

## Discussion Paper

### Capital Treatment of Commodity Finance

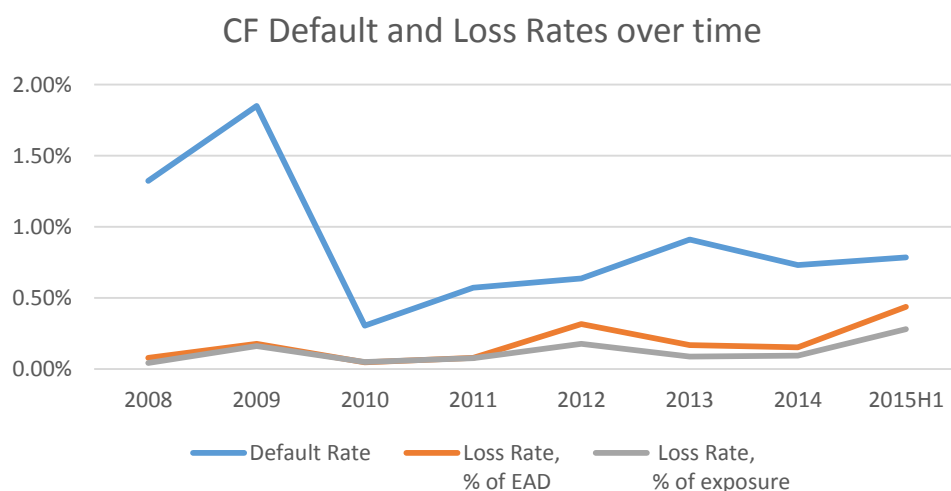
December 2015

#### Executive Summary

This document aims at fostering further debate on the future regulatory capital treatment of Commodity Finance lending.

The paper argues that Commodity Finance should have a capital treatment that is more representative of the low default and low loss outcomes experienced historically, particularly when such lending is subject to tightly managed, self-liquidating and/or secured structures under the monitoring and control of a dedicated transaction management unit or similar middle office which many banks have invested in over recent years.

Indeed, the 120% risk weight proposed for Commodity Finance under the BCBS's second proposal for revised Standardised Approach is clearly much higher than implied RWAs based on aggregated historical data collected among banks active in Commodity Finance. As an illustration, the graph below shows the low default/loss nature of this asset class, leading to implied RWAs certainly lower than 50%.



The structures developed around Commodity Finance mean that this is typically a secured activity with collateral that can easily be turned into cash. Moreover, firms have invested in dedicated transaction management teams in order to manage their underlying transactional portfolios more effectively as the result of decades of learning from market incidents<sup>1</sup>: it is testament to such infrastructure and to the resilience of the major commodity houses that during the most recent global crisis of 2008-10, Commodity Finance default rates have not appeared to increase.

Beyond the issues surrounding the appropriate standardised risk weight for Commodity Finance, this paper would also examine the potential consequences of disallowing the use of IRB modelling for Commodity Finance (for instance due to a presumed lack of historical data).

In general, there is a concern that the inappropriate capital treatment of Commodity Finance would have a negative impact on banks that have invested in developing dedicated, sound risk management practices over recent years. If capital requirements do not reflect the true level of underlying risk, there is a real risk that this could result in the dismantling of the dedicated risk management infrastructures that banks have put in

<sup>1</sup> In contrast to a "Basel default", an "incident" relates to one transaction (i.e. something unexpected blocks the banking process on a specific deal) but does not affect the obligor enough to trigger a "default".

place. Capital requirements must be sufficiently risk sensitive so that firms' current infrastructure and risk management frameworks are maintained and the return towards more risky financing is avoided. If capital requirements do not reflect risk levels, the consequence could be that Commodity Finance would be unprofitable for many banks that would either have to pass these costs onto the real economy or exit the industry. Commodity prices could increase as a result, or clients might have to go to other sources, including the shadow banking sector.

Commodity Finance lending is at the forefront of the real economy where banks facilitate physical commodity supply chains that fuel industry, feed manufacturing and nourish populations. Imposing measures which penalise this form of Specialised Lending may result in a withdrawal of liquidity from the many borrowers whose performance ability has implied that, up until now, they have relied on this form of finance. Moreover, it may place a greater burden in financing fewer "conglomerate-style" providers on a less transparent basis.

This paper therefore first sets out the specific characteristics and risks of Commodity Finance (hereafter referred to as "CF") and demonstrates the link between these characteristics and the observed low risk nature of this asset class, where the arithmetic average LGD for the available dataset available is well below 20%. This is followed by three case studies and supporting historical data. Finally, alternatives for regulatory capital treatment are proposed, with the objective of achieving simplicity while preserving risk sensitivity.

We are aware that we are releasing this paper shortly after the publication of the publication of the BCBS's second consultation paper on its proposals for a revised Standardised Approach for Credit Risk. We trust that this paper will contribute to this consultation and will serve as a basis for dialogue with the regulatory community in particular.

This being said, we recognise that there is more work to be done to follow up to this paper: this may include the gathering of additional data, where GCD\* and ICC\*\* are increasingly seen as the standards for credit default data collection for Commodity Finance and Trade Finance respectively, and more statistics to put the Commodity Finance sector into perspective.

AFME, assisted by its members active in Commodity Finance and other banks who have greatly contributed to this paper<sup>2</sup>, would be happy to continue this dialogue and work with the regulatory community, firms active in the sector and data repositories such as GCD and ICC to scope these next steps in more detail

*\*Global Credit Data – please see Appendix 1*

*\*\* International Chamber of Commerce, see Appendix 3*

## About AFME

AFME represents a broad array of European and global participants in the wholesale financial markets. Its members comprise pan-EU and global banks as well as key regional banks, brokers, law firms, investors and other financial market participants. We advocate stable, competitive, sustainable European financial markets that support economic growth and benefit society. AFME is the European member of the Global Financial Markets Association (GFMA) a global alliance with the Securities Industry and Financial Markets Association (SIFMA) in the US, and the Asia Securities Industry and Financial Markets Association (ASIFMA) in Asia. AFME is listed on the EU Register of Interest Representatives, registration number 65110063986-76.

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<sup>2</sup> This paper has benefited from the particular support of: HSBC, Rabobank, Société Générale, ABN-Amro, ING, Citibank, BNP-Paribas, Crédit Agricole CIB, Natixis, Commonwealth Bank of Australia, Santander, Commerzbank, FIM Bank, Credit Suisse and SMBC.

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# AFME Discussion Paper

## Capital Treatment of Commodity Finance

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### 1. Introduction

This paper argues that Commodity Finance (CF) should have a capital treatment that is more representative of the low default and low loss outcomes experienced historically, particularly when such lending is subject to tightly managed, self-liquidating and/or secured structures under the monitoring and control of a dedicated transaction management unit or similar middle office which many banks have invested in over recent years.

Therefore, we provide, with this paper, not only a follow-up to the AFME response dated 27<sup>th</sup> March 2015 to the BCBS's consultative document *Revisions to the Standardised Approach for Credit Risk*, but we also bring into scope the future IRB treatment, to promote a better understanding of, and initiative and exchange of views with regard to, Commodity Finance as a specific part of Specialised Lending. This is motivated by 1) the hypothesis that the Standardised approach might become a floor to the IRB approach, and, 2) the fact that some banks active in Commodity Finance have already put efforts into developing validated and well-performing IRB models specific to Commodity Finance (both PD and LGD/EAD). These models are now well embedded in firms' day-to-day risk management practices and commercial activities. Reverting to standardized approaches for these portfolios or applying poorly calibrated capital floors due to a perceived lack of default observations would, in our view, not be consistent with the risk profile of these exposures or appropriately reflect the outcome of these firms' established sound risk management practices.

The introduction of capital floors could result in the infrastructure progressively put in place by Commodity Finance banks to tightly manage their commodity exposures, being dismantled if regulatory capital is no longer in line with underlying risk. As they stand, the proposed revisions to the BCBS's Standardised Approach for Credit Risk and forthcoming proposals related to the IRB Approach and capital floors may very well make CF unprofitable for many banks that would have to pass these costs onto the real economy or exit the industry: lending in this space would return to mainly clean, unsecured exposures, or would be only loosely related to transactions.

