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CONSULTATION DOCUMENT ON THE REGULATION OF INDICES

A Possible Framework for the Regulation of the Production and Use of Indices serving as Benchmarks in Financial and other Contracts

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If you are registered, please indicate the name and address of your organisation and your Interest Representative Register ID number on the first page of your contribution. Your contribution will then be considered as representing the views of your organisation's interest group.

The Commission services ask organisations who wish to submit comments in the context of public consultations to provide the Commission and the public at large with information about whom and what they represent. If an organisation decides not to provide this information, it is the Commission's stated policy to list the contribution as part of the individual contributions.

You are invited to comment on the views reflected in this paper. These views are only an indication of the approach the Commission services may take and are not a final policy position nor do they constitute a formal proposal by the European Commission.

Introduction

The recent alleged manipulation of LIBOR, EURIBOR and TIBOR has highlighted both the importance of indices and their vulnerabilities[1]. The integrity of benchmarks is critical to the pricing of many financial instruments, such as interest rate swaps and forward rate agreements, and commercial and non-commercial contracts, such as supply agreements, loans and mortgages. They also play an important role in risk management.

Doubts about the accuracy and integrity of indices may undermine market confidence, cause significant losses to consumers and investors and distort the real economy. It is therefore essential that steps are taken to ensure the integrity of benchmarks and the benchmark setting process.

The Commission has already moved to amend the proposals for the market abuse Regulation[2] and the criminal sanctions for market abuse Directive[3] to clarify that any manipulation of benchmarks is clearly and unequivocally illegal and can be subject to administrative or criminal sanctions.

However, changing the sanctioning regime alone may not be sufficient to improve the way in which benchmarks are produced and used. Sanctioning does not remove the risks of manipulation arising from the inherent conflicts of interest linked to the production and governance of benchmarks in their current form. This consultation seeks to assess how to improve the production and governance of benchmarks. Benchmarks should accurately reflect the economic realities that they are intended to measure and should be used appropriately. This consultation paper is aimed at identifying the key issues and shortcomings in production and use of benchmarks in order to assess the need for any necessary changes to the legal framework to ensure the future integrity of benchmarks.

Work is required at a Union level due to the global nature of benchmarks. Member States acting without an EU framework in this area could lead to a patchwork of rules, could create an unlevel playing field within the single market, result in an inconsistent and un-coordinated approach and reduce the Union's ability to influence outcomes and achieve an internationally consistent regime at a global level.

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[1] See FSA Final Notice to Barclays dated 27 June 2012 http://www.fsa.gov.uk/static/pubs/final/barclays-jun12.pdf and the CFTC Order in the matter of Barclays PLC et al http://www.cftc.gov/ucm/groups/public/@lrenforcementactions/documents/legalpleading/enfbarclaysorder062712.pdf; in relation to TIBOR see CJL http://www.fsa.go.jp/en/news/2011/20111216-1.html ; CGMJ, http://www.fsa.go.jp/en/news/2011/20111216-2.html ; http://www.ft.com/cms/s/0/7089ffda-534a-11e1-aafd-00144feabdc0.html#axzz1lv2IXnos, February 9, 2012 8:22 pm, Citigroup took $50m loss over traders in Libor probe

[2] Amended proposal for a Regulation on insider dealing and market manipulation, COM(2012) 2011/0295 (COD)

[3] Amended proposal for a Directive on criminal sanctions for insider dealing and market manipulation, COM(2012) 2011/0297 (COD)

A number of initiatives have already been launched, including the Wheatley Review of LIBOR[4], the work of IOSCO[5] on oil price reporting agency oversight, the meeting of central banks on the 9th of September and further discussions at FSB and G20 level.

Against that background, the Commission services have identified a number of areas, set out in the following 5 chapters, on which stakeholder input is welcomed.

1. Indices and Benchmarks: What they are, who produces them and for which purposes.

2. Calculation of Benchmarks: Governance and Transparency.

3. The Purpose and Use of Benchmarks.

4. Provision of Benchmarks by Private or Public Bodies.

5. Impact of Potential Regulation: Transition, Continuity and International Issues.

In order to assist us in evaluating your contributions, we would appreciate if you could maintain the structure and numbering of this questionnaire in your replies and indicate clearly the question you are responding to.

In replying to these questions, please indicate the expected impact described in each section of this paper on your activities or the activities of firms in your jurisdiction, including estimates of administrative or compliance costs.

Please also state the reasoning behind your answers and any evidence supporting your views.

It is possible to request that a submission remains confidential. In this case, the contributor should explicitly indicate on the first page of their response that they do not want their contribution to be published.

You are invited to send your contributions until 29 November 2012 to: MARKT-BENCHMARKS-CONSULTATIONS@ec.europa.eu
Responses will be published on the following website unless requested otherwise: http://ec.europa.eu/internal_market/consultations

[4] http://www.hm-treasury.gov.uk/d/condoc_wheatley_review.pdf

[5] http://www.iosco.org/news/pdf/IOSCONEWS227.pdf

Chapter 1
Indices & Benchmarks:
What are they, who produces them and for which purposes

An index is a statistical measure, typically of a price or quantity, calculated from a representative set of underlying data. This index may then be used as a reference price or benchmark for a financial or other contract. A wide variety of indices are currently produced by a number of different types of producers. These indices differ not only in the underlying data used, but also in the methods used to collect the data, the calculation of the index and their ultimate use.

1.1 Types of Index

A wide variety of underlying assets or prices may be referenced in an index. These include:

- Interbank interest rates: In addition to LIBOR, EURIBOR, TIBOR, CIBOR etc. which are based on banks estimates of borrowing rates, there are a whole range of similar indices such as Eurepo, which uses as its base repo rates, Euroswap, which uses Swap rates and EONIA which uses actual overnight transaction rates as its base.

- Other financial instruments: There are a number of well-known indices that use equities as their base such as the FTSE 100 index or Dow Jones Industrial Average. Others such as NASDAQ OMX fixed income have bonds as their base. There are other financial indices such as SovX which provides a measure of sovereign risk or volatility indices, and VIX, which measures the implied volatility of S&P 500 index options.

