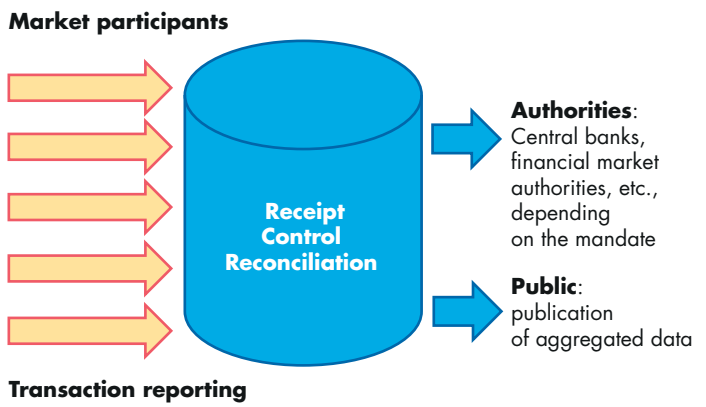
CHAPTER 16

Trade repositories

Updated on 17 December 2018

According to the definition in the CPSS-IOSCO report entitled Principles for Financial Market Infrastructures, or PFMI,[1] a trade repository is "an entity that maintains a centralised electronic record (database) of transaction data". In this respect, trade repositories constitute a new, very specific type of financial market infrastructure in that they do not process transactions themselves, like central counterparties (CCP) or securities settlement systems (SSS) systems, but manage and store data relating to financial transactions. While they predated the 2008 financial crisis, they have since grown in importance, especially as a means of increasing the transparency of over-the-counter (OTC) derivatives markets.

Box 1: How a trade repository works



1. What are trade repositories?

1.1. Definitions

Trade repositories (TR) are financial market infrastructures operated by legal entities tasked with recording data about financial transactions, which include derivatives trades, securities lending and borrowing, repurchase agreements and foreign exchange transactions.

Trade repositories are unquestionably one of the most important global market infra-structure innovations of recent years on account of their ability to make the opaque OTC derivative market transparent. But they were actually first created to meet different needs, relating mainly to the confirmation and recording of credit derivatives.[2]

1.2. The role of trade repositories

The role of trade repositories is to ensure transaction transparency for market participants and regulators. By centralising the collection, storage and dissemination of data, a trade repository can contribute significantly to increasing the transparency of transaction data communicated to regulators and the public, and thereby help detect and prevent market abuse and promote financial stability.

This role is particularly important for OTC transactions, for which there is no organised market capable of ensuring transparency. Counterparties to OTC derivatives transactions are allowed to report the related data themselves. In some cases, they may delegate this reporting role to a third party (the central counterparty in the case of cleared transactions, for example). Accessing this information is important in particular to enable central banks to obtain a consolidated view of risks, prudential supervisors to monitor the exposures of institutions under their responsibility and market regulators to identify any market manipulation. Trade repositories also make aggregated information available to the public.

Trade repositories can also provide auxiliary services such as transaction confirmation, transaction life cycle payment calculation or data updating.

1.3. History

Trade repositories first emerged with the development of the credit derivatives

1 *http://www.bis.org/cpmi/publ/d101a.pdf*; see Chapter 18.

2 See history in Section 1.3

market (credit default swaps, or CDS), which expanded rapidly in the late 1990s and early 2000s. It is estimated that only 15% of transactions in 2003 were recorded electronically. At that time, most trading was done orally – a source of errors – and transaction confirmation could often take up to a month, leading to a growing risk of unidentified or unreconciled trades between the market's financial institutions and corporate players. Aware of the need to eliminate this risk, a number of national and transnational authorities pushed for the development of an electronic CDS reconciliation and processing service.

Market participants joined forces with the Depository Trust & Clearing Corporation (DTCC), a US company offering post-trade services in the US and international financial markets, to create Deriv/SERV, an automated CDS reconciliation and confirmation platform. By a few years after its creation in 2003, and then throughout the financial crisis, this new service was being used to confirm and record more than 95% of all CDS transactions worldwide.

