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COVER NOTE

From:	Secretary-General of the European Commission, signed by Mr Jordi AYET PUIGARNAU, Director
date of receipt:	20 September 2013
To:	Mr Uwe CORSEPIUS, Secretary-General of the Council of the European Union
Subject:	COMMISSION STAFF WORKING DOCUMENT EXECUTIVE SUMMARY OF THE IMPACT ASSESSMENT Accompanying the document Proposal for a Regulation of the European Parliament and of the Council on indices used as benchmarks in financial instruments and financial contracts

Delegations will find attached document SWD (2013) 336 final.

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COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT

Accompanying the document

Proposal for a Regulation of the European Parliament and of the Council

on indices used as benchmarks in financial instruments and financial contracts

{COM(2013) 641 final}
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1. INTRODUCTION

An index is a statistical measure, typically of a price or quantity, calculated or determined from a representative set of underlying data. If this index is used as a reference price for a financial instrument or a financial contract it becomes a benchmark. A wide variety of benchmarks are currently produced by a number of different types of benchmark administrators. Benchmarks differ in terms of the underlying data used, how the underlying data is collected, how the index is calculated and how they are disseminated to the ultimate user.

The manipulation of the interest rate benchmarks LIBOR and EURIBOR has highlighted both the importance of benchmarks 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.

Benchmark manipulation can cause significant losses to consumers and investors and distort the real economy. The risk of manipulation alone can raise doubts about a benchmark's integrity which can then undermine market confidence. The first part of the Commissions response to the alleged manipulation of LIBOR and EURIBOR, was to amend the existing proposals for a market abuse Regulation (MAR)[2] and criminal sanctions for market abuse Directive (CSMAD)[3] to clarify that any manipulation of benchmarks is clearly and unequivocally illegal and subject to administrative or criminal sanctions. However, changing the sanctioning regime alone is not sufficient to improve the way in which benchmarks are produced and used. This impact assessment therefore aims to identify the key issues and shortcomings in the production and use of benchmarks in order to assess the need for EU action to ensure the future integrity of benchmarks.

Action at EU level may also be required due to the global nature of benchmarks and the need to develop the EU position in relation to national, European and international initiatives in response to the manipulation of benchmarks. Current initiatives on benchmark reform in the EU include the Wheatley Review of LIBOR and its subsequent regulation in the United Kingdom[4] and the regulation of CIBOR in Denmark[5]. Besides, the European Securities and Markets Authority (ESMA) and the European Banking Authority (EBA) published non-binding Principles for Benchmarks-Setting Processes in Europe[6] on 6 June 2013 and the EBA

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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

[2] Amended proposal for a Regulation on insider dealing and market manipulation, COM(2012) 2011/0295 (COD): http://ec.europa.eu/internal_market/securities/abuse/index_en.htm

[3] Amended proposal for a Directive on criminal sanctions for insider dealing and market manipulation, COM(2012) 2011/0297 (COD): http://ec.europa.eu/internal_market/securities/abuse/index_en.htm

[4] Wheatley review: http://www.hm-treasury.gov.uk/d/condoc_wheatley_review.pdf and regulation of LIBOR: http://www.legislation.gov.uk/ukdsi/2013/9780111533826/pdfs/ukdsi_9780111533826_en.pdf

[5] Please see info on CIBOR on: http://www.nationalbanken.dk/DNUK/Rates.nsf/side/reference_Rates!OpenDocument

[6] Please see the document on: http://www.eba.europa.eu/-/esma-and-the-eba-publish-final-principles-on-benchmarks

issued non-binding recommendations to EBF-Euribor following their review of EURIBOR in January 2013[7]. The European Commission has also undertaken investigations into possible cartels in relation to EURIBOR and prices for a number of oil and biofuels products published by the price reporting agency Platts[8].

The International Organization of Securities Commissions (IOSCO) published Principles for Financial Benchmarks on 17 July 2013[9]. Previously, IOSCO had published Principles for oil price reporting agencies oversight in October 2012[10]. Further work is being conducted at FSB, G20 and BIS level, with the creation by the FSB of the Official Sector Steering Group (OSSG)[11].

This document is the impact assessment accompanying the benchmarks initiative. It does not pre-judge the final form of any decision to be taken by the European Commission.

2. PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

2.1. Consultation of interested parties

On 3 September 2012 the Commission services launched a three month public consultation on a possible framework for the regulation of the production and use of indices serving as benchmarks in financial and other contracts. The consultation closed on 29 November 2012 with 84 contributions received. On their responses, stakeholders acknowledge the weaknesses in the production and use of benchmarks, and broadly support action at EU level, even though there are different preferences with regard to its form. Respondents also emphasise the need for international coordination, and careful calibration of the scope of any initiative. The non-confidential contributions have been published on the Commission website[12] and a summary is provided in annex II. The views from stakeholders have been taken into account by the Commission Services when analysing the problems, objectives and potential options covered by this impact assessment.

The Commission services also participated in the public hearing on ***tackling the culture of market manipulation - global action post LIBOR/EURIBOR*** (please see summary in annex XVII) held by the European Parliament on 26 September 2012 and the open hearing by the European Securities and Markets Authority (ESMA) and the European Banking Authority (EBA) on their consultation paper on "Principles for Benchmarks-Setting Processes in the EU" on 13/02/13 (please see summary in annex XVIII).

[7] Please see the document on: http://www.esma.europa.eu/system/files/eba_bs_2013_005.pdf
[8] EC press release on the investigations: http://europa.eu/rapid/press-release_MEMO-13-435_en.htm
[9] Please see the document on: http://www.iosco.org/library/pubdocs/pdf/IOSCOPD415.pdf
[10] Please see the report on: http://www.iosco.org/news/pdf/IOSCONEWS227.pdf
[11] Please see the announcement on: http://www.financialstabilityboard.org/press/pr_130625.pdf
[12] Consultation responses can be found on:
http://ec.europa.eu/internal_market/consultations/2012/benchmarks/index_en.htm

2.2. Steering group

DG Internal Market and Services (DG MARKT) is the lead Directorate General (DG) for the initiative on benchmarks[13]. Work on the Impact Assessment started in September 2012 with the first meeting of the inter-service steering group on 16 October 2012, followed by 3 further meetings, on 10 January, 8 February and 17 June 2013. The following DGs and Commission services participated in the meetings: Internal Market and Services, Secretariat General, Legal Service, Competition, Economic and Monetary Affairs, Agriculture, Climate Action, Energy, Health and Consumers, Industry and Entrepreneurship and Justice. The contributions of the members of the steering group have been taken into account in the content and structure of this impact assessment. DG MARKT has also consulted all other relevant commission services as part of the inter-service consultation process, including DG Communication Networks Content and Technology and DG Mobility and Transport.

2.3. Impact Assessment Board

DG MARKT services met the Impact Assessment Board on 20 March 2013. The Board analysed this Impact Assessment and delivered its opinion on 20 March 2013. During this meeting the members of the Board provided DG MARKT services with comments to improve the content of the Impact Assessment that led to the following key modifications to the text:

- Enhancement of the problem definition section, in particular regarding the risks from the benchmark's users point of view;

- Development of the baseline scenario section to explain why the combination of sanctions foreseen in the MAR/MAD proposals and the IOSCO and ESMA/EBA principles for benchmarks are not sufficient to address the problems identified. Also by providing greater detail of the situation prevailing in different Member States and the solutions adopted by the UK and Denmark;

- Streamlining of the options package, in particular of the options on use and transparency and adding measurable objectives;

- Reviewing and enhancing the accuracy of the cost-benefit analysis, in particular by reviewing the estimated cost of supervision, better assessing the benefits and specifying the methodology followed; and

- Enhancement of the analysis of international impacts (third country regime) and the assessment of proportionality.

[13] Roadmap can be found on:
http://ec.europa.eu/governance/impact/planned_ia/docs/2013_markt_011_regulation_of_benchmarks_and_indices_en.pdf, and agenda planning on:
http://ec.europa.eu/governance/impact/planned_ia/roadmaps_2013_en.htm

3. POLICY CONTEXT

3.1. The current EU legislative framework on benchmarks

In both the US and the EU, there are a number of provisions which address certain risks with regard to benchmarks, notably the risk of manipulation and their robustness. There are no specific provisions on the governance of benchmarks, how they are provided (provision structure) and how they are calculated (methodology).

With regard to the **manipulation** of benchmarks that are used to price financial instruments, the proposal for a Market Abuse Regulation (MAR) contains a provision explicitly banning any behaviour which distorts the value of a benchmark in articles 2(3)(d) and 8(1)(d). The European Parliament and the Council reached a political agreement on the MAR on 26 June 2013. In the US, a similar provision is already in force under the Dodd-Frank Act in article 753. The latter US provision, however, only applies to manipulation of benchmarks that affect commodity prices. It prohibits manipulation by false reporting[14], but it explicitly excludes mistakes in good faith[15].

In the US, the **robustness** of benchmarks is addressed through the core principles that apply to trading venues on which commodity derivatives may be traded[16]. To maintain its standing, a designated contract market or a swap execution facility "shall permit trading only in swaps that are not readily susceptible to manipulation". In the EU, a similar rule is in force under the Markets in Financial Instruments Directive (MIFID) which requires that "any financial instruments admitted to trading in a regulated market are capable of being traded in a fair, orderly and efficient manner"[17]. The implementing regulation of that directive further specifies that "the price or other value measure of the underlying must be reliable and publicly available"[18].

In addition, article 30 of the European Commission proposal for a Markets in Financial Instruments Regulation (MiFIR), addresses non-discriminatory access to and the obligation to licence benchmarks[19].

Where a prospectus contains a reference to an index the EU Prospectus Directive and Implementing Regulation[20] requires the issuer to set out the type of the underlying and details of where information on the underlying can be obtained, an indication of where information about the past and the further performance of the underlying and its volatility can be obtained, and the name of the index. If the index in question is composed by the issuer, the

[14] including by "false or misleading or inaccurate report concerning crop or market information or conditions that affect or tend to affect the price of any commodity in interstate commerce, knowing, or acting in reckless disregard of the fact that such report is false, misleading or inaccurate."

[15] "Mistakenly transmitting, in good faith, false or misleading or inaccurate information to a price reporting service." Dodd Frank Act, Section 753: http://www.gpo.gov/fdsys/pkg/PLAW-111publ203/pdf/PLAW-111publ203.pdf

[16] Core Principle 3, Title 7, Chapter 1, USC § 7b–3: http://www.gpo.gov/fdsys/pkg/USCODE-2010-title7/html/USCODE-2010-title7-chap1-sec7b-3.htm

[17] MIFID Article 40(1): http://ec.europa.eu/internal_market/securities/isd/mifid_en.htm

[18] MIFID Implementing Regulation Article 37(1)b: http://ec.europa.eu/internal_market/securities/isd/mifid2_en.htm

[19] It states that where the value of any financial instrument is calculated by reference to a benchmark, a person with proprietary rights to the benchmark shall ensure that central counterparties (CCPs) and trading venues are permitted, for the purposes of trading and clearing, non-discriminatory access to it.

[20] Directive 2003/71/EC and Regulation (EC) No 809/2004, Annex XII, item 4.2.2

issuer also needs to include a description of the index. If the index is not composed by the issuer, the issuer needs to clarify where information about the index can be obtained, and where the underlying is an interest rate the issuer needs to provide a description of the interest rate.

Finally, undertakings for collective investments in transferable securities (UCITS) type collective investment funds are only allowed to hold a maximum share of instruments issued by the same body in their portfolio. Member States may raise the limits that apply to how much of its total portfolio a UCITS may hold to a maximum of 20 % for investment in shares or debt securities issued by the same body when it concerns an index which the UCITS wants to replicate[21]. This applies provided the composition of the index is sufficiently diversified, the index represents an adequate benchmark for the market to which it refers; and it is published in an appropriate manner. Under the Regulation on energy market integrity and transparency (REMIT)[22], the manipulation of benchmarks that are used for wholesale energy products is also illegal.

3.2. Nature and size of the market concerned

3.2.1. What are benchmarks and how are they produced?

A benchmark is usually calculated from a set of 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. In some cases, rather than a calculation, an "assessment" is made on the basis of a judgment using the underlying data. The calculation or assessment normally involves rules on which data to include, how they are weighted, and how other information is taken into account when computing the index which is then used as a reference price or benchmark in a financial contract or instrument. See annex IX: What are benchmarks? Definition, main types of benchmarks and common characteristics.