- Commodities indices: A number of indices that use commodity prices as their underlying data are long established and include commodities such as agricultural products (e.g. cocoa LIFFE London), metals (e.g. Gold COMEX) or oil (e.g. Brent oil ICE). There are also aggregate commodity indices which represent broadly diversified investment in commodities, such as the CRB which comprises prices of 19 commodities in different sectors.

- Price Indices: Macroeconomic indices may measure prices such as consumer price index (CPI), the GDP deflator, the producer price index (PPI). They are widely used for financial, commercial and non-commercial purposes. Typically these indices are calculated by public bodies.

- Real Estate Price Indices: These include Standard & Poor's Case-Schiller Home Price Index, which measures the price of property in the United States.

- Pensions: A range of indices are important for the calculation of pensions, including the Limited Price Indexation (LPI Index) for pension increases, and for insurance, notably actuarial tables.

- Other Indices: There is a whole range of other indices such as weather indices ("UBS-GWI" UBS-Global Warming Index) used for damages and parametric weather contracts. Other indices, such as the PMI, Purchasing Managers Index measure business sentiment.

1.2 PRODUCERS OF INDICES

Indices are produced by a number of different types of organisations, including:

- Public entities, such as the ECB, which calculates the EONIA rate, national statistical authorities that calculate consumer price indices, or multilateral organisations such as the World Bank and IMF which publish commodity indices or National Central Banks of euro and non-euro countries calculating benchmark indices.

- Trade organisations such as the British Banking Association (BBA) which calculates LIBOR, the European Banking Federation (EBF) which calculates EURIBOR and UK repo indices, and the Danish Bankers' Association which produces the Danish Swap Index and CIBOR.

- Exchanges such as NYSE Euronext which produces the Euronext 100 Index and the Next 150 Index among others, the CME (Chicago Mercantile Exchange) which produces indices such as the Dow-Jones Industrial Average, the London Stock Exchange which produces the FTSE100 (jointly with the Financial Times) and Deutsche Börse AG which produces indices such as the Euro Stoxx 50 Index.

- Price Reporting Agencies which are responsible for calculating international commodity prices, such as Platts and Argus Media which calculate and publish prices for oil, natural gas, coal, energy, metals, and emissions.

- Other commercial organisations such as independent index providers, banks, and asset managers also calculate a variety of indices. For example, the CDS Index published by Markit or GSCI commodity index produced by Standard & Poors.

1.3 METHODOLOGIES

A range of different methodologies are used with respect to the underlying data. The methodology of a benchmark specifies who contributes the data, how it is collected and how the index is calculated. The choice of methodology depends, amongst other things, on what is practicable, what the index is used for as well as precedent.

1.3.1 Underlying data

The underlying data may be actual prices or transaction values, historical data, estimated data, or in certain other instances, actual and actionable bids or offers or quotes. In cases where actual figures are used, the data can be considered to

be objective and verifiable. For example EONIA is calculated using actual values for all overnight unsecured lending transactions in the interbank market.

However, other indices use less objective or verifiable underlying data, usually because actual transaction data is not available. LIBOR is calculated on the basis of banks' estimates of "*The rate at which an individual contributor panel bank could borrow funds, were it to do so by asking for and then accepting interbank offers in reasonable market size, just prior to 11.00am London time*"[6]. This rate is a subjective estimate, but it may be verifiable to the extent that the bank has engaged in actual transactions that correspond to the definition. EURIBOR is calculated on the basis of what the panel bank "*believes one prime bank is quoting to another prime bank for interbank term deposits within the euro zone*"[7]. This is again a subjective estimate which is even less verifiable since it relates to a notional "*prime bank*". Similarly the Purchasing Managers Index is a measure of business sentiment and uses purchasing managers' estimates or opinions.

1.3.2 Gathering of data & contributors

The underlying data may be collected in a variety of ways. In some instances all the data may be available because for instance it is mandatory to report all transactions to a particular entity. All overnight lending by the relevant panel banks is cleared by the ECB and as a result it has available all the necessary data to calculate the EONIA index of the overnight interbank lending rate[8].

Where reporting is not complete or mandatory, index calculators have broadly two options to gather the data. They may rely on a panel of contributors to report the data, for example the ISDAFIX benchmark for average mid-market swap rates is calculated based on contributed data from a panel of 6 to 18 banks. Alternatively they can survey the relevant markets – either actively by contacting participants or passively by relying on participants to report data to them. This is the approach typically adopted by commodity index providers. In both cases the contributions are voluntary and the results may not be complete. Finally for some benchmarks, the role of the contributors is limited because the underlying data is freely available – for example stock indices may gather the closing prices from publically reported data.

1.3.3 Calculation Methodology

An index is then calculated from this underlying data using a formula, typically an average. However this calculation is often more complex, may vary depending on circumstances and in particular involves the exercise of discretion. The application of a formula normally involves rules on which data to include, how they are weighted, and how other information is taken into account when computing the final figure.

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[6] http://www.bbalibor.com/bbalibor-explained/definitions

[7] http://www.euribor-ebf.eu/assets/files/Euribor_tech_features.pdf

[8] http://www.euribor-ebf.eu/euribor-eonia-org/about-eonia.html

Stock indices are one of the best known and most straightforward indices. The Dow Jones Industrial Average was at its outset in 1896 calculated as a simple arithmetic average of 12 leading industrial stocks. While the choice of these 12 was discretionary, the calculation itself involved no judgment or discretion. However over time some of these 12 stocks became less important and new industrial leaders arose. As a result, the index became less representative of the leading industrial companies and so the component stocks had to be changed, a total of 48 times in its 116 year history[9]. Even amongst stock indices the calculation methods differ – the Dow Jones is a price weighted index whereas others are volume weighted. For these volume weighted indices, further adjustments such as the free float adjustment in the FTSE 100 are also required.