Once this problem solved, regulatory authorities and market participants then found the downstream processing of CDS transactions to be another source of concern. For example, the process of recording and reconciling changes and amendments to CDS contracts, which are often sold or transferred several times before maturity, remained manual in most cases. To remedy this situation, a new infrastructure, DTCC Trade Information Warehouse (TIW), was created in 2006 in the United States. This automated trade repository was designed to store and process all CDS contracts, throughout their life cycle. In 2007, TIW held information on more than 2.2 million outstanding CDS contracts, an estimated 98% share of existing CDS transactions worldwide.

Following the 2008 financial crisis, the role of trade repositories increased significantly, extending from credit derivatives to other asset classes.

2. Accelerated regulation: the obligation to report derivative transactions and the associated consequences

At the Pittsburgh Summit in September 2009, G20 leaders indicated their willingness to increase the transparency and security of international markets. The liquidation of Lehman Brothers and near-bankruptcy of insurer AIG thus prompted numerous reforms targeting OTC derivatives.

2.1. G20 decisions

Indeed, these crises had revealed a number of fault lines, in particular the lack of visibility on financial players' positions, the massive concentration of derivatives positions in certain portfolios and the huge difficulty for liquidators and authorities to identify counterparties and transactions in order to be able to unwind trades. This pointed to the urgent need to make such products transparent by law, in order to avoid another financial crisis.

In the case of the Lehman Brothers failure in 2008, for example, it was initially very difficult to identify all the credit derivative transactions for which Lehman Brothers was the reference entity,[3] which made liquidation extremely complex. The episode highlighted the usefulness of reporting the various contracts for which Lehman Brothers was the reference entity in one place, to make it easier to measure the financial exposure of the entities that had sold hedges against the bank's default.

Against this backdrop, the G20's final communiqué established an obligation to register OTC derivative transactions with trade repositories. By recording these transactions centrally and standardising the related information, for any market segment rather than just CDS, trade repositories could give regulators a consolidated view of derivatives activity and facilitate global exposure calculations, which until then had not been possible in all derivative market segments because

3 A CDS in which the reference entity is Lehman Brothers is essentially an insurance product designed to protect the contract's holder against the bank's default. The CDS' seller is the counterparty exposed to Lehman Brothers default risk.

of disparities in the available information. In the Lehman Brothers example described above, systematic use of trade repository-based transaction reporting could have facilitated the calculation of counterparties' effective CDS market exposure to that bank, which would have mitigated the flare-up of interbank market risk aversion sparked by the institution's failure.

2.2. EMIR

In Europe, this G20 declaration resulted in *Regulation (EU) No 648/2012 of the Euruopean Parliament and the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories*.[4] This regulation, which came into force on 16 August 2012 and is better known as the European Market Infrastructure Regulation (EMIR), implements the PFMIs principles with respect to CCPs and TRs in the European Union. EMIR accordingly laid down an obligation to report all derivative transactions via trade repositories, established rules to govern these infrastructures and defined standards for their operation, control, monitoring and supervision, in accordance with the PFMI.

The reporting obligation under EMIR has been in effect since 12 February 2014 and applies to all derivative transactions, without exception. It should be noted that in the European Union, EMIR requires all derivative transactions, whether concluded on a market platform or over the counter, to be reported to a trade repository. This is not the case in all jurisdictions: in the United States, for example, only OTC derivatives have to be reported. The G20's pledge is reflected in the US in one of the Dodd-Frank Act's provisions, which requires disclosure to swap data repositories[5] (SDR) of OTC derivative transactions.

Another notable difference between European and US legislation is the principle of single or dual reporting. The Dodd-Frank Act requires that only one of the two counterparties reports the transaction to an SDR,[6] whereas EMIR currently requires each counterparty to report the transaction separately.[7] This dual disclosure is designed to ensure better data quality than that of a single disclosure system in which only the trade repository validates trades.