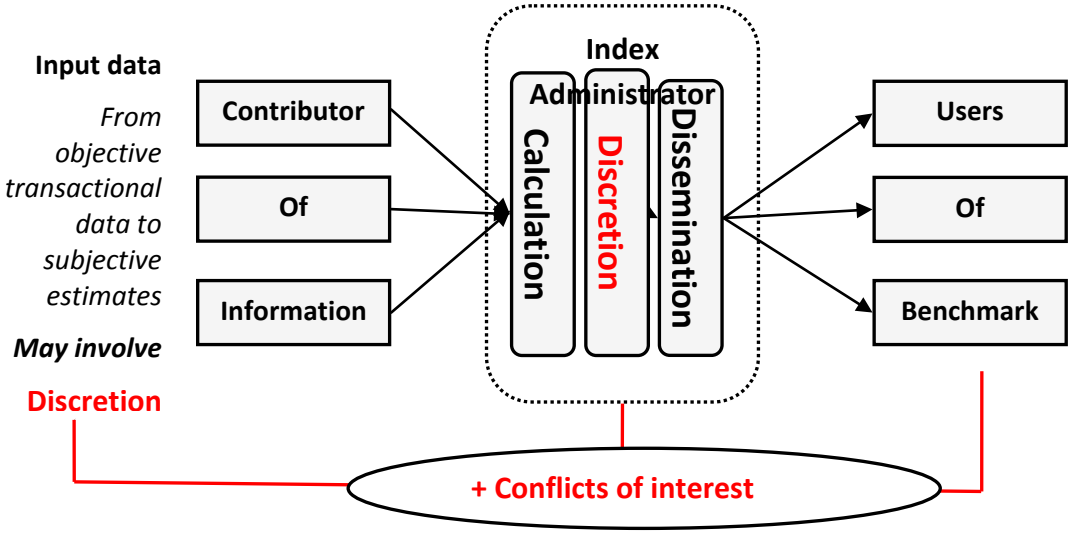
3.2.2. Calculation Methodology

At heart the calculation of an index may be a relatively simple mathematical exercise such as taking a simple average. However for nearly all widely used indices some judgment or discretion also needs to be exercised. When calculating a benchmark, like a stock index, it may be necessary to regularly re-base the index to include other stocks – which may involve a degree of discretion. Or discretion may need to be exercised when there is not enough underlying data available or it is not representative. Discretion may also be required in choosing who the contributors of the data are. The integrity of the benchmark administrator and the underlying data is therefore of critical importance.

[21] Undertakings for Collective Investment in Transferable Securities Directive (2009/65/EC), Article 53

[22] REMIT regulation: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:326:0001:01:EN:HTML

Figure 1 Stages of the benchmark production process



The graph above shows the different stages of the benchmark setting process as well as the main types of stakeholders who use benchmarks or are involved in their setting process:

Main entities in the benchmark production process (figure 1)

- **Benchmark contributor:** the person contributing to benchmark data submissions which are used for the calculation of the benchmark. They are often market participants in the relevant instrument. Examples include regulated firms such as banks or brokers, and unregulated such as oil and energy traders. They may exercise discretion depending on whether their contributions are objective data based on transactions or subjective estimates or in terms of what data to submit.
- **Benchmark calculator**: an entity calculating a benchmark on behalf of the administrator.
- **Benchmark administrator:** the person responsible for the administration, calculation and publication of the benchmark. It may outsource the calculation or publication. It may exercise discretion when, for example, deciding which contributors should submit underlying data and when calculating of the benchmark.
- **Benchmark user:** a person that uses a benchmark for example in a financial instrument or contract.

The table below sets out some of the main benchmarks and their characteristics, in particular their risks (identified in the problem definition section) in respect of the reliability and transparency of their underlying data and the use of discretion:

Usual characteristics of main benchmarks

	Contributor Characteristics		Administrator Characteristics		Users	Conflicts of interest
Benchmark	**Source of data**	**Exercise of discretion & input data**	**Calcul. method**	**Exercise of discretion**	**Size of markets which reference the benchmark**	**Conflicts of interest affecting stakeholders**
Interbank lending (IBOR)	Panel/ 4 to 40 banks	Discretion exercised as estimates or committed quotes	Trimmed average	Compositio n of the panel and exclusion of non - compliant	Estimated USD 500-600 trillion (Dec. 2011, notional amount)	- Contributor banks also use the benchmarks - Administrators – often banking federations represent the banks which are both contributors and

				data		users
Other interest rates benchmarks e.g. EONIA, Sonia, OIS	Panel/ Various contributors, often linked to the relevant IBOR panel	Discretion exercised as either transactions or quotes	Simple, volume weighted or trimmed average	Limited to more extensive	Estimated USD 402 Trillion (Dec. 2011, notional amount)	- Contributor banks also use the benchmarks - Administrators – often banking federations represent the banks which are both contributors and users
Commodity price assessments by PRAs	Survey/ Commodity market participants	Discretion exercised as either: transactions quotes or estimates.	From arithmetic averages to subjective assessments	Various, from deciding what data and information to include and who to weight it	Estimated USD 3.7 Trillion (notional amount/Dec. 2010) for derivatives. Estimated physical contracts value USD 5 Trillion (physical market annual production 2009/10)	- Contributors include commodity traders and commodity market participants who also use the benchmarks for pricing contracts - Administrators may have a close relationships with users or contributors
Equity indices	Panel of exchanges (may be a single exchange)	No discretion exercised by contributor -transaction data	Price or Volume Weighted average	When rebasing or adjusting for free float	Estimated USD 2.3 Trillion/ total tracked by ETF and MTF in Dec. 2010)	- Administrators of equity strategy indices use the indices in financial instrument which they sell to clients -

The table above highlights the key characteristics of a selection of benchmarks; in particular it should be noted that for all benchmarks there is discretion – either at the input data or the administrator level and conflicts of interest exist. Therefore, in all these benchmarks, both the incentives and the opportunities for manipulation exist. And therefore the potential for manipulation exists in the same way as has been demonstrated in the cases of EURIBOR and LIBOR. Please see an illustrative example of the potential risk of manipulation based on the use of discretion and conflicts of interests for any hypothetical benchmark in annex XIV.

3.2.3. Benchmark industry size

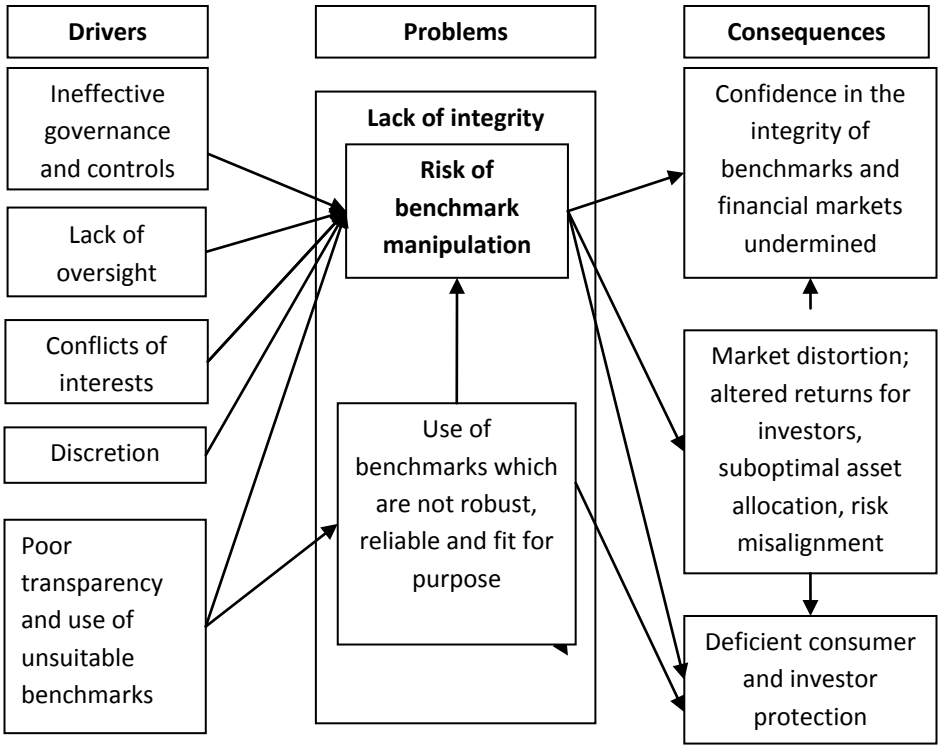
The size of the benchmark industry measured by the revenues it generates (around EUR 2 billion for financial and commodity benchmark administrators world-wide) and the number of persons employed (ranging from a few to 1600 employees per enterprise, depending on the nature of the administrator) does not fully capture its relevance. The volume of markets *impacted by* benchmarks is a much better indicator of its relevance. Estimates suggest that the size of the markets impacted could be over **EUR 1,000 trillion**[23]. However, because this figure is the aggregation of heterogeneous and non-comparable financial instruments and contracts, the market value is not the only indicator of the magnitude; benchmarks may have a more significant impact on certain markets than a comparison of the market value might suggest. For a detailed explanation on how these estimates were produced see annex VII on benchmarks industry and size of financial markets impacted and Annex VIII on magnitude of the problem of benchmark manipulation.

[23] Commission estimates on annex VIII based on data from ECB and ESRB responses to Commission's consultation

4. PROBLEM DEFINITION

This section examines the main issues associated with benchmark provision and their consequences. The central problem is the lack of integrity of benchmarks, which mainly manifests itself in the risk of benchmark manipulation. This risk of manipulation is a problem for all users of benchmarks, whether institutional or retail users. The main drivers of benchmark manipulation are conflicts of interest and discretion. In addition, benchmarks may not be as robust as required for the purposes for which they are used. The use of benchmarks which are not robust, reliable or fit for purpose affects all investors and it is mainly driven by poor transparency and the subsequent use of unsuitable benchmarks. However retail investors and consumers are more vulnerable because they often lack the skills to assess a benchmark's robustness, and because the use of standard terms or uneven bargaining power means that in practice they are unable to exercise a choice about which benchmark to use. The figure below provides an overview of the various problems, their drivers and their consequences.

Problem Tree



4.1. Problem 1. Risk of benchmark manipulation

There is ample evidence that conflicts of interest together with the inappropriate use of discretion, ineffective governance and lack of transparency lead to the tangible risk of benchmark manipulation. For example, since June 2012 three large financial institutions - Barclays, UBS and RBS - have been found liable for the attempted manipulation of LIBOR, EURIBOR and TIBOR by the UK and US financial authorities. They have agreed to pay settlements in the order of $ 2.6 billion. According to various estimates, interest rate benchmark manipulation could cost the banking industry tens of billions of USD. (See annex IV on Findings evidencing the risk of benchmark manipulation).When combined with ineffective governance and supervision the risk of manipulation is increased, with potentially large impacts on citizens and investors (e.g. pension fund assets' returns are often priced by reference to financial benchmarks). The ESRB states that *"competent authorities should be provided with supervisory tools in order to make supervisory oversight more effective and*

should be enabled to impose sanctions for the manipulation of benchmark indices consistently across the EU"[24].

In most cases, the value of a benchmark directly determines the value of the financial instruments or payments under contracts which reference it. Therefore, changing the value of a benchmark results in a direct transfer of money from one party to the other. According to the Global Financial Markets Association (GFMA) Principles for Financial Benchmarks, the integrity of benchmarks is critical to the effective functioning of markets and investor confidence[25]. The European Consumer Organisation (BEUC) notes that the lack of confidence in benchmarks is the direct result of their potential lack of integrity. BEUC cites concern over interest rates, oil and other commodity prices, and electricity prices[26].

4.1.1. The problem drivers

Discretion and insufficient underlying data

The problem of benchmark manipulation is driven mainly by the combination of conflicts of interest and the existence of discretion which is not subject to adequate governance and controls. The risk of manipulation observed in many benchmarks is caused primarily by the discretion submitters have when selecting data for submission to the calculator, and the discretion calculators have when processing these data.

For some benchmarks, submitters have the freedom to provide a subset of data without the calculator being able to verify whether these submissions are representative[27]. In addition, some benchmarks rely on assessments from contributors with little possibility for ex post verification against real data. For example, often, interest rate benchmarks are based on surveys of a limited number of voluntary contributors and discretion is applied in their assessment. Furthermore, contributors may be reluctant to provide complete data to benchmark administrators if this could entail disclosing sensitive commercial data or information which could damage them, in particular when their contributions are published. This is evidenced in the attempted manipulation of LIBOR by Barclays where incorrect submissions were provided in order to present a misleading picture of the bank's credit standing. See annex IV Findings evidencing attempted manipulation of benchmarks.

Benchmark **calculators** typically have some discretion as to how they weigh the received data, for instance when the relative weight given to quotes versus transactions. Because they may not have all market data at their disposal, they may also need to assess the representativeness of the observed transactions in light of the whole market. They will also need to consider if and how to include submissions which they suspect are inaccurate.

Evidence of risk of manipulation of benchmarks based on methodology and the use of discretion

There have been allegations of potential manipulation in relation to benchmarks also in the oil and gas sectors. The Commission has recently undertaken an investigation into a possible cartel in relation to the potential submission of distorted prices by contributors to some of Platts oil and biofuels products assessed prices in order to manipulate those[28]. According to IOSCO's report on principles for oil

[24] ESRB response to the public consultation, Page 3, paragraph 1,
[25] Ibid, GFMA's response to the public consultation
[26] Ibid, BEUC's response to the public consultation
[27] The terms "submitter" and "contributor" are used interchangeably in this IA
[28] EC press release on the investigations: http://europa.eu/rapid/press-release_MEMO-13-435_en.htm

PRAs, the method of calculation by the PRAs can be almost entirely subjective. The methods of reporting data range from the almost entirely subjective approach adopted by some price reporting agencies, based on the first-hand extensive trading experience of its reporters, to the almost entirely mechanical approach of APPI based on data submitted in writing to an accounting firm by a panel of traders. The two most significant PRAs in the oil market, Argus and Platts, use a combination of mechanistic analysis and judgment[29]. Please see annex IV Findings evidencing the risk of benchmark manipulation.

Indeed, discretion can exist to a greater or a lesser degree. However, even equity indices that are based on objective real transaction data and use a fixed formula to calculate their value do involve discretion from time to time, in particular when they are rebased or when free float adjustments are performed. The evidence suggests that there are no indices without any discretion, as even the most 'objective' involve discretion about the methodology used by benchmark **administrators** to produce them. The risk of manipulation exists also in cases where the benchmarks are set according to objective transaction data and predetermined formulas, such as for equity strategy indices. According to EDHEC Risk Institute's response to the Commission public consultation on benchmarks[30], this is due to inherent conflicts of interest, for example when index administrators are the same entities (or very close to them through commercial relationships) as the entities providing the investment services to clients (investment banks or funds) whose returns and performance are linked to these indices.