For other indices, the methods used to calculate may be more complex and discretionary. The VIX[10] index is calculated using a complex model. An oil index may be calculated by using a sample of actual reported prices. However, if the index is produced daily and prices are not available on that day (either because no trades occurred or none are reported) the index may be calculated using a proxy – for example the transaction price for a comparable grade of oil, appropriately adjusted. Some interest rate indices may normally be based on actual transaction data, but if this data is not available on a particular day the index may revert to an estimate based value.

Other indices may incorporate non-quantitative information. For example, an oil benchmark provider may have to incorporate an important announcement into the value of a benchmark, such as an announcement by OPEC. This announcement may have occurred after any actual transactions took place, but before the benchmark is published. In some circumstances, if the news is particularly important, this may mean that actual transactions are ignored and superseded by an estimate in light of this new information.

The methodology that is used is typically made transparent to all users, and even to the public. For example, for equity indices such as FTSE Global Equity Index Series a comprehensive Guide to Calculation Methods incorporating a statement of principles has been published by the producer[11].

1.4 USES OF INDICES

1.4.1 Benchmarks for Financial, Commercial and Non Commercial Purposes

One of the most important uses of indices is as benchmarks. An index may be used as a reference price for financial transactions or instruments, e.g. EURIBOR and LIBOR may be used to price interbank loans or as a reference benchmark for interest rate swaps. However they are not only used for financial

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[9] http://www.djaverages.com/?go=industrial-overview

[10] http://www.cboe.com/micro/VIX/vixintro.aspx

[11] http://www.ftse.com/Indices/FTSE_Global_Equity_Index_Series/Downloads/FTSE_Global_Equity_Index_Series_GuidetoCalc.pdf

transactions. For example, they may be used to price a commercial contract or be the reference interest rate in a retail mortgage or consumer credit contracts.

Similarly many commodity indices such as Natural Gas – NYMEX were developed to price commercial spot contracts. However with the increased development of financial instruments they may be increasingly used for financial purposes such as pricing derivatives and hedging instruments. One of the critical issues here is that the use of the index may be very different from the purpose it was originally developed for.

1.4.2 Uses other than as a benchmark

Aside from their use as benchmarks, indices serve a variety of other purposes. A benchmark may be used for performance management – for example an asset manager's performance may be evaluated against a stock index such as the FTSE 100. Benchmarks are also an important measure of sentiment or general economic conditions – the FTSE 100 is reported in the news daily as a measure of economic conditions. Indices are also used for research purposes and to reveal new information – the LIBOR-OIS spread was used as a measure of financial stress[12] during the recent economic crisis.

1.5 DEFINING INDICES & BENCHMARKS

The Commission has proposed a definition of benchmarks in the amended proposals for a Regulation[13] and Directive[14] on market abuse, to clearly prohibit the manipulation of benchmarks. These amended proposals define benchmarks as (a) indices or published figures calculated through the application of a formula to underlying data that are (b) used as a benchmark or reference price for financial instruments:

> *"Benchmark" means any commercial index or published figure calculated by the application of a formula to the value of one or more underlying assets or prices, including estimated prices, interest rates or other values, or surveys by reference to which the amount payable under a financial instrument is determined."*

This definition is intended to be broad and includes within its scope most of the indices and benchmarks outlined in this chapter. While the scope of the market abuse rules is limited to benchmarks which affect the price of financial instruments, the scope of any additional regulation may need to be broader, and also extend to benchmarks which are used to price other contracts.

Box 1

(1) Which benchmarks does your organisation produce or contribute data to?

[12] See e.g. http://research.stlouisfed.org/publications/es/09/ES0924.pdf

[13] Amended proposal for a Regulation on insider dealing and market manipulation ibid

[14] Amended proposal for a Directive on criminal sanctions for insider dealing and market manipulation ibid

(2)	Which benchmarks does your organisation use? What do you use each of these benchmarks for? Has your organisation adopted different benchmarks recently and if so why?
(3)	Have you recently launched a new benchmark or discontinued existing ones?
(4)	How many contracts are referenced to benchmarks in your sector? Which persons or entities use these contracts? And for which purposes?
(5)	To what extent are these benchmarks used to price financial instruments? Please provide a list of benchmarks which are used for pricing financial instruments and if possible estimates of the notional value of financial instruments referenced to them.
(6)	How are benchmarks in your sector set? Are they based on real transactions, offered rates or quotes, tradable prices, panel submissions, samples? Please provide a description of the benchmark setting methodology.
(7)	What factors do you consider to be the most important in choosing a reliable benchmark? Could you provide examples of benchmarks which incorporate these factors?

Chapter 2
Calculation of Benchmarks: Governance and Transparency

2.1 Overview

Producing an index from underlying data is not simply a mechanical mathematical exercise but may require the exercise of judgement and discretion at various stages.

The calculation of an index starts with the collection of underlying data. This may be objective or verifiable data such as real prices - for example the closing price of shares used to calculate the Dow Jones Index. Alternatively, the inputted data may be more subjective or less verifiable, such as the estimates of a prime bank's borrowing rate used to calculate EURIBOR. In those cases where the underlying data is not objective, a degree of discretion rests with the contributor of the data. If this discretion is not exercised appropriately, this will impact the integrity of the index.

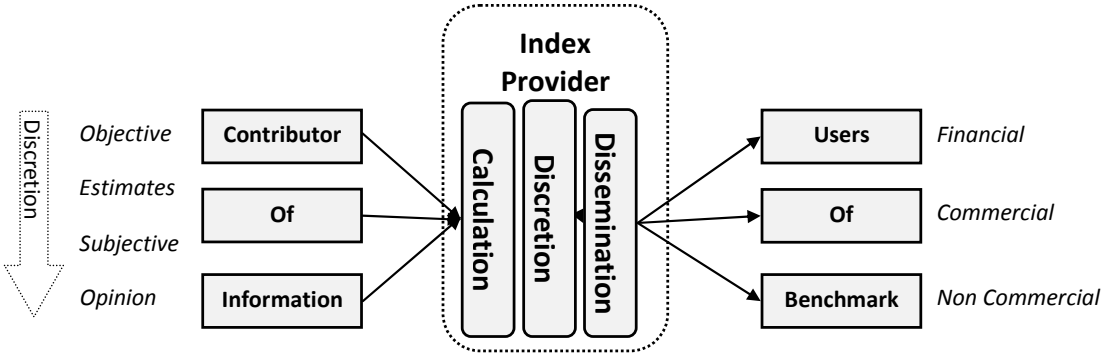
The second stage is the calculation of the index from the underlying data. Prima facie this may be a relatively straightforward and objective exercise but again discretion often needs to be exercised. The calculator will first need to decide who should contribute the underlying data. Second, they may need to discard some of the input data that are outliers or give more weight to some data than others. How this discretion is exercised will also affect the integrity of the benchmarks.