Under the current IRB framework (i.e. without the application of the envisaged capital floors), a well-managed and tightly controlled CF lending structure may achieve an average LGD that provides an appreciable capital benefit in comparison to the average LGD for unsecured, clean exposures, thus reflecting the different risk characteristics of the structures of these different exposure types. Given the changes being envisaged to the capital framework, in the future Commodity Finance banks may effectively be forced to apply capital treatment that will be the same as or largely equivalent to that for unsecured lending, notwithstanding the quality of underlying collaterals, the uncommitted/short-term nature of these facilities or the monitoring infrastructure. As the capital treatment will not reflect the different risk profiles of these exposures, banks will have little incentive to continue structuring exposures for protection or maintain the risk management frameworks which contributed to the low loss nature of Commodity Finance lending to date.

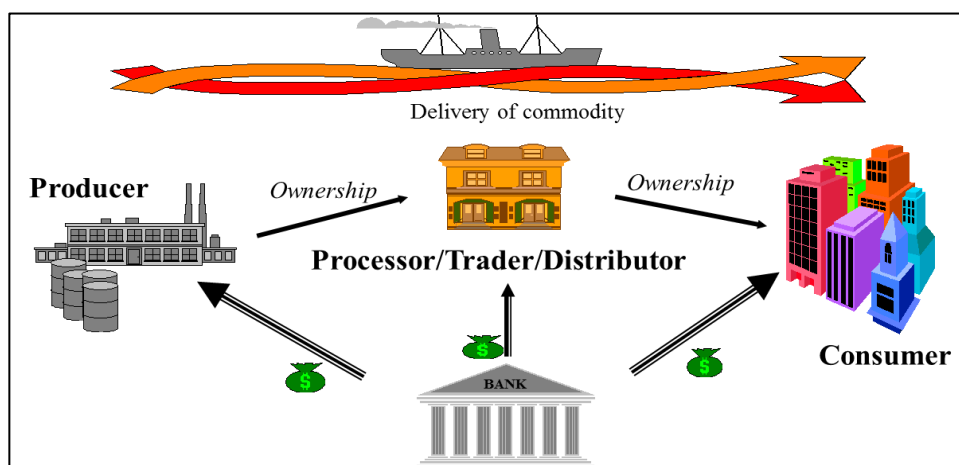
With Commodity Finance lending reputed to account for more than USD 3 trillion, the impact of a decrease in controls could be counterproductive to regulatory objectives and we therefore wish to draw appropriate attention to and engage in a dialogue exchange with regulators to find a more appropriate solution for the regulatory capital treatment of such exposures.

As Commodity Finance is essentially transaction-driven<sup>3</sup>, we feel that the simple risk weight approach of the Revised Standardised Approach (RSA) falls short of being appropriately risk sensitive. Our analysis of risk presented in this document is therefore at LGD/EAD (and thus CCF) level. We also touch on the issues of PD/rating models at borrower level and LGD models in paragraph 3.3 below.

Accordingly, we have structured our paper as follows:

1. Introduction
2. Commodity Finance in brief
3. Managing Risk in Context:
  - 3.1 Key Risks in CF
  - 3.2 Selected CF Examples
  - 3.3 Applicable Models
4. Case Studies
5. Supporting Data
  - 5.1 Introduction
  - 5.2. High Level CF Data (ad-hoc exercise)
  - 5.3 Existing GCD<sup>4</sup> Data
6. Alternative Considerations for Commodity Finance
7. Conclusions & Recommendations
8. Appendix 1: Global Credit Data and modelling challenges
9. Appendix 2: Details of 5.2 (High level CF data ad-hoc exercise)
10. Appendix 3: The International Chamber of Commerce (ICC)
11. Appendix 4: Abbreviations

## 2. Commodity Finance in brief



In its simplest form, and for the purpose of this paper, Commodity Finance is the provision of lending to one or more parties for a specific transaction or transactions along a physical commodity's supply chain. It may be lending to a producer with repayment from sales proceeds, or lending to a processor/trader or distributor with repayment from sales proceeds, or lending to a consumer – or it could be lending to each party to a transaction at the different stages, including inventory storage. Key is that the use of funds and the transaction chain through to repayment are transparent so that the lender has line of sight to settlement and can interpose for protection at any point subject to the rights and remedies conferred by the individual lending structure being applied.

<sup>3</sup> E.g. structured along the course of the underlying commercial transaction between a seller and a buyer, one or both being client(s) of the bank.

<sup>4</sup> Global Credit Data, see Appendix 1 for more details.

Commodity Finance covers financing of the physical supply chains to three primary commodities sectors, namely, “Energy” (Oil & Gas and others), “Metals” (and Minerals), and “Agricultural Products” (Softs and others). Within these sectors, banks active in CF provide financing of the entire value chain from origin to destination for producers, processors, and traders. These entities source physical commodities across the globe, transport and supply the products to end users mainly in North America, Western Europe, the Far East and China. In addition to bringing the raw commodity to market, many CF customers also add value and enhance quality via refining, processing, or blending in order to provide the end user exact quality specifications. Therefore, the economic value provided by the CF client base is critical to ensure a steady supply of commodities from origin to destination and to provide market efficiency and transparency.

The dynamics of the three primary sectors differ from each other and bank CF teams tend to have specialists to cover individual sector requirements and provide focus both on opportunities and on risk management. The size and strategic nature of Energy flows, for example, has different fundamentals to Agricultural Products and these two to Metals, where lending decisions are based on a bank’s view of the underlying supply chain, the commercial viability of the deal and the ability to effectively monitor and control exposure to term. **CF lending is frequently and at the bank’s discretion, uncommitted, secured, transactional or specific in purpose, aligned to the commodity cycle and as such predominantly short-term or, if medium term dependent upon short-term interim deliveries. It is ‘hands-on’ lending, which further contributes to a genuine low loss portfolio.**

Commodity Finance can therefore relate to banking product (lines) which may be offered over different Basel Framework asset classes<sup>5</sup>, while our focus is to make the case for a specific regulatory treatment for those products within the CF asset class that enable a facility/transactional level approach<sup>6</sup>. Nevertheless, the default data presented in this paper adopts a “worst case scenario” approach to CF being captured at the asset class level and therefore also takes account lending solely against the corporate balance sheet. This approach therefore means that the CF data shown here are based on very conservative assumptions, but this was the best achievable approach for this exercise. In the future, (in co-operation with ICC and GCD), CF banks will work towards achieving improved granularity specifically at CF product level in order to refine the current analysis.

Product/transactional level lending is provided to commodity producers, processors and traders, i.e. to those along the commodity supply chain who provide value that is transparent and recompensed via, for example, origination, transformation, distribution or just-in-time procurement. **Line of sight over use of funds and the ability to follow the commodity supply chain through to reimbursement is what differentiates CF as specialised lending from the corporate balance sheet approach.** It also provides a key risk mitigation as it enables a lender anticipating potential problems and interposing for protection – thus contributing to the low default/low loss profile of CF.

Such product/transactional level lending entails the provision of Trade Finance products and transactional working capital Credit & Lending tailored to support a customer’s purchase or delivery of physical commodities along the commodity supply chain. CF covers several categories of borrowers: Large Corporates, SMEs, Financial Institutions, Sovereigns and even Public Sector Entities. To differentiate from pure balance sheet driven corporate lending to commodity customers, product/transactional level CF is delivered with monitoring and control provided by a dedicated Transaction Management/Collateral Management unit or similar middle office.

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<sup>5</sup> Including trade finance products and corporate finance products (working capital, etc.).

<sup>6</sup> Examples are: letters of credit, performance guarantees and bonds, prepayments, pre-export finance, borrowing base finance, receivables finance, storage- and margin call facilities, etc.

