political turmoil (as in Argentina in 2002). Today, the private market offers comprehensive covers for larger amounts and longer durations, and has developed to help national ECAs and multilateral in the management of their exposures.

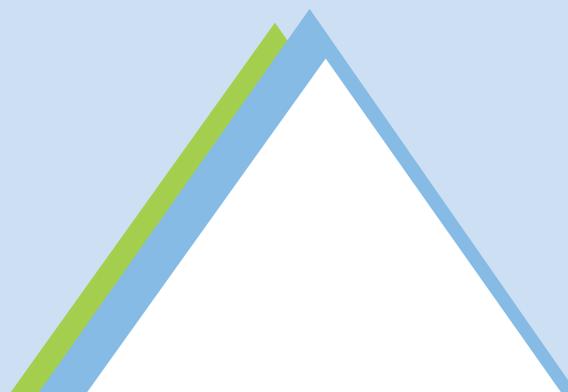
Globalisation

In the 1970s, many similar equipment goods were produced on limited scales in many countries. The creation of large industrial groups then led some plants to specialise in the production of equipment for large markets beyond domestic ones, especially in free-trade zones such as the EU, NAFTA or ASEAN. At the same time, supply chains were modified.

Some countries with limited natural resources considered the need to secure their raw materials supplies. Service providers that were mostly active in their home countries also became more active abroad.

For these reasons, some ECAs decided to adapt their scope of activity by:

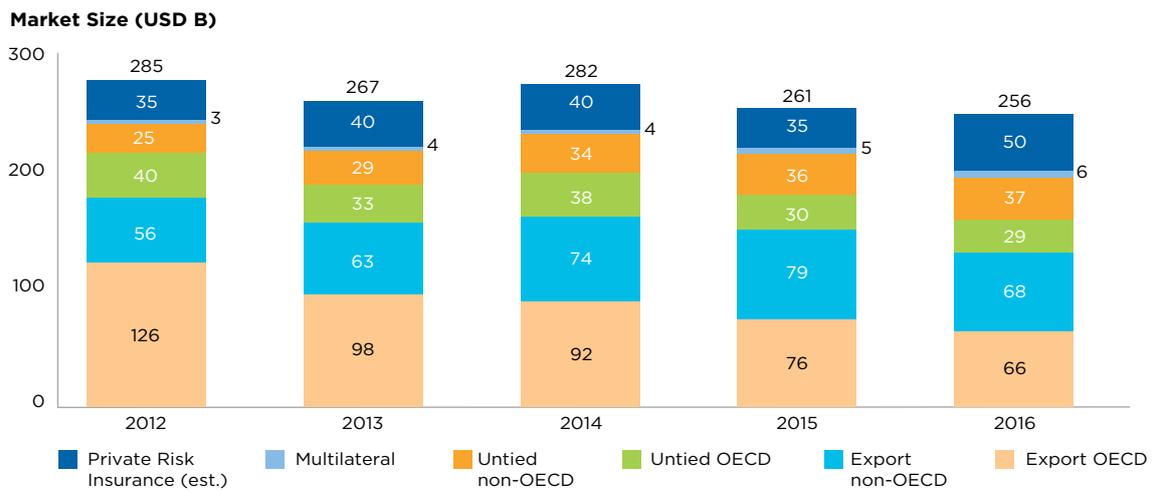
- Promoting the “made by” instead of the “made in”. The national interest, which justifies the intervention of an ECA, was no longer focused on the production of equipment in a country and its exports, but to support a domestic company to develop its own know-how and produce research, services and/or equipment.
- Supporting national investors that secure the supply of critical natural resources or the dissemination of a domestic technology. This explains the development of untied loans linked to the development of LNG projects or Independent Power Plants (IPPs).



Multilaterals and private insurers support investments, which are often linked to importations, not export contracts. Hence, it might become more and more complicated to differentiate between support for exportations and foreign investments.

These evolutions are shown in data published by the Berne Union, the US Exim's Competitiveness Report, and by insurers themselves, on insurance market activity in medium and long-term covers of Trade Flows related to capital goods and linked services.

FIGURE 48:
Export Finance Trade and Investment Insurances Market Size (USD B), 2012-2016



Source: Berne Union, US Exim Competitiveness Report

Based on this data (Figure 48), it appears that:

- The global market of insurances linked to foreign trade has probably declined by USD -29 billion or 10% in five years (from USD 285 billion to USD 256 billion)
- This trend is driven by reduced support for export contracts (USD -48 billion)
- The market share of OECD ECAs has declined dramatically (from 58% to 37%), far beyond the reduction of the aircraft segment. Their Untied Covers now represent 30% of their activity
- The market share of non-OECD ECAs has increased as a result, though to a lesser extent (from 28% to 41%)
- Private risk insurers have almost doubled their market share (from 12% to 20%), although part of this increase is linked to reinsurance for public players
- Multilateral agencies remain marginal players (2-3%)

These findings may have practical consequences for the scope of the Export Finance section of the Trade Finance Register. To remain accurate, an extension of its scope beyond the Export Credits covered by ECAs governed by the OECD Arrangement to those covered by non-OECD ECAs, and other Medium and Long-Term activities of the ECAs, such as Investment covers, might be required.

REGULATORY ENVIRONMENT

FEATURE:

Basel III Finalisation

Krishnan Ramadurai, Chair, ICC Trade Register Project

Case for Change

The Basel III reforms build on the initial Basel III package and are being introduced to further address specific weaknesses in the pre-crisis Basel Framework. In summary, the two key rationales for the changes are to:

- Address weaknesses in the framework driven by wide variations in reported risk-weighted assets, which make it challenging to compare capital ratios across banks and raise questions about their consistency
- Reduce existing incentives for banks to minimise risk weights when using internal models, and restrict modelling choices for low-default portfolios

Changes proposed

The Basel III reforms are intended to resolve these issues by simplifying and/or standardising banks' risk calculation methods to reduce variations and promote comparability. To achieve this, the Basel III reforms propose five levers that have an impact on Trade Finance products:²³

1. Standardised Approach for Credit Risk

(SA): SA has been updated to be more granular and risk sensitive by providing more detailed differentiation between risk factors; for example, residential mortgages have moved from a flat rate of 35% to being weighted depending on their loan-to-value ratio. By making categorisation more specific and granular, the reforms are expected to support increased risk sensitivity from SA. In addition, this change will effectively minimise variance in risk weights applied by banks across the different reporting regimes. Banks are also now required to conduct a greater level of due diligence in their internal risk assessments to reduce reliance on external credit ratings, and use this risk

assessment approach in jurisdictions where external credit ratings are not available or individual institutions are not rated. Further detail is in Appendix D, Figures 78-86.

2. Internal ratings-based approaches

for credit risk: In conjunction with improvements to SA, updates to the framework limit the use of internal ratings-based (IRB) approaches; whereas SA is available for all asset classes, the usage of IRB has been constrained for some. For example, IRB can no longer be used to measure credit risk for equities, making SA the only method available. Retail lending, SME, mid-sized corporates²⁴ and specialised lending are now the only assets where IRB-A can be used, while larger corporates and banks can still benefit from internal PD models as they can use the Foundation IRB approach. The revised framework also introduces 'input floors' for Probability of Default (PD), Loss Given Default (LGD) and Exposure-At-Default (EAD) values supporting further alignment across methodologies. Further detail is in Appendix D, Figure 85.

3. Operational Risk Framework: The Operational Risk Framework has been simplified by replacing the four current approaches with a single standardised approach where the capital charge is a function of size and operational losses incurred over the last ten years. This approach should better reflect the scale of misconduct, miss-selling, money laundering, and sanction penalties incurred after the global financial crisis.

23. A sixth lever covering the CVA Risk Framework is not relevant for Trade Finance as the assets are all banking book assets.

24. Corporates belonging to groups with consolidated revenues <EUR 500 million.

4. **Leverage Ratio Framework:** A further change to the leverage ratio buffer will provide additional control over the build-up of excessive leverage within large Systematically Important Financial Institutions (SIFI). The leverage ratio buffer will be set at 50% of each bank's risk-based capital buffer.
5. **Output Floor:** An output floor will limit the capital benefit from internally modelled RWAs. This is expected to enhance comparability across banks. The revised output floor limits the amount of capital benefit a bank can obtain from its use of internal models at 72.5% relative to the standardised approaches (i.e. the maximum benefit a bank can gain from using internal models is 27.5%). This floor has the benefit of replacing the old Basel I floor which still applies in some jurisdictions and applies across the sum of all RWA from credit, market and operational risk.

Timing of proposed changes

The first four levers (SA, International ratings-based approaches for credit risk, Operational Risk Framework, and Leverage Ratio Framework) will be fully implemented on 1 January 2022.

The fifth lever (Output Floor) will be phased in over a five-year period starting at 50% in 2022, increasing by 5 percentage points each year up to 2026 (reaching 70%), and increasing by 2.5 percentage points in 2027 to finally reach 72.5%.

How will this play out?

It is difficult to assess the impact of Basel III at an industry and bank level. However, it is clear that banks will need to make difficult decisions as the regulatory reforms are challenging, complex and contradictory.

The capital output floor has the potential to reduce incentives to move portfolios to the IRB approach, and for banks currently on the IRB approach, the floor effectively reduces the benefit of the approach. Combined with the changes to the SA and the limitations and constraints placed on IRB options and approaches, IRB use may fall.

Global banks will need to report capital ratios under the IRB approach and the SA (as the SA will set the capital output floor), while simultaneously meeting the norms set out by the annual stress tests and meeting the non-risk based leverage ratio.

The key question here is: which of these ratios/norms is the binding constraint for banks? In the US it is quite clear that the annual stress tests determine the dividends paid and the level of capital ratio maintained. Therefore, logic dictates that the binding constraint will be the stress test combined with the leverage ratio - which is a prime driver for the regulators to take prompt corrective action (PCA) - rather than the regulatory reported ratios. Will banks run their businesses and pricing models using the stress test as the reference point or the reported regulatory ratios? Banks that have the leverage ratio as the binding constraint will have to reconcile this with the regulatory ratios and the stress test. The process is even more complex for big groups with subsidiaries.

The continuation of regulatory PD modelling for banks and the largest corporates, plus the continuation of full AIRB modelling of PD, EAD and LGD for mid corps, SME and specialised lending, underscores the continued demand for high-quality data to support modelling of Trade Finance-specific portfolios. This, in addition to the stronger and improved granularity of SA and demands for greater comparability across RWAs, demonstrates that the valuable data provided by the Trade Register will continue to be highly important.