The obligation to record transactions with trade repositories is a work in progress, as illustrated by the adoption in November 2015 of the SFTR,[8] an EU regulation intended to improve the transparency of securities financing transactions carried out in the bloc. This Regulation was adopted specifically in response to the publication in 2013 of the Financial Stability Board's recommendations on shadow banking regulation, which notably included improving the transparency of securities lending and borrowing and repurchase transactions.[9]

During the financial crisis, these transactions were a source of contagion, leverage and pro-cyclical effects and were thus identified by European legislators as needing more monitoring and transparency.

Article 4 of the SFTR accordingly imposes an obligation to report securities financing transactions to trade repositories for all transactions entered into after the Regulation's entry into force on 12 January 2016.[10]

3. The emergence of new players and their various business models

There are a number of co-existent business models for trade repositories.

In Europe and the United States, trade repositories are mainly held by private financial market infrastructure groups operating all along the securities processing chain. These groups generate revenue by collecting fees from reporting entities, although little information is available on the actual operating margin of this infrastructure group business segment. It is the dominant model worldwide, as deployed notably by the DTCC group, which manages eight

4 *https://eur-lex.europa.eu/legal-content*. For further details on EMIR, see Chapter 11, Section 4.3.

5 The US equivalent of trade repositories.

6 Determining which entity must report to the SDR is subject to specific rules relating to the types of counterparties in the transaction (swap dealer, major swap participant, etc.).

7 Under European regulations, a single transaction can thus be reported in two different trade repositories.

8 Securities Financing Transactions Regulation. *http://eur-lex.europa.eu/legal-content*.

9 Securities financing transactions give market participants access to guaranteed financing by enabling them to use their assets as collateral to finance their activity. They notably include the temporary collateralisation of assets in exchange forfinancing (for example, securities lending and borrowing, repurchase agreements, securities purchase and resale or sale and repurchase, and loans with margin calls).

10 And publication of the associated technical standards. The SFTR also stipulates implementation deadlines for certain counterparties, ranging from 12 to 21 months.

Box 2: Trade repositories and equivalent entities in the Financial Stability Board's 24 juridictions

TR name	Location	Juridictions in which TR is authorised to operate
Trade repositories (TRs)		
BM&F Bovespa	Brazil	Brazil
BSDR LLC	US	(US)
CCIL	India	India
CETIP	Brazil	Brazil
Chicago Mercantile Exchange Inc.	US	Canada, (US)
CME European Trade Repository	UK	EU
DTCC-DDR	US	[Australia], Canada, (US)
DTCC Data Repository – Japan	Japan	[Australia], Japan
DTCC-DDRL	UK	[Australia], EU
DTCC Data Repository – Singapore	Singapore	Australia, Singapore
HKMA-TR	Hong Kong	[Australia], HK
ICE Trade Vault	US	Canada, (US)
ICE Trade Vault Europe	UK	EU
KDPW Trade Repository	Poland	EU
Korea Exchange (KRX)	Korea	Korea
CJSC National Settlement Depository (NSD)	Russia	Russia
REGIS-TR	Luxembourg	EU
OJSC "Saint-Petersburg Exchange" (SPBEX)	Russia	Russia
SAMA TR	Saudi Arabia	Saudi Arabia
UnaVista	UK	[Australia], EU
TR-like entities		
Argentina Clearing	Argentina	Argentina
Banco de México	Mexico	Mexico
Bank of Korea	Korea	Korea
Bank Indonesia	Indonesia	Indonesia
CFETS	China	China
China Securities Internet System	China	China
Financial Supervisory Service	Korea	Korea
Mercado de Valores de Buenos Aires	Argentina	Argentina
Mercado Abierto Electrónico	Argentina	Argentina
Mercado Argentino de Valores	Argentina	Argentina
Mercado a Término de Buenos Aires	Argentina	Argentina
Mercado a Término de Rosario	Argentina	Argentina
SIOGRANOS	Argentina	Argentina
Takasbank	Turkey	Turkey

Source: Thematic Review on OTC Derivatives Trade Reporting, Peer Review report, 4 /11/2015: http://www.fsb.org/wp-content/uploads/Peer-review-on-trade-reporting.pdf

trade repositories in the United States, Europe and Asia. The model's success is attributable to the groups' ability to offer a comprehensive range of integrated post-market services (clearing, settlement and delivery, reporting to trade repositories, etc.). Advocates of this approach highlight the efficiency of integrating a range of services within the same group and the cost synergies that this can offer.