### 3. Managing Risk in Context

Commodity Finance clients include a wide range of corporates ranging from large multinationals, multi commodity trading companies, some of them with upstream and/or downstream assets, to small and medium size regional and local niche players. All have unique features that require a specialised lending approach to address the underlying Credit, Market and Operational risks. Such features may include:

- i) High volume business model, carried under international trading rules common to all players, requiring high working capital needs;
- ii) Exposure to price risk requiring strong risk management capabilities;
- iii) Rapid operating cycle ranging from a few days to a few months;
- iv) Focus on logistics and service;
- v) Expert knowledge of the physical commodities (products, markets, price mechanism, etc.) and local markets.

#### 3.1 Key Risks in Commodity Finance

Banks involved in CF provide financing solutions adapted to their clients, while applying key principles in terms of addressing the core financing risks (from a bank viewpoint):

- a) Credit risk (primary risk):  
Facility size and structure reflecting factors such as:
  - i) financial profile of the client
  - ii) nature and risks of the client business
  - iii) availability of security
  - iv) quality of the intended receivables
- b) Market risk (continuity of the client's business, and access to proceeds in case of liquidation):  
Requirement to provide a hedge dependent upon:
  - i) assumed price risk volatility over the funding period
  - ii) availability of any inherent price risk mitigation (such as locked-in margins)
  - iii) marked-to-market impact versus desired Loan to Value profile
  - iv) customer's own Risk Profile and Risk Management capability
  - v) demand and supply trends for the underlying commodity
- c) Operational risk (control over the operational aspects of repayment):  
The ability to have transparency and control over the key factors that influence successful repayment of CF facilities/transactions: use of funds and monitoring and control over the logistics that leads to the source of repayment
  - i) Funds applied for intended purpose (includes Financial Crime assessment)
  - ii) Viable commercial relationship and commercial intent between the parties
  - iii) Acceptable country, counterparty, logistics, legal risks  
(includes AML/Sanctions considerations)
  - iv) Impact of commodity market and global economy dynamics on deal fulfilment
  - v) In addition, other unexpected/unmanageable operational events may take place, such as documentation flaws, negligence from the agent, damaged goods, fraud, political intervention, etc. In such cases, losses would generally be higher.

Financings are tailored so that the higher the perceived risk, the tighter the structure (with, in all but designated 'without recourse' instances, a recourse on the client balance sheet in addition to the asset being financed or to its receivable). **This creates in effect a 'double default scenario' before a bank would be faced with actual loss.**



Commodities constitute a good basis for asset based financing for three key reasons:

- i) The collateral is easily and objectively valued using reliable market valuations,
- ii) Physical commodities as collateral tend to be highly liquid given a ready market and ability to quickly convert to cash,
- iii) Buyer receivables as collateral may be represented by a negotiable instrument (Bill of Exchange), Promissory Note or bank undertaking that may be discounted to quickly convert to cash
- iv) Good possibilities to make use of credit insurances as a secondary form of risk mitigation.

For larger clients with the appropriate credit standing, banks can, in addition, to the above provide plain vanilla corporate financings generally in the form of unsecured, often syndicated, revolving credit facilities (RCFs), assessed against the borrower's balance sheet. Although default data provided in this paper includes such financings, this form of lending is not addressed by this paper, the focus of which is on transactional or secured lending facilities. From a modelling point of view, corporate models, instead of commodity finance models, would be applied to such financing lines.

### *3.2 Selected Commodity Finance Examples*

#### **3.2.1 (Product or) Transactional Trade Finance**

To meet day-to-day financing needs of commodity trading companies, banks provide their customers with uncommitted, secured (or imperfectly secured - also named "partially secured" / "trade related"), short term bank lines. The essence of this is to finance and monitor financing on a transaction by transaction basis or on a pool of transactions basis. As such, the vast majority of financing for commodity trading companies is not EBITDA based but is transaction driven, tied tightly to the working capital cycle of purchase, transformation and sale. The terms of these transactions follow international trade procedure common to all players in the industry.

Risk assessments are based on the specific analysis of each transaction (logistics risk, price risk, country risk, counterparty risk, risk of change in the value of the collateral, liquidity of the commodity, market prices, global environment such as world production, level of stocks, etc.) allowing banks to conduct a stringent and selective approach to the individual transactions they elect to finance. In particular, this approach facilitates lending transactionally to small/niche companies with limited balance sheets. The risks are mitigated by the degree of control on the collateral bestowed by the documents, in-depth documentary controls and specific regional market intelligence where the transaction is taking place (market players, trade flow, and price trend of goods). On a day-to-day basis, the transactional risk analysis and follow up necessitates identifying and categorizing the different risks linked to the dynamic phases of the transaction into 'buckets' or sub limits in order to follow as precisely as possible the risk of the transaction (production pre-financing, transit financing, stock financing inland or at the port, receivable financing, etc.).

During the life of each transaction, dedicated transaction management teams within the banks will monitor the life cycle of each deal from initial loading to final payment, daily margin calls, ensuring inter alia that there is a proper daily valuation of positions, that the transactions are well documented and the bank's security interest in the underlying asset is maintained throughout the transaction life cycle. This hands-on approach is what differentiates commodity finance from general corporate lending and underpins the low default history of the sector.

**Please see relevant Case Studies 1 and 2 in Section 4.**

#### Secured transactional finance

Secured financing of individual transactions or transactions comprising a pool of transactions requires control and full legal security over the underlying goods through possession or title on original documents

(transport, warehousing), first priority claim over all financed physical commodities and proceeds, and legal enforceability of lender's rights over the financed physical commodity i.e. the collateral<sup>7</sup>.

**Please see Case Study 3.**

#### Imperfectly or partially secured transactional finance

Imperfectly or partially secured transactional financings arise where there is either a period during the life cycle when a perfect security or perfect control cannot be achieved e.g. goods held by a Freight Forwarder under a Freight Forwarder's Certificate of Receipt prior to loading at port, or where there is not any perfected security documentation or where, notwithstanding the rights conferred by perfected documentation, possession is released to the borrower under Trust Receipt to enable sale. Such financings may still be realised successfully where monitoring and control by the dedicated transaction management teams provides transparency over the stages and the bank can interpose for protection when required.

In all but designated 'without recourse' instances, the bank keeps full recourse to the balance sheet of the obligor should the proceeds from the liquidation of the sales proceeds and/or any security remain insufficient to cover the debt granted. Under this circumstance, the financial strength of the borrower is assessed although recourse to the borrower is secondary to the claim on the commodity itself or to its receivable. Clearly, the lender gives up its right of recourse only when the obligation to pay under a transaction has been transferred to, or formally assumed by, a party (buyer or another bank) whose financial strength is considered acceptable.

#### **3.2.2\_The Relative Merits of Commodity Finance Products**

The majority of CF products are products which employ Trade Finance instruments (for detailed definitions we refer to the ICC and to GCD) in combination with working capital credit & lending to offer a financing solution to a particular need. It is bespoke. We do not propose in this paper to address each product individually but we do invite a follow-up with the regulatory community to go into more detail in delineating the merits of one product versus another in terms of what it enables for the customer, what it entails for the lender and how each is managed in practice from the Credit, Market and Operational Risk perspectives outlined in this Section.

Note that, in isolation, an individual product carries minimal inherent risk. What transforms a risk profile is to whom, how, when and where a product is delivered, as the same product delivered to one set of counterparties in one jurisdiction may carry a different risk profile to the same product delivered to the same counterparties in another jurisdiction – the key being that in Commodity Finance these products are used in a specific context where the underlying commercial transaction has been analysed and "projected" and the bank sets up various procedures of control over the flow of goods and monies. It is the existence of this context that justifies LGD/EAD models specifically applicable to Commodity Finance.

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<sup>7</sup> it should be noted though, when looking at historical observations, that collateral in CF is not always sold in case of default, so few data points are available to estimate for instance the applicability of collateral haircuts. This is because 1) trade-related transactions will generally be completed even in case of default of the trader, leading to repayment of the facility without the need to liquidate collateral, and 2) the bank can often find, together with the client and other parties in the sector, alternatives to a distressed liquidation.