Finally, **contributors** may choose not to submit data at all, as evidenced by the fact that banks have withdrawn from the EURIBOR panel following its alleged manipulation and some contributors to gas price assessments by PRAs have also stopped contributing following the UK authorities' investigation into the potential manipulation of the NBP gas price published by ICIS Heren[31]. Continued participation exposes them to reputational and regulatory risk, as well as large fines. The refusal to contribute to a benchmark may reduce its robustness and representativeness of the market, and thereby hurts the accuracy of the benchmark.

Risks posed by contributors leaving panels of critical interbank interest rate benchmarks such as EURIBOR

Several contributing banks have recently left the EURIBOR and other Euro system rates panels, ostensibly because continued participation exposes them to reputational and regulatory risk. This raises the concerns because the reliability and representativeness of critical benchmarks depends on having sufficient and accurate underlying data and the departure of contributors could lead to their unreliability or discontinuance. In particular EURIBOR is important in the transmission of monetary policy and for financial markets stability and is discontinuance or unreliability could generate serious contractual continuity and legacy issues. Commissioner Barnier and the ECB issued statements on 8 February 2013 expressing their concern about the recent departures from the EURIBOR panels and the possibility of mandating contributions for critical benchmarks[32].

[29] IOSCO 's report on principles for oil PRAs, note 51. See also http://www.csrc.gov.cn/pub/csrc_en/affairs/AffairsIOSCO/201210/P020121010499030150053.pdf)

[30] Please see the response from EDHEC risk institute to the Commission public consultation on benchmarks: http://ec.europa.eu/internal_market/consultations/2012/benchmarks/index_en.htm

[31] http://www.ft.com/intl/cms/s/0/b96b6cbc-b7d9-11e2-9f1a-00144feabdc0.html#axzz2TXNjdRwg

[32] http://ec.europa.eu/commission_2010-2014/barnier/headlines/speeches/2013/02/20130208_en.htm http://www.ecb.int/press/pr/date/2013/html/pr130208.en.html

Conflicts of interest

The consultation responses highlight the major role that conflicts of interest play in creating the incentives to manipulate benchmarks. Conflicts of interest exist in particular where the contributors or administrators are also the users of the benchmark and so can benefit from changes in the value of the benchmark or where their performance is determined in relation to the level of the benchmark. Where these conflicts are unmanaged both the incentive and the opportunity may exist to manipulate the benchmark.

Masamichi Kono, Chairman of the IOSCO Board, stated at the European Parliament's public hearing on benchmarks that: "the governance structure over the benchmark setting process and procedure may not be strong enough to address the conflicts of interest which may exist in the benchmark setting process"[33] As an example of conflicts of interest at **administrator** level, the Wheatley Review identified the conflict that existed because the British Bankers Association (BBA) represents banks which are both users of and in many cases contributors towards the rates as a governance shortcoming. It therefore recommended that the BBA should transfer responsibility for LIBOR to a new administrator[34].

Regarding an example of a conflicts of interest at **contributor** level, when a contributor is asked to supply actual data on oil transactions to a benchmark, it might only submit transactions with low prices and leave out transactions they have entered into at high prices if they have oil purchasing contracts or derivatives that are priced by reference to that benchmark.

Lack of effective governance and supervision

When conflicts of interest are combined with a lack of effective governance, controls and supervision in benchmark provision, the incentives, means and opportunity for manipulation are present in the benchmark setting process[35]. The issues compromising the integrity of benchmarks will not be adequately addressed when benchmark administrators cannot internalise the benefits of robust contributions and benchmarks, or the risks associated to their lack of their integrity[36]. This is the case for **published indices** or indices which are otherwise generally available to the wider public because the figures are onwardly distributed or cannot be restricted. Where an index is subject to public or unrestricted use, not all users pay for the use of the benchmark; therefore the administrator may not be able to afford adequate governance. This creates a market failure; the benchmark administrator may not have the income and incentives to implement governance and control procedures commensurate with

[33] A report of Mr Kono's intervention at the EP public hearing on benchmarks can be found on: http://www.europarl.europa.eu/document/activities/cont/201209/20120925ATT52231/20120925ATT52231EN.pdf

[34] The Wheatley Review of LIBOR final report has identified governance shortcomings related to: the lack of surveillance and scrutiny of submissions; internal controls and procedures transparency for submitters and administrators; lack of audits and audit trail keeping for submitting firms and non-discriminatory access to the rate, which have led to recommendations to address these issues. Please see annex Annex V: Key Recommendations of the Wheatley Review for further information.

[35] Quote by professor Rosa M. Abrantes-Metz, Why and How Should the LIBOR be reformed (2012)

[36] ESRB 2.2 page 4: *In practice the use of most benchmarks does not entail a fee. In this case, it is likely that the administrator of the non-excluded benchmark does not fully internalise the social benefits of a credible benchmark without error or manipulation. This could provide justification for legal or regulatory intervention, to align the incentives of contributors, administrators and users of benchmarks with the interests of society. This should be complemented with supervision by public authorities.*

the risks that the benchmark poses to the users. As importantly, where an index is published, its use may become so widespread that it becomes critical, or at the least have significant impact on markets and investors.

By contrast, where a benchmark is privately produced for a specific user, or a restricted set of users who have a direct relationship with the administrator, the risks are greatly reduced. The users in these cases are able to dictate and pay for governance, controls and methodology that meet their quality and risk demands. The benchmark administrator knows who is using the benchmark and for what purposes and so can take full account of these risks when exercising any judgment or exercising any discretion in relation to the calculation.

Evidence on ineffective governance of conflicts of interest in benchmarks' setting:[37]

- Settlements for attempted manipulation of LIBOR and EURIBOR by several banks (including Barclays, UBS and RBS) and investigation into the manipulation of these and other benchmarks by international bodies[38]

- Wheatley review identification of weaknesses in LIBOR governance in 2012[39]

- Preliminary areas of potential concern identified on IOSCO's consultation on Oil price assessments by PRAs[40]

-Proven cases of attempted manipulation of oil price assessment by Platts in the US (Marathon Petroleum $1m settlement by the CFTC in 2007) and the physical natural gas market, (Energy Transfer Partners, $10m by the CFTC)[41]

- Ongoing investigation of the European Commission services into a possible cartel in relation to the alleged submission of distorted prices by contributors to some of Platts oil and biofuels products published prices in order to manipulate those[42]

- The FCA (previously FSA[43]) is investigating claims by an employee of a PRA that there have been attempts to manipulate the price of the gas wholesale market similar to that of LIBOR[44]

- The Office of Fair Trading (OFT) published a report in January 2013 in which it states that: *"most supply contracts between wholesalers and retailers in the UK are based on Platts reported prices for wholesale petrol and diesel. Therefore, any distortion or manipulation of these reported prices could directly influence pump prices"*[45]

[37] Please see annex IV with more detail explanation of the findings evidencing weak governance of benchmarks
[38] please see press report on: http://www.bloomberg.com/news/2012-07-19/interest-rates-from-sweden-to-south-korea-under-fresh-scrutiny.html
[39] Please see annex V: Key Recommendations of the Wheatley Review: http://cdn.hmtreasury.gov.uk/wheatley_review_Libor_finalreport_280912.pdf
[40] See annex VI: IOSCO's Principles for Oil Price Reporting Agencies: http://www.iosco.org/library/pubdocs/pdf/IOSCOPD375.pdf
[41] Footnote 55: http://www.iosco.org/library/pubdocs/pdf/IOSCOPD391.pdf
[42] EC press release on the investigations: http://europa.eu/rapid/press-release_MEMO-13-435_en.htm
[43] From 1st April 2013 UK's the previous UK Financial Services Authority (FSA) split between two new bodies, 'The Prudential Regulation Authority' (PRA) and the 'Financial Conduct Authority' (FCA).The PRA, will be a subsidiary of the Bank of England, and will supervise deposit takers, insurers and a small number of significant investment firms. The FCA will be charged with ensuring conduct and markets regulation is tougher, bolder and more engaged with consumers.
[44] http://www.guardian.co.uk/business/2012/nov/12/Libor-like-manipulation-gas-markets
[45] http://www.oft.gov.uk/OFTwork/markets-work/othermarketswork/road-fuel-CFI/

- Although no formal investigation has been opened, the CFTC is examining the setting of the spot prices for gold and silver markets in London concerning whether these setting processes are transparent[46]

Even where governance arrangements have been set up to reduce manipulation, the lack of effective enforcement has often meant that these are disregarded. For instance, Chinese walls between traders and treasury, which are vital to avoid conflicts of interest influencing rate submissions, were often not respected by the staff of banks contributing to LIBOR[47]. This highlights that in many cases benchmark administrators and supervisors do not have either the resources or the incentives to police the governance frameworks they design. It also draws attention to the fact that benchmark submission, production and use are unregulated activities in most jurisdictions worldwide[48]. As a result, most authorities do not have supervision and enforcement powers over the setting processes and actors, which prevents the effective oversight of benchmarks and enforcement of compliance with minimum standards in their provision[49].

Finally, the fact that benchmarks are global in nature and produced by diverse organizations may lead to a lack of coordination in their supervision and create difficulties in the control of their production and use. This is highlighted by BAFIN's response to the Commission consultation on benchmarks stating that: *there is a need for credible governance structures in the benchmark setting process and that adequate controls must be in place, as well as adequate processes for identifying, avoiding and, if this is not possible, managing conflict of interest and an appropriate degree of formal oversight and regulation*[50]. For example, commodity price assessments by PRAs are used to reference commodity financial instruments worth billions of Euros[51], but are not supervised by financial or commodity market authorities in most jurisdictions.

4.2. Problem 2: use of benchmarks which are not robust, reliable or fit for purpose

Where a benchmark is not robust and is subject to the risk of manipulation, its use may harm investors or other users. More sophisticated users, such as banks and other wholesale market participants, may however have a good understanding of the risks posed by the benchmarks' lack of robustness and absorb this risk, or be able to take appropriate mitigating measures. However retail consumers may not be fully informed of the nature of the benchmark to which a financial contract they enter into is referenced and may not have any choice about the benchmark used. For example, a mortgage contract may reference a benchmark and the mortgage holder may not be able to appropriately assess the risks this benchmark poses or

[46] http://online.wsj.com/article/SB10001424127887324077704578358381575462340.html

[47] Please see evidence on UK FSA notice to Barclays: http://www.fsa.gov.uk/static/pubs/final/barclays-jun12.pdf

[48] Please see section on the current legislative framework for benchmarks

[49] For example, the Wheatley review has recommended that submission to and administration of LIBOR should become regulated activities, including an Approved Persons Regime: "The authorities should introduce statutory regulation of administration of, and submission to, LIBOR, including an Approved Persons regime, to provide the assurance of credible independent supervision, oversight and enforcement, both civil and criminal" Wheatley Review final report: http://cdn.hmtreasury.gov.uk/wheatley_review_Libor_finalreport_280912.pdf

[50] Please see BAFINS's response to consultation the public consultation on the initiative on benchmarks: http://ec.europa.eu/internal_market/consultations/2012/benchmarks/index_en.htm

[51] Please see annex VII on the size of benchmark industry size and market impacted

change the benchmark if they wish to, as a result of the use of standard terms in the mortgage contract.

In its contribution to the Commission's consultation, the Financial Services Users Group (FSUG) noted a "*potential for indices and benchmarks to be misused by product manufacturers, distributors, and advisers in the sale, advertising, marketing and promotion, and distribution of financial products and services; and reporting on the performance of financial products and services to ordinary financial users*". They note that there are risks of "*deliberate or reckless mis-selling of inappropriate products or misrepresenting of potential risks and rewards of financial products to users – for example, borrowers being locked into expensive mortgages or loans" and "financial users making sub-optimal choices and decisions pre-sale, at point of sale, and post-sale*". The FSUG concludes that "Most types of financial products are susceptible to this form of misuse including investment, insurance, savings, and mortgage products. Moreover, the potential for misuse can occur along the entire financial supply chain – in wholesale, institutional and retail markets".

The use of benchmarks which are not robust, reliable or fit for purpose can have a significant impact on retail investors and consumers. There is no consolidated data on the value of mortgages referenced to EURIBOR in the EU, and there are no reliable estimates of potential losses. For some Member States, however, indicative data is available. For instance, 18 million mortgages in Spain and many other loans to individuals, companies and public bodies are estimated to be referenced to EURIBOR[52]. Italian consumer groups Adusbef and Federconsumatori have filed complaints in which they estimate that the manipulation of Euribor affected 2.5 million Italian households through Euribor based mortgages, costing them 3 billion euros[53]. Furthermore, according to press reports, some of the largest European pension funds are considering to pursue legal claims against banks fined for manipulating LIBOR, in view of the large losses that they and their clients may have suffered as a result of LIBOR manipulation[54]. Please see Annex VII for the size of the benchmark industry and the market impacted.

4.2.1. The problem drivers

The problem of the use of benchmarks which are not robust, representative or fit for purpose is mainly driven by the lack of transparency about benchmark's purpose and the use of unsuitable benchmarks. . Especially for retail investors, the use of benchmarks in financial contracts by credit institutions without an assessment of their suitability is an important factor in the use of benchmarks which are not robust, reliable or fit for purpose.