In other regions, trade repositories may be part of public organisations, the central bank or the local financial market authority. This is the case for Hong Kong's HKMA-TR, for example, an offshoot of the national financial market authority.[11]

In Mexico and South Korea, on the other hand, the central bank carries out the trade repository function.

The idea has also been mooted that trade repositories can perform a public service role, insofar as these infrastructures provide a general interest service. Indeed, international trade repositories are in a unique position to support financial stability and the integrity of financial markets, and to provide this public service.

11 Hong Kong Monetary Authority

3.1. Worldwide

More than 30 trade repositories are currently known to exist worldwide, but as shown by the table below, they appear to be concentrated in certain jurisdictions.

The presence and number of trade repositories from country to country is linked on the one hand to the reporting obligations established by the various jurisdictions concerned and on the other hand to the segmentation of the various markets and the coexistence, depending on the market segments, of public and private trade repositories. A case in point is Brazil, where the reporting obligation is longstanding (end of the 1980s) and where BM&F Bovespa, a member of the stock market group of the same name, is the processing entity for derivative transactions listed on regulated platforms, while CETIP holds transaction data for OTC derivatives.

3.2. In Europe

Within the European Union, at the end of February 2018 there were eight EU-based trade repositories authorised by the ESMA, the authority designated to authorise and supervise these infrastructures at EU level:

- five in the United Kingdom:
  – DTCC Derivatives Repository Ltd, a subsidiary of the US group DTCC, a well established trade repository player;
  – UnaVista Ltd, a subsidiary of the LondonStock Exchange Group;
  – CME Trade Repository Ltd;
  – ICE Trade Vault Europe Ltd;
  – Bloomberg Trade Repository Ltd;

- one in Luxembourg:
  – Regis-TR S.A., a joint venture between the Spanish CSD Iberclear and Clearstream;

- one in Poland:
  – Krajowy Depozyt Papierów Wartosciowych S.A. (KDPW);

- one in Sweden:
  – NEX Abide Trade Repository AB.

Furthermore, under EMIR ESMA can also recognise the trade repositories of third countries, subject to compliance with a certain number of conditions (see below), in particular the application of an equivalent supervisory regime and the existence of cooperation agreements between the regulators in question.

4. The European Union's trade repository supervisory framework

As all financial market infrastructures, trade repositories are subject to the PFMI at the international level. In the European Union, and as in the case of other infrastructures (CCP, CSD, systemically important payment systems, etc.), a regulation has been introduced to make the PFMI binding for trade repositories. EMIR defines the EU's supervisory framework for both CCPs (see Chapter 11, Section 4.3) and trade repositories. Specifically, Title VI (Articles 55 to 77) thereof describes the trade repository authorisation procedure applicable by ESMA, the European financial market regulator that is also tasked with their direct supervision.

This direct supervision begins as soon as it has authorised trade repositories, and requires it to ensure that they constantly comply with EMIR requirements. ESMA can also impose sanctions or fines and carry out on-site inspections under the provisions of EMIR Title VI, which concern in particular:

- operational reliability (Article 79): in this respect, trade repositories must have reliable and secure control systems and resources. They must also put in place business continuity policies and recovery plans, insofar as they are particularly exposed to operational risks (see Chapter 17); it is essential that the data they hold are at all times available, reliable, accurate and up-to-date;

- data backup and recording (Article 80): trade repositories are required to ensure the confidentiality, integrity and protection of the information they receive. They are also required to retain data for at least ten years after the termination of the associated contracts;

- the transparency and availability of data for regulators (Article 81): for example, EMIR requires the data contained in the trade repositories to be rapidly available for a number of authorities, including ESMA, national financial market supervisory authorities, infrastructure supervisory authorities, relevant ESCB members, etc.