### 3.3 *Applicable models*

The transaction-based approach and the tight controls it implies have been developed over decades by the banks themselves because they are well aware that the size, in dollar terms, of the facilities (guarantees or working capital) required to finance commodities is generally well in excess of the financial base of the traders (or most of them). What makes these facilities possible is the combination of control on the commodities and leverage the bank has on the trader (via cash margins or other “recourse” tantamount to the trader holding regulatory capital), as well as the operational performance of the latter.

In other words, PD models specifically designed to traders should generally promote dealing on a secured basis. Then, it is LGD models which will make Commodities Finance possible, taking into due consideration the reality of the control of the transactions (goods or cash-flows). This is not to say that PD models would not be necessary in this line of business. They are necessary to appreciate the capacity of the borrower to sustain a net loss on its transactions and to judge the appropriateness of corporate banking facilities for non-transaction-based activity.

Additionally, Commodity Finance, like Trade Finance in general, is a big user of “contingent” facilities, i.e. credit instruments such as letters of credit and guarantees, issued by order of the bank’s client, the obligor, and in favour of a third party. The issuing bank undertakes to pay if and when certain conditions are met by the third party. This risk by commitment is booked “off-balance-sheet” until the payment takes place – if it does, by which time the risk “converts to credit”, i.e. the bank now has a cash exposure on its client. Most often, the client is debited the same day (including by use of authorised cash facilities) and the “contingent” exposure is terminated. Hence the need for a “Credit Conversion Factor” to calculate the prospective risk weight of outstanding contingent exposures, in accordance with their (low – as data shows) probability of becoming cash exposures. First preliminary results by both GCD and ICC (independently) indicate that a CCF of 100% for trade-related off-balance sheet contingent exposures is overstated.

The analysis, both operational and statistical, of these tri-partite operations to determine the applicable CCF shows that they should not be confused with another form of contingent exposure, which is the undrawn portion of a loan (any short-term or long-term cash facility, authorised or even “confirmed”, until it is drawn by the obligor, at its full or conditional discretion). The latter would be more rightly applied a “Draw-Down Factor”, which is a matter of judging how much likely the obligor will draw.

Finally, regarding the contingent facilities specific to Commodities/Trade Finance, one should further consider that a letter of credit anticipates the payment of a commercial transaction due to proceed, whilst a guarantee is a protection against something not expected to happen. We would suggest that the regulatory capital framework would benefit from further clarification on how to model the EAD of these elements (especially when there are different products within one single facility).

## 4. Case Studies

We present here three case studies of commodity finance to illustrate, respectively:

1. The benefits of transparent and robustly managed transactional financings vs. general corporate (balance sheet driven) clean lending.
2. The resilience of a hands-on approach to commodity finance where incidents do not necessarily lead to defaults.
3. The resolution experience among CF lenders where a mutual interest leads to a collective response to resolve incidents or defaults leading to low impairment.

## Case Study 1

### Benefits of transparent and robustly managed transactional financings

Commodity Trade Finance ('Trade') vs Corporate Revolving Credit Facilities (RCF).

#### Background

- Customer XYZ was the largest (by tonnage) independent coal trading company, involved in sourcing & selling thermal and metallurgical coal. At its peak, XYZ had a global market share of approx. 6-7%.
- XYZ had access to a large diverse group of approx. 50 banks. Total facilities availed consisted of both committed lines and uncommitted short term Trade lines. Committed facilities included unsecured Revolving Credit Facilities and secured Borrowing Base Facilities.

#### What Went Wrong

- Historically XYZ had a strong financial profile as a pure trader but it wanted to control the source of raw material so started acquiring coal mining assets. These assets needed long(er) and committed term funding which was met by a Revolving Credit Facility.
- Although XYZ survived the 2008/2009 financial crisis, it was unable to meaningfully reduce its debt. This, coupled with lower EBITDA generation, resulted in stress in servicing debt commitments.
- Certain banks having identified the financial warning signs started reducing exposure and capping utilisation under their Trade lines, thus removing liquidity to XYZ.
- Those banks that were uncomfortable with the financial performance of XYZ declined to participate in an RCF refinancing. XYZ had insufficient liquidity to repay those non-participating banks and an Event of Default was eventually called.
- Cross default to the Trade and Borrowing Base facilities was triggered.

#### Outcome

- A financial restructuring of all XYZ facilities took place.
- To give XYZ the best chance of surviving as a going concern, the uncommitted short term transactional Trade lines continued to be provided but capped at utilisation levels at time of default and on the same general terms & conditions (i.e. same trade products, tenors, security, transactional controls, etc.). The commodity trade banks with specialised transactional management teams were able to continue providing facilities on a tightly controlled transaction by transaction basis.
- Over time, the Trade lines were repaid at par (no losses).
- Final group restructuring resulted in RCF and Borrowing Base exposure being rolled into a larger facility with haircuts to lenders on their RCF exposure (e.g. the lender would not have been fully repaid on its original RCF exposure).

#### Conclusion

Notwithstanding a default at the corporate level, for which an unsecured LGD on the RCF was appropriate, the uncommitted trade lines were repaid whether unsecured or partially secured or fully secured, implying that a lower LGD would have been appropriate to take advantage of the transparent, self-liquidating and more tightly structured transactional nature of the financing which is underpinned by a robust and dedicated monitoring & control. The tighter the structure (e.g. a true self-liquidating facility), the greater the ability to manage the risk and exposure (downwards) before and after time of default, without suffering impairment.

## Case study 2

### The resilience of a hands-on approach to CF, where incidents do not necessarily lead to defaults.

#### Background

- Small niche trader with over 30 years' experience in Emerging Markets had been a client of the bank only for two years.
- Given high risk client profile and the recent relationship, exposure consisted exclusively of modest trade transactional facility, with sublimits for (i) freight finance and (ii) margin call finance (albeit < 10% of total limit).

#### What Went Wrong

- Latest year proved difficult, culminating in significant net loss for the company and thus seriously endangering its solvency.
- Being in regular contact with the client, who was fully transparent about the causes of the losses, the bank concluded that some weaknesses needed to be addressed quickly, otherwise the company might end up in default.
- Those weaknesses concentrated in particular in management (e.g. the second generation was gradually increasing the risk appetite of the company), increased overheads and risk management (while price risk was actually low due to adequate hedging, counterparty and default risk were at times over-stretched, resulting in several incidents for which the company had to redirect trades at a loss).
- The core business model of the company was otherwise considered healthy.

#### Outcome

- Front office and Risk agreed to put the client on watch, and freeze the lines so that only ongoing transactions were really at risk until performance was restored and identified weaknesses were addressed. In the meantime, regular contact was maintained with the client.
- Leveraged the discretionary transactional structure to manage risks:
  - Uncommitted facility enabled selection of transaction-based financings only
  - Short term, pre-sold nature of transactions brought exposures down quickly thereby limiting the potentially observed Exposure At Default;
  - Transactions related to identified and monitored trade flows in line with the risk appetite of the bank (in this case, only pre-sold, secured transactions were allowed)
  - Maintained ongoing dialogue with customer and monitoring- and control over the underlying goods and cash flows.
- Exposure reduced to almost Zero within 90 days.
- A letter of credit exposure which remained at risk due to operational issues was later resolved when all parties agreed to conclusion of the trade.
- Each transaction was followed on a daily basis by the mid office and all departments and senior management were updated daily. At the same time and in the following months, the client provided regular updates on the turnaround of the company (managerial changes, reducing overheads, strengthened risk management framework, and equity injection) and improved performance.
- The client in the end recovered, the lines were re-installed, and transactions have been financed again successfully for both parties.

#### Conclusions

- Commodity Finance can be a low risk activity, provided the bank's risk appetite and the structuring of financings are aligned, and warning signals are picked up even before a default occurs. The flexibility of the structure provided both an incentive for the client to take quick actions in order to re-open its financing lines, and a protection for the bank in case a default would ultimately happen.

These characteristics are not however easily observed when one looks at default data only, as *incidents* do not necessarily lead to defaults<sup>8</sup>.