Concerning consumer protection, the Consumer Credit Directive (CCD) includes rules on the disclosure of adequate information, as well as the soon to be adopted Mortgage Credit Directive (NCD)[55] which also includes the requirement to recommend suitable credit agreements. However, those EU consumer protection rules do not address the particular issue of the suitability of benchmarks for retail financial contracts. Furthermore, unequal bargaining power and the use of standard terms means that consumers may have a limited

[52] http://www.ipsnews.net/2012/03/euribor-under-scrutiny-by-peoples-campaign-in-spain/

[53] http://www.bloomberg.com/news/2012-07-31/barclays-documents-seized-in-italy-in-euribor-fraud-probe-1-.html

[54] Please see press repor: http://www.ft.com/intl/cms/s/0/be34832e-04f9-11e3-9e71-00144feab7de.html?siteedition=intl#axzz2cmfG8UHE

[55] Please see Annex XIX Bibliography

choice about the benchmark used. Consumers may as well lack the necessary knowledge or experience to appropriately assess benchmark suitability. This leads to un-harmonised EU consumer protection rules on the use of suitable benchmarks to reference financial contracts and to a sub-optimal level of consumer protection in the EU.

Lack of transparency about a benchmark's purpose

Benchmarks measure a particular market or economic reality. For example the EURIBOR rate is intended to reflect the cost of unsecured interbank lending and was intended to be used as a benchmark interest rate in interbank loan agreements. In many cases there is a lack of transparency about what a benchmark is intended to measure, in what circumstances it provides a reliable measure and other risks associated with its use. In the case of EURIBOR it may not have been clear what type of prime bank lending rate it measured and that the calculation methodology did not work well in periods of low liquidity. If this transparency is lacking, users may not be able to make appropriate decisions about which benchmark to use. When this occurs, economic decisions will be based on distorted values, leading to a less than optimal allocation of assets.

Evidence about lack of transparency on the inappropriateness of some benchmarks for their use in retail financial contracts

- EURIBOR is currently being challenged as a reference rate for mortgages by the People's Campaign in Spain, concerning the lack of transparency surrounding the way the rate is set and the lack of accountability for the unreliability of the rate in times of market stress and low liquidity.[56]

- The Commission services have received complaints from Polish citizens about the lack of transparency on the inappropriateness of WIBOR (Polish interbank interest rate) for consumer credit agreements. They cited two different reasons: the insufficient number of transactions on WIBOR3M and WIBOR6M tenors, which are the most widely used to reference consumer credit borrowing rates; and the fact that the cost of capital comes from deposits and not from interbank loans for the majority of Polish banks. The complainants argue that these two factors mean that the WIBOR benchmark is not necessarily well suited for use in consumer credit agreements and this fact was not adequately communicated to them. The use of an insufficient number of transactions would mean that the nature of the benchmark has changed. If the administrator has allowed this to happen without appropriately informing the users, it is also evidence of a lack of accountability on its part.

Use of unsuitable benchmarks

In a recent joint letter to Commissioner Barnier, the three European Supervisory Agencies EBA, ESMA, and EIOPA argued that "wider work is required to regulate how indices and benchmarks are compiled, produced and used"[57]. With regard to this latter element, the main problem is the use of unsuitable benchmarks. Even benchmarks which adequately measure the economic reality for which they are intended may have a harmful impact when used for other purposes. Often benchmarks are used to reference retail financial contracts without an appropriate assessment of their suitability for this purpose. This problem is accentuated by a lack of understanding on the part of those entering into contracts referenced to them, especially when they are retail investors or consumers. The problem is compounded by a lack of choice, as often retail market participants do not have the bargaining power to demand

[56] Please see press report; http://www.ipsnews.net/2012/03/euribor-under-scrutiny-by-peoples-campaign-in-spain/

[57] http://www.esma.europa.eu/system/files/esa-2013-007.pdf, 7 March 2013, ESA/2013/007

tailored terms[58]. This risk is identified by Finance Watch, which notes that "financial institutions with high bargaining power may be able to impose the linkage of contracts to inappropriate benchmarks"[59].

Another factor in the use benchmarks not based on their suitability (robustness and reliability) is **network effects** making a particular benchmark the established unit of measure[60]. For example mortgages may be referenced to EURIBOR because it facilitates the bank's risk management rather than as a result of an assessment of suitability based on its robustness and reliability. The EURIBOR rate may then be used because the bank is able to impose its standard terms in negotiations.

The Bank for International Settlements (BIS) warns that "if reference rates are not used properly, economy-wide financing conditions may change in unpredictable and unintended ways. For instance, an increase in the common bank risk component of reference rates could translate into a tightening of credit conditions well beyond interbank lending if such reference rates were used on a large scale for the pricing of corporate bonds, household mortgages or consumer loans".

The examples in the chart below evidence how consumers can be harmed by the use of benchmarks which are not suitable, robust or reliable for referencing consumer contracts.

Complaints of Spanish and Italian consumers about non-robust, unreliable or unsuitable benchmarks (EURIBOR and LIBOR) being used to reference retail consumer contracts

- Upcoming trial to determine whether a bank mis-sold interest rate swaps pegged to Libor to a care home administrator in the UK in 2007 and 2008[61].

- Annex XV provides a summary of a complaint lodged by a Bulgarian citizen to the ombudsman about irregular practices of creditors who themselves establish reference indices for the borrowing rates for consumers. According to the complaint, the choice of these indices is not based on suitability for consumers but on the commercial interests of creditors taking advantage of the uneven bargaining power of their clients.- Italian prosecutors in the city of Trani opened a criminal probe into alleged manipulation of Euribor and Libor, following complaints filled by consumer groups Adusbef and Federconsumatori[62].

- Freddie Mac (FMCC) sued Bank of America Corp., UBS AG (UBSN), JPMorgan Chase & Co. (JPM) and a dozen other banks over alleged manipulation of LIBOR, saying the mortgage financier (and in consequence its shareholders) suffered substantial losses as a result of the companies' conduct[63].

[58] Please see press report : http://www.ipsnews.net/2012/03/euribor-under-scrutiny-by-peoples-campaign-in-spain/

[59] http://ec.europa.eu/internal_market/consultations/2012/benchmarks/registered-organisations/finance-watch_en.pdf

[60] Please see ISDA's response to the Commission public consultation on the initiative on benchmarks

[61] Please see press repor: http://www.ft.com/intl/cms/s/0/be34832e-04f9-11e3-9e71-00144feab7de.html?siteedition=intl#axzz2cmfG8UHE

[62] http://www.businessweek.com/news/2012-07-20/italy-opens-euribor-criminal-probe-after-consumers-complaint

[63] http://www.bloomberg.com/news/2013-03-19/freddie-mac-sues-multiple-banks-over-libor-manipulation.html

5. BASELINE SCENARIO – HOW WOULD PROBLEMS EVOLVE WITHOUT EU ACTION?

In the absence of EU action a number of national and international regulatory initiatives have been launched. Within the EU, the UK and Denmark have adopted legislation to address the concerns with regard to benchmarks. Concerning UK legislation, although all benchmarks are under scope, currently it only specifies LIBOR as a regulated benchmark[64]. The Wheatley Review of LIBOR, which informed the UK legislation on benchmarks, recommended that: "*further work is undertaken on other important benchmarks at an international level. In particular, work should be undertaken to develop and agree an overarching international framework that could be used as a guide for sponsors of benchmarks, regulatory authorities and other relevant participants.*[65] *This work should be taken forward by IOSCO, through the Board Level Task Force, and the European Commission, coordinated by the Financial Stability Board (FSB)"*[66].Under the newly adopted UK legislation on benchmarks, the submission and administration of LIBOR, as well as key individuals, are now regulated by the FCA which has issued rules and guidance covering the systems, controls and codes of practice and policies to manage conflicts of interest of entities administering and submitting to LIBOR. As regards input data LIBOR submissions should, so far as possible, be supported by transaction data. The British Bankers' Association will be replaced as administrator of LIBOR by NYSE-Euronext in early 2014. Finally, a new offence of making false or misleading statements, in relation to LIBOR has come into effect, which is covered under MAR/MAD in EU legislation. Currencies and tenors of LIBOR rate will be reduced to ensure that only reliable ones based on sufficient data are provided.

Regarding the Danish government legislation on CIBOR, supervision of rate-setting was transferred to the Danish Financial Supervisory Authority from 1 January 2013 and contributing to this benchmark was made a regulated activity. Rules were implemented to improve both, governance, in particular in relation to the oversight committee, and transparency. In order to facilitate choice, the Copenhagen Interbank Tomorrow/Next Average (CITA) was introduced at the end of the 2012 as a supplement to CIBOR. CITA rate is a secured swap rate, based on transactions.

The requirements under the legislation adopted by the UK and Denmark coincide in most cases with the options considered and analysed in section 9. *Analysis of policy options, impact and comparison*. Some specific cases in which they do not coincide are presented under the preferred options package in section 10. However, even in those cases the requirements under UK and Denmark national regulations are compatible with the preferred options package.

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[64] HMT's legislation currently specifies only LIBOR as a regulated benchmark, but other benchmarks could be specified as regulated in the future:
http://www.legislation.gov.uk/ukdsi/2013/9780111533826/pdfs/ukdsi_9780111533826_en.pdf

[65] The Wheatley review also stated that: "this Review has been narrowly focused on LIBOR, and the recommendations are therefore only made in respect of LIBOR. However, the Review is aware of other work underway in relation to benchmarks generally, including the EU Commission's consultation on benchmarks and the Board Level Task Force set up by IOSCO. In light of this wider work, it is suggested that legislation should ensure that the regulatory regime can be extended to other benchmarks in the future, if appropriate":
http://cdn.hm-treasury.gov.uk/wheatley_review_libor_finalreport_280912.pdf

[66] Please See annex V on the findings and recommendations of the Wheatley review of LIBOR; see full report here: http://cdn.hm-treasury.gov.uk/wheatley_review_libor_finalreport_280912.pdf

In the absence of EU action, some Member States would be likely to legislate on this topic in order to implement the IOSCO Principles for Financial Benchmarks. However, as the IOSCO Principles leave flexibility as to the scope of their implementation and also concerning whether they should be implemented by legislation, a divergent approach in their implementation would be most likely. For example, the scope of UK legislation is as wide as IOSCO's as all benchmarks are covered, although currently it only specifies LIBOR as a regulated benchmark. In contrast, the Danish legislation covers only interest rate benchmarks.

ESMA and EBA published non-binding Principles for Benchmarks-Setting Processes in the EU[67] on 6 June 2013 and the EBA issued non-binding recommendations to EBF-Euribor following its review of EURIBOR in January 2013[68] and to national competent authorities (NCAs) on the supervision of contributing banks. As mentioned on the report containing the ESMA-EBA Principles for benchmarks, these are aimed at bridging the gap until an EU framework on benchmarks is established and the ESAs call for EU regulation to be proposed by the Commission[69].

At EU level, the manipulation of benchmarks that serve as the basis for financial instruments is addressed in the proposal for a Market Abuse Regulation for which a political agreement between the European Parliament and the Council was reached in June 2013. While this prohibits manipulation and provides for ex post sanctioning, it neither improves the framework under which benchmarks are produced nor their governance.

Globally, the FSB is coordinating the international initiatives reviewing the regulatory frameworks for benchmarks worldwide. IOSCO published Principles for Financial Benchmarks on 17 July 2013[70]. In the absence of EU regulation, Member States would be likely to adopt legislation at national level implementing these principles which would be divergent. This could result in fragmentation of the internal market, since administrators and users of benchmarks would be subject to different rules in different Member States. Individual national actions would also be ineffective due to the lack of coordination across Member States.

IOSCO also published principles for oil price reporting agencies[71] in October 2012 to address risks identified in oil price assessment practices, which have been highlighted by the investigation launched by the Commission in May 2013 into a possible cartel regarding the potential submission of distorted prices by contributors to some of Platts oil and biofuels products published prices[72]. In gas markets, recent allegations of benchmark manipulation have led to investigations under competition legislation, and have underlined the need for the comprehensive rules introduced by REMIT[73].

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[67] Please see the document on: http://www.eba.europa.eu/-/esma-and-the-eba-publish-final-principles-on-benchmarks

[68] Please see the document on: http://www.esma.europa.eu/system/files/eba_bs_2013_005.pdf

[69] http://www.esma.europa.eu/system/files/esa-2013-007.pdf

[70] Please see the final report on: http://www.iosco.org/library/pubdocs/pdf/IOSCOPD415.pdf

[71] Please see annex VI: IOSCO's Principles for Oil Price Reporting Agencies: http://www.iosco.org/news/pdf/IOSCONEWS253.pdf

[72] EC press release on the investigations: http://europa.eu/rapid/press-release_MEMO-13-435_en.htm

[73] Regulation (EU) No 1227/2011 of 25 October 2011 on wholesale energy market integrity and transparency: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:326:0001:0001:EN:PDF

A report entitled "*Towards better reference rate practices: a central bank perspective*" [74] was released on 18th March 2013 by a Working Group established by the Economic Consultative Committee (ECC) comprised of officials from 13 central banks and monetary authorities and chaired by Hiroshi Nakaso (Assistant Governor, Bank of Japan). The report provides recommendations on how to improve reference rate practices from a central bank perspective. The Working Group has identified an urgent need to strengthen the reliability and robustness of existing reference rates and a strong case for enhancing reference rate choice, and calls for prompt action by the private and the public sectors. Following from this work, the Official Sector Steering Group (OSSG)[75] which is composed of regulators and central banks of the major reference rates was set up in June 2013. This group will focus on important interest rate benchmarks and it will assess the relevant benchmarks against international standards, identify alternative benchmark rates and develop a contingency planning process in the event that one of the major benchmarks fails.