Meanwhile, EMIR Article 77 describes the applicable procedure for a trade repository located outside the European Union that wishes to provide services within the bloc. According to this procedure, the foreign trade repository applying for approval must, for example, be located in a country whose market infrastructure supervision legislation the European Commission has recognised as equivalent to that of the European Union. Pursuant to PFMI Responsibility E, which deals with cooperation between regulatory authorities, in such cases EMIR also requires the signing of cooperation agreements between the relevant European regulators and the authorities of the foreign country in question, in order to ensure regular exchange of information.

5. Quality, fragmentation and access to data: the challenges arising from changes in trade repositories

Transparency of transaction data is essential to enable i) regulators to determine where market risk lies and where the system's potential sources of financial instability are, and ii) trading entities to measure their overall exposure to the risk of counterparty default. Transparency makes it possible to identify and manage concentration and counterparty risks. But transparency is only possible if the underlying data are accurate and comprehensive. Otherwise, they could mislead regulators and/or the public.

The authorities use data from trade repositories within their jurisdictions to improve transparency, reduce systemic risk and prevent market abuse.

5.1. Uses of data

The authorities use trade repository data primarily to help implement the various OTC derivative market reforms – in many cases to calculate the proportion of centrally cleared OTC derivatives, for example. They also analyse the characteristics of the various OTC derivatives to help determine whether they should be subject to mandatory clearing rules. Lastly, the data allow the authorities to assess the degree of product standardisation and so gauge market liquidity, as well as the number and types of participants in the various OTC derivative markets.

For the purpose of assessing financial stability and identifying systemic risk, data from trade repositories can be important for both simple analysis and complex modelling.

- For example, analysing the volumes and types of participants in different market segments can help the authorities better understand where risks could arise. More sophisticated analysis requires an understanding of the positions of market players and the network of exposures between them. This type of analysis remains difficult using trade repository data due to data quality problems, but, in cases where authorities have a more longstanding relationship with trade repositories, it is already possible;

- The analysis of data from trade repositories can be used to model market values and corresponding margin calls on all positions on a daily basis, based on multiple crisis

scenarios defined by the regulators. In a context of market stress, a single trade repository can identify the existence of potentially significant margin calls that the players concerned would have difficulty meeting;

- Moreover, trade repositories make it possible to identify potential payment default chain reactions between countries, the full scope of which would not be detectable by a given national or regional authority. For example, in the event of a monetary shock, a US bank may owe several billion dollars of margin call (in market value) to a European bank, which itself owes the same amount to a Japanese bank. In that scenario, the European bank's accounts may appear to be balanced, whereas in reality the bank in question is caught in the middle of a liquidity crisis between two countries.

- Lastly, a trade repository can enable the public and the authorities to know precisely, at any time, the overall amount of all derivative market open positions and the exposure of the various types of market participants holding those positions, while the relevant authorities will also be able to see those market participants' individual positions.

Regulatory access to these data, another crucial issue, was addressed in detail in a report published by the CPSS and the IOSCO in August 2013,[12] which sought to define the authorities' levels of access to trade repository data in terms of scope and granularity, in accordance with their mandates and responsibilities. Meanwhile, in November 2015, the Financial Stability Board published a peer review of transaction reporting to trade repositories,[13] which constitutes an initial assessment of the implementation of the G20's recommendations in this area. In particular, this report analyses the ongoing legal and technical obstacles to transaction reporting and regulators' access to trade repository data.

5.2. Data issues: quality, aggregation, harmonisation and access

5.2.1. Quality

The obligation to report transactions to trade repositories and the increasing number of players in the TR market have made data quality and fragmentation risk key issues. Indeed, the main objective of the derivative market transparency reform undertaken by the G20 is to allow rapid access by regulators to detailed, accurate trade repository data on a daily basis, and enhanced access in a crisis situation.