- Comparing the volume of successful transactions to delinquent exposures under a *Basel* default and associated losses is therefore probably relevant when setting prudent capital levels for a Commodity Finance portfolio. This also explains why *default rates* tend to be low for Commodity Finance: many incidents are solved before a default occurs, or the client is not anymore in the portfolio at the time it *defaults*. Indeed, would this client have defaulted instead of taking corrective actions, this would not necessarily have led to a default observation for the bank as there might have been no active credit relationship anymore (if all ongoing transactions were repaid before default).
- Another implicit disconnect between market practice and Basel credit modelling is that the observed LGD percentage in case of a default is based on the EAD at the time of default, while the exposure has often been managed down in the weeks before the default takes place. This implies that the measured LGD can at times be high (for example if enforcing securities prove less successful than expected for ongoing transactions, or if only unsecured sublimits remain at risk), compared to intuitive figures generally provided by front office staff. They indeed think of a loss percentage of the exposure *before* it was managed down. Allocating capital in a prudent way, but not overly conservative, for the performing part of the portfolio, can therefore be difficult in that respect. However it could be solved with improved EAD model guidance.
- In Commodity Finance, active monitoring of individual transactions and close management of the relationship are key to mitigating defaults and losses. This might however not be easily reflected nor observed in traditional credit parameters such as PD, EAD and LGD. While a few banks have already made the effort to understand the exact dynamics and drivers of default and losses and build specific models for Commodity Finance, more knowledge exchange and guidance is certainly needed to achieve consistency and risk sensitiveness among practitioners.

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<sup>8</sup> This bank experienced historically almost as many “incidents” without subsequent default as actual Basel defaults. Hence, the number of data points we can learn from in order to build risk-sensitive models is twice as much the regulatory reported figures. For so-called “low default” portfolios, we believe these events therefore certainly add value.

## Case study 3

### Background

- Client founded decades ago and, after several changes, its owners (two investment funds) launched an IPO. By acquiring fixed assets (production) in various countries, the company had become the largest regional independent player.
- At that time, it operated several production sites across the region and owned a wholesale distribution and marketing company in one country. The client was financed through many banks and across multiple jurisdictions.
- The business model of the company was a key point of attention. In particular, because it relied only on production margins, making the entity vulnerable to a reduction in the production spread (e.g. the difference between raw material and finished products) and was not hedging its outright price risk. The liquidity risk associated with the possible impairments on fixed assets bought in a period of high commodity prices in combination with the high commodity price risks were reasons to consider this client a high risk client.
- As a result, it was concluded that financing would only be possible under a very strong and secured structure, providing enough mitigating factors in the case the client would run into problems.
- A borrowing base facility was therefore closely monitored by the mid office, with collateral reporting on a weekly basis, and advance rates reflecting the quality of the collateral and thus ensuring a comfortable level of overcollateralization. Moreover, the bank's facilities ranked pari-passu with other secured creditors and were senior to unsecured bondholders. However, in case of a liquidation scenario, some risks were still present, such as set-off (cash at other banks vs. LC claims outstanding), multiple jurisdictions (litigation with other creditors and local authorities) and potential environmental decommissioning costs of the fixed assets.

### What Went Wrong

- Following a collapse of commodity prices and an unfolding economic crisis, the stressed market environment caused the company to suffer substantial losses. In the end, the group had to file for bankruptcy due a freeze of its credit lines.
- The bank in question was part of a bank syndicate with another bank being the agent. At the time of default, the bank's exposure consisted of two facilities: a participation in a syndicated short term, committed, revolving capital facility, and a bilateral, uncommitted LC (letter of credit) line. Both were fully secured under a borrowing base structure<sup>9</sup>. The recovery process was therefore expected to be complex, and close cooperation between front office, risk management, the recovery department, legal advisers and other creditors was considered vital to mitigate losses.

### Outcome

- Risk assessment vs. structure:
  - Given the expected recovery from the pledge over excess cash, receivables and commodity inventories, no provision was taken by the bank.
- Recovery process
  - Although at the time of default the situation was judged as complex, the incentive to put effort into a cooperation between the banks involved in order to seek a final settlement (under local laws and out of court) was high - due to the overcollateralization under the borrowing base in the form of excess cash collateral at accounts held by the banks. The banks therefore allowed a couple of months to perform thorough analyses of their different options and formulate the best approach.
  - A loss sharing agreement was established and banks did work towards an orderly set-off of bilateral claims, sales of assets and other administrative matters, country by country, asset by asset, with the agent remaining responsible for collection of funds. Environmental concerns due to sales or shut down of production units were also controlled in detail as well.

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<sup>9</sup> Including pledge of cash at bank accounts, receivables and commodity inventories. In such a structure, the level of financing depends on the level of available collateral, which is reported by the client on a pre-agreed frequency.

- In the end, the bank recovered all principal amounts, as well as default interests, costs and fees.

## Conclusions

- The recovery process in this case went well, with no losses for the bank despite a complex financing situation with many parties involved in several jurisdictions. The strength of the borrowing base structure itself (overcollateralization) gave creditors a strong incentive to work together in the first place.
- Commodity finance structures are indeed often aimed at providing liquidity to clients with potentially high risk profiles through secured and closely monitored structures, related to commercial trade flows. As a result, even when a default cannot be avoided, credit losses can in general be strongly mitigated<sup>10</sup>.

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<sup>10</sup> Provided no unexpected operational event takes place, such as documentation flaws, negligence from the agent, damaged goods, fraud, political intervention, etc. In such cases, losses would likely be higher.



## 5. Supporting Data

### 5.1 Introduction

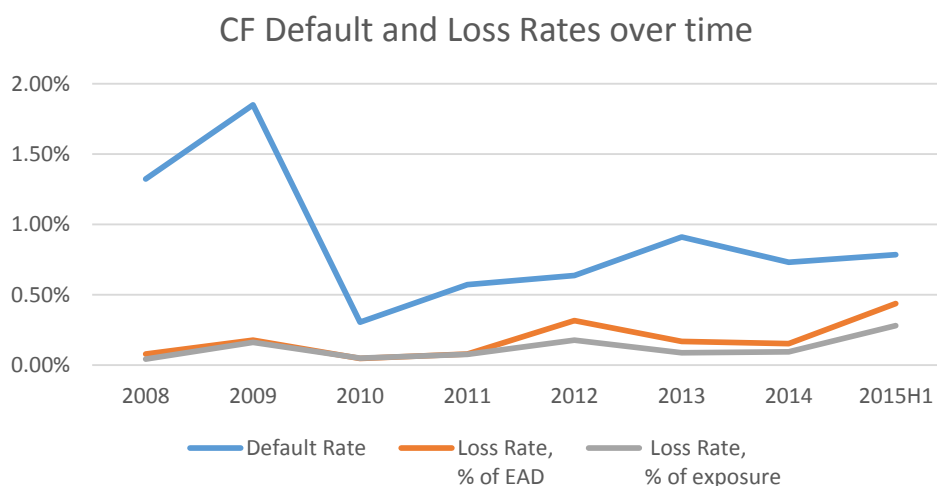
Publicly available default and loss data for Commodity Finance is not yet readily available. Therefore, a number of CF banks have joined forces to collect anonymous, aggregated high level statistics about default rates and losses for this asset class. This first ad-hoc data collection exercise was presented to the BCBS through the AFME response to the first revised Standardised Approach for Credit Risk consultation, dated 27<sup>th</sup> March 2015, and was supported by data from 6 banks from France and the Netherlands<sup>11</sup>.

Subsequently, and in order to provide supporting data for this paper, a second ad-hoc exercise was performed, adding 2 more banks and another 6 months of data (H1 2015). This is described in section 5.2.

In section 5.3., another source of CF data is provided, confirming the same picture. Global Credit Data collects default data information on CF and, after consultation, its members have agreed to share high level results in this paper. It should be noted that a number of banks providing data in the context of the ad hoc exercise are also GCD members, so both data sources are not fully independent.

### 5.2 High Level CF Data (ad-hoc exercise)

The March 2015 AFME response already provided high level historical data to support the low risk of commodity trade finance. For this paper, we have engaged with a broader group of CF banks (currently 8<sup>12</sup>, and more have indicated their willingness to join in the future). This exercise confirms the previous results from March, with low observed default and loss rates over the last seven years, hereby making a case for RWA levels much lower than those currently proposed under the revised Standardised Approach. In particular, the graph below shows the aggregated CF default rates and loss rates for the period 2008 - H1 2015.