Therefore the extent to which discretion is applied either in the production or calculation of the underlying data influences its accuracy. Conflicts of interest will arise where someone exercising this discretion also has an interest in the value of the benchmark. Any resulting inappropriate, dishonest or incompetent exercise of this discretion will harm the integrity of the index, undermine confidence in markets and result in losses to stakeholders.

If the exercise of discretion is unavoidable, a suitable framework is necessary to ensure the appropriate exercise of any discretion, in particular to mitigate against any conflicts of interest and make certain that users of the benchmark understand how any discretion is being exercised.

Increasing the transparency of any input data and the calculation of the index - in particular where discretion is exercised - will increase confidence in benchmarks, reduce the scope for abuse and ensure that users are adequately informed to make any decisions about whether and how to use an index. In addition the level of transparency should increase in line with the amount of judgment exercised.

Figure 1 The Benchmark Process



2.2 USE OF ACTUAL TRANSACTION DATA

The integrity of indices is vulnerable wherever discretion is exercised. The nature and quality of the underlying data determines the degree of discretion required, and thus the size of these risks. However if an index is based on actual transaction or other verifiable data, the contributor of the data does not generally need to exercise discretion. Therefore requiring that indices only use objective and verifiable data may help ensure the integrity of benchmarks.

The possibility to construct an index based on actual transaction data is dependent on that data being available on a consistent basis. The choice of which underlying data a benchmark uses typically depends on the information available, the needs of those using the benchmark and its purpose and how regularly the benchmark needs to be produced. For some markets, it may suffice to have quarterly or annual data, while others need daily or even hourly prices.

LIBOR was, for example, developed based on estimates because there were not enough interbank lending transactions at longer maturities to produce an index on a daily basis. Estimates and quoted rates are therefore used precisely because objective data is not readily available. Changing an index from one based on estimates of underlying data to transaction based data may raise difficulties due to a lack of data, or the inappropriateness of what data is available.

Similarly where the hard data is gathered through a survey, as occurs for example with oil price indices, there is still discretion with the submitters as to whether and what data to contribute. As a result the requirement to use hard data would not necessarily entirely remove the issue of integrity for these types of index.

One solution could be to change the index, by reducing its frequency, scope or basis. Where the use of the index allows, frequency could be reduced from daily to weekly which could make the use of actual data possible.

Changing the scope of an index is another option. For instance, maturities that are quoted for LIBOR could be limited to the most liquid such as 3 month and 6 month rates.

Alternatively the base of a benchmark could be changed to align with markets that are more likely to provide actual transaction data. For interest rate benchmarks, this could allow using data for repos or overnight lending where actual transactions are more commonplace.

However, changing the base, scope or frequency of a benchmark fundamentally changes the benchmark and this may mean it no longer meets its intended purpose and therefore might not be useful to the present users of the benchmark.

An alternative may be to construct a hybrid system, for example requiring the producer of a benchmark to use actual transaction data where available, but substituted with alternative measures when actual transactions are unavailable. This could follow a tiered approach, where contributors of data are required to submit actual transaction data, provided that it is available. If it is no longer available, then any submission should be based on models using appropriate data. The specification and use of this model should be documented and made transparent. Finally, if appropriate data is not available and it is otherwise not possible to use a model, judgement may be exercised but this judgement should be well founded and the basis for this judgement should be documented and made transparent. Finally, where no judgement can be exercised, the contributor of data should be entitled to refuse to make a submission. This approach is similar to the methodology used by some price reporting agencies to set commodity prices based on different levels of transaction data available.

Box 2

(8) What kinds of data are used for the construction of the main indices used in your sector? Which benchmarks use actual data and which use a mixture of actual and estimated data?

(9) Do you consider that indices that do not use actual data have particular informational or other advantages over indices based on actual data?

(10) What do you consider are the advantages and disadvantages of using a mixture of actual transaction data and other data in a tiered approach?

(11) What do you consider are the costs and benefits of using actual transactions data for benchmarks in your sector? Please provide examples and estimates.

2.3. Governance and Transparency of Underlying Data

Whenever discretion is exercised, conflicts of interest may distort the production of data if the contributor of the data has a financial or other interest in the use of the benchmark. For example, the LIBOR contributing banks had derivative contracts priced by reference to LIBOR which may have created an incentive to make submissions which would move the benchmark in a favourable direction. Appropriate measures to mitigate actual or apparent conflicts should therefore be considered for those submitting data to benchmarks.

A framework to address these issues could include:

- Adequate management systems and effective controls to ensure the integrity and reliability of submissions. Policies and guidance governing the process. Any submissions should be made with due skill, care and diligence.

- Controls and procedures to prevent improper influence or communications, including Chinese walls. If conflicts cannot be managed, stopping any activities or relationships that create the conflicts or desisting from making conflicted submissions.

- Ensure that submissions are based on a rigorous, honest and independent assessment of relevant information, calculated in accordance with the rules, principles and aims of the benchmark and not influenced by any internal or external conflicts of interest or other extraneous factors. Continuously to identify, evaluate and use effective methodologies to determine submissions.

- Relevant personnel should have the appropriate skills, experience and training and be subject to appropriate management and supervision. Any compensation structures should not create actual or potential conflicts of interest. A credible whistleblowing policy and complaints procedure.