FEATURE:

IFRS 9 Impairment Provisioning for Trade Finance

Philip Winckle, Executive Director, GCD

Summary

From 1 January 2018, all banks subject to International Financial Reporting Standards (IFRS) accounting standards (i.e. banks in most countries outside the US) will be booking credit loss provisions earlier and often for higher amounts. These banks will need forward-looking models for the credit risk of all credit risk exposures in their banking books, including Trade Finance. The cost of these extra credit provisions affects the banks' profits and pricing, and banks will need to correctly estimate impairments and provisions. Access to an accurate, long-term, detailed data source for Trade Finance defaults and losses – such as the Trade Register – will allow banks to calibrate this cost more smoothly and correctly.

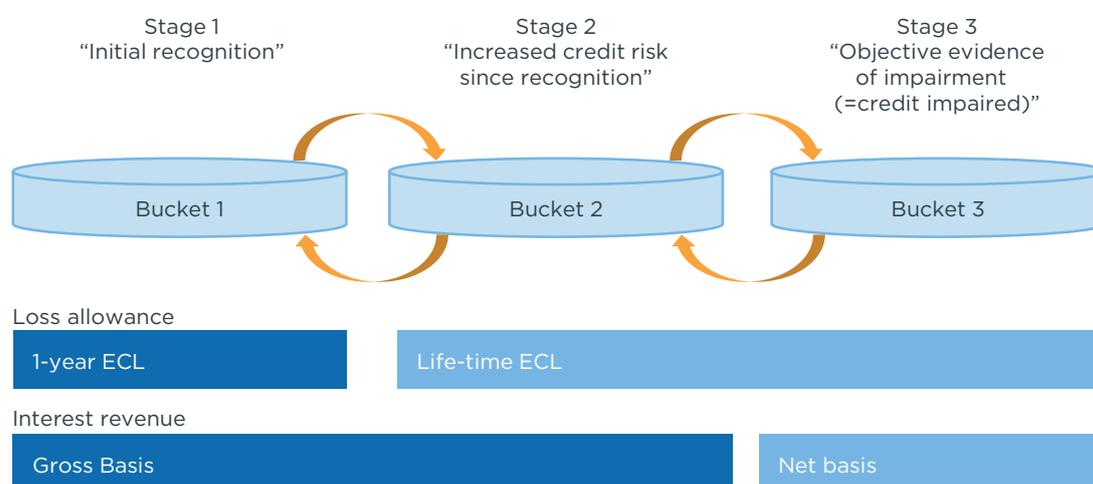
The ICC Trade Register data contains significant information to help banks perform and calibrate their IFRS 9 Impairment Provision modelling for their Trade Finance portfolios; specifically, calibrating their models to reflect the low loss rates which are shown in this Report.

Background

The IFRS Foundation and the International Accounting Standards Board (IASB) issue accounting standards that banks and companies in most countries throughout the world (excluding the US) are required to adopt. IFRS 9 is the standard for financial assets and affects most of the assets held by banks. In particular the assets held in banking books that are held at historical cost – such as loans, Trade Finance obligations – need to be adjusted in value for any 'impairment', which means that the likelihood of full recovery might have diminished. This rule affects all instruments in a bank's book, including contingent obligations such as Letters of Credit, performance bonds, and ECA cover, which might not appear as assets, but in fact are based on the bank taking a credit risk on a customer, another bank or a sovereign-backed ECA.

Banks are required to build models of future impairment and to regularly re-appraise their loan portfolios to make sure that every asset is placed within the correct stage or bucket

FIGURE 49:
Impairment Stages



(Figure 49). Depending on the stage of the asset, the bank might need to make a profit revision for future credit losses and may not be able to accrue interest income until payments have been received.

Lifetime ECL

Once a bank has determined that a loan's credit risk has increased (stage 2), it needs to calculate the 'expected credit loss' for the remaining life of that asset. For short-term Trade Finance, which has a life span of less than 12 months, there is no effective difference between 'lifetime' and 'one year' Expected Loss calculations; however, for longer-term transactions the expected credit loss multiplies quickly and can have a large P&L effect. An example is Performance Guarantees, which can have maturities of five years or more. The cumulative PD over a five-year period is greater than five times the one-year PD; therefore, the effect of moving from stage 1 to stage 2 for any longer-term transaction can be substantial.

Modelling required

IFRS 9 requires banks to model many different elements of the future, based on historical data. These elements include:

- Allocation between stages, based on borrower performance

- One year and lifetime Probabilities of Default (PD)
- One year and lifetime Loss Given Default (LGD)
- One year and lifetime Credit Conversion Factors (CCF), for contingent facilities such as letters of credit or performance bonds
- One year and lifetime drawdown and repayment rates for loans
- Expected Life of a multi-year facility

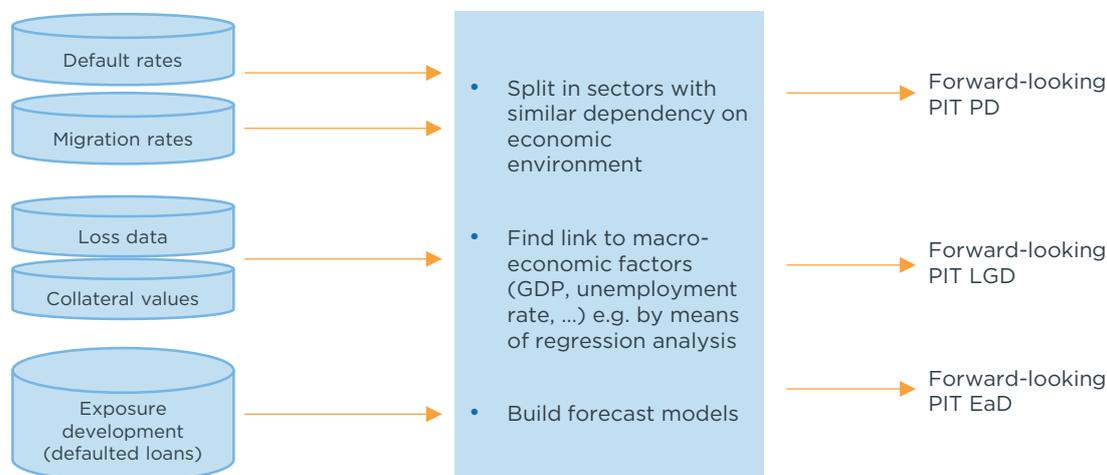
These models can be based on the Basel models already built by banks, but they are often different in important ways and calibrated to best estimate rather than the Basel requirement for conservatism.

Macro-economic alignment

Banks are required to align their IFRS 9 models to future expected macro-economic scenarios (Figure 50), which is also very different from their Basel modelling. Making connections between macro-economic drivers such as GDP change or Oil Prices and credit factors such as Middle Eastern bank default rates is a required element for IFRS 9 models, and their calibration will have a direct effect on the P&L of the bank involved.

FIGURE 50:

Data effects and segmentation



Banks require long time series of historical data to build their various models. The more specific their models, the better they will reflect the portfolios in question. Banks that have access to sufficient Trade Finance data can prove their Expected Loss levels and build this into their IFRS 9 and pricing models. Banks that build less specific models (e.g. covering all corporate products) will mix the losses and costs of Trade Finance with every other facility type, which may have a negative effect on Trade Finance.

Trade Finance products and Supply Chain Financing

While Trade Finance and Supply Chain Financing products are short term by nature, they are part of longer-term customer relationships and will be affected by any change in the perception of future economic conditions. For example, a quarterly adjustment of economic outlook may result in downgrades of customers or banks in a particular region or an increase in expected PD, requiring higher impairment provisioning charges for these products. Banks that can use the historical data to prove the volatility of short-term Trade Finance defaults and losses, and how sensitive (or insensitive) they are to economic cycles, will be able to avoid incorrect assumptions in their models.

Medium- and long-term Export Finance deals

The longer-term types of financing will magnify the effects of the lifetime Expected Credit Loss, which banks must calculate for deals that exhibit increased credit risk (stages 2 and 3). Fortunately, this is offset by the high proportion of sovereign grade ECA backing which is usually taken. It is even more important for banks modelling IFRS 9 impairments to be able to prove the long history of the effectiveness of ECA cover and the true risk of the uncovered parts of these transactions, which ICC Trade Register data can support.

ICC Trade Register direction

The summary statistics in this Report point to the relatively low loss rates and variability of Trade Finance compared to other forms of bank credit risk taking, and the banks performing IFRS 9 modelling require detailed data as an input to their models. The ICC Trade Register is working with our member banks and with Global Credit Data to find a way to return the higher levels of detail for participating banks in the future.

WHAT DOES THIS MEAN FOR INVESTORS?

FEATURE:

Why Trade is an Investable Asset Class – The View From a Current Investor²⁵

Robert Kowitz, Chair, Senior Vice President and Product Specialist, Federated Investors, Inc.

Federated Investors has been investing in bank-intermediated Trade Finance since 2006 with the purchase of individual deals into some of our international bond funds. The performance of these assets during the financial crisis created interest from our domestic fund managers in the asset class.

Our first comingled vehicle was launched in 2009 specifically for the use of our own funds. Our interest in Trade Finance was based on several main factors.

Alpha Source

The structure of the market, mechanics of the market, access to the market, and lack of scalability present significant inefficiencies and create barriers to entry for financial investors. Any true source of alpha is a function of identifying market inefficiency and being able to consistently extract value.

Diversifier

Trade Finance has exhibited a low or negative correlation with major asset classes. In periods of crisis or stress, there is no transmission mechanism between financial assets and Trade Finance. The forced liquidation of assets by financial investors causes them to sell any asset on which there is a bid and correlations among normally uncorrelated assets quickly become perfectly correlated.

Negligible Interest Rate Risk

The self-liquidating floating rate nature of trade deals reduces exposure to interest rate duration and credit duration.

Originate to Hold Model

The Mandated Lead Arranger (MLA) generally retains a significant position and makes money from earned spread. The MLA “skin-in-the game” contrasts with the “originate-to-distribute” model of financial assets such as loans where the dealer makes money on distribution fees.

Value Proposition for Financial Investors

With global interest rates at historically low levels, there is increased demand for floating rate assets.

The continuum of floating rate options ranges from simple floating rate notes out to longer-dated leveraged loans.