Details of the statistics behind the graphs are given in the table below.

<sup>11</sup> The anonymous aggregation was kindly performed by Global Credit Data.

<sup>12</sup> Rabobank, ABN-Amro, ING, Citi, Société Générale, BNP-Paribas, Crédit Agricole and Commonwealth Bank of Australia.

Year	sum of obligors at start of year (cohort)	Sum of Exposures in cohort (EXP) in EUR	Sum of defaults in year	Average Default Rate (DR) cohort weighted	Average Loss Rate/EAD (LREAD) cohort weighted	Average Loss Rate/EXP (LREXP) cohort weighted	Average EAD/EXP cohort weighted	Average implied observed LGD cohort weighted
2008	907	29.587.095.022	12	1,32%	0,08%	0,04%	94,2%	1,7%
2009	811	36.549.768.317	15	1,85%	0,18%	0,16%	99,9%	11,5%
2010	1.311	53.339.936.395	4	0,31%	0,05%	0,05%	90,7%	17,4%
2011	1.225	71.500.984.167	7	0,57%	0,08%	0,08%	84,2%	14,8%
2012	1.727	78.789.632.500	11	0,64%	0,32%	0,18%	74,6%	20,0%
2013	1.869	84.276.581.290	17	0,91%	0,17%	0,09%	74,3%	11,2%
2014	2.192	101.775.809.358	16	0,73%	0,15%	0,09%	63,1%	14,9%
2015H1	2.040	101.655.154.786	8	0,78%	0,44%	0,28%	67,6%	15,0%
<b>Grand Total</b>	<b>12.082</b>	<b>557.474.961.835</b>	<b>90</b>	<b>0,81%</b>	<b>0,20%</b>	<b>0,13%</b>	<b>77,2%</b>	<b>14,0%</b>
<b>Average of years</b> ✓	<b>1.510</b> ✓	<b>69.684.370.229</b> ✓	<b>11,25</b> ✓	<b>0,89%</b> ✓	<b>0,18%</b> ✓	<b>0,12%</b> ✓	<b>81,1%</b> ✓	<b>13,3%</b>

Based on these historical figures, **implied LGD has consistently been below 20%** over the years, which is much lower than generally observed Corporate LGDs. Additionally, **implied RWAs range now between 33% and 52%**, depending on whether one uses a maturity assumption of one year<sup>13</sup> or 2,5 years, and based on exposures or EAD. These RWA figures thus indicate a substantial gap between historically observed default and loss rates and the proposed simple risk weight (120%) proposed for Commodity Finance as a whole is a low default activity with high recovery rates. Also, implied LGD is inflated as generally before a default arises, banks have the ability to reduce exposure.

More details about the definitions used and assumptions made can be found in the slides provided in the Appendix 2 (and further questions may be addressed to the authors of the paper).

### 5.3 Existing GCD Data

The GCD database has a specific section for Commodity Finance credit risk in default. For this *obligor* asset class, after years of efforts between its member-banks toward a common understanding and use of input and output definitions, a "Reference Data Set" is now available which GCD considers reasonably comprehensive and representative for fair analytics. With the approval of the group of GCD member-banks working on Trade Finance and Commodity Finance, below is a description of the main characteristics:

In April 2015, the Reference Data Set for Commodity Finance can be summarised as follows:

- 8 banks active in CF<sup>14</sup> contribute data for this line of business on 120 obligors in default from 1 Jan. 2002 to 31 Dec. 2014;
- The set includes 181 facilities (all of the usual types in CF) for a total exposure: 2,725 M€ (average 22.7 M€ per obligor in default). There are some corporate banking facilities among them (further scrutiny is going on with the contributing banks).
- **The arithmetic average LGD for the whole dataset is well below 20%.**
- The distribution of LGD values shows 19 cured, 122 [0 to 10%], 29 [10 to 90%], 11 [90 to 100%].

As a matter of comparison, the whole GCD database (53 contributing banks) features for the same period 56945 obligors for all IRB asset classes and a total exposure 246 B € (average exposure per obligor = 4.3 M€).

<sup>13</sup> Most trade-related transactions have a tenor of 30-90 days in practice, so assuming a maturity of one year is considered conservative already. However, in order to make a comparison with other asset classes, an average maturity of 2.5 year is also provided. Using the average PD and worse LGD is consistent with the Basel capital formula (as the PD is stressed in the formula, while the worse LGD is used as a proxy for a downturn LGD).

<sup>14</sup> 5 of these 8 banks are among the contributors to the ad-hoc exercises, in § 5.2.

These simple figures show that Commodity Finance, as a whole, is:

- a low-default activity,
- a large “consumer” of banking facilities,
- A high recovery / low loss business on portfolio level.

More information about GCD, the ICC and modelling challenges of CF are covered in the appendices to this document.

## 6. Alternative Considerations for Commodity Finance

Given the above considerations, we suggest that the regulatory community should examine more closely the underlying business and risk profile of Commodity Finance in view of developing a more appropriate capital treatment. In particular, this examination should address the following:

1. Capital requirements for commodity Finance lending structures must be more risk sensitive than a simple two financial factors approach (see the first revised SA for Credit Risk consultation) and/or a single risk weight/capital floor for specialised lending (or commodity finance).
2. Commodity Finance monitoring and control infrastructures enable a hands-on approach to transactional lending
3. The true risk and default profiling of Commodity Finance transactional lending
4. An appropriate distinction between CF-specific rating models that adequately reflect risk and corporate rating models applied to CF business that do not adequately reflect risk..

### **IRB focus - Pursuing and refining industry initiatives for convergence and comparability is preferred over capital floors and/or forbidding the use of IRB/imposing modelling constraints on CF portfolios**

Rather than introducing capital floors or modelling constraints, we recommend that regulators pursue and refine existing work aimed at creating more consistency and less variability in RWAs (such as the ongoing work undertaken by the IIF on discount rates or AFME on downturn LGDs and also work by the ICC or GCD on CCFs for trade finance products). Furthermore, we believe it is important to maintain the risk sensitivity of internal risk management tools developed by Commodity Finance banks where substantial investments in AIRB models have been made and which play a crucial role in the banking sector as a whole. For Commodity Finance businesses in particular, we believe that detailed work still needs to be done in this area and would encourage and be willing to facilitate knowledge exchange between the industry and the regulatory community.

### **SA focus - The value of structure and collateral in Specialised Lending/Commodity Finance needs to be considered**

The Standardised Approach is borrower specific and does not take into account the structure, collateral and other security types. No recognition is given in the current BCBS proposals for the short-term, uncommitted and trade-related nature of Commodity Finance exposures. Trade financings are mostly self-liquidating in nature and truly short-term, i.e. 30 to 90 days. In addition, deals are typically secured by very good quality

collateral, such as commodities for which liquid terminal markets exist, or receivables. We recommend that alternatives to the current proposals, be considered, including for instance:

- Specific weights for commodity finance, which should be calibrated in order taking into account structure/collateral specific elements. For example, in case that more than 100% commodity collateral is present;
- Recognition of non-financial collateral through the existing Credit Risk Mitigation framework. For example, liquid and exchange-tradable (hence with an objective valuation) commodities could be recognised in a similar way as gold;
- If floors based on the SA are introduced, they should be specific to commodity finance and calibrated to recognise at least those cases where a strong structure/collateral is present.

## 7. Conclusions & Recommendations

The BCBS proposals for Commodity Finance are not sufficiently risk sensitive as they do not adequately factor in the true risks underpinning CF exposures, nor do they reflect the historic low loss experience of these products. Current proposals might have the unintended consequence of dismantling the risk management frameworks invested in by CF banks which could result in incentivising firms to undertake clean, unstructured or loosely structured lending, or to shift CF financing towards less regulated areas of the financial system. This holds true for banks operating under both the Standardised and Advanced Approaches.