- Appropriate reporting, cooperation and communications with relevant supervisor, auditors and authorities. Proper standards of market conduct.

- Auditing of contributing process and outcomes. Monitoring and reviews of submissions, including ongoing monitoring, periodic internal and external audits.

- Documentation and records of communications in relation to submissions to be kept for an appropriate period of time and made available as necessary.

- Appropriate transparency, including reports to the public, market and authorities of the facts, information and issues relevant to the integrity of any submissions, including basis for making submissions, results of any audits, complaints and evaluations.

- The activity of making a contribution and the personnel or entities making submissions could be regulated.

Another possible solution could be to impose incentives to provide the best or most sincere estimates. For instance, parties could be mandated to trade on the prices that they quote for the purposes of calculating a benchmark as for example occurs under WIBOR where quoting banks are obliged to conclude transactions at the prices submitted by them for a short period of time. However, these types of requirements may reduce the incentive to participate and be exploited for profit opportunities.

Elements in the calculation may also reduce the impact or incentives for poor inputs. EURIBOR, LIBOR, ISDAFIX and EUREPO have mechanisms that

exclude outliers which are in part intended to reduce the impact of, and hence also the incentive to submit, excessively high or low estimates. Other alternatives that have been suggested include random sampling[15] of the inputs and the use of the medians rather than trimmed means[16].

A regime that sanctions the submission of inaccurate data to a benchmark, as the Commission has proposed under the market abuse framework, is clearly part of the solution to this issue.

With respect to transparency, by submitting information, market participants reveal information about themselves and if this is published it may give the market insight into their strategies or otherwise adversely affect them. For example, the submission by contributing banks to LIBOR may have entailed the bank displaying to the market an implicit credit assessment of itself. This introduces a credit signalling risk, which created an incentive to submit inaccurate data. It has therefore been suggested[17] that this means that certain risks could be best addressed with greater anonymity. For instance, credit signalling risks would be diminished by allowing for anonymous or delayed publication of individual banks' submissions. On the other hand, in the current interest rate benchmark cases, individual panel member submissions for the benchmarks were not published for some periods and this non-transparency might have increased the risk of manipulation of the benchmark rate.

Box 3

(12) What specific transparency and governance arrangements are necessary to ensure the integrity of benchmarks?

(13) What are the advantages and disadvantages of imposing governance and transparency requirements through regulation or self-regulation?

(14) What are the advantages and disadvantages of making contributing data or estimates to produce benchmarks a regulated activity? Please provide your arguments.

2.4. THE CONTRIBUTORS OF THE DATA

The integrity and usefulness of a benchmark depends not only on the underlying data but also on who the data contributors are. The way the contributors are selected may vary from a fixed panel of contributors to a survey – where either the index provider selects the sample of contributors or the contributors select themselves. But in both cases the index provider is typically dependent on

[15] http://www.newyorkfed.org/newsevents/news/markets/2012/libor/June_1_2008_LIBOR_recommendations.pdf

[16] See for example paragraph 3.18 of the Wheately Review of LIBOR: Initial Discussion Paper http://hm-treasury.gov.uk/d/condoc_wheatley_review.pdf

[17] http://www.newyorkfed.org/newsevents/news/markets/2012/libor/MarketSource_Report_May202008.pdf

voluntary contributions. This raises two issues: the representativeness of the sample and the influence the contributors have on the index and its impact on their behaviour, i.e. conflicts of interest.

It is important that any dataset is representative of the market or metric that the index measures. This is particularly important for survey based benchmarks which depend on voluntary contributions. Benchmarks for oil prices are normally based on actual transactions or bids and offers in the oil market. However since there is no mandated reporting of these transactions, market participants are surveyed or otherwise voluntarily submit details of transactions. Such benchmarks are therefore based on a sample of transaction data. However this sample is self-selecting which raises the question of whether the data is representative and how discretion is exercised by the contributors in deciding whether to submit data and which data to submit.

Mandatory participation of market participants is often cited as a solution to ensure the representativeness or completeness of the underlying data. If mandatory reporting is not possible or beneficial then it may be important to ensure that where contributors can choose whether to submit data and what data to submit, that this is done on an objective and consistent basis.

Where there is a fixed panel of contributors to the benchmark, the choice of the panel will affect the representativeness and integrity of the benchmark. Representativeness means that any panel should be made up of market participants who play an active role in, and therefore also have a stake in, and knowledge of the market and so an incentive to contribute. However problems may arise either because the panel is not representative or the contributors are not best placed to provide the best estimates. Further the fixed composition of the panels may give the contributors undue influence or the ability to manipulate the market.

In this context, it is not just the contributing entities that are relevant, but also their organisation and governance. In some financial institutions, the responsibility for submissions is placed on staff protected from conflicts through 'Chinese walls'; in others it is not. In addition the remuneration of the contributing staff and those personnel who are able to or might seek to influence them may create or accentuate conflicts of interests.

It may therefore be necessary to set appropriate provisions to ensure that the composition of any panel is subject to adequate safeguards and independent review. This could include an auditing – which requires adequate record keeping. It may also be necessary to ensure that any framework mandates that panels are representative and not susceptible to manipulation. One possible solution is to ensure that the panel is of sufficient size to ensure that no individual member is able to influence the index; the more panel members there are, the more difficult it is for them to coordinate to manipulate the benchmarks. Therefore requirements about panel size and composition, and membership may be necessary.

Box 4

(15) Who in your sector submits data for inclusion in benchmarks? What are the current eligibility requirements for benchmarks' contributors?

(16) How should panels be chosen? Should safeguards be provided for the selection of panel members, and if so which safeguards?

(17) How should surveys of data used in benchmarks be performed? What safeguards are necessary to ensure the representativeness and integrity of data gathered in this way?

(18) What are the advantages and disadvantages of large panels? Even in the case of large panels could one panel member influence the benchmark?

(19) What would be the main advantages and disadvantages of auditing of panels? Please provide examples.

(20) Where indices rely on voluntary contributions, do you consider that there are factors which may discourage the making of these contributions and if so why?