5.2.2. Aggregation

It is therefore essential that supervisors have access to reliable data of various degrees of granularity, from individual transaction level to a positional or more aggregated level. The proliferation of trade repositories, and the resulting fragmentation of transaction records, pose a challenge to achieving this objective, insofar as recording formats and conventions can vary from one trade repository to the next. The definition of norms and standards for trade repository data is an essential first step to enable the authorities to aggregate said data and obtain a consolidated view of systemic risk in the markets they supervise. Once data standards have been established, a second step enabling consistent and relevant data pooling through the creation of a centralised trade repository data aggregation mechanism, accessible to regulators for data concerning them, can be implemented. A number of international initiatives have been launched in recent years with this aim.

In September 2014, for example, the Financial Stability Board published a feasibility study of an aggregation mechanism for trade repository OTC derivative data,[14] proposing three types of model:

- a physically centralised model of aggregation: this model involves

12 "Authorities' access to trade repository data", *http://www.bis.org/cpmi/publ/d110.htm*.

13 *http://www.financialstabilityboard.org/2015/11/thematic-review-of-otc-derivatives-trade-reporting/*

14 *http://www.financialstabilityboard.org/2014/09/r_140919/*

setting up a central hub to collect, store and distribute the data transmitted to the trade repositories;

- a logically centralised model of aggregation: under this model, the data would be stored in regional trade repositories, but there would be a logical indexation system enabling the aggregation of all the data; and

- a model for direct collection of data by the authorities from the regional trade repositories, similar to the existing system.

5.2.3. Harmonisation

The conclusions of the Financial Stability Board report referred to above emphasised the need for harmonisation of data formats and the implementation of international standards in this area, as well as the need to develop an overall related strategy, in order to help the authorities tackle problems related to the aggregation of trade repository data.

In response to this study's recommendations, in December 2014 the CPMI[15] and IOSCO launched an international initiative to harmonise transaction data reported to trade repositories. One of this working group's objectives was to create a global standard for a unique transaction identifier (UTI) and for a unique product identifier (UPI). The technical standard relating to the UTI was published on 28 February 2017[16] and that relating to the UPI on 28 September 2017.[17]

In addition to the aggregation of data, one of the main reasons for developing the UTI relates to issues of dual transaction reporting (see Section 2.2), insofar as the dual reporting of transactions within the European Union, combined with the fact that a transaction can be reported in two different trade repositories, can make it difficult to reconcile the two transaction reports. This can lead to the double counting of unreconciled transactions, which is obviously problematic from the point of view of data aggregation and for the data's user, who needs an accurate view of the various parties' exposures. The implementation of a global UTI should resolve this problem by eliminating double counting. A transaction reported in two different trade repositories will have the same UTI in each report, and will thus be reconciled without risk of error.

There are numerous difficulties associated with developing these international standards.

Regarding the UTI, one of the major questions relates to the designation of the generating entity. This is because to produce a truly unique UTI that complies with the chosen data format and is promptly generated for reporting to the trade repositories, it is necessary to follow a complex iterative approach to designate the generating entity with no ambiguity. In practice, this generating entity can be the central counterparty, the clearing member, the market platform, the confirmation platform, one of the two counterparties to the transaction or a third-party entity.

Meanwhile, events in the transaction's life cycle[18] also have an impact on the UTI's generation. It therefore has to be precisely determined which events will give rise to the generation of a new UTI and which events will simply change a transaction's existing data, without generating a new transaction.

Lastly, the UTI's structure and format are also the focus of much attention. In the solution ultimately adopted in the CPMI and the IOSCO's technical standard, the UTI is made up of a "mint", defined as the LEI[19] of the UTI's generating entity, followed by an alphanumeric code, with the entire UTI restricted to 52 characters.