The discount margin of the JPMorgan Floating Rate Note Index at the end of November 2017 was 31.37 basis points. According to the S&P Leveraged Loan Quarterly for Q3 2017, the average new issue spreads on BB leveraged loans were 206 basis points for an average maturity of 5.9 years and 351 basis points for single B loans with an average maturity of 6.1 years.

Trade Finance can provide a source of diversification in any allocation to floating rate assets.

A diversified pool of Trade Finance assets may deliver a spread similar to spreads available on leveraged loans with much less exposure to credit duration.

25. Views are as of 2 January, 2018 and are subject to change based on market conditions and other factors. Federated Investment Counseling 18-72770 (1/18).

Assets under Management

PWC estimates that by 2020 the asset management industry will manage between \$100 trillion to \$130 trillion for pension funds, insurance companies, sovereign wealth funds, and high net worth individuals. The current structure of the Trade Finance industry has erected very effective barriers to prevent these funds from investing in this attractive asset.

Conclusion

Federated has presented Trade Finance as a unique asset to sponsors and consultants around the world. Almost without exception we have found little if any familiarity with the asset class. What little is known is often confused with the direct lending and private debt markets.

To access the significant pool of potential investors the industry needs to do a much better job of providing a reliable source of information on the mechanics of the market and how to effectively and efficiently access assets.

The ICC is uniquely positioned to provide a conduit between commercial banks originating deals and financial investors who require a standard set of vocabulary, definitions and asset flow.

LOOKING AHEAD: EVOLUTION OF THE TRADE REGISTER

The ICC Trade Register was launched in 2009 with a clear objective to engage global, regional and national regulators in a fact-based, data-supported dialogue and advocacy process related to the credit risk characteristics of Trade Finance and Export Finance.

The Register is acknowledged by regulatory authorities around the world as a credible source of data.

The methodology and the collected data continue to improve, resulting in a compelling illustration of the robustness, health and favourable credit risk profile of the business.

The direction of the project was assessed at the beginning of 2017 in order to determine how it could create more value for current and future users. The in-depth assessment of the status quo and proposed way forward dated will secure further engagement from our member banks and improve the value they obtain from participating in the project.

Areas for Improvement

During the status quo assessment of the project, the ICC identified various opportunities to improve the project and proposed the following solutions:

- Extend scope as defined by product coverage and by risk category
- Make the data more usable for member bank internal risk modelling purposes
- Continue to enhance data quality and reporting robustness in line with regulatory practice and definitions, and complement this with the much-discussed “practitioner’s view” of the business

Scope expansion

The scope of the Trade Register’s data collection and analysis is limited to certain products, and to the credit-related default and loss experience of these products. The perimeter of the analysis today includes all Trade Finance banking products (Export L/Cs, Import L/Cs, Performance Guarantees and SBL/Cs) as well as Export Finance products. One concrete area of scope expansion, which is already planned for

implementation on a trial basis for 2018, is to include product coverage and data collection of Supply Chain Finance (SCF) – a technique aimed at supporting trade as it increasingly takes place (see ‘Trends in Supply Chain Finance and Open Account’ feature on page 19 for further details).

The Export Finance analysis is currently limited to transactions covered by ECAs from OECD countries. Expansion to cover non-OECD ECAs would be a valuable addition. Sinosure is the most active ECA in China and there is a lot of interest in its activities. Other ECAs (e.g. India, Russia) are also becoming more active, and may warrant inclusion in the future.

Including transactions covered by certain multilaterals would also be an interesting addition to the project, but some care would be needed to maintain consistency and transparency. On a longer-term basis, the private insurance market has suggested expanding the ICC Trade Register scope to include insurance data. Considering the various complexities, careful planning and discussion are necessary.

Greater value for members from a Technical and Internal Banking Perspective

Under Advanced IRB rules, banks can segment their borrower portfolios in as much detail as they like, with the usual practical limitation of the amount of data available. By pooling detailed Trade Finance data using the ICC Trade Register templates, banks can understand their Trade Finance risks in detail, and price and model these risks more accurately.

The ICC Trade Register has already provided sufficient default rate data to allow banks to calibrate the PD scales of Trade Finance portfolios for Guarantee, Import L/Cs and Export L/Cs customers.

To demonstrate the effect of using the Trade Finance default rates obtained in the data collection, we simulated a typical Trade Finance portfolio, modelled as both normal corporate and Trade Finance. The results show that banks with access to detailed

ICC Trade Register PD data may be able to calibrate PD models at lower levels that, allowing for conservatism, may result in an RWA reduction of 10%–35%.

The ICC Trade Register Collection template also contains sufficient fields to calculate specific Trade Finance LGDs and CCFs. As more data is collected in the future, these parameters will continue to improve.

To unlock these benefits for members, data quality needs to improve through controls in the delivery platform. This will allow the ICC Trade Register to return detailed data to delivering banks that can be used in their credit risk modelling. This risk modelling will also help banks to build and calibrate their IFRS 9 models, with a comparable reduction in IFRS 9 reserve charges coming from Bucket 2 and Bucket 3 assets.

Partnership with GCD and enhancement of data gathering infrastructure

The ICC Trade Register project leadership concluded that the previously explained membership benefit enhancements cannot be provided with the current data collection infrastructure. Therefore, in Q3 of 2017 the ICC signed a partnership agreement with Global Credit Data (GCD), a global bank credit data consortium and partner of this project. The objectives of this agreement are to:

1. Establish a common process to improve the quality and efficiency of the ICC Trade Register data-gathering, its tools and templates, and analytics procedures; and then
2. Execute the joint data-gathering process in a more effective manner

In the coming months the ICC and GCD will plan, develop and implement new data collection infrastructure and processes to increase the efficiency and quality of data output and analytics. The final output and deliverables will be an enhanced and more detailed set of data that allows for peer benchmark analytics and a valuable data return for our member banks.

The Trade Register was initially designed to be a relatively focused initiative to support the ICC's regulatory advocacy campaign, but since its launch it has continually evolved to enhance its relevance to the market. Expanding the scope to cover additional products, improving the quality of data and usability for internal modelling purposes, and returning detailed data to members via an improved platform will ensure that the Trade Register continues to be an increasingly valuable source of information for the industry.

CONCLUSIONS

Trade Finance and Export Finance are essential to the global economy, as they provide low-risk financing methods across a range of maturities for importers and exporters who are often transacting with unknown and distant counterparties. In addition, Trade Finance and Export Finance are significant transaction banking products, providing considerable revenue pools for global and regional banks.

Given the importance and complexity of these products, the ICC Trade Register plays an important role in providing up-to-date, accurate and detailed information on the products' risk profiles and industry trends. Its data-driven approach provides an objective and transparent view of the credit-related risk profile and characteristics of Trade Finance and Export Finance. As a result, the Trade Register findings are essential for informing policy and regulatory decisions, and broadening the awareness and understanding of the risk and regulation associated with Trade Finance and Export Finance.

The 2017 findings show that both Trade Finance and Export Finance remain low-risk products for banks. Trade Finance default rates have broadly declined in 2016 and maturities remain short. Expected Loss percentages remain below comparable asset classes such as corporate and SME lending. While Export Finance default rates have increased slightly in 2017, Export Finance continues to be very low risk, particularly when considering fully completed recovery cases. Any significant default events are isolated and idiosyncratic.

As in the past, the Trade Register continues to be a valuable source of information for compliance and regulation. For instance, the low credit risks presented in this Report will be a valuable input for banks as they adhere to new IFRS 9 regulations regarding credit loss provisions.

In the context of the Basel III final rules, the Trade Register continues to be important for strengthening and improving the granularity of the standardised approach, and the continuation of regulatory Probability of Default modelling for banks and large corporates.

The Trade Register is constantly evolving to improve the value it delivers to industry participants by enhancing data quality and methodology to make the data more useful for internal risk modelling, and keeping aligned with regulatory practice.

To reflect the changing nature of Trade, Supply Chain Finance will be included in the scope of the 2018 Trade Register Report, and non-OECD ECAs and transactions covered by certain multi-laterals will continue to be discussed. New data gathering infrastructure will also be rolled out, including a data return to allow peer benchmarking analytics.

The ICC Trade Register, with 22 member banks, continues to operate as the only authoritative source of credit risk and default data in Trade Finance and Export Finance, and its relevance to industry will continue to be significant.



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APPENDIX A: APPROACH TO ANALYSIS

Report Limitations

- **Data quality and completeness:** The ICC collects data from member banks at the most granular level of detail, resulting in large numbers of fields for each transaction and many thousands or hundreds of thousands of transactions per bank. This volume of data is therefore large and complex. To reduce input errors, we take great care to validate and review the data, and to apply consistent definitions across banks.

For example: the number and percentage of defaulted obligors per facility type per year is compared between each bank to look for outliers. If a bank's initial input data suggests a default rate outside of a normal range or inconsistent with its prior year's input, then we discuss this with the bank involved to ensure that the data input is both complete and accurate.

The size of the data helps to reduce the effect of any small errors, while the complexity allows us to cross-validate the numerous averages to check consistency. No database of this size will be error-free, so the aggregates and averages per year and per product provide a good approximation.

- **Comparability of results:** The ability to compare results between years is affected by improvements to the methodology and new participants to the Trade Register. In some cases the underlying data sample may differ between analyses as some banks have not contributed to all years.
- **Consistency of definition of default:** The bank-declared defaults contributed to this database are in line with Basel methodology, in which defaults are counted whenever an obligor is declared as "in default" by the reporting bank. The definitions prescribed require the bank to identify not only borrowers with overdue payments of 90 days or more but also other borrowers judged by the bank as "unlikely to pay". This element of judgement will always result in a difference between banks; for example, one contributing bank may regard a certain importer bank as "unlikely to pay" and default it due to political unrest in

the importer bank's home country, while another bank may have a different political or economic interpretation of the events and not default it.

Furthermore, differences in default recognition can arise from setting divergent materiality levels for overdue payments (e.g. very small amounts are not regarded as causing a default). Bank regulators have set very different minimum thresholds, which can affect the recognition of defaulted counterparties substantially.

Finally, the definition of a "technical default" varies widely between regulators. For example, one bank may be required to briefly declare that an otherwise sound borrower is in default due to a mistaken mis-booking of a payment, overlooked for 90 days, while another regulator may allow a similar event to be ignored for default counting purposes.

As a result, the Trade Register reports of defaults includes many cases where the borrower restored the position quickly and no loss was incurred by the bank. For this reason, care should be taken not to interpret a certain default rate as a loss rate.