(21) What do you consider to be the advantages and disadvantages of mandatory reporting of data? Please provide examples.

(22) For entities contributing to benchmarks which are regulated by financial regulation, what would be the advantages and disadvantages of bringing their benchmark submissions under the scope of this framework?

2.5. INDEX CALCULATIONS

The calculation of an index is normally a relatively straightforward mathematical exercise which simply involves taking an average of the underlying data. However, for most indices some judgement or discretion also needs to be exercised. This is necessary for a variety of reasons including rebasing and quality and consistency checks.

When calculating an index like a stock index, it may be necessary to re-base the index to give more weight to the largest stocks – which may involve a degree of discretion. Similarly when the underlying data is unavailable or poor, the index calculator needs to make a judgement about how or whether to continue to produce the index. For example, gas indices are used to price daily gas supply contracts but on many days there may be no transactions to produce the index. Again the way in which this discretion is exercised is critical to ensuring the integrity of the index.

Responsibility for the accuracy of the underlying data does not rest solely with the contributors of the data. The calculator of the index may be best placed to determine whether, for instance, the data conforms to the requirements of the index. The index calculator must therefore check input data on an on-going basis

– validating that it conforms to the rules of the index. They may also audit the accuracy of the data periodically and change the contributors as necessary. An example of this could be the data compilation, validation, consolidation and publishing exercise carried out by statistics offices to calculate indices such as the CPI, where a degree of discretion concerning the data sample and quality needs to be exercised.

However, the ability to validate accuracy depends on the nature of the index. For indices where the submissions are based on estimates it may be difficult to find a comparator. Indices that rely on estimates typically do so because hard data are not available, so comparing estimates to hard data will not be straightforward.

In some cases discretion needs to be exercised as part of the calculation itself rather than simply to check the validity of the underlying data. For some commodity benchmarks, subjective discretion may be exercised to determine how much weight to give to particular transactions or how to incorporate news or other non-quantitative information into the index e.g. a benchmark provider may have to incorporate an important announcement into the value of a benchmark if it has occurred after any actual transactions but before the benchmark is published.

This discretion creates the risk that it may be exercised on an inadequate or inconsistent basis – estimates may be made without proper attention to their accuracy or ensuring that they are based on the best evidence. Where discretion is subject to conflicts of interest, the estimates may be made with the explicit aim of manipulating the benchmark itself. A framework to address these issues could include:

- Clear and transparent rules regarding the submission of data and calculation and dissemination of the index, through a code of conduct for instance. This should be underpinned by an appropriate disciplinary procedure.

- Clear and transparent specification of what the benchmark measures, how its accuracy can be evaluated, what its shortcomings are and what it should and should not be used for. This could include a justification of why the benchmark represents the best estimate of economic reality. Appropriate provisions regarding the licensing of benchmarks may be necessary.

- Continuously to identify, evaluate and use effective methodologies for the benchmark. Make appropriate and timely adjustments where necessary. A clear policy about the circumstances in which the benchmark may no longer be fit for particular or any purposes and appropriate policies regarding the actions to be taken in these events, including discontinuing the production of the benchmark.

- Similar governance, systems and controls, conflicts and transparency requirements as were outlined in section 2.3. However the benchmark provider should have obligations in respect of ensuring the integrity not just of the calculation and dissemination of the index but also oversight of the process of submitting the underlying data. In addition more rigorous conflicts provisions may be necessary to ensure independence.

- The activity of developing, calculating and disseminating a benchmark and the personnel or entities calculating benchmarks could be regulated.

Box 5

(23) Do you consider that responsibility for making adjustments if inadequate data is available should rest with the contributor of the data, the index provider or the user of the index?

(24) What is the formal process that you use to audit the submissions and calculations?

(25) If there are any weaknesses identified in the audit, who are they reported to and how are they addressed? Is there a follow up process in place?

(26) How often are submissions audited, internally or externally and by what means? Do you consider the current audit controls are sufficient? What additional validation procedures would you suggest?

(27) What are the advantages and disadvantages of a validation procedure? Please provide examples.

(28) Who should have the responsibility for auditing contributed data, the index provider or an independent auditor or supervisor?

(29) What are the advantages and disadvantages of making benchmarks a regulated activity? Please provide your arguments.

Chapter 3
The Purpose and Use of Benchmarks

3.1 THE PURPOSE OF BENCHMARKS.

The effectiveness of any framework to ensure the integrity of benchmarks will depend critically on any difference between what the benchmark is intended to measure and how it is used. An index may be developed to measure a particular price, quantity or value relative to a base. Ideally any index should align as closely as possible to the economic reality of this price or value; a benchmark should be the best possible measure of the economic reality its users face. If not, its users will make economic decisions based on distorted prices, leading to a less than optimal allocation of assets.

However a number of problems arise. First there is often no ideal way to calculate an index. For example, there are two standard ways to calculate a price or stock index: price weighting or volume weighting. But neither is perfect, the former tends to understate price increases while the latter tends to overstate any increase. A house price index based on average sale prices will not capture selection effects when certain parts of the market freeze up, while a panel based house price index will contain less recent data and not capture the whole market. More broadly an index may only work ideally in certain circumstances – an index that measures interbank lending offered rates may only work when banks are lending to each other.

3.2 The USE OF BENCHMARKS

An index measures a particular value but it is unlikely that any contract benchmarked or referenced to it will be perfectly aligned with the economic conditions it represents. For example, an oil index will typically measure the price of a certain grade of oil delivered to a certain location, but many contracts that reference this index will relate to a different grade of oil delivered to a different location. Where the differences are well known and understood by the users of the benchmark, the appropriate adjustments can be made. However, this may be difficult where a benchmark is used for a very different purpose.

Some of the uses of benchmarks are very different from those they were originally developed for. Weather statistics may be used in insurance contracts and for the purpose of agricultural derivatives. Similarly many commodities benchmarks developed for the purpose of pricing physical contracts are also used to price futures, forwards and other derivative contracts.