As noted above, CF lending is at the forefront of the real economy where CF banks facilitate physical commodity supply chains that fuel industry, feed manufacturing and nourish populations. Imposing measures which penalise CF lending will withdraw liquidity from those borrowers whose performance ability has till now enabled them to be financed and may put a greater burden in financing fewer but more conglomerate-style providers on a less transparent basis.

AFME therefore encourages a constructive dialogue and exchange of views with the regulatory community and calls for reconsideration of the introduction of capital floors for commodity finance to more appropriately reflect the low historic loss and true risk profiling of these exposures. The use of IRB models should also, in that respect, be maintained without the introduction of unnecessary constraints.

The weight of evidence in support of a low risk profiling of CF lending is mounting. However, as CF banks compete for capital resources against other bank activities, they face being penalised by the application of inappropriate risk weights, which is intuitively wrong when the CF approach has proven itself even in a downturn market to be resilient versus general corporate lending. The investment in dedicated transaction management teams has been an initiative of CF banks to manage their underlying transactional portfolios more effectively in response to decades of learning from market incidents: it is testament to such infrastructure and to the resilience of the major commodity houses that during the most recent global crisis of 2008-10 the default rate did not appear to increase.

As a follow-up to this paper, we recognise that there is more work to be done: the gathering of more data, where GCD and ICC are increasingly seen as the standards for credit default data collection for Commodity Finance and Trade Finance respectively<sup>15</sup>, and more statistics to put the commodity sector in perspective. AFME, assisted by a number of its members active in Commodity Finance and other banks who have greatly contributed to this paper, would be happy to continue this dialogue and work with the regulatory

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<sup>15</sup> For example refined definitions of LGDs and CCFs and guidance to increase consistency; "incidents" vs. Basel defaults illustrated by more live examples

community, firms active in the sector and data repositories such as GCD and ICC to scope next steps in more detail.

Finally, upon request we can provide a list of references to commodity books and articles and can provide subject matter experts to explain Commodity Finance in more detail.

## APPENDIX 1

### Global Credit Data and modelling challenges

Created in 2004, The Global Credit Data Consortium<sup>16</sup> is a not for profit association mandated by its members – banks only - to pool credit loss data, especially for low default portfolios. The goal is to help banks understand and model their credit risks (standards, database, exchange on best practice, research). It has now collected more than 10 years of defaults and recoveries from its members, comprising over 100,000 facilities. Some statistics are given here below.

It must be noted that the member banks remain owners of their own data and are collective owners of GCD data. GCD does not publish the data.

The database collects retrospective information on defaults in credit risk:

- On the obligor: main characteristics (13 data-fields) and financials (7 fields),
- On the credit instrument: main characteristics of the facility in default (15 fields)
- On the operations: cash-flow and loss in-between default and resolution (14 fields)
- On the history: evolution of the facility with time (15 fields),
- On the guarantor: main characteristics of the guarantor of the loan, if any (11),
- On the collateral: main characteristics of the collateral of the loan, if any (36),
- On pricing: a few indications on the pricing of the facility (6).

The total is not 117 data-fields because 3 at least are common to all chapters as they make the links, and, of course, not all data-fields (by far) are relevant to all defaults.

The database deals with information of historical nature, i.e. facts recorded by the member-banks in their own bases. Some information on the default is needed at different dates to explain how it happened and was resolved: there are 5 types of events:

- Origination: at least an approximate date of origination,
- One Year prior to Default: the main characteristics of the loan help for EAD analysis,
- Default: all the main characteristics of the loan must be provided at that date,
- Post Default: applies to defaults still unresolved, when reported,
- Resolution: when and how the default is resolved (all facilities settled or reset).

Commodity Finance constitutes a specific “Asset Class”, stored in the CF Data-pool. For this class like others, GCD monitors the genuineness and consistency of the information it receives. Years of efforts between the member-banks toward a common understanding and use of input and output definitions allow now extracting a “Reference Data Set” which we consider reasonably comprehensive and representative for fair analytics (see § 5.3).

The obligors in default reported in CF are clients of the banks in this line of business. Not all facilities to these clients are strictly commodities-based finance because commercial banking does not go that way, but the information collected by GCD on the type of facility, its term, its collateralisation, etc, allows separating what is corporate finance or commodities finance to these obligors. Facilities related to trade finance (whether Letters of credit, guarantees, Borrowing Base finance, etc – which are generally related to trade finance, or overdraft, term loans, stand-by L/Cs, etc, - which may or may not be related to trade) must be flagged in the data-base as “Trade Finance”, if appropriate.

A major characteristic of Commodity Finance for the banks engaged in this business is precisely which commodity is traded (e.g. Energy, Metals, Agri or even at lower level) and how the trade is monitored or controlled (e.g. control of the goods and cash flows) and under which structure/product line the financing is given. It has been a challenge that GCD has progressively overcome to define a few data-fields collecting

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<sup>16</sup> Formerly known as PECDC



specific information about the type of commodity, the degree of control obtained by the bank on the trade and the specific products used within CF. That information is seen as a necessary minimum - it is too early to say if it is also sufficient - to obtain quality analytics on the Commodity Finance activity. Currently, CF contributing banks are working on improving further the quality and quantity of CF default data, under detailed data audits from GCD and in cooperation with the International Chamber of Commerce.

Another characteristic of Commodity Finance, and of Trade Finance at large, is the frequent use (much more frequent than other lines of business) of “contingent” facilities, i.e. credit instruments such as Letters of credit and guarantees, issued by order of the bank’s client, the obligor, and in favour of a third party. The issuing bank undertakes to pay if and when certain conditions are met by the third party; this risk by commitment is booked “off-balance-sheet” until the payment takes place – if it does, by which time the risk “converts to credit”, i.e. the bank has now a cash exposure on its client; in normal circumstances, the client is debited same day (even by use of authorised cash facilities) and the “contingent” exposure is terminated. Hence the need for a “Credit Conversion Factor” to calculate the prospective risk weight of outstanding contingent exposures.

The analysis, operational and statistical, of these triangular (3 parties involved) operations in order to determine the applicable CCF shows that they should not be confused with another form of contingent exposure, which is the un-drawn loan (any short-term or long-term cash facility, authorised or even “confirmed”, until it is drawn by the obligor, at its full or conditional discretion). The latter would be more rightly applied a “Draw-Down Factor”, which is a matter of judging how much likely the obligor will draw. Regarding the contingent facilities specific to Commodities/Trade Finance, one should further consider that a letter of credit anticipates the payment of a commercial transaction due to proceed, whilst a guarantee is a protection against something not due to happen.

## APPENDIX 2: details of 5.2 (high level CF data ad-hoc exercise)



**Global Credit Data**

*by banks for banks*

### Commodity Finance special collection - input for public report

November 2015

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9 November 2015

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## Background

- ❑ A group of 8 banks have decided to pool their experience of default and loss in the area of Commodities Finance
- ❑ Banks were asked to deliver data from at least the following expected list of products (non-exhaustive)
  - Transactional trade finance lines, including letter of credits, guarantees, margin call facilities, storage facilities, etc.
  - Receivables finance
  - Borrowing base finance
  - Ownership-based finance (structured inventories, repos, etc.)