- **Potential double-counting of defaults:** In the current methodology, if an obligor defaults across one country, product or transaction, it is assumed that they default across all countries (where they have business), products and transactions. This conservative approach is also driven by confidentiality, which prevents banks from disclosing names (or LEIs) of obligors in default. This means that: (i) summing the defaults in each country will slightly overstate the true global total number of defaults; but that (ii) obligor and transaction default rates will be correct as both the numerator of defaults and denominator of all transactions and obligors are proportionally increased.
- **Obligor-weighted Expected Loss:** Due to limitations of obligor-level recovery data provided by some members, obligor-weighted EL is calculated using exposure-weighted LGD.

The data template for the Trade Finance Trade Register comprises sections covering non-defaulted transactions and borrowers in aggregate (used for default rates), and sections covering detailed reporting of defaulted cases which are used for recovery rate analysis and CCF analysis. For the detailed recovery rate data, each bank has a different ability to provide the granular data requested (e.g. a higher level of detail for workouts of these defaults), while for the aggregated statistics used in the default analysis, banks were able to provide most of the aggregated data for non-defaulted obligors. Transaction count data has been included to increase the Trade Finance data available across regions and products for obligors and exposures. Given the changes in sample size, improvements in data collection processes made by individual banks and their differing ability to provide granular level data, some degree of caution must be exercised when comparing default and recovery rates. Sample sizes of obligors, exposures, and transactions are shown in Figures 52 and 53.

Trade Finance

Default Rate

Banks may treat default as a product-specific phenomenon, meaning that a customer can be in default on one product but not another. Under Basel II, however, banks are supposed to take an “obligor default perspective”, meaning that if a customer defaults on any product, then all the customer’s products held with the bank should be deemed in default. For example, if an Import L/C customer defaults on a loan, then its L/C is also deemed to be in default even if the customer has met all its obligations under the L/C. The ICC Trade Register uses the Basel II definition of default.

Banks were asked for information on how many customers had a Trade Finance product when they entered Basel default. Using this obligor default perspective gives a higher default rate, but a lower loss given default (LGD), than a transaction-specific perspective.

Exposure at Default

Exposure at Default (EAD) measures a bank’s exposure to a counterparty at the time of default. It is defined as the gross exposure, including an estimate of undrawn or unutilised facilities. L/C and Performance Guarantee exposures are contingent on an act that must be performed before the exposure is created. For example, trade documentation must be presented and accepted to trigger a valid claim under an L/C.

Once the contingent event has occurred, the bank will attempt to pay the required balance from their customer’s account. If the customer’s account has insufficient funds to cover the balance, the bank will pay the remaining balance from its own funds. The contingent liability has then been converted into an (on-balance sheet) exposure for the bank.

In many cases, the amount requested for payment of the default is lower than the limit on a facility over the course of a transaction’s lifecycle. This occurs where a reduction in volumes reduces the total exposure level, as in the case of a partial shipment under an L/C. A total exposure often comes by way of multiple transactions. For example, a customer may have a limit and contingent exposure of USD 900,000, but typically purchases goods of up to USD 300,000 each, meaning that the EAD might be considerably less than the whole USD 900,000.

EAD plays a major role in Expected Loss (EL) calculations. However, there is an ongoing industry debate about whether the potential events described above should be taken into account in the EAD or LGD component of the calculation by means of Credit Conversion Factors (CCFs).

It is difficult to determine accurate EAD figures across banks. Efforts to gather this information on a consistent basis across the sample are at an early stage. One obstacle is that many jurisdictions require exposures for defaulted obligors to be consolidated under one account, which eliminates the granular information required for the calculations. To deliver this data, banks would need to track

transactions through their lifecycles, which some banks could do only manually and others not at all. Many banks collect data on performing and non-performing credits in separate systems of books, which creates another obstacle for analysing pre- and post-default exposures.

Given these data limitations, a CCF of 100% has been used in this Report to estimate an EAD figure for Import L/Cs, Export L/Cs and Loans for Import/Export. The Project intends to continue building the database over the coming years to calculate a robust CCF for these products.

The CCF is particularly important for Performance Guarantees. These instruments exist primarily to protect against unforeseen outcomes, such as non-performance or performance below the standards agreed, and only a small claim rate is expected. As with L/Cs, the Trade Register has been collecting data since 2013 to better determine CCFs for Performance Guarantees. While data points remain few, sufficient observations were available to calculate a claim rate (and therefore assumed CCF) of 7.6% (Figure 51), with observations from individual banks in the range of 0% to 34%. The 7.6% figure does not mean that in all cases the customer defaulted

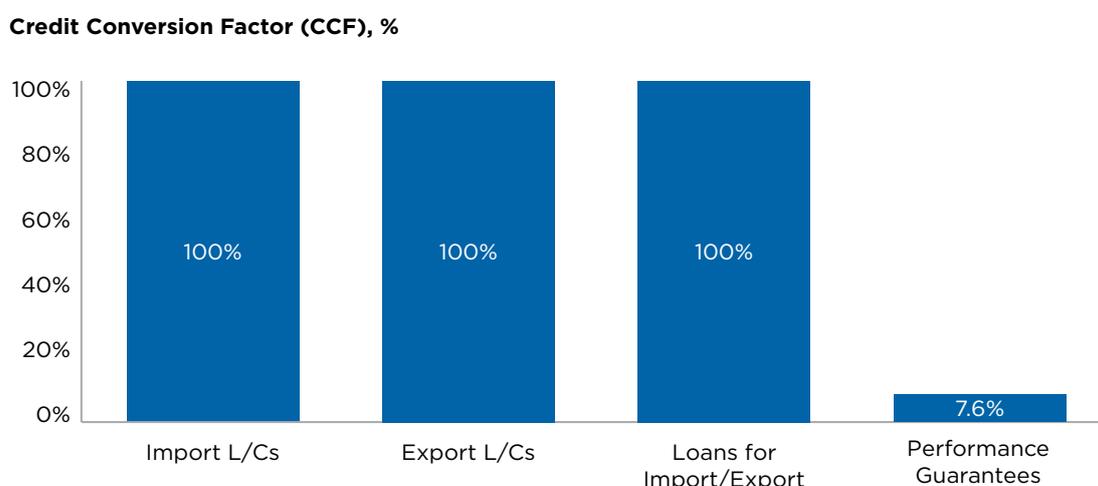
on its obligations to the bank. In many cases, the transaction is settled from the customer's account, but current data does not allow us to estimate how much is paid from the client's versus the bank's account

As per the ongoing debate, this 7.6% claim rate can be applied to either EAD or LGD calculations. Technically speaking, in the case of a claim, the true EAD is likely to be the outstanding exposure value of the Performance Guarantee (presumably higher than 7.6% of the limit), and therefore the Trade Register's historical methodology of applying the claim rate to EAD is incorrect. The more correct alternative would be to apply this 7.6% to LGD, and assume EAD to be 100% as done so for L/Cs and Loans for Import/Export. Of the Member Bank representatives surveyed, 75% preferred this approach.

Both methodologies derive the same EL result, which means there is limited impact from changing approach. For consistency both methodologies are used in this Report.

The following CCFs have been used to reflect EAD for Trade Finance products in this Report:

FIGURE 51:
Assumed CCFs by Trade Finance Product



Source: ICC Trade Register 2017.

Loss Given Default and Expected Loss

Loss Given Default (LGD) measures the loss incurred by a bank in relation to the overall exposure of the bank at the time an obligor defaults. Under Basel rules, this should be the net present value of recoveries discounted at an appropriate discount rate and should include direct and indirect costs associated with recovering the bank's money.

Basel requires that "the definition of loss used in estimating LGD is economic loss. When measuring economic loss, all relevant factors should be taken into account. This must include material discount effects and material direct and indirect costs associated with collecting on the exposure". As a result, LGD is made up of three key components:

- Observed recovery rates, as a percentage of the Exposure at Default (EAD)
- Direct and indirect costs incurred in the recovery process, which are deducted from the recoveries
- Discounting of any post-default cash flows using an appropriate discount rate

Calculating Expected Losses (EL) requires transaction-level data from banks, which limits the data points available for analysis. As a result, EL cannot be broken down by region and country, as was done for default rates. For recovery rates in particular, acquiring sufficient data points to estimate recovery rates accurately continues to be a challenge for the Trade Register, and large one-off events can skew overall patterns.

Benchmarking: Comparison of Trade Finance to other Asset Classes

The benchmarks/comparisons between Trade Finance and other Asset Classes used in this Report bring together data from different databases to make a very high-level comparison of observed loss statistics by product and borrower types.

When using this data, please apply the following caveats:

1. The ICC Trade Register data for Trade Finance and the Global Credit Data (GCD) data for other Asset Classes (or "Other Products") are based on separate data pools for default rate and Loss Given Default (LGD), meaning that the

underlying data effectively comes from four different data pools. Each pool is supplied by an overlapping but not perfectly consistent set of lenders.

2. For each of the Trade Finance and Other Products pools, the defaulted borrowers in the default rate calculation are not completely consistent with the defaulted borrowers used in the LGD calculation.
3. The Trade Finance default rate and LGD data is all exposure-weighted, meaning that it reflects more the larger sized transactions. The GCD comparative Other Products data is obligor-weighted for default rates and LGD, meaning the more numerous smaller sized transactions receive greater weighting.
4. The discount rate for LGD has been applied at a consistent 9%.
5. The data series cover different dates. The ICC Trade Finance data comes from 2008 to 2016 and the GCD Other Products data comes from 2000 to 2015 for probability of default (PD) and from 2000 to 2013 for the LGD.
6. Borrower size, borrower industry and country profile differ between the Trade Finance and Other Products data pools.
7. The data templates differ between ICC Trade Register and GCD. The ICC Trade Register LGD collection of short-term data receives exposure amounts at the time of default and the final loss or recovery, meaning that the recoveries are delivered net and aggregated before discounting. GCD collects detailed cash flows tagged by date and source and uses this to compute a discounted recovery rate and LGD.

Numerous choices of data selection and methodology have been made in the calculation of default rates and LGDs, and the choices are not necessarily consistent between each of the data pools. For example, post default advances in LGD from the GCD data pool has been added back to the exposure at default, which has not been done within the Trade Finance data pool. Both methods are valid and many other possibilities exist.