While the principles by IOSCO's and ESMA/EBA and the work by the OSSG may stimulate action and encourage convergence in rules, given their non-binding nature, not all Member States may respond, and those that do may act in different ways. This could lead to a fragmented regime governing the use of benchmarks within the EU. While this is not a problem for benchmarks that are entirely national, for those that are widely used or produced across a number of Member States national action typically does not capture all links in the chain of a benchmark's production. Another drawback is that risks would be addressed by in a piecemeal fashion, but would not address all risks, or constitute an integrated framework. Fragmentation could also facilitate regulatory arbitrage, as benchmark production can be easily moved to other Member States. This would compromise benchmark quality. Besides, sanctions under the MAR proposal have a deterrent but not preventive effect and they address manipulation by contributors but do not cover the current deficiencies of the benchmark setting process regarding the lack of appropriate governance, controls and transparency by administrators and contributors.

Consequently, in the absence of European action, important benchmarks with a European dimension would be regulated only at the national level. Other critical benchmarks such as those for oil might continue to be self-regulated in some jurisdictions and so not address the fundamental conflicts of interest that exist. Allowing this baseline scenario to remain would result in the on-going lack of trust in benchmarks, contracts and financial instruments would continue to reference unreliable benchmarks and their prices would be distorted.

Finally, as there is an international consensus of the need for a coordinated approach on benchmarks' reform, the Commission is participating in IOSCO and ESMA/EBA task forces on benchmarks' reform in order to ensure the maximum level of alignment across these work streams and the Commission's proposal. The third country regime envisaged under section *12.3. Regulatory arbitrage and risks of de-location* will safeguard the global competitiveness of the European financial sector on this matter.

[74] http://www.bis.org/press/p130318a.htm
[75] http://www.financialstabilityboard.org/press/pr_130625.pdf

6. SUBSIDIARITY AND PROPORTIONALITY

According to the principle of subsidiarity (Article 5.3 of the TEU), action at EU level should be taken only when the aims envisaged cannot be achieved sufficiently by Member States alone and can therefore, by reason of the scale or effects of the proposed action, be better achieved by the EU. While some benchmarks are national, the benchmark industry as a whole is international in both production and use. To date work to address the issues raised by benchmarks has been undertaken at both national and international level[76] and therefore there is clearly the potential for both approaches.

Subsidiarity in the regulation of indices

For some indices, there may be a case for maintaining national regulation since these types of index are not widely used outside that jurisdiction and are typically produced by entities located in that jurisdiction using data gathered only from that jurisdiction. However, many other indices such as euro interest rate benchmarks clearly involve cross jurisdictional issues. For example, the EURIBOR benchmark administrator, the EBF, is based in Brussels, while the calculations and dissemination are performed by Thomson Reuters, headquartered in New York. The submitting banks are based in a variety or Eurozone and non-euro zone jurisdictions, and the EURIBOR benchmark is used to price financial instruments and contracts across the Union and internationally. Similarly, many commodities markets, such as energy and oil, are global by nature and benchmarks in these sectors involve the same cross-jurisdictional issues. For such international benchmarks, purely national action could not effectively tackle the problems outlined above.

While action at national level in relation to national benchmarks may help ensure that any intervention is appropriately tailored to the problems, this may lead to a patchwork of divergent rules, could create an un-level playing field within the internal market and result in an inconsistent and un-coordinated approach. A patchwork of national rules would impede the opportunity to produce cross border benchmarks and therefore impede cross border transactions linked to them. In contrast, an EU initiative would help enhance the single market by creating a common framework for reliable and appropriately used benchmarks across different Member States.

Furthermore, based on the global nature of benchmarks, coordination of their reform at international level is needed to ensure effectiveness. This is evidenced by the FSB mandate to IOSCO to draft international Principles for Financial Benchmarks which were published in July 2013. In this context, action at EU level will contribute to the effective and consistent implementation of the IOSCO principles in the EU. In the absence of an EU harmonised framework for benchmarks, the individual national actions would also be ineffective, as there is no obligation or incentive on Member States to cooperate with each other and the absence of such cooperation leaves scope for regulatory arbitrage.

EU action is also necessary to protect consumers in regard to the use of benchmarks in financial contracts as inconsistent national rules on benchmarks would create obstacles to the cross-border provision of financial services to investors or consumers located in different Member States. It is also essential to allow investors and consumers throughout the EU to take advantage of the increased reliability and transparency of benchmarks. Against this background EU action appears appropriate in terms of the principle of subsidiarity.

[76] Please see annex III on international work streams on benchmark reform

The principle of proportionality requires that any intervention is targeted and does not go beyond what is necessary to achieve the objectives. At the identification of alternative options, as well as throughout the analysis and comparison of options and their scope, the proportionality principle has been guiding the process. This has been achieved in two ways: firstly, by targeting only those benchmarks that may have a direct and certain economic impact if they are manipulated and secondly, and secondly, by identifying measures which by their nature do not involve issues of proportionality or where measures might impose a disproportionate burden, enabling those measures to be calibrated in a proportionate fashion.

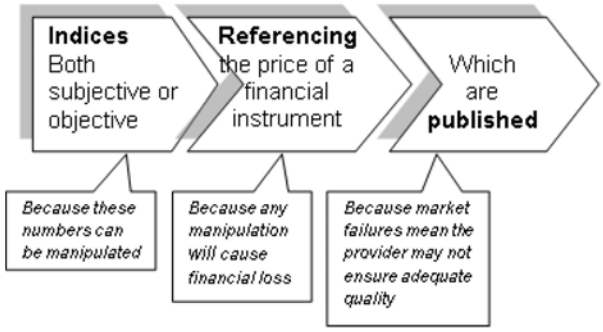
For example, only those benchmarks that are used to reference financial instruments or financial contracts have been targeted, because these are the types of benchmark that would have a direct and certain economic impact if they were manipulated. Secondly, specific measures have been envisaged for critical benchmarks and for some specific sectoral benchmarks in order to ensure proportionality to the risks posed by these types of benchmarks and their specificities.

7. THE SCOPE OF THE INITIATIVE

This section sets out a scoping exercise given its relevance to the option analysis that follows. Policy action should be targeted at the problems and drivers – such as conflicts of interest and discretion. This section identifies the areas - the actors and benchmark types - where intervention will most effectively address these issues. In particular the scope is set to ensure that any measures only apply where necessary and proportionate. See annex XIII for a more detailed analysis.

7.1 Defining the scope by benchmark characteristics

7.1.1. Scoping for the main problem drivers: discretion and conflicts of interest



Stakeholder's views: Many thought all benchmarks should be included as all were subject to the same vulnerabilities, others that subjective benchmarks should be subject to more onerous requirements[77] or that objective indices should be excluded[78].

The key problem driver is that wherever there is discretion which is subject to a conflict of interest, there is a risk of manipulation in the absence of adequate governance and controls. Therefore indices which involve discretion, either in their calculations or contributed data, should be subject to measures. While the degree varies, all indices involve some discretion. Therefore the scope should include all benchmarks, regardless of the method of calculation or the nature of the contributions.

7.1.2. Scoping for impact and vulnerability: published indices

[77] *"The indices above [based on objective data] should be out of scope as they are very different from price assessments that use surveys, panels, and voluntary contributions are one segment."* MSCI

[78] *"While it may be correct that criminal and antitrust sanctions can never hinder certain individuals and companies from infringing the respective provisions, it would nevertheless not be proportionate to extend the envisaged regulation to administrators of objective indices. This group of undertakings did not participate in the LIBOR scandal nor is there any incentive to engage in manipulations in the future*." Deustsche Bourse

Stakeholder's views: Most recognised the distinction between published and non-published indices in respect of the market failures in section 4.2.1 and the greater risks that published indices pose[79]. Some argued measures for private or bilateral indices are not necessary[80]or possible[81].

Published indices are likely to be insufficiently robust because administrators fail to internalise the benefits of ensuring their reliability. They also inflict more damage on a wider population than indices which are not public. Therefore the options apply only to published benchmarks (and those otherwise available to the public even if they are not published e.g. due to leaks).

7.1.3. Scoping for impact and vulnerability: 'financial' benchmarks

Stakeholders' views*:* Most agreed that a benchmark must be a reference for the price or the performance of a financial instrument or contract for it to cause economic harm or distort the information provided to users on the performance of financial instruments.

Where benchmarks are used as a reference price for a financial instrument or contract, any manipulation causes economic loss and where a contributor also uses a financial instrument that references it, there is an incentive to manipulate. Furthermore, were benchmarks are used to measure the performance of financial instruments they may be subject to conflicts of interests and their manipulation will lead to suboptimal investment choices by investors. Therefore benchmarks that price a financial instrument or consumer contract or that measure the performance of investment funds should be targeted, independently of the underlying values which they measure.

Why indices which measure non-economic values, such as weather indices, shall be included within the scope of this initiative when they are used as benchmarks?

Even if some indices, such as weather indices, measure non-economic values, they can still be used to reference financial instruments. Thus, even if those indices or their underlying data are initially of a "non-economic" nature, when they are used as benchmarks they will directly impact the returns or payments under listed financial instruments or financial contracts. In consequence, their lack of robustness or potential manipulation would have an adverse impact in those holding the financial instruments or contracts which they reference.

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[79] *"Interest rate indices can be considered "public goods" whenever their usage is widespread and, as a consequence, inaccurate submissions and manipulations can sharply affect the stability of financial markets and can also impact households and companies"* Assiom Forex- The Financial Markets Association of Italy

[80] "*Many indices are created by index administrators to meet a specific client's needs. Such bespoke indices are not wide-spread adopted benchmarks and in such cases ensuring that they are fit for purpose should lie between the administrator and customers."* BATS-ChiX

[81] *"calculation agent which produces "white label" custom indices on behalf of certain clients. In these cases, the intellectual property in the indices are owned by the client and S&P Dow Jones Indices serves solely as an independent third-party calculation agent,"* Dow Jones

As an example, Eurex[82] and the CME Group[83] lists weather derivatives in several European cities. These are used by entities to manage weather related risks. These weather derivatives are referenced by indices which measure weather factors, for example Heating Degree Day (HDD) and Cumulative Average Temperatures (CAT) Indexes. Diverse entities enter these derivatives in order to transfer the risk associated with adverse weather events. Pension funds and other financial entities may also invest in these financial instruments. In consequence, these entities and their clients will be affected by the unreliability or manipulation of the indices which reference these financial instruments.

7.1.4.Scoping: targeting critical or important benchmarks

Stakeholder's views: While many agreed that any proposal should apply to all benchmarks, others felt that less important indices should be excluded or thought that measures should be concentrated on the most important and risky sectors (in particular interest rate benchmarks).

For widely used benchmarks, even a minor manipulation may have a significant impact. The scope could therefore be restricted to critical benchmarks or specific sectors. However the vulnerability and importance of a benchmark varies over time. Defining the scope by reference to important or vulnerable indices would not address the risks that any benchmark may pose in the future and so this option has been discarded.

Sectoral Scoping: Because benchmarks sectors have different characteristics and vulnerabilities, a proportionate approach dictates that more focused and detailed provisions be applied sector by sector. This would also ensure that a disproportionate burden is not placed on small or low risk sectors. An international approach has been agreed for oil commodity benchmarks by IOSCO[84] and so detailed rules for this sector can be included in any initiative. A proportionate approach dictates that stronger safeguards are therefore required for critical benchmarks such as EURIBOR.

7.2. Defining the scope by actors

7.2.1. Entities producing benchmarks

Given the scope of targeted benchmarks, it is necessary to determine the activities in the benchmark process (submission, calculation and use), and so which entities, will be subject to the measures described in the options.

All benchmark administrators are potentially subject to conflicts of interest, exercise discretion and may have in place inappropriate governance and controls. Further, as they control the benchmark process, targeting these entities is the most effective and efficient way of achieving objectives. All EU based benchmark administrators producing 'target benchmarks' should therefore be in the scope of the options.

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[82] Eurex weather derivatives (listed in Frankfurt) http://www.eurexchange.com/exchange-en/products/wed/

[83] The CME Group weather derivatives (listed in several EU cities): http://www.cmegroup.com/trading/weather/files/pm264-fact-card-european-weather.pdf

[84] IOSCO, Principles for Oil Price Reporting Agencies, October 5th 2012, http://www.iosco.org/library/pubdocs/pdf/IOSCOPD391.pdf

However, benchmarks that are provided by central banks are subject to control by public authorities and therefore it is not necessary that these benchmarks should be subject to supervision provided that they otherwise meet the standards and objectives of this initiative.

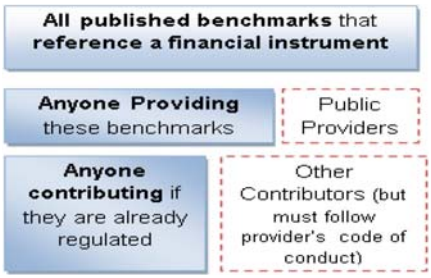
7.2.2. Entities contributing to benchmarks

***Stakeholders' views**:* there was a split between those who thought that administrators, contributors or both should be within scope. Some endorsed a proportionate approach of only targeting entities already subject to EU financial regulation[85].

Contributors are subject to conflicts of interest, exercise discretion and so may be the source of manipulation. The amended market abuse proposals[86] prohibit benchmark manipulation by contributors and so address the main risk that contributors pose. Contributing to a benchmark is a voluntary activity. If any initiative requires contributors to significantly change their business models, they may cease to contribute. However for entities already subject to financial regulation and supervision (supervised contributors) bringing the activity of contributing within scope would impose only a small marginal cost on them. It is therefore proportionate to include all supervised contributors within scope.