These wide and varying uses can in part be explained by network effects which encourage the use of common benchmarks. For instance, a widely used benchmark could be incorporated in a contract because it is easier to hedge contracts that are referenced to it, even though the benchmark does not necessarily meet the needs of the particular contract involved. Mortgages may be referenced to EURIBOR or LIBOR because it facilitates the bank's risk management needs rather than because a daily interbank lending rate is the most appropriate metric for an annual retail mortgage contract.

3.3 CONTROLLING THE USE OF BENCHMARKS

To address the issue of misalignment between a benchmark and its use, it is necessary to ensure that benchmarks are fit for purpose. Many benchmark providers license the use of their benchmarks, but in practice it may be difficult to ensure that no unauthorised contracts are referenced to a benchmark.

One option would be to place responsibility on any investment firm writing a financial instrument for a client to assess the suitability of the benchmark given the client's needs or impose requirements that it only uses a certain type of benchmark or a benchmark that meets certain criteria. Similar provisions could be put in place in sectoral legislation for other types of contracts.

Alternatively, trading venues that admit financial instruments to trading may be required to assess that any referenced benchmarks are fit for purpose, and should not allow financial instruments to be traded when they are referenced to benchmarks that are susceptible to manipulation.

Box 6

(30) Is it possible and desirable to restrict the use of benchmarks? If so, how, and what are the associated costs and benefits? Please provide estimates.

(31) Should specific benchmarks be used for particular activities? By whom? Please provide examples.

(32) Should benchmarks developed for wholesale purposes be used in retail contracts such as mortgages? How should non-financial benchmarks used in financial contracts be controlled?

(33) Who should have the responsibility for ensuring that indices used as benchmarks are fit for purpose, the provider, the user (firms issuing contracts referenced to benchmarks), the trading venues or regulators?

Chapter 4
Provision of Benchmarks by Private or Public Bodies

4.1 Provision of Benchmarks by Private Bodies

The recent allegations concerning the manipulation of benchmarks have emphasized the public interest in ensuring their integrity and highlighted that some benchmarks have many of the characteristics of public goods.

At present, indices are produced by a variety of entities varying from private commercial firms to trade bodies. Trade organizations such as the EBF and BBA calculate EURIBOR and LIBOR. In this case the responsible organization is governed by banks who are the sole providers of the underlying data and are one of the principal users of the benchmarks.

Banks and investment firms may produce indices which are used as the benchmark for exchange traded funds. Independent index providers produce indices which are licensed for a profit. However, conflicts of interest and commercial incentives may mean that these trade bodies and commercial entities are less motivated to question submissions or impose stringent audit trails and otherwise ensure the integrity of their index.

4.2 Provision of Benchmarks by Public Bodies

Indices are also produced by public sector entities, such as national statistical authorities that calculate price indices, and the ECB which calculates the EONIA rate. Public institutions may be better placed to address conflicts of interest and some of the other issues discussed in this consultation paper. They may have the best access to the relevant underlying data and be better placed to implement mandatory reporting if necessary.

Public providers may also suffer from fewer conflicts of interest and be better able to manage those that exist. Given these factors, consideration should be given to whether and which important indices should be provided by public bodies or whether public bodies should closely supervise their calculation, provision and governance.

Box 7

(34) Do you consider some or all indices to be public goods? Please state your reasons.

(35) Which role do you think public institutions should play in governance and provision of benchmarks?

(36) What do you consider to be the advantages and disadvantages of the provision of indices by public bodies?

(37) Which indices, if any, would be best provided by public bodies?

(38)	What conflicts of interest would arise in the provision of indices by public bodies? What would be the best way of avoiding these conflicts of interest?

Chapter 5
Impact of Potential Regulation: Transition, Continuity and International Issues

5.1 TRANSITION AND CONTINUITY

Changing the nature or terms of a benchmark or switching from one benchmark to another raise a number of issues. Firstly, benchmarks are often used to price transactions of a long duration and as a result the old benchmark will still be needed to price the legacy stock of transactions. This may necessitate the continued production of the old index for a certain period of time.

Secondly any transition to a new index needs to be appropriately managed. The use of a particular index is a matter of private contract between two parties and it will be their decision about whether to replace an index or provide for the substitution of a new index in the case of non-availability. Contracts referenced to the existing benchmark will not necessarily transfer to any new benchmark. Any change to an existing benchmark may create uncertainty in the market, as contracting parties may disagree over whether or not to terminate existing contracts, incorporate the new or another benchmark and also the need for new contract terms. In addition, any new benchmark may not be appropriate for all parties.

Network inertia may impede the adoption of any new benchmark. Some of the most widely used benchmarks have existed for a considerable period of time and despite shortcomings have continued to be used. This may be a result of both the costs to users of moving to a new benchmark as well as network effects which encourage the use of the most widely used benchmarks.

Benchmarks have changed without such intervention in the past – for example the nature of LIBOR was changed in 1998. Some have also been replaced – for example, EURIBOR replaced the various relevant national benchmarks that were used prior to the adoption of the Euro. The composition and calculation of commodity and equity indices are also frequently modified in order to better represent the economic reality they measure. Therefore, transitional issues do not appear insurmountable.

5.2 IMPACT OF CHANGES

Any change may also have wider economic impacts; a new or substituted index will produce different values and so change the prices of any contracts referenced to it. This may result in the transfer of value between the counterparties to any contracts in an uneven and unforeseen way.

In addition, the transition may lead to inefficiencies and mismatches where, for example assets may be priced by reference to the old benchmark and liabilities to the new for some part of the transition period. There may also be differences in the accounting treatment. For the most widely used indices, such as the interest rate benchmarks, this could have an impact on consumers and

investors, changing for example the interest rates payable on variable rate mortgages.

Given freedom of contract, it will be up to stakeholders to consider the impact regulatory changes have on their contracts, and to change their terms accordingly, or terminate the contracts where desired.

Box 8

(39) What are the likely transition challenges, costs and timelines for relevant benchmarks? Please provide examples.

(40) How do you consider that the adoption of new benchmarks could be ensured? Is this best framed in terms of encouraging or mandating the use of particular benchmarks?