Regarding the UPI, the main difficulty is determining the exact degree of granularity that the product identifier has to integrate. The first step is to define in detail the concepts of asset class, product, instrument and transaction, in order to determine how much information is included at each level. It is also necessary to define a detailed

15 Committee on Payments and Market Infrastructure.

16 *http://www.bis.org/cpmi/publ/d158.htm*

17 *http://www.bis.org/cpmi/publ/d169.htm*

18 Such events could be a novation or a compression cycle.

19 The legal entity identifier (LEI) is a 20-character alphanumeric code based on the ISO 17442 standard developed by the International Organization for Standardization (ISO). It is based on key reference information enabling the clear and unique identification of legal entities involved in financial transactions: see *https://www.gleif.org/fr/about-lei/introducing-the-legal-entity-identifier-lei*

financial product classification system in which the various UPIs will be created. The Box 3 provides an example of the classification of financial instruments for the credit derivatives asset class.

Furthermore, this classification must be sufficiently flexible and adaptable to enable the maintenance of UPI codes, in other words the issuance of new codes and the removal of obsolete ones.

In addition to the UTI and the UPI, the CPMI and the IOSCO have developed a technical orientation covering more than 100 other data elements related to OTC derivative transactions (in particular elements relating to prices, quantities, collateral, valuation, settlement, etc. as well as ones specific to certain financial instruments (in particular credit default swaps and options)). The harmonisation proposals – divided into three lots given the volume of data to be harmonised – were the subject of three consultative documents, published respectively in 2015, 2016 and 2017. The final technical orientation, comprising the three lots, was published on 9 April 2018.[20]

Since these international norms and standards are not binding, it is up to the authorities to implement them in their jurisdiction; this implementation is crucial for the relevant aggregation of data. In the European Union, it could be done in the context of an EMIR revision.

20 *https://www.bis.org/cpmi/publ/d175.htm*

Box 3: Credit derivatives classification

IPU suggéré [a)]	Données de référence de l'IPU suggéré		
Asset class	Credit		
Instrument type	Swap	Option	Forward
Option style	N/A[a)]	European, American, Bermudan etc	N/A
Option type	N/A	Put/receiver, Call/payer, Chooser etc.	N/A
Return, pricing method or payout trigger	Credit Default, Total Return, First to Default, Nth to Default, Contingent, Recovery etc.	Vanilla, Lookback, Other Path-Dependent etc.	Spread, Forward price of underlying instrument etc.
Delivery type	Cash, Physical etc		
Underlying asset/contract type	Single name (CDS), index (CDS), (CDS on) index tranche etc.		
Underlying asset/contract subtype	Sovereign, Municipal, Corporate, Loan pools etc.		
Seniority	Senior, Subordinate etc.		
Standard Contract Specification (if applicable)	Standard North American Corporate, Standard European Corporate, Standard Subordinated European Insurance Corporate, Standard Western European Sovereign, CDX EM Untranched Terms, iTraxx® Europe Tranched Transactions Standard Terms Supplement, iTraxx® Asia/Pacific Untranched Standard Terms Supplement etc.		
Underlier ID source	The origin, or publisher, of the associated underlier ID.		
Underlier ID	An identifier that can be used to determine the asset(s) or index (indices) underlying a contract.		
Underlying credit index series	eg 1, 2, 3, 4, …		
Underlying credit index version	eg 1, 2, 3, 4, …		

a) Throughout these tables, "N/A" denotes "not applicable".

Source: CPMI-IOSCO report on UPI harmonisation, September 2017 (*https://www.bis.org/cpmi/publ/d169.htm*).

5.2.4. Access to data by authorities

One of the major obstacles analysed by the 2014 Financial Stability Board report concerns authorities' cross-border access to data contained in trade repositories located outside their jurisdiction. While access to domestic trade repositories is generally not a problem, there are still many legal barriers to cross-border access. In the United States, for example, an indemnification clause rule adopted by the CFTC[20] required regulators wishing to have access to the data contained in US trade repositories to sign a clause pursuant to which they undertook to compensate the trade repository in the event of any dispute arising due to the data's fraudulent use or a related breach of confidentiality. This provision was ultimately revoked in December 2015.

The report also makes several recommendations for removing these obstacles, including facilitating cross-border access to data, prohibiting the anonymisation of data and adopting global transaction or product identifiers to improve the quality of reported data. The Financial Stability Board regularly monitors jurisdictions' progress in implementing these recommendations.

20 Commodity Futures Trading Commission.