For contributors not subject to financial regulation and supervision (non-supervised contributors), authorisation or otherwise becoming subject to rules would impose significant costs. Financial regulators would also be ineffective supervising firms, such as agricultural entities, for which they have no expertise. Supervising non-supervised contributors would impose significant costs, provide minimal benefits and so they will not be within the direct scope. Nonetheless non-supervised contributors will be subject to the market abuse regulation and will be contractually bound to comply with the requirement of the administrators code of conduct.

Figure 2 Entities within the scope of the initiative



7.2.3 Users

Certain uses of benchmarks, such as exchanges listing instruments priced by reference to benchmarks, are already regulated. This initiative aims at providing users of benchmarks with

[85] *"The production of benchmarks should not be a separate regulated activity. To the extent that production or contribution is already by or from a regulated entity then it may be possible to expand the role of the regulator to ensure that this aspect of the business is appropriately supervised with the objective of assuring impartiality and accuracy"* Baltic Exchange

[86] http://ec.europa.eu/internal_market/securities/abuse/index_en.htm

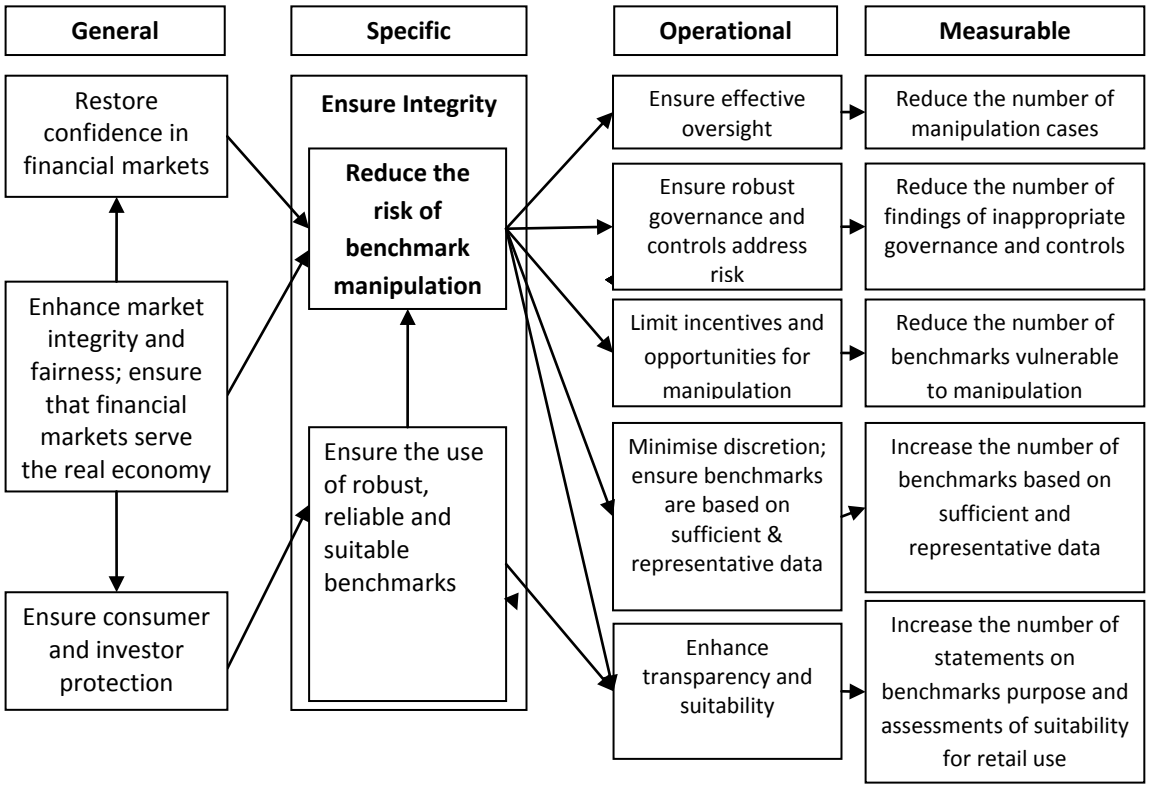
reinforced protection.. In addition, specific consideration should be given to the use of benchmarks in contracts with consumers, such as mortgages.

8. OBJECTIVES

8.1. General, specific and operational objectives

The objectives tree below displays the relations between the general, specific and operational objectives of this initiative deriving from the problems identified in the problem definition section:

Objective tree



8.2. Consistency of the objectives with other EU policies

This initiative is closely related to the programme of reforms launched by the Commission following the start of the financial crisis. This programme implements the commitments made by the G20 and aims at tackling more structural issues in the EU financial sector and addressing the main sources of its vulnerability as revealed by the crisis. The building blocks of this financial reform package were set out in the Communication of 4 March 2009, Driving European Recovery, and the Communication of 2 June 2010 "Regulating financial services for sustainable growth". Overall, this initiative is consistent with the EU's growth and jobs objectives, in particular to ensure financial markets better serve the real economy. Please see annex XII for a detail analysis of consistency.

9. ANALYSIS OF POLICY OPTIONS, IMPACT AND COMPARISON

The options will be assessed primarily against their effectiveness in achieving the operational objectives as well as their efficiency in achieving these objectives for a given level of resources. The general coherence of options with wider EU proposals in the financial sector and their compliance with the principles of subsidiarity and proportionality will also be assessed.

9.1. Limit incentives for manipulation

Options	Description
Option 1 No action (*Baseline scenario)*	*Lack of policies on conflict of interest management or non-enforceable if they exist. Lack of accountability.*
Option 2 Manage and disclose conflicts of interest	*Require benchmark administrators and contributors to manage and disclose conflicts of interest (including public disclosure of existing or potential conflicts of interest, conflicts of interest policies, appropriate management systems for reporting conflicts of interest, Chinese walls, remuneration non-linked to benchmark's performance and whistle-blowing policies).*
Option 3 Structural separation	*Conflicts should not be permitted, meaning that both contributors to and administrators of indices should be independent from other parts of the business which have a stake in the market. This would mean structural reforms.*

9.1.1. Option 1 No action (baseline scenario).

In the absence of further action, only some administrators and contributors will have conflicts of interest policies in place, and where they exist, they will not be enforceable. Thus, many contributors and administrators could exercise their discretion without being required to manage conflicts of interest and users would remain uncertain about whether conflicts exist and are being managed. Most respondents agree on the fact that: "*as soon as an entity, private or public, has an interest in the level of the final fixing, there may be conflicts of interest*[87]*, and a framework for managing conflicts of interest is critical in ensuring the representativeness and integrity of benchmarks"* [88].

9.1.2. Option 2 Manage and disclose conflicts of interest

[87] EBF-Euribor response to the public consultation on benchmarks

[88] Blackrock response to the public consultation on benchmarks

Under this option, benchmark administrators would need to identify instances of conflicts, such as where they benefit from the levels at which they set their benchmarks, from the composition of their indices, and where they can be influenced by their clients, owner or other interested parties when calculating the benchmark. Benchmark contributors would be required to identify where conflicts exist and how they manage them.

The advantage of this option is that it imposes the requirements for those performing calculations or submitting information to benchmarks to do so in an objective manner. By disclosing the conflicts it ensures that users are aware of risks to the benchmarks reliability and so enable them to choose a suitable benchmark. However, managing and disclosing conflicts alone may not suffice; to best enhance benchmarks' reliability, it should be combined with requirements to minimise discretion and reinforce governance for benchmarks setting.

Impact on administrators and contributors: this option would result in higher compliance costs for administrators as they would need to implement policies to manage and disclose conflicts of interest (please see annex X on compliance cost). However, they would benefit from enhanced confidence in the benchmarks. Contributors would also face increased compliance costs, but they would benefit from lower risks of facing large fines for manipulation.

Impact on users and other bodies: a majority of consultation respondents support this approach; for example, the French Banking Federation states that: *conflicts of interest should be made transparent and managed*[89] and the CFA Institute adds that: "*greater transparency underscores market discipline and helps mitigate conflicts of interest"*.[90] Finally, users of benchmarks would greatly profit from transparency on potential conflicts of interest affecting benchmarks when making decisions on the use of benchmarks and from administrators and contributors effectively managing existing conflicts of interests.

9.1.3. Option 3 Structural Separation

Structural separation is effective in limiting the incentives for manipulation, but it is not demonstrably needed or possible for all benchmarks. Conflicts of interest are inherent to the benchmark rate setting process; those best able to contribute data are typically those who make use of it and so have an interest in its level. So it may not be possible to eliminate all conflicts through structural separation or where structural separation is imposed, it may not therefore be economic to continue to produce the benchmark. Therefore, although this option would reduce conflicts of interest, it would be disproportionate, and disincentive benchmark provision thereby creating continuity issues. Furthermore, structural separation does not guarantee that benchmarks would be provided in a reliable way and in some instances, it may reduce their quality by separating the expertise that is required to produce the index.

Impact on administrators and contributors: this option would significantly increase costs of provision of many benchmarks in a disproportionate way as it would require structural (legal and physical) separation for administrators and contributors. As a result, it would disincentive benchmark provision and remove contributor's incentives to contribute. Thus, it would come at a high cost to the EU benchmark industry and to financial markets and users of benchmarks. In view of these issues, most administrators and contributors which

[89] French Banking Federation response to the public consultation on benchmarks
[90] CFA Institute response to the public consultation on benchmarks

responded to the consultation are against structural separation, although some independent benchmark administrators such as Stoxx state that: "*the index administrator (or contributor) should not benefit from index levels"*[91].

Impact on users and other bodies: this approach would provide a high level of integrity for benchmarks. However, as the cost of implementing the structural separation would probably be passed on to users, the latter would face higher costs and potentially a reduced choice of benchmarks. Most respondents do not support this option, with exceptions such as the European Consumer Organisation (BEUC), which supports structural separation of entities setting rates for consumer credit: "*rates have to be out of the influence of lenders. Also, banks should not be free to alter rates at own discretion"*[92].

9.1.4. The preferred options

	Impact on stakeholders	**Effectiveness**	**Efficiency**
Option 1 No action (baseline)	*0*	*0*	*0*
Option 2 Manage and disclose conflicts of interest	*(+) Users: increases benchmarks reliability at a higher cost but proportional to risks* *(+) Administrators and contributors: increased costs but decreased risks*	*(+) Reduces conflicts of interest but does not eliminate them* *(+)Ensures that users are aware of risks*	*(-) Higher costs* *(+) Proportionate*
Option 3 Structural separation	*(+) Users: would create benchmarks with great integrity but reduce choice and increase costs* *(--)Administrators and contributors: would disincentive the provision of and contribution to benchmarks*	*(++) Limits conflicts of interest* *(-) Does not ensure benchmark reliability* *(--) Disincentives benchmarks provision and contributions. Continuity issues*	*(--) Large cost to EU industry and users* *(-) Disproportionate*

Based on the analysis above, option 2 receives the highest score as it effectively and efficiently contributes to ensuring the integrity of EU benchmarks in a proportionate and consistent way.

9.2. Minimise discretion - ensure benchmarks are based on sufficient, reliable & representative data

Option	**Description**
1. No action (baseline scenario).	*Currently non enforceable requirements on sufficient and representative data for benchmarks and justified use of discretion and they only apply to some jurisdictions and types of benchmarks. Lack of coordination for requirements across different types of benchmarks.*
2. Require the use of transaction data if available and reliable, otherwise well founded and verifiable	*If available, sufficient, reliable and verifiable data should underlie benchmark rates setting and contributions towards them.* *Where transaction data is not available or reliable and discretion needs to be exercised, contributors and administrators should document and be able to justify*

[91] Stoxx response to the public consultation on benchmarks
[92] BEUC response to the Commission public consultation on benchmarks

discretion (ex-post checked)	*any discretion they exercised.* *Where submissions are based on estimates, these estimates should be checked ex-post by the submitter (or benchmark administrator) against real transaction data where possible.*
3. Mandatory use of transaction data only	*Indices should rely solely on transaction data and benchmarks based on assessments or estimates would not be permitted.*
4. Mandate contributions for critical benchmarks	*Selected market participants (according to criteria such as representativeness or number of transactions) could be mandated to supply estimates or transaction information to administrators or calculators of critical benchmarks(please see "critical benchmark" (definition in annex I, glossary).*

9.2.1. Option 1 No action (baseline scenario).

Where conflicts exist, the existence of discretion creates the opportunity for manipulation to occur and minimising discretion therefore helps ensure the reliability and integrity of benchmarks. Under the baseline scenario, these objectives will not be achieved due to the lack of incentives for contributors and administrators to minimise discretion in the benchmark's methodology. Even if conflicts of interest are addressed through the options in section 9.1., the opportunity for manipulation will remain if appropriate methodologies are not in place and discretion is not minimised.

***9.2.2. Option 2 Require the use of transaction data if available and reliable, otherwise well founded and verifiable discretion (ex-post checked)*)**

This option is consistent with the views on benchmark methodology and underlying data of most respondents to the public consultation. It provides an instrument for ensuring that benchmark rates and contributions are based on sufficient and representative data and that discretion is justified, well founded and properly exercised. Thus, it reduces discretion, enhances the reliability of benchmarks and also reinforces the objective of enhancing transparency.