(41) How can reforms of the regulation of benchmarks be most easily implemented?

(42) What positive or negative impacts, if any, do you see on small and medium-sized enterprises of the possible regulation of indices, and how could any negative impacts be mitigated?

(43) Are there other impacts which should be considered? If so please specify the nature of these impacts and provide evidence.

5.3 INTERNATIONAL ASPECTS

In developing a framework, one of the most important characteristics of benchmarks is their global nature. Indices may be produced anywhere in the world, based on data sourced from different jurisdictions, and used by contracting parties in different countries. Even an index relating to purely national economic variables may be based on inputs from other countries, and be used by parties based elsewhere as a benchmark.

This international dimension creates a number of issues. First, it may be easy to substitute one index for another, which could mean that actions in one jurisdiction could move production of an index or contributions to an index overseas. Inappropriate regulation of production of benchmarks could also encourage the use of unregulated benchmarks. On the other hand regulating their use, for example by mandating or encouraging the use of benchmarks that conform to certain standards and principles may overcome this.

Secondly, there is the risk of different rules applying to different stages in the production of a benchmark, as well as of different rules applying to different contributors to the same benchmark. Equally, different international regulatory interventions could lead to contracting parties who reference the same benchmark being subject to different rules. This could result in an inefficient and ineffective framework.

Where action is needed, it would therefore be desirable to ensure a consistent and coordinated approach at the international level. Measures at an international level are already being discussed by bodies such as IOSCO[18] and the FSB.

Box 9

(44) In which countries are benchmarks used in your sector produced? From which countries are data used for the production of benchmarks in your sector? In which countries are benchmarks used in your sector?

(45) Are there non-EU benchmarks which could serve as substitutes? Are there non-EU benchmark providers which could produce similar benchmarks?

(46) Are there international benchmarks which could serve as substitutes for national benchmarks?

[18] http://www.iosco.org/news/pdf/IOSCONEWS227.pdf

SUMMARY OF QUESTIONS

Chapter 1. Indices and Benchmarks: What they are, who produces them and for which purposes

(1) Which benchmarks does your organisation produce or contribute data to?

(2) Which benchmarks does your organization use? What do you use each of these benchmarks for? Has your organization adopted different benchmarks recently and if so why?

(3) Have you recently launched a new benchmark or discontinued existing ones?

(4) How many contracts are referenced to benchmarks in your sector? Which persons or entities use these contracts? And for which purposes?

(5) To what extent are these benchmarks used to price financial instruments? Please provide a list of benchmarks which are used for pricing financial instruments and if possible estimates of the notional value of financial instruments referenced to them.

(6) How are benchmarks in your sector set? Are they based on real transactions, offered rates or quotes, tradable prices, panel submissions, samples? Please provide a description of the benchmark setting methodology.

(7) What factors do you consider to be the most important in choosing a reliable benchmark? Could you provide examples of benchmarks which incorporate these factors?

Chapter 2. Calculation of Benchmarks: Governance and Transparency.

(8) What kinds of data are used for the construction of the main indices used in your sector? Which benchmarks use actual data and which use a mixture of actual and estimated data?

(9) Do you consider that indices that do not use actual data have particular informational or other advantages over indices based on actual data?

(10) What do you consider are the advantages and disadvantages of using a mixture of actual transaction data and other data in a tiered approach?

(11) What do you consider are the costs and benefits of using actual transactions data for benchmarks in your sector? Please provide examples and estimates.

(12) What specific transparency and governance arrangements are necessary to ensure the integrity of benchmarks?

(13) What are the advantages and disadvantages of imposing governance and transparency requirements through regulation or self-regulation?

(14) What are the advantages and disadvantages of making contributing data or estimates to produce benchmarks a regulated activity? Please provide your arguments.

(15) Who in your sector submits data for inclusion in benchmarks? What are the current eligibility requirements for benchmarks' contributors?

(16) How should panels be chosen? Should safeguards be provided for the selection of panel members, and if so which safeguards?

(17) How should surveys of data used in benchmarks be performed? What safeguards are necessary to ensure the representativeness and integrity of data gathered in this way?

(18) What are the advantages and disadvantages of large panels? Even in the case of large panels could one panel member influence the benchmark?

(19) What would be the main advantages and disadvantages to auditing of panels? Please provide examples.

(20) Where indices rely on voluntary contributions, do you consider that there are factors which may discourage the making of these contributions and if so why?

(21) What do you consider to be the advantages and disadvantages of mandatory reporting of data? Please provide examples.

(22) For entities contributing to benchmarks which are regulated by financial regulation, what would be the advantages and disadvantages of bringing their benchmark submissions under the scope of this framework?

(23) Do you consider that responsibility for making adjustments if inadequate data is available should rest with the contributor of the data, the index provider or the user of the index?

(24) What is the formal process that you use to audit the submissions and calculations?

(25) If there are any weaknesses identified in the audit, who are they reported to and how are they addressed? Is there a follow up process in place?

(26) How often are submissions audited, internally or externally, and by what means? Do you consider the current audit controls are sufficient? What additional validation procedures would you suggest?

(27) What are the advantages and disadvantages of a validation procedure? Please provide examples.

(28) Who should have the responsibility for auditing contributed data, the index provider or an independent auditor or supervisor?

(29) What are the advantages and disadvantages of making benchmarks a regulated activity? Please provide your arguments.

Chapter 3: The Purpose and Use of Benchmarks

(30) Is it possible and desirable to restrict the use of benchmarks? If so, how, and what are the associated costs and benefits? Please provide estimates.

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(37) Which indices, if any, would be best provided by public bodies?

Chapter 5: Impact of Potential Regulation: Transition, Continuity and International Issues.

(38) What conflicts of interest would arise in the provision of indices by public bodies? What would be the best way of avoiding these conflicts of interest?

(39) What are the likely transition challenges, costs and timelines for relevant benchmarks? Please provide examples.

(40) How do you consider that the adoption of new benchmarks could be ensured? Is this best framed in terms of encouraging or mandating the use of particular benchmarks?

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