Credit Conversion Factors (CCFs)

The Credit Conversion Factor (CCF), which estimates the likelihood of an undrawn trade facility being drawn down, and is a key input in the calculation of Exposure at Default (EAD). CCFs are also applicable to both funded and unfunded trade products. Additionally, CCFs are used as a proxy to estimate the on balance sheet exposure of contingent liabilities (e.g. L/Cs and performance guarantees). In practical terms:

- For an Import L/C, the CCF is an estimate of the likelihood of an L/C becoming an on-balance sheet liability; when the Import L/C does become an on-balance sheet liability, it becomes a Bill Receivable for a Sight L/C and a Deferred Payment Bill for a User's L/C.
- For a Performance Guarantee, the CCF could be used to reflect the likelihood of a claim being made and being paid out against the Performance Guarantee

As noted in previous ICC Trade Registers, the definition of CCF in the Basel framework is open to interpretation and has led to different interpretations by regulators and institutions. This presents a key challenge as: a) the CCF is a critical factor in calculating risk capital and leverage exposure for a bank; and b) in the case of default, the CCF is a key driver in the loss calculation through EAD.

The following areas of ambiguity make a statistically sound analysis of the CCF, which is one of the aims of the Trade Register, challenging for now:

- As EAD is recorded on facility level, aggregating across undrawn proportions of, for example, overdraft lines, guarantees, documentary credit, isolating the EAD data of a specific Trade Finance product is difficult for most banks

- The lifecycle of a documentary trade transaction, and the document processing and checking steps and their results, has a significant impact on whether a claim does or doesn't exist on the level of the Trade Finance product when the obligor defaults. For example, if documents were rejected as not compliant before a default, a claim on the Trade Finance product could not be constituted
- Estimates of EAD in Trade Finance are interpreted in two ways:
 - If a successful claim is never made against a product, and no money is ever paid by the bank, it should be reflected in a lower EAD throughout the transaction life cycle
 - If a customer defaults, there is outstanding exposure for the bank and EAD should equal 100%. Other factors should be reflected in the LGD itself.

Both these approaches result in the same expected loss.

For a precise CCF calculation, transaction/product level data is critical to reconcile the transaction lifecycle of a Trade Finance product. The ICC Trade Register Project is looking at collecting this data in the future. Given the practical challenges in reporting data consistently on product level and across the full lifecycle (including the pre-default and post-default periods), only very few banks have been able to provide data in the required format. As a result, the Trade Register uses assumed CCFs across products.

Export Finance

Observed average maturity

The maturity describes the amount of time remaining before a transaction expires, not the total maturity of the contract upon its initial issuance. The Trade Register Report shows the distribution of maturities across the entire sample, and a comparison of the transaction average and the exposure weighted average. These calculations are made over the entire sample of transactions for which maturity values were submitted.

Default rate

The data underlying the analysis of the Export Finance Trade Register is collected at the transaction level, and banks are asked to provide both unique customer and transaction IDs. As a result, consistent transaction-level and customer-level Default Rates can be calculated for closer alignment to the Basel methodology. All transactions are reported by four major asset categories – Corporate, FI, Sovereign and Specialised – to highlight the differences in risk profile.

Given that Export Finance transactions typically span 10–15 years, and banks report data to the Export Finance Trade Register on an annual basis, any individual transaction is likely to appear in multiple years. However, as Basel Default Rate measures are based on a 12-month outcome window (as opposed to a transaction or customer lifetime perspective), different methodologies can be applied to arrive at these metrics. In short, the Default Rates presented in this Report are annual averages over 2008–2016; the sum of the number of defaults across all years is divided by the sum of total transactions in each year. Defaults are only counted in the year that they occur and are excluded from the total transaction count in subsequent years.

Three different default rates (by Exposures, number of Obligors, and number of Transactions) are calculated based on the same set of underlying transactions and the methodological approach outlined above. For each of these metrics, the sums are calculated across the entire sample for 2008–2016.

Loss Given Default

Overview

As detailed in the Trade Finance analysis, Loss Given Default is a measure of the loss incurred by a bank in relation to the overall exposure of the bank at the time a counterparty defaults. This is calculated as:

$$\text{LGD} = (1 - \text{recovery rate}) + \text{discount on recoveries (\%)} + \text{costs (\%)}$$

Completed and observed recovery rates

By definition, a large proportion of the recovery of Export Finance products is insured by an ECA. For example, if a customer defaults on a loan that has a 95% comprehensive coverage from an ECA, then the bank can expect recoveries from the ECA covering up to 95% of:

- The outstanding principal at the point of default
- Interest contractually due but unpaid
- Direct costs associated with recovering from the customer (including for example legal fees)

Typically when a customer defaults, the ECA will assume responsibility for the payments due under the terms of the contract and make payments in line with the original contract. This does cause potential challenges when analysing observed recoveries for which the full recovery period is not available. For example, if 3.5 years remain contractually at the point of default, on average 25–30% of the total recoveries would be expected to come from the ECA each year.

In this Report, we analyse two different views of recovery rates:

- Completed and customer completed cases
- Completed/Accelerated and Partial Completed Cases (or observed recoveries)

Completed and customer completed cases consider data from those cases where the recovery has been completed. Because recovery efforts can take several years, this method may not capture significant data points from recent years of defaults.

Completed/Accelerated and Partial Completed Cases, or observed recoveries, provide a view on more recent defaults, even if recovery is not complete.

As a result, observed recoveries for the most recent defaults may amount to the instalments due as agreed originally (i.e. not to the full contractual loan lifecycle expected recovery rate, based on the level of cover). While the defaulted amount recognised will be the full outstanding amount, the observed recovery will be a portion of the defaulted amount as the ECA will pay out based on the agreed payment schedule instead of the full outstanding amount. In other situations, the ECA will make an upfront lump-sum payment. Where the ECA recovery is not complete, the amount due is determined by comparing the original payment profile with the observed recoveries.

Even in situations where the ECA has accelerated the workout or the workout is complete, additional recoveries from borrowers may occur and eventual recoveries may be higher than those indicated in this Report.

Additionally, where recoveries are made from the customer, they are shared between the bank and the ECAs based on the uncovered and covered portions, as the ECA is subrogated in the rights of the bank after indemnification.

For example, if a customer defaults owing the bank USD 1 million, with ECA cover of 95%, the ECA will pay the bank USD 950,000. If the customer makes a payment of USD 100,000, USD 95,000 (95%) would be given to the ECA and USD 5,000 (5%) would be retained by the bank. The bank's overall recovery is USD 955,000.

Discounting

For Basel Loss Given Default purposes, the following factors need to be accounted for:

- Discount rate on recoveries, with recoveries discounted from the point of default to the point of recovery
- Direct and indirect recovery costs, typically shared with ECA
- Downturn effects (i.e. the potential impact of an economic downturn on recovery cash flows and cure rates) in addition to Export Finance transactions

The discount rate applied to these products differs significantly across banks and is an area of ongoing debate. Applying a discount rate to the Export Finance Trade Register data is further complicated as products have state backing from OECD sovereigns. This state backing means the stream of payments from these products can be assumed to be similar to those of a government bond. Therefore, a discount rate is applied to a bond from the government of the ECA with a similar maturity. For example, if the recovery from the ECA occurs two years after default, we use a discount rate based on the two-year sovereign bond rate.

Given that highly-rated OECD ECAs have never defaulted on a valid claim, some practitioners believe the discount rate should be based on the three-month sovereign bond rate as the ECA is committed to indemnify within a few months, instalment-by instalment (and not at the date of the default), and to cover interest.

However, this rate needs two adjustments:

- A liquidity premium to reflect the fact that ECA claims are a relatively small and illiquid market (a liquidity premium of 1% has been used as in previous years)
- An adjustment for the risk of disagreement on the validity of the claim (as this is increasingly rare, no adjustment has been made at this stage. Most practitioners argue that the risk of disagreement on the claim validity is an operational risk and more appropriately reflected in operational risk capital)

The discount rate for the covered portion of the repayments is based on a point on the government yield curve (based on the maturity of the underlying transaction) with an additional 1% liquidity premium. The last 12 months of data and the average time to recovery suggest an average discount rate of approximately 1.5%. However, where the Export Finance Trade Register only reflects principal repayments, no discounting effect has been applied as the interest due would offset any discounting effect.

For the uncovered portion of the portfolio (i.e. those recoveries from the customer rather than the ECA post-attribution), a discount rate of 9% is applied, similar to the one used for Trade Finance products and a typical unsecured recovery.

Costs of recovery

The ECA will typically cover a substantial share of the collection/workout costs for the defaulted exposure in line with the level of cover provided.

For this year's calculations, workout costs are assumed to be 1% of Export Finance exposures (including banks' internal indirect costs in line with Basel requirements).

Expected Loss (EL)

Using the results generated in default and LGD calculations, overall EL is estimated based on the formula:

$$\text{EL} = \text{Default Rate} \times \text{EAD} \times \text{LGD}$$

Sufficient information to appropriately calculate the EAD based on empirical data is not available, and for the purposes of this calculation EAD is assumed to be equal to the current balance.

Results are based on the average coverage ratios from the Export Finance Trade Register. In some instances this coverage is higher, up to 100%, and the EL will vary by case.

APPENDIX B: DATA COLLECTION & FILTERING

Data Availability

Data collection under the revised methodology is now in its fourth year (covering five years of data from 2012-2016) and significant improvements have been made:

- Significantly larger data set from more banks with more data points across years
- More complete data set across the granular data categories in particular, such as geographical breakdowns
- More consistent data items across submitted data sets and between contributing member banks
- Established data gathering and data processing across many participating banks, including all year-on-year improvements in systems, auditing, data extraction and cleansing

Despite recent improvements, several difficulties in the data gathering process need to be considered when reviewing the results:

- Data definitions and terminology may vary between member banks, requiring significant verification and validation to make sure the data is as accurate and consistent as possible. These variations include the definition of default, which requires expert judgment by the Member Bank to determine the crucial element of “unlikeliness to pay”. This is particularly significant for larger borrowers, banks and sovereigns
- Data sourcing, collection and submission may involve multiple systems within a single financial institution, and may require manual intervention. This can introduce errors or cause the dataset to be incomplete
- Data is not always accessible or available at the desired level of detail, and some observations can only be presented in aggregated form which can make comparisons difficult

One specific area where the number of observations is considerably smaller than for other analyses is the recovery rate/loss given default (LGD) analysis. This is the result of the low number of defaults and the fact that, after the date of default of an obligor, many banks aggregate exposures and recovery data at either a customer or facility level and cannot break them down into the transaction- or product-level information required to estimate recoveries and losses. This issue is not specific to Trade Finance data and is not a weakness of data collection or processing. It reflects the complex legal and operational environment faced by banks when collecting defaulted loans and transactions when every case is unique.