However, for benchmarks where the input data is not transaction data, in the case where one contributor would represent more than 50% of the transactions in the underlying market which the benchmark intends to measure, and thus of the weighted contributions, it would be relatively feasible for this contributor to manipulate the benchmark. Thus, provisions should be made to ensure that a firm which holds a dominant position in the underlying market to a benchmark is not able to abuse this position by influencing the price setting in the market through its contributions of input data to the benchmark setting. In this case, the administrator shall verify that any difference in the value of the input data of that contributor relative to the average value of input data from all other contributors is justified; where it is not justified, the administrator shall notify the relevant competent authority. This measure would be justified based on the need to ensure that benchmarks enhance transparency and thus competition in the markets which they intend to measure, and not the opposite.

Impact on administrators and contributors: for administrators and contributors, benchmarks provision would be more expensive as it would require investments to update models/systems/methodology to ensure their use of sufficient data and justified and appropriate use of discretion (please see cost benefit analysis in annex X). It could also disincentivise contributors as they would need to disclose transaction data if available and document/justify their contributions. On the other hand, it also would provide a safe harbour

for administrators and contributors by clarifying their obligations and enforcing them[93]. Overall, this option would permit flexibility on methodology and underlying data, it would be proportionate and it would enhance benchmark reliability. It is supported by most respondents to the consultation, including Global Financial Markets Association (GFMA) which in its Principles for financial benchmarks[94] states that *'sponsors (administrators) should ensure that there is a methodology for conducting the benchmark price assessment that relies on sound data and accurately reflects market conditions'*.

Impact on users and other bodies: this option would reduce the potential for manipulation and so the risks to users. It would also allow for continuity in those benchmarks which could not be based exclusively on transaction data, thereby avoiding contractual continuity issues. Furthermore, it would enhance the reliability of benchmarks and would provide users with choice of benchmarks based on verifiable methodologies. In consequence, most institutions representing users, including Finance Watch and BEUC state that: "*transactions should be used, and if not possible complemented by or checked against surveys*"[95].

9.2.3. Option 3 Mandatory use of transaction data only

Under this option benchmarks should rely solely on transaction data; those based on quotes, indications of interest or estimates would not be permitted. The main advantage of this option is that it would ensure that all input data is verifiable and discretion in terms of the input data would be minimised. Thus, it would reduce the risk of manipulation and enhance benchmarks' reliability. However, this option would present important disadvantages. Benchmarks which cannot be based on transaction data would be discontinued, and so would contracts or instruments based on them. Furthermore, although it ensures that benchmarks are based on verifiable data, it does not ensure that this data is sufficient or representative. More importantly it does not eliminate discretion by the administrator. If discretion is eliminated at the contributor level it may simply move the problem up to the administrator level.

Impact on administrators and contributors: mandating transaction data may require significant investments in data gathering systems where the data is not currently gathered. It would no longer be possible to produce many benchmarks. Contributors may be discouraged from participation by the requirement to provide transaction data which contains sensitive information. It could also have a negative impact on the fundamental right to conduct a business[96]. As a result, most consultation responses from administrators and contributors were against this approach and some highlighted that: "*mandating the publication of transactions could jeopardise the production of benchmarks*"[97].

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[93] The $1.5 billion fines imposed on UBS and $ 453 million imposed on Barclays by financial regulators, provide an example of how costly it can be for benchmarks' contributors not to ensure the reliability of their benchmarks and reflect the large impact which benchmarks' manipulation can have on the efficiency of and confidence in financial markets and in the real economy: http://www.bloomberg.com/news/2012-09-19/Libor-like-manipulation-possible-in-other-benchmarks-iosco-says.html

[94] The GFMA, which represents the most important financial institutions globally (including important benchmarks' administrators, contributors and users) has issued non-binding Principles for Financial Benchmarks GFMA Principles for financial benchmarks: http://www.gfma.org/correspondence/item.aspx?id=350

[95] Finance Watch response to public consultation on benchmarks

[96] Fundamental Right to Conduct a Business: http://infoportal.fra.europa.eu/InfoPortal/infobaseShowContent.do?btnCat_302&btnCountryBread_169

[97] VOEB, Bundesverband Öffentlicher Banken response to the public consultation on benchmarks

Impact on users: users would be adversely affected by continuity issues where benchmarks could not be produced if based exclusively on transaction data. Therefore while many respondents "*favour a calculation methodology based on actual transaction rates"*[98]and consider that "*transactions are the most relevant information and should take precedence"*[99]others point out that *"although benchmarks based on real transactions are preferred, this is not always possible*[100] *and estimates (or surveys) may be needed for illiquid markets"*[101].

9.2.4. Option 4 Mandate contributions for critical benchmarks

This option addresses the problems which could lead to critical benchmarks based on voluntary contributions being discontinued or becoming unreliable due to insufficient contributions, in particular where market or regulatory burdens make voluntary contributions unattractive.

Where contributions are voluntary, there is a free rider problem in that entities that benefit from using the benchmark may choose not to incur the costs and risks of contributing to the benchmark. Where the continued existence of a benchmark is in the public interest because it is critical, it is therefore appropriate to mandate contributions to ensure the continued existence of this benchmark. *(See chart on section 4.1.1. on the "Risks posed by contributors to critical benchmarks leaving panels and the "critical benchmark" definition in annex I, glossary).* It would ensure the continuity of benchmarks which are of critical importance and particularly in times of market stress. However, although this option ensures sufficient data, on its own it does not ensure the data is representative or that any contributions are honest or reliable assessments. Furthermore, the implementation of this option would require that the majority of contributors to critical benchmark are supervised entities, as it would not be possible to mandate unsupervised entities to contribute to benchmarks and it would not be proportional to require contributors becoming supervised entities in order to mandate their contributions.

The implementation of this option (as well as of the suboption under 9.5.6. on colleges of supervisors for critical benchmarks) would also require determining specific parameters to identify which benchmarks are critical, for example, based on the value of contracts referenced to them in the EU and on whether their unreliability could have serious significant adverse implications. For example, in the recent review of STIBOR (Stockholm Interbank Offered Rate) the Central Bank of Sweden (Sveriges Riksbank), defined STIBOR as "of great significance for Swedish interest rates, the allocation of capital in society and for the functioning of the financial markets" as its family of benchmarks are used to reference the pricing of financial contracts in Swedish kronor corresponding to almost 50,000 billion Swedish krona (approx. 6 billion Euro).

Based on the fact that the Union financial system capital base has an approximate value of € 3.5 trillion, the failure of a benchmark which is used to reference financial instruments or contracts with a value of over € 500 billion would have a large adverse impact on financial stability and the real economy. Thus, benchmarks used to reference financial instrument or contracts worth over € 500 billion in the EU could be considered critical benchmarks.

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[98] CFA response to the public consultation on benchmarks

[99] Deutsche Lufthansa's response to the public consultation on benchmarks

[100] EON response to the public consultation on benchmarks

[101] Unicredit response to the public consultation on benchmarks

Impact on administrators and contributors: for contributors which do not currently contribute to benchmarks or wish to do so, it would impose an additional obligation, but the additional costs would normally be low (please see annex X) as this is just a marginal activity in their business model (e.g. banks). Overall, this requirement would be proportionate for administrators and contributors to ensure the continuity of benchmarks of critical importance (such as EURIBOR) as discontinuity of such benchmarks (which reference billions of financial instruments and loans) could have significant consequences on financial stability and on consumers and investors.

Impact on users and other bodies: most respondents representing users who commented on the issue were of the view that *mandatory reporting requirements could prove useful*[102] in particular circumstances for certain markets[103], as it increased the share of the market that is represented by the benchmark. However *it would not be appropriate for all markets and, a threshold (e.g. market share) is probably necessary to avoid excessive burden*[104]. More generally the view seemed to be that *any decision to impose such a requirement would require detailed consideration*[105] *of the market and issues*[106].

[102]" Mandatory reporting provides the advantage of ensuring consistency in the number of contributors on a given day. It also removes the ability to manipulate the index by purposefully choosing not to contribute data on a particular day. Disadvantages include the decision as to which organisations are compelled to report, which entity regulates the panel, bears the costs, and owns and sets the framework for submissions. "RIMES

[103] "There would be considerable advantages to mandatory reporting of price data on concluded trades in highly liquid, standardised and commoditised markets provided of course that a large proportion of transactions throughout the 24 hour period were captured. This would therefore require a global initiative. In opaque, truly global markets such as shipping, where the commodity being traded is far from standardised, mandatory reporting seems impossible to implement. If such a proposal were implemented within a limited arena such as the EU it would encourage migration of business away from the jurisdiction. In shipping there is no industry-wide consensus in favour of greater transparency and since there is no widespread discontent with the benchmarks available, little incentive for change." Baltic Exchange

[104] "Mandatory reporting requirements could prove useful, as they increase the share of the market that is represented by the benchmark. However, a threshold (e.g. market share) should be considered to avoid excessive burdens on minor submitters who do not significantly contribute to the representativeness of the benchmark." Bafin

[105] "Mandatory participation could result in large panels. The benefit which one would expect from a large panel could, however, be undermined by mandatory participation if this means that the panel becomes unrepresentative or if it creates uncertainty in the construction of the panel. Who, under a mandatory system, would have responsibility for defining the criteria to select the banks that must contribute? Who would monitor and maintain the criteria and hence the banks selected? Any benchmark should reflect 'volume weighting' to some degree – an arithmetic mean established from a very broad panel with a large number of marginal participants could result in fixes which were not representative of the economically significant activity." Blackrock

[106] "For mandatory reporting of data, requiring all trade data to be available to authorities or benchmark administrators must be carefully balanced with the costs it will create. In particular, creating trade repositories or trade reporting will require large monitoring resources from competent authorities, as well as large set up costs. It must also be noted that verification of submissions will still be required to ensure all data is submitted, and that it correctly reflect arms lengths transactions. It is not obvious that similar benchmark integrity could not be achieved through a strong governance and control framework" HMT

9.2.5. The preferred options

	Impact on stakeholders	Effectiveness	Efficiency
Option 1 No action (baseline scenario).	*0*	*0*	*0*
Option 2 Require the use of transaction data if available and reliable, otherwise well founded and verifiable discretion (ex-post checked)	*(++) Users: enhances reliability, contractual continuity and market choice* *(+) Administrators and contributors: increases costs, but provides flexibility on methodology and a safe harbour*	*(++) Increases transparency and reliability* *(+)Reduces and justifies the use of discretion, but not minimised to the maximum extent* *(+) Reduces the risk of manipulation* *(-)Transparency may disincentivise contributions*	*(-) Higher costs* *(+)Proportionate*
Option 3 Mandatory use of transaction data only	*(-) Users: Enhanced reliability but contractual continuity issues and reduced choice* *(--) Administrators and contributors; large investments, lack of flexibility and discontinuity*	*(-) Transparent, verifiable and reliable data but not sufficient or representative* *(++)Minimises discretion* *(-)Discontinuity as lack of flexibility in methodology* *(-)Disincentives contributors participation*	*(--) Serious costs for users if contractual discontinuity* *(--) Disproportionate for non-critical benchmarks*
Option 4 Mandate contributions for critical benchmarks	*(++) Regulators: continuity of critical benchmarks* *(+) Users: higher reliability but higher costs* *(-) Administrators and contributors: higher cost*	*(++) Ensures benchmark continuity and sufficient data* *(-) Does not ensure representativeness and reliability on its own* *(++) Enhances financial stability*	*(-)Benchmarks provision and use more costly* *(+) Proportionate for critical benchmarks*

Options 2 and 4 are not mutually exclusive and based on the analysis above, they could be combined to address the deficiencies they present individually. Transaction data would need to be used when available and representative. Otherwise data that can be verified or ex post checked should be used whenever possible. Contributions could be mandated for critical benchmarks only if necessary.

This combination of options ensures that benchmarks are based on sufficient, reliable and verifiable data and that the exercise of discretion is minimised and justified, but allowing for proportionality, flexibility on methodologies and market choice of benchmarks. Therefore, it would effectively contribute to reducing the risk of manipulation without discouraging provision or contributions. However, these options to minimise discretion need to be combined with options to enhance transparency, governance and accountability in order to effectively reduce the risk of benchmark manipulation.

9.3. Policy options to ensure internal governance and controls address risks

Option	Description
Option 1 No action (baseline scenario)	*Industry self-imposed regulation and non-legally binding principles and recommendations issued by IOSCO and ESMA/EBA on improvements to governance and controls.*
Option 2 Supervisory authorities to issue comply or explain guidelines	*Supervisory authorities to issue comply or explain guidelines for the benchmark industry as well as contributors to benchmarks on appropriate governance and controls.*
Option 3 Mandate adequate management systems and effective controls	*Mandate adequate management systems and effective controls for both administrators and contributors to benchmarks in order enhance the reliability of benchmark rates and contributions and address the risks of manipulation, including: adequate management structures and well defined responsibilities to deal with conflicts of interest, appropriate use of discretion, codes of conduct, internal and external controls and audits, complaints and outsourcing procedures and due diligence and appropriate skills and training of personnel.*

9.3.1. Option 1 No action (baseline scenario)

Most responses to the public consultation as well as the main international work streams on the review of benchmarks (namely the IOSCO task force, the ESMA/EBA task force and the Wheatley Review)[107] have identified important shortcomings in the governance and controls of benchmark administrators and contributors and they have recommended addressing these shortcomings as a top priority. As benchmark administrators and contributors cannot fully internalise the profits that can be gained from marketing benchmarks with strong governance and controls, they do not have the incentives to implement robust governance unless it is enforced[108]. In addition, self-regulation does not ensure the necessary independence of the governance systems as entities are not obliged to separate management functions. According to most consultation responses, such as UK HMT's: '*a credible governance and regulation structure should have sufficient independence and powers to ensure that attempted manipulation of the benchmark does not occur*'[109]. Under the no action scenario, the lack of enforcement and independence means that shortcomings in governance would not be effectively addressed.