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# Glossary

## □ Banks delivered aggregated data per year using the following metrics:

1. Number of not-in-default counterparts in the portfolio at the start of each year
2. Number of counterparts who defaulted in that portfolio during each year
3. Exposure at Default (EAD) of the performing portfolio at the start of each year
4. Gross Exposure of the portfolio at the start of each year
5. Credit losses on the portfolio during each year

## □ After aggregation, the following calculations were made:

- Default Rate (DR) being 2/1 above
- Loss Rate on EAD (LREAD) being 5/3 above
- Loss Rate on Gross Exposure (LREXP) being 5/4 above
- EAD\* as % of Exposure (EAD/EXP%) being 3/4 above
- Observed implied Loss Given default (LGD\*\*) being LREXP/DR

### Notes:

\* The EAD amounts and % vary greatly by bank and by product type and therefore this % should be treated with caution at portfolio and pooled data level. The instruction to banks was to report exposure as "sum of (a) outstanding cash amount, (b) issued guarantees and LC and (c) undrawn/unissued portion of committed lines before the application of any CCF". Banks were asked to report EAD as the amount calculated for regulatory reporting

\*\*For example if default rate observed in a year was 1% and loss rate vs EXP was 0.5% then the implied observed LGD was 50%. This implied LGD number should be treated with caution as it relies on the EXP number, which includes both on and off balance sheet items. A true historical LGD observation is normally based on the amount outstanding at default, which may vary considerable from the EXP number for non-defaulted counterparties at the start of the year. Effectively this so called "implied LGD" includes both observed EAD and LGD elements

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# Data averages (weighted by obligors)

Year	sum of obligors at start of year (cohort)	Sum of Exposures in cohort (EXP) in EUR	Sum of defaults in year	Average Default Rate (DR) cohort weighted	Average Loss Rate/EAD (LREAD) cohort weighted	Average Loss Rate/EXP (LREXP) cohort weighted	Average EAD/EXP cohort weighted	Average implied observed LGD cohort weighted
2008	907	29,387,093,022	12	1.32%	0.06%	0.04%	94.2%	1.7%
2009	811	36,549,768,317	15	1.85%	0.18%	0.16%	99.9%	11.5%
2010	1,311	53,339,986,395	4	0.31%	0.09%	0.05%	90.7%	17.4%
2011	1,225	71,500,984,167	7	0.57%	0.08%	0.08%	84.2%	14.8%
2012	1,727	78,789,692,500	11	0.64%	0.32%	0.18%	74.6%	20.0%
2013	1,869	84,276,361,290	17	0.91%	0.17%	0.09%	74.3%	11.2%
2014	2,192	101,775,809,358	16	0.73%	0.15%	0.09%	63.1%	14.9%
2015H1	2,040	101,655,154,786	8	0.78%	0.44%	0.28%	67.6%	15.0%
Grand Total	12,082	557,474,961,885	90	0.81%	0.20%	0.13%	77.2%	14.0%
Average of years	1,510	69,684,370,229	11.25	0.89%	0.18%	0.12%	81.1%	13.3%

### Notes:

- The 2015 H1 flow data (default and loss percentages) are shown as doubled to make them equivalent to annual. The sum of obligors, exposures and defaults are shown not doubled. This explains why 8 defaults observed in half of 2015 produces the same default rate as 16 defaults in the whole of 2014.
- Obligor weighting uses the number of obligors in each bank's starting portfolio (cohort) as the weighting
- The averages on the grand total line are a weighting of all data in all years, whereas the average of years are simply an average of the yearly weighted average numbers shown in the column above

- As expected, the default rate was worst in 2009 where it peaked at 1.85%
- Banks' EAD to gross exposure (EXP) rates depended on their internal models
- Implied LGD (loss rate/default rate) was 20% or less consistently, reflecting the high recoveries from structure and collateral

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## Implied RWA

Risk Weighted Assets is calculated by banks for commodities finance using internal models based on internal and external data. If banks were to use the default, loss and LGD rates observed from this 8 bank data pooling the RWA calculations according to the Basel formula would be as follows:

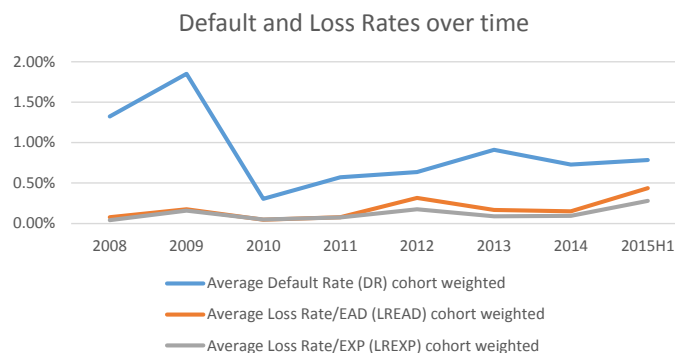
- ❑ The averaged default rate observed is 0.81% by obligor or 0.89% as average of years.
- ❑ The EAD reported by banks is approximately 80% of the Exposure\*
- ❑ The LGD observed is 20% in the worst year

The implied RWA using average of years PD 0.89% and worst LGD 20% is:

- 1 year 33% of Exposure\* or 41% of EAD
- 2.5 yrs 42% of Exposure\* or 52% of EAD

\*Exposure includes both on and off balance sheet amounts, being the sum of:  
 (a) outstanding cash amount,  
 (b) issued guarantees and LCs and  
 (c) undrawn/unissued portion of committed lines before the application of any CCF

## Default Rate and Loss Rate



- ❑ Default rates can be volatile given the small number of obligors
- ❑ Loss rates are dampened by both EAD reducing the cash outstanding at time of default and recoveries reducing the LGD

## APPENDIX 3

### **The International Chamber of Commerce (ICC)**

The International Chamber of Commerce Banking Commission is heavily engaged on a global level in research, data collection, analysis, advocacy and standards/practice-setting in international banking and in trade and supply chain finance, among numerous other areas. The Banking Commission has been at the forefront of advocacy efforts and global, cross-industry dialogue and collaboration on numerous issues and practices related to the financing of international commerce, including, since the peak of the global crisis, the enablement of fact-based dialogue and advocacy with regulatory authorities.

The ICC's annual "Rethinking Trade and Finance" and "Global Risks Trade Finance Report" are flagship publications that provide, respectively, a broad view of the state of trade and trade financing, and a robust view of the (credit) risk and default characteristics of trade finance. These publications are widely referenced and quoted, and have been recognized as adding materially to the quality and depth of analysis and dialogue about the financing of international trade. They also reflect clearly, the collaborative approach and reach of the Banking Commission in its activities related to international banking.

This Discussion Paper, prepared under the auspices of the Association for Financial Markets in Europe (AFME), represents an important and timely addition to the robust analysis and dialogue around the financing of international trade, with an appropriately specific focus on the specialized sub-field of commodity finance.

The ICC Banking Commission welcomes and fully endorses this important initiative, to which leading experts from around the world have contributed. These include experts from CF banks, including members of AFME and Global Credit Data (GCD), as well as a member of the Banking Commission's team of Senior Technical Advisors with particular expertise in capital optimisation and the Basel Accords. The risk and default characteristics of commodity finance, as articulated in the paper are highly aligned with the more general analysis and discussion developed by the ICC (in close collaboration with the Asian Development Bank) since the first edition of the Global Risks Trade Finance Report in 2009. The upcoming 2015 edition benefits from data, support and expertise contributed by 24 leading trade finance banks, is underpinned by 13,5 million data points and covers about US \$7.6 trillion in trade finance exposure, leading to conclusions – and advocacy themes – consistent with the findings which follow.

The Banking Commission concurs that this is an important first step in a critical dialogue, and we stand prepared to support future efforts in data collection, analysis and/or advocacy together with AFME, GCD, interested parties and regulatory authorities, with the ultimate objective of achieving equitable, risk-aligned capital treatment for commodity finance, while contributing to the development and maintenance of an effective global regulatory regime in trade and commodity finance.

## Appendix 4: ABBREVIATIONS

<b>Acronym</b>	<b>Definition</b>
AFME	Association for Financial Markets in Europe
AIRB	Advanced Internal Rating-Based
AML	Anti-Money Laundering
BAFT	Bankers Association for Finance and Trade
BCBS	Basel Committee on Banking Supervision
BIS	Bank for International Settlement
CCF	Credit Conversion Factor
CF	Commodity Finance
CPL	Customer Pty Ltd
CTF	Commodity Trade Finance
EAD	Exposure at Default
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
FBF	French Banking Federation
FCR	Freight Carrier's Receipt
GCD	The Global Credit Data consortium
ICC	International Chamber of Commerce
IPO	Initial Public Offering
IRB	Internal Ratings Based
LC	Letter of Credit
LGD	Loss Given Default
NVB	Dutch Banking Association
PD	Probability of Default
RCF	Revolving Credit Facility
RSA	Revised Standardized Approach
RWA	Risk Weighted Asset
SL	Specialized Lending
SME	Small and Medium-Sized Enterprises
STD	Standard
TNW	Tangible Net Worth
TF	Trade Finance
USD	US Dollar