To account for these challenges and maintain data quality, consistency and comparability, the final dataset is compiled using an iterative four-step data cleansing process:

1. **New data** submitted by member banks is evaluated critically to identify outliers, data errors, omissions and any other issues in each submission
2. A **detailed audit report** is provided to each member bank, followed by audit and questioning as data is replaced or clarified
3. New and updated data is **aggregated** with prior data from each Member Bank, followed by a further round of audit and questioning
4. Unresolved issues or erroneous data points are **filtered**, resulting in the omission of certain years, products and banks where necessary (in collaboration with the submitting banks)

This four-step process delivers a qualified, quality-controlled data set that maximises the acceptance of available data.

Quality and Quantity of Submitted Data

As the Trade Register evolves, so do the abilities of member banks to submit accurate, granular data. The 2016 dataset shows continued improvement in quality and quantity over the datasets used in earlier editions of this Report.

For Trade Finance, 89% of the transactions now included in the Trade Register have successfully passed the data-filtering process, resulting in a stable data set of 20.6 million transactions. This compares to 17.3 million filtered transactions in previous years' analyses and demonstrates an improvement in the breadth and depth of the Trade Register.

For Export Finance, the filtering process includes approximately 83% of available transactions. This results in 40,165 transactions available for analysis, which is an 8% increase on the 2016 data set.

As noted, the complexity of data access in complex global financial services firms and limitations to data availability means not all member banks can complete the data collection templates in full. In some cases different subsets of the data are used for different analyses to include as many observations as possible and represent the fullest scope of Trade Finance.

Figures 52–53 show the number of transactions and participants whose data could be included in the main analyses presented in the subsequent sections. It should be noted that this is not a comprehensive overview of all aspects of the analysis contained in this Report.

FIGURE 52:
Unfiltered Data Sample for Trade Finance, 2008–2016

	Banks in Sample	Number of Transactions	Number of Customers	Exposure (USD B)
Submitted data	25	23,261,673	1,043,801	12,397
Default rate analysis	23	20,641,161	894,228	10,463
Recovery Rate Analysis	12	7,807	446	2

FIGURE 53:
Unfiltered Data Sample for Export Finance, 2007–2016

	Banks in Sample	Number of Transactions	Number of Customers	Exposure (USD B)
Submitted data	18	48,633	5,707	734
Default rate analysis	17	40,440	4,484	675
Recovery Rate Analysis	13	220	139	1

Data required to accurately calculate observed LGD rates must come from cases where the recovery has been completed. Incomplete cases can give some information as to the future likely outcome, but only fully complete cases can tell us how much a bank has lost, if anything. Due to the long recovery process for Export Finance cases, it takes many years after the date of default to complete the set of all defaulted cases with their final outcomes, leading to the relative scarcity of completed data for LGD in the Export Finance data set.

Data Quality Checks and Filtering Process

In the Trade Finance Trade Register, the filtering criteria that lead to most exclusions are linked to the requirement for each bank to be able to submit obligor, transaction and exposure level information on a consistent basis. This is reflected in the “customer” and “transaction” filters (e.g. if a bank cannot provide customer information it would be reflected in the customer filter). The transaction filter also includes transactions excluded due to other data quality issues that could not be resolved over the course of the data collection process.

The customer filter and transactional filter can be applied independently to derive the customer level default rate and the transaction level default rate. On the one hand this would create a larger sample set, but on the other hand this approach would lead to two different subsamples to analyse. When compared, these subsamples would always have inherent differences and could lead to incorrect conclusions. As a result, a smaller, more comparable dataset has been produced for the purposes of the overall default rate analysis, using only data where both customer and transaction information was available. However, this filter has been relaxed where possible for other analyses such as maturity and loss given default. The unavoidable result of this difference in filtering is that the Expected Loss calculation is a mixture of different borrowers for each of the default rate and LGD elements.

Almost 90% of the excluded transactions are for 2007–2012. This reflects recent improvements in data quality and completeness of the Trade Register, and the challenges associated with the introduction of new data collection templates in 2012.

In the Export Finance Trade Register, the following filters are applied for the purpose of the default rate analysis:

- ECA filter: as transactions in which an OECD ECA has provided a guarantee or insurance are in scope of the Export Finance Trade Register, the ECA filter excludes transactions without information about the ECA or the level of political or commercial coverage
- Year and default filter: to establish analytical integrity, each default is considered once in the database (in the year that default occurs); this filter excludes defaulted transactions reported in multiple years and any transactions with misaligned dates (e.g. a default date prior to the trade date)
- Customer and transaction data quality filter: to measure customer and transaction default rates accurately, any transactions without unique customer or transaction IDs are excluded. This filter also exclude transactions with other data quality reasons such as zero exposure values or missing country or asset category information.

Given the long-term characteristics of Export Finance transactions, data submissions always cover multiple years on a transaction-by-transaction basis. This was the fifth year in which member banks submitted data to the Export Finance Trade Register, after initial submissions in 2012 asked participants to submit data back to 2007. Significant effort has been put into comparing submissions from different years and appropriate cleansing to arrive at a consistent year-after-year data set for individual transactions. Ultimately a coherent data set covering Export Finance data from 2007–2016 has been derived. In the last five years, the Trade Register has experienced healthy increase in the number of transactions in the Trade Register and the number of banks participating and this trend is expected to continue.

APPENDIX C: DETAILED ANALYSIS TABLES

Trade Finance

Default Rate Analysis

FIGURE 54:

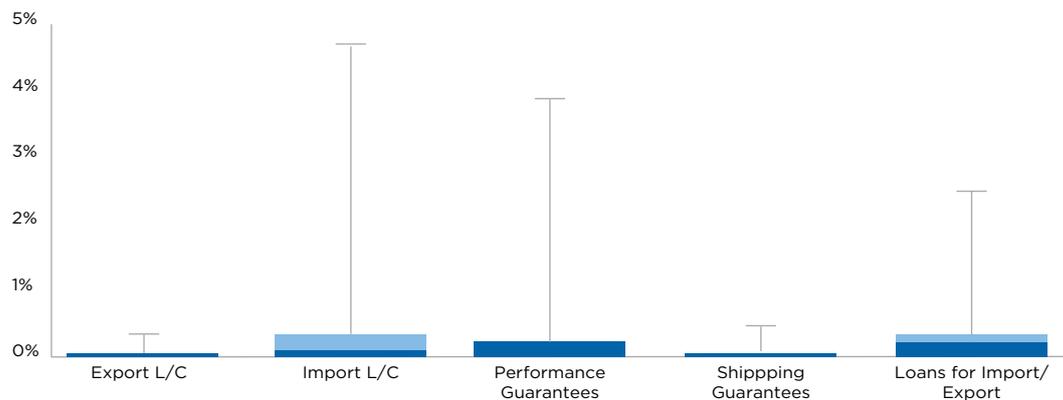
Total Customers and Default Rate by Loan Sub-product, 2008–2016

Loan Sub-Product	Obligors	Defaulting Obligors	Default Rate
Loans for Import/Export (Bank & Corp.)	255,598	2,052	0.803%
Loans for Import (Bank & Corp.)	108,002	1,079	0.999%
Loans for Export (Bank & Corp.)	94,767	743	0.784%
Loans for Import/Export (Bank)	53,451	64	0.120%
Loans for Import/Export (Corp.)	202,147	1,988	0.983%

FIGURE 55:

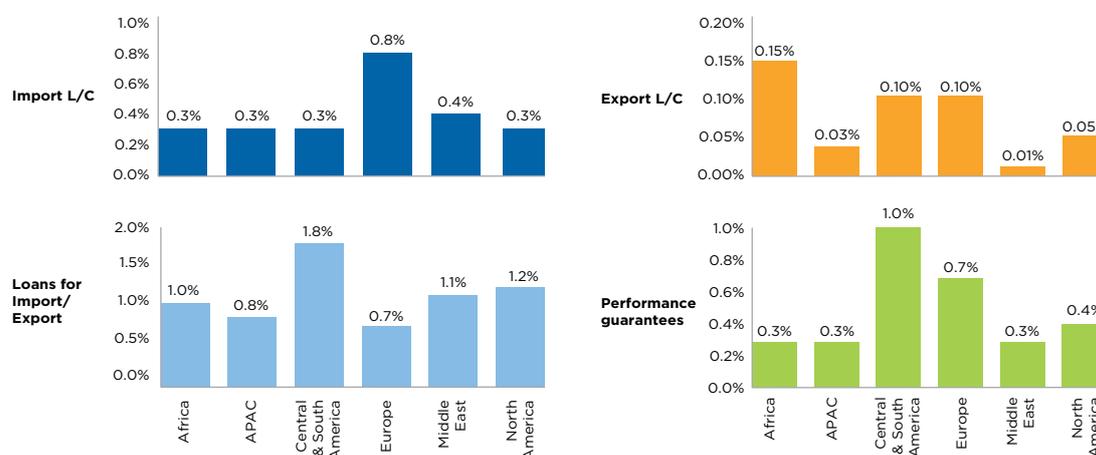
Variance of Obligor Default Rates Across Banks by Product, 2008–2016

Default Rate by Obligor, %
1st quartile, median, 3rd quartile, max.



Source: ICC Trade Register 2017.

FIGURE 56:
Obligor Default Rates by Product and Region 2008–2016



Note: Regions and Countries reflect those of Obligor. Source: ICC Trade Register 2017.

FIGURE 57:
Import L/Cs Obligor-Weighted Default Rates by Region, 2013–2016

Obligor-Weighted	2013	2014	2015	2016
Africa	0.15%	0.39%	0.20%	0.48%
APAC	0.34%	0.39%	0.32%	0.30%
Central & South America	0.00%	0.45%	0.37%	0.52%
Europe	0.26%	0.80%	2.03%	1.18%
Middle East	0.03%	0.61%	0.23%	0.83%
North America	0.10%	0.10%	0.75%	0.27%
Total	0.28%	0.43%	0.50%	0.48%

FIGURE 58:
Import L/Cs Exposure-Weighted Default Rates by Region, 2013–2016

Exposure-Weighted	2013	2014	2015	2016
Africa	0.03%	0.02%	0.02%	0.02%
APAC	0.04%	0.12%	0.10%	0.02%
Central & South America	0.00%	0.02%	0.00%	0.01%
Europe	0.01%	0.11%	0.13%	0.09%
Middle East	0.00%	0.67%	0.02%	0.11%
North America	0.21%	0.03%	0.27%	0.00%
Total	0.04%	0.13%	0.11%	0.03%

FIGURE 59:

Export L/Cs Obligor-Weighted Default Rates by Region, 2013–2016

Obligor-Weighted	2013	2014	2015	2016
Africa	0.19%	0.06%	0.09%	0.59%
APAC	0.05%	0.02%	0.03%	0.01%
Central & South America	0.00%	0.00%	0.86%	0.00%
Europe	0.07%	0.09%	0.31%	0.00%
Middle East	0.04%	0.00%	0.00%	0.00%
North America	0.00%	0.11%	0.00%	0.00%
Total	0.06%	0.03%	0.08%	0.06%

FIGURE 60:

Export L/Cs Exposure-Weighted Default Rates by Region, 2013–2016

Exposure-Weighted	2013	2014	2015	2016
Africa	0.02%	0.00%	0.01%	0.27%
APAC	0.01%	0.00%	0.01%	0.00%
Central & South America	0.00%	0.00%	0.20%	0.00%
Europe	0.00%	0.06%	0.97%	0.00%
Middle East	0.01%	0.00%	0.00%	0.00%
North America	0.00%	0.00%	0.00%	0.00%
Total	0.01%	0.01%	0.11%	0.01%

FIGURE 61:

Loans for Import/Export Obligor-Weighted Default Rates by Region, 2013–2016

Obligor-Weighted	2013	2014	2015	2016
Africa	1.03%	2.40%	0.28%	1.47%
APAC	0.68%	0.87%	0.85%	0.81%
Central & South America	0.60%	3.67%	2.29%	0.89%
Europe	0.38%	1.08%	0.93%	0.63%
Middle East	0.16%	1.89%	0.94%	1.72%
North America	0.09%	2.27%	2.79%	0.58%
Total	0.61%	1.10%	0.93%	0.88%

FIGURE 62:

Loans for Import/Export Exposure-Weighted Default Rates by Region, 2013–2016

Exposure-Weighted	2013	2014	2015	2016
Africa	0.43%	0.45%	0.06%	1.19%
APAC	0.14%	0.18%	0.33%	0.29%
Central & South America	0.04%	1.05%	0.51%	0.90%
Europe	0.33%	0.05%	0.08%	0.14%
Middle East	0.13%	0.30%	0.69%	0.44%
North America	0.21%	0.29%	0.26%	0.02%
Total	0.17%	0.23%	0.32%	0.29%

FIGURE 63:

Performance Guarantee Obligor-Weighted Default Rates by Region, 2013–2016

Obligor-Weighted	2013	2014	2015	2016
Africa	0.10%	0.32%	0.33%	0.33%
APAC	0.34%	0.37%	0.39%	0.27%
Central & South America	0.00%	0.96%	2.48%	0.80%
Europe	0.58%	1.16%	0.94%	0.71%
Middle East	0.11%	0.74%	0.13%	0.34%
North America	0.47%	0.19%	0.71%	0.45%
Total	0.42%	0.61%	0.61%	0.45%

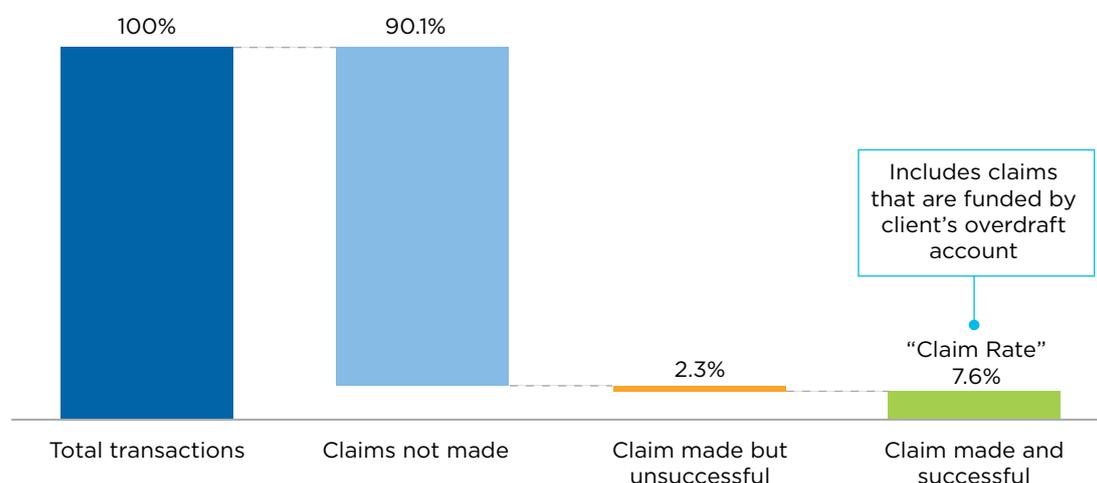
FIGURE 64:

Performance Guarantee Exposure-Weighted Default Rates by Region, 2013–2016

Exposure-Weighted	2013	2014	2015	2016
Africa	0.21%	0.11%	0.52%	0.04%
APAC	0.21%	0.04%	0.31%	0.17%
Central & South America	0.00%	0.32%	2.52%	1.65%
Europe	0.34%	0.13%	0.60%	0.54%
Middle East	0.31%	0.39%	0.16%	0.04%
North America	0.03%	0.15%	0.31%	1.76%
Total	0.20%	0.13%	0.38%	0.55%

FIGURE 65:

Average “Event Likelihood” in the Life of a Performance Guarantee, 2008–2016



Source: ICC Trade Register 2017.

FIGURE 66:

Average Time to Recovery in Days and Years, 2008–2016

Product	TTR - Days	TTR - Years
Import L/C	184	0.50
Export L/C	111	0.30
Loans for Import/Export	123	0.34
Performance Guarantees	61	0.17

FIGURE 67:

Cumulative Recoveries and Exposure Weighted Recovery Rates, 2008–2016

Product	Cumulative Recoveries (USD K)	Balance at Default (USD K)	Recovery Rate
Import L/C	221,389	280,072	79%
Export L/C	125,504	186,087	67%
Loans for Import/Export	796,277	1,129,591	70%
Performance Guarantees	60,082	141,887	42%

FIGURE 68:

Exposure Weighted Recovery Rate Range Across Banks, 2008–2016

Product	Minimum	Maximum
Import L/C	51%	100%
Export L/C	0%	100%
Loans for Import/Export	8%	89%
Performance Guarantees	0%	101%

FIGURE 69:

Transaction Weighted Recovery Rate Range Across Banks, 2008–2016

Product	Recovery Rate
Import L/C	93%
Export L/C	82%
Loans for Import/Export	59%
Performance Guarantees	73%

FIGURE 70:

Exposure Weighted LGD by Product (Discount Rate Sensitivity Adjusted), 2008–2016

Discount rate	Recovery Rate (Exposure Weighted)	TTR - Years	Discounted Recoveries & Costs (at 2%)			LGD		
			5%	9%	13%	5%	9%	13%
Import L/C	79.0%	0.50	4%	5%	7%	25%	26%	28%
Export L/C	67.4%	0.30	3%	4%	4%	36%	36%	37%
Loans for Import/Export	70.5%	0.34	3%	4%	5%	33%	34%	34%
Performance Guarantees	42.3%	0.17	2%	3%	3%	60%	60%	61%

FIGURE 71:

Expected Loss Calculation by Product, 2008–2016

Product	Default Rate (by Obligor)	EAD	LGD (9% Discount Rate)	Expected Loss		
				Exposure	Obligors	Transactions
Import L/C	0.38%	100%	26%	0.02%	0.10%	0.03%
Export L/C	0.05%	100%	36%	0.01%	0.02%	0.00%
Loans for Import/Export	0.80%	100%	34%	0.07%	0.27%	0.08%
Performance Guarantees	0.47%	8%	60%	0.01%	0.02%	0.01%

Export Finance

Default Rate Analysis: By Asset Category

FIGURE 72:
Obligor Default Rates by Asset Category, 2007-2016

Asset	Total Obligors	Defaulting Obligors	Default Rate
Corporate	8,727	90	1.03%
FI	3,658	50	1.37%
Sovereign	2,104	9	0.43%
Specialised	3,189	19	0.60%
Total	17,678	168	0.95%

FIGURE 73:
Transaction Default Rates by Asset Category, 2007-2016

Asset	Total Transactions	Defaulting Transactions	Default Rate
Corporate	18,301	153	0.84%
FI	7,583	103	1.36%
Sovereign	6,078	18	0.30%
Specialised	8,478	57	0.67%
Total	40,440	331	0.82%

FIGURE 74:
Exposure Default Rates by Asset Category, 2007-2016

Asset	Total Exposures (USD K)	Defaulting Exposures (USD K)	Default Rate
Corporate	357,078,033	1,959,848	0.55%
FI	49,531,846	578,688	1.17%
Sovereign	118,836,678	172,131	0.14%
Specialised	149,508,612	645,285	0.43%
Total	674,955,169	3,355,952	0.50%

Default Rate Analysis: By Region

FIGURE 75:
Obligor Default Rates by Region of Risk, 2007-2016

Region	Total Obligors	Defaulting Obligors	Default Rate
Africa	1,790	16	0.89%
APAC	3,193	19	0.60%
Central & South America	2,097	21	1.00%
Europe	3,456	19	0.55%
ex-CIS	4,298	53	1.23%
Middle East	1,353	33	2.44%
North America	1,491	7	0.47%
Total	17,678	168	0.95%

FIGURE 76:
Transaction Default Rates by Region of Risk, 2007-2016

Region	Total Transactions	Defaulting Transactions	Default Rate
Africa	4,714	36	0.76%
APAC	9,180	36	0.39%
Central & South America	5,125	32	0.62%
Europe	7,432	41	0.55%
ex-CIS	6,976	86	1.23%
Middle East	3,793	82	2.16%
North America	3,220	18	0.56%
Total	40,440	331	0.82%

FIGURE 77:
Exposure Default Rates by Region of Risk, 2007-2016

Region	Total Exposures (USD K)	Defaulting Exposures (USD K)	Default Rate
Africa	73,905,441	303,699	0.41%
APAC	155,829,514	572,882	0.37%
Central & South America	97,323,525	535,489	0.55%
Europe	138,544,912	474,957	0.34%
ex-CIS	73,383,552	728,006	0.99%
Middle East	65,849,914	665,505	1.01%
North America	70,118,311	75,414	0.11%
Total	674,955,169	3,355,952	0.50%

APPENDIX D: BASEL III FINALISATION DETAILS

FIGURE 78:

Exposure to Banks: In jurisdictions where external ratings approach is permitted (ECRA)

External Credit Rating	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to BB-	Below B-	Unrated
Risk Weight	20%	30%	50%	100%	150%	SCRA*
Short-Term Exposures						
Risk Weight	20%	20%	20%	50%	150%	SCRA*

FIGURE 79:

Exposure to Banks: In jurisdictions where external ratings approach is not permitted and for unrated exposures (SCRA)

**Standardised Credit Risk Assessment Approach (SCRA)	Grade A	Grade B	Grade C
Risk Weight	40%**	75%	150%
Short-Term Exposures	20%	50%	150%

(**) Risk weight of 30% applicable when bank satisfies all the criteria for Grade A classification and the bank has a CET ratio of 14% and above and a Tier 1 leverage ratio above 5%.

FIGURE 80:

Exposure to Corporates: In jurisdictions where external ratings approach is permitted

External Rating of Counterparty	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to BB-	Below B-	Unrated
Risk Weight	20%	50%	75%	100%	150%	100% or 85% if corporate SME

FIGURE 81:

Exposures to Corporates: In jurisdictions where external ratings approach is not permitted (SCRA)

SCRA Grades	Investment Grade	All Other
Corporates Non-SME	65%	100%
Corporate Small & Medium Enterprises (SME)	85%	85%

FIGURE 82:

Exposures to Commodities Finance, Project Finance

Exposure Excluding Real Estate	Project Finance	Commodities Finance
Issue-Specific Ratings Available and Permitted	Same as Corporate Exposures above	
Ratings not Available or not Permitted	130%: Pre Operational Phase 100%: Operational Phase 80%: Operational Phase (High Quality)	100%

FIGURE 83:

Credit Conversion Factors (CCF): Off Balance Sheet Exposures

Unconditionally Cancellable Commitments (UCC)	Commitments Except UCC	Transaction Related Contingent Items	ST Self-liquidating L/Cs	Direct Credit Substitutes and Other Off Balance Sheet Exposures
10%	40%	50%	20%	100%

Note on CCF: While commitments have been defined under standardised approach point 78 of the Basel document, there is a potential carve-out under national discretion for corporates and SME. The conditions are: (i) bank receives no fees or commission to establish the arrangements; (ii) client is required to apply to the bank for each subsequent drawdown; (iii) bank has full authority over execution of each drawdown irrespective of facility documentation; and (iv) bank decision on each drawdown made only after assessing creditworthiness.

The CCF for commitments is now set at 40%. While unconditionally cancellable facilities were previously allowed a CCF of 0%, it is now set at a floor of 10% (under SA),

increasing the cost of such unconditionally cancellable facilities. However, given the potential exceptions to the standard definition of commitments, it is still unclear what the CCF would be in such cases.

As L/C and Guarantees can be issued under dedicated facilities, the lower of the two CCF's should apply. For example, where there is a facility that supports issuance of an L/C, then CCF is 20% and not 40%. If a bank has an unconditionally cancellable facility for financial guarantees, then a 10% CCF is applicable and not 100%. This is expected to benefit trade, as trade facilities are structured in line with the conditions set out under Footnote 78 of the Basel document.

FIGURE 84:

Changes to Internal Ratings-based Approaches for Credit Risk

Asset Class	Methods available under the new credit risk standards	Change in available methods relative to current credit risk standard	Comments
Sovereigns	Under Review	N/A	Consultation paper published for comments by end March 2018. Highly contentious and political. Agreement expected only in 2018.
Banks & Financial Institutions	IRB-F or SA	IRB-A removed	Includes banks, insurance companies, asset managers & hedge funds
Corporates belonging to groups with consolidated revenues >EUR 500m	IRB-F or SA	IRB-A removed	The focus is on group and revenues as reported in audited financials. Subsidiaries with turnover less than the threshold belonging to a bigger group caught within this net
Corporates belonging to groups with consolidated revenues <EUR 500m	IRB-A or IRB-F or SA	No change	Mid-market (MM) and small and medium enterprises (SME). Note introduction of risk parameter floors will restrict some of the modelling benefits
Equities	SA	All IRB approaches removed	Capital to be set aside will go up
Specialised/Commodity Lending	IRB-A or IRB-F, Supervisory Slotting, SA	No change	Export Credit Agency (ECA) & Specialised commodity loans will remain on IRB.

FIGURE 85:

New Risk Parameter Floors

Risk Parameter	Existing/ Treatment	Proposed Treatment	Comment
Probability of Default (PD)	3bps	5bps	Note this floor only applies to corporate and banks as an asset class and is applicable to both IRB-F & IRB-A approaches
Unsecured Loss-given-default (LGD)- (Corporates & Banks)	IRB-A: No floor IRB-F 45%	Corp IRB-A Floor: 25% Corp IRB-F: 40% Banks IRB-F: 45% Subordinated Claims: 75%	Note LGD floor is only applicable to IRB-A portfolios. On the Foundation approach, values are fixed and determined by regulations
Secured LGD under IRB-A for Corporates	Financial: 0% Receivables: 35% Commercial and Residential real estate: 35% Other physical: 40%	Financial: 0% Receivables: 10% Commercial or Residential real estate: 10% Other physical: 15%	Floors for secured exposures only applicable when fully secured. For partially secured exposures it is a weighted average of secured LGD floor for secured portion and unsecured LGD for unsecured portion
Secured LGD for IRB-F	Financial: 0% Receivables: 35% Commercial and Residential real estate: 35% Other physical: 40% With a minimum level of collateralisation at 30% of exposure	Financial: 0% Receivables: 20% Commercial or Residential real estate: 20% Other physical-25%	Haircuts at 40% are applicable to all collateral
Exposure-at-default (EAD)- Credit Conversion Factor (CCF)	IRB-F- 20%/50%/100% IRB-A- Modelled values SA, IRB-F- 0%, for unconditionally cancellable commitments	IRB-F- No change IRB-A- Floored at 50% SA, IRB-F- 10% ,for unconditionally cancellable commitments SA, IRB-F- 40% for committed facilities that are not cancellable	CCF to be modelled only for undrawn lines and where exposure is not subject to a CCF of 100%. Floor of 50% is applicable. Commitments redefined. National discretion given for waiver of commitments. Trade gets the benefit of lower CCF when committed and also when the commitment is unconditionally cancellable.
Maturity (M)	IRB-F 2.5 years (Under national discretion it is lower in most jurisdictions for Trade) IRB-A Maturity based on transaction tenor and cash flows subject to a 5-year cap	IRB-F: No change IRB-A: Based on facility review date and not transaction tenor date	There is need for clarification that the MFW will apply for the foundation approach for Trade. Not clear from the regulation. Also not clear if 'M' is based on facility or transaction tenor

FIGURE 86:
Credit Risk Mitigation Framework

Collateral/Approach	Existing Approach	Proposed Approach	Comments
Guarantees	Allows full substitution of guarantor PD or adjusted PD between PD of obligor and guarantor	Will allow substitution and adjustment approach	
Double Default (DD)	Allows the use of DD where guarantees and credit default swaps are used as a risk mitigant	Removes the use of the DD approach	Removes complexity despite underlying rational grounds for applying such an approach
Conditional Guarantees	Allows the use of conditional guarantees subject to certain conditions	Will allow conditional guarantees	Needs clarification

Portfolio-level impact analysis

Analysis at a portfolio level indicates that changes to the Credit Risk Measurement Framework will have the following impacts:

Banks and Financial Institutions: Banks that have been aggressive in their LGD and EAD modelling will see an increase in capital charges as LGD is fixed at 45% and CCF factors are defined across the board based on the nature of the commitment and the product at 10%/20%/40%/50%/100%.

There will be no change for banks operating at 45% LGD and CCF factors that are not modelled.

Corporates with Consolidated Revenues greater than EUR 500m: Many of the large global banks will have a number of corporates on the IRB-A approaches where LGD and EAD are modelled parameters. As these corporates will now move to the IRB-F approach where LGD and CCF factors are fixed, capital charges will go up. The competitive playing field will, however, be levelled. The current maturity floor waiver (MFW) for Trade Products will need to be extended under the IRB-F approach as it is not clear from the regulations whether the MFW is applicable uniformly across all jurisdictions.

Corporate Groups with Consolidated Revenues less than EUR 500m: This portfolio will remain on the IRB-A approach and for banks currently operating on the IRB-A approach this will be beneficial.

Operational Risk: As the capital charge is a function of size and operational losses incurred over the last ten years, expect to see operational risk capital charges to go up significantly for large banks. The larger the bank, the higher the charge. With trade being an operationally intensive business, expect a sharp increase in operational risk capital charges.

APPENDIX E: LIST OF ACRONYMS

ADB	Asian Development Bank
A/F-IRB	Advanced / Foundation-Internal Ratings-Based Approach
AML	Anti-Money Laundering
APAC	Asia-Pacific
ASEAN	Association of Southeast Asian Nations
BCBS	Basel Committee on Banking Supervision
BPS	Basis Point(s)
CCAR	Comprehensive Capital Analysis and Review
CCF	Credit Conversion Factor
CIS	Commonwealth of Independent States
EAD	Exposure At Default
ECA	Export Credit Agency
ECGD	Export Credits Guarantee Department
EL	Expected Loss
EU	European Union
FI	Financial Institution
GDP	Gross Domestic Product
IFRS	International Financial Reporting Standards
ICC	International Chamber of Commerce
IMF	International Monetary Fund
KYC	Know Your Customer
L/C(s)	Letter(s) of credit
LGD	Loss Given Default
MENA	Middle East and North Africa
MFW	Maturity Floor Waiver
NAFTA	North American Free Trade Agreement
NSFR	Net Stable Funding Ratio
OECD	Organisation for Economic Co-operation and Development
PD	Probability of Default
RWA	Risk Weighted Assets
SIFI	Systematically Important Financial Institutions
SME	Small and Medium-Sized Enterprises
UCC	Unconditionally Cancellable Commitment
UKEF	UK Export Finance
UNGA	United Nations General Assembly
WTO	World Trade Organization

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