9.3.2. Option 2 Authorities to issue comply or explain guidelines

The main advantage of this option is that it imposes a lower regulatory burden on benchmark administrators and contributors than legal requirements. However, as guidelines to be issued by supervisory authorities would be only on a comply or explain basis, whilst some benchmarks' administrators and contributors would choose to implement their recommendations on the enhancement of governance and controls, others would not due to the lack of enforcement (ESMA and other supervisory authorities do not currently have the

[107] Please see annex III on international initiatives on benchmark reform

[108] Please see the Problem definition and the Scope section regarding the impossibility for administrators and contributors of published benchmarks to internalise all the benefits of investments in enhancing benchmarks' reliability.

[109] Please see HMT response to consultation: http://ec.europa.eu/internal_market/consultations/2012/benchmarks/index_en.htm

powers to issue binding guidelines or enforce them). Thus, this option would not effectively address the shortcomings identified in governance and control and minimise the risk of manipulation.

Impacts on administrators and contributors: this would create an unlevel playing field in governance and controls requirements for regulated (LIBOR, CIBOR) versus non-regulated benchmark administrators and contributors in the EU. Furthermore, although it would not impose a large additional regulatory burden on EU benchmark administrators and contributors, it would not provide them with legal certainty on their obligations[110]. Some respondents to the consultation, mainly benchmark administrators, believe that "*non-binding principles combined with industry codes will deliver the transparency and governance arrangements that are necessary to ensure the integrity of benchmarks"*[111].

Impacts on users and other bodies: this option would not provide the required degree of consumer and investor protection for the existing risks by not ensuring robust governance and controls as administrators would not have legal obligation to do so and as explained under the no action option, they cannot fully internalise the benefits of investing in robust governance. In consequence, users of benchmarks who responded to the consultation, such as Caixabank, state that: "*Benchmarks codes of conduct should be as detailed as possible and sponsors governance should be supervised by an official institution*"[112].

9.3.3. Option 3 Mandate adequate management systems and effective controls

This option provides a tool for enforcing robust governance and controls to address the shortcomings identified in benchmark's provision and contribution activities and reduce the risk of manipulation. It also provides a level playing field in governance and control requirements for benchmark administrators and contributors within the EU and legal certainty on their obligations. These requirements would take into account the nature, scale and complexity of the benchmarks provided or contributed to by the entities, as well as the nature and range of activities undertaken in the course of the provision or contribution.

Impacts on administrators and contributors: on one hand, it would impose a higher regulatory burden for benchmark administrators and contributors as they would be obliged to modify their management systems and controls. On the other hand, these requirements would provide entities with legal certainty on their obligations and create a level playing field in the EU, making benchmarks provided in the EU more competitive globally.

Impacts on users and other bodies: this option would provide the required degree of consumer and investor protection as it would effectively reduce the risk of manipulation by ensuring robust governance and controls. A significant number of respondents, mainly users and public institutions, believed that *"governance should be mandated and supervised by an official institution"*[113].

9.3.4. The preferred options

[110] Under this option European benchmark administrators and contributors would be either under the scope of eiher non-binding principles issued by supervisory authorities (such as the ones to be issued by IOSCO and ESMA/EBA) or under regulation issued by NCA (as is the case for LIBOR in UK and CIBOR in Denchmark).

[111] Argus response to the public consultation on benchmarks

[112] Caixabank response to public consultation on benchmarks

[113] Caixabank response to the public consultation on benchmarks

	Impact on stakeholders	Effectiveness	Efficiency
Option 1 No action (baseline scenario).	*0*	*0*	*0*
Option 2 Supervisory authorities to issue non-binding principles for the benchmark industry as well as contributors to benchmarks on appropriate governance and controls	*(-)Users: no required degree of consumer and investor protection* *(-)Administrators and contributors: low regulatory burden but lack of EU level playing field and uncertainty on obligations* *(--) Regulators: lack of enforcement tool*	*(-) Lack of enforcement tool* *(-) Does not effectively reduce the risk of manipulation* *(-) EU unlevel playing field for administrators and contributors*	*(+)Low regulatory burden* *(-) Non-proportionate to risk*
Option 3 Mandate adequate management systems and effective controls for both administrators and contributors to benchmarks	*(+) Users: reduces risks of manipulation* *(+) Administrators and contributors: EU level playing field and legal certainty on obligations but higher regulatory burden*	*(+) Enforcement tool* *(+) Effectively reduces risk of manipulation* *(+) EU level playing field and legal certainty for entities*	*(-) Higher regulatory burden.* *(+) Proportionate to risks*

Based on the analysis above, option 3 receives the highest score as it provides a tool for enforcing the implementation of robust governance and controls which effectively address the risk of benchmark manipulation. This option also enhances benchmarks' reliability and ensures a level playing field for EU benchmarks' administrators and contributors. Finally, although it imposes a higher compliance burden on benchmarks' administrators and contributors, it also provides legal certainty on their obligations, reducing their potential liabilities and the risk of large fines for manipulation.

The main governance and control requirements for addressing the shortcomings are identified in the table below[114]. To ensure a proportionate approach, these requirements would be calibrated to the risks posed by different types of administrators and contributors and to adapt to the requirements of different sectoral or critical benchmarks; smaller administrators of benchmarks that pose less risk may therefore be subject appropriately tailored and proportionate requirements.

Enhancement of	Requirements
Governance	** Setting adequate management structures which effectively address conflicts of interest, such as Chinese walls, conflict reporting mechanisms and whistle-blowers policies* ** Ensuring well defined responsibilities in the provision of and contributions to benchmarks* ** Ensuring legally binding codes of conduct are in place and signed by all relevant parties in order to assure the direct and indirect application of legal requirements and best practice in the provision of and contributions to benchmarks* **Ensuring independence in the provision of or contributions to benchmarks* **Ensuring complaints and outsourcing procedures are in place to guarantee benchmarks*

[114] According to national supervisory authorities such as BAFIN, there is a need for credible governance structures. Adequate controls must be in place; adequate processes for identifying, avoiding and, if this is not possible, managing conflicts of interest and an appropriate degree of formal oversight and regulation

	administrators and contributors accountability to users **Ensuring due diligence of personnel as well as appropriate skills and training and right incentives are in place to avoid conflicts of interest*
Controls	**Ensuring regular controls on the benchmark provision and contribution processes, particularly regarding management of conflicts of interest and use of discretion and data quality* **Ensuring periodic internal or external audits (as adequate and proportionate to risks identified on administrators and contributors management systems and processes are regularly and thoroughly carried out and that their outcomes are public and their recommendations swiftly implemented*

The option package presented so far effectively and efficiently addresses the risks of benchmark manipulation by addressing the issues linked to: conflicts of interest; use of discretion; insufficient underlying data; and lack of robust governance and controls. However, in the absence of effective oversight, it would not ensure compliance with the requirements identified and it would not guarantee that problems are addressed. Additional options to address the issues of lack of transparency and inappropriate use of non-robust, unsuitable or unrepresentative benchmarks would also be required.

9.4. Enhance transparency and ensure the use of robust and reliable benchmarks

Option	***Description***
Option 1 ***No action (baseline scenario)***	*Lack of transparency requirements for the benchmark industry. Transparency voluntarily applied to different degrees by different benchmark administrators and contributors. The degree of transparency will determine whether users are able to assess benchmarks' robustness and adequacy for their purposes. Benchmark administrators may be liable where contractual relationships with users exist and required to ensure the suitability of benchmarks.*
Option 2 Require transparency on methodology, underlying data, process and purpose	*Mandate full transparency by requiring clear disclosure of how a benchmark is calculated, the underlying data used, what it is intended to measure and any risks that might mean the benchmark becomes unreliable or unfit for use. However, in some cases, it may be necessary to allow for either delayed publication or partial publication of underlying data if this would ensure the integrity of the benchmark.*
Option 3: Assessment of suitability of benchmarks' use for retail contracts	*Where a financial entity, such as a bank, intends to enter into a financial contract with a retail consumer which references a benchmark, the financial entity should assess the suitability of the benchmark for this use.*
Option 4: Mandatory notification of benchmarks use	*Users of benchmarks would be required to notify the benchmark administrator of their use. The benchmark administrator would then determine whether that use was suitable.*

9.4.1. Option 1 No action (baseline scenario).

Transparency is necessary to allow users to make adequate assessments about benchmarks robustness, reliability and adequacy for their purposes. It is also important to ensure confidence in benchmarks. Responses to the public consultation indicate that while a desirable characteristic, transparency is not always provided and or provided on a consistent basis. In the absence of further action, the current situation would persist meaning users would not be assured of the integrity of benchmarks and not able to make informed assessments about their suitability.

Existing EU legislation contains a number of provisions to ensure the suitability of use and robustness of benchmarks. Article 40(1) of Markets in Financial Instruments Directive[115] requires that "*any financial instruments admitted to trading in a regulated market are capable of being traded in a fair, orderly and efficient manner*". Article 37(1)(b) of the Implementing Regulation that "*the price or other value measure of the underlying must be reliable and publicly available*".

Many responses to the consultation were of the view that the appropriate delineation of responsibilities was that index administrators should be responsible for standards while users should be responsible for ensuring that the index was appropriate and suitable for the purpose that they intended to use it for[116].

Finally, where the user has a direct contractual relationship with the benchmark administrator through for example a licensing agreement, they may have a contractual claim against the benchmark administrator for any breach of those terms, although this may or may not include any terms regarding the robustness, representativeness and fitness for purpose. Where the user does not have a contractual relationship with the benchmark administrator, usually, they will not have a right of action against them.

9.4.2. Option 2 Require transparency on methodology, underlying data process and purpose whilst allowing for delayed or partial transparency of underlying data when justified

Transparency on data and methodology would allow both the regulators and the public to evaluate whether the benchmark is accurate and reliable. Access to data and methodology would mean that the benchmark can be back tested to assess accuracy and identify vulnerabilities. Secondly, transparency about what the benchmark measures, how it should be used and its shortcomings would inform users about the economic reality a benchmark is intended to measure and any shortcomings it may have in tracking this.

However, in some cases, it would still be necessary to allow for delayed or partial publication if full and contemporaneous publication would result in serious adverse consequences for the contributors or adversely affected the benchmark's integrity. Publication could only be delayed to the extent it significantly diminished these consequences. The underlying data would be provided to regulators who could verify its integrity on behalf of the users. Costs could be therefore higher but this would be offset by the benefits of reducing the incentives to manipulate.

Set against these benefits, the costs of providing this information would be small. Firms already have internal guidance on methodology and collate the input data. Publishing this data would not therefore involve significant costs. The possibility of allowing for delayed or partial transparency of underlying data when justified reduces possibility of transparency having negative effects on integrity and reducing incentive to contribute and ensures proportionality.

Impact on stakeholders: on one side, many administrators[117] supported transparency[118] but noted that it should be proportionate[119] and that "*more transparency should apply if more*

[115] MIFID OJ L 145, 30.4.2004, p. 1. Please see bibliography
[116] See e.g. Barclays, Index Industry Association, BBVA response, Danish Bankers Association
[117] See e.g. Association Française de la Gestion financière (AFG)

judgement is exercised[120]". For the majority of users, transparency was an important factor in choosing to use a benchmark[121] and there is a need for enhanced transparency[122]. This view was shared by regulators[123] and public bodies[124].

On the other side, some contributors and administrators were of the view that full transparency of underlying data may have a negative impact and that anonymity or delayed transparency may be necessary in some cases[125]. Some public bodies, such as the ESRB: "*Support a form of lagged transparency to markets at large*[126].

9.4.3. Option 3: Assessment of suitability of benchmarks' use for certain retail contracts

The scope of an EU initiative applies to benchmarks used to reference financial instruments. However benchmarks may also be used to reference retail financial contracts; in particular, interbank interest rate benchmarks such as EURIBOR are used to reference mortgages. Directive 2008/48/EC on Consumer Credit[127] allows the use of indexes or reference rates as a basis of changes of borrowing rates, without regulating the nature and suitability of those rates in credit contracts. Besides publicly provided rates (such as EURIBOR) the indexes provided and published by the creditors themselves are also used. However the benchmark may be chosen not because it is suitable for the consumer or mortgagee but rather because it suits the lender or mortgagor[128] as the result of uneven bargaining power or the use of standard terms. The choice of benchmark may also bias comparability of cross-border credit offers. Option 3 therefore provides that where a financial entity such as a bank intends to enter into a financial contract with a consumer where the payments are referenced by a benchmark, it should assess the suitability of the benchmark for this use and warn the consumer if it is unsuitable. However, an appropriate level of transparency on benchmarks purpose, methodology and underlying data will be necessary for the appropriate assessment of suitability.

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[118] BATS Chi-X Benchmarks must be fully transparent in relation to their constituents and weightings and be governed by fully transparent, robust and non-subjective rules in order that users of the indices can predict changes as playing a crucial role in the integrity of benchmarks by helping to ensure that any published benchmark is well understood

[119] Platts response to the public consultation on benchmarks

[120] UBS AG The level of transparency should increase in line "with the amount of judgement exercised

[121] Blackrock: "Are the rules governing index calculation sufficiently transparent? Are the index calculations clear and replicable?"

[122] EnBW We believe that there is a need for enhanced transparency

[123] Bafin Most important factors would be: A robust, fully transparent and understandable methodology for calculation

[124] Her Majesty's Treasure: "a fundamentally important and more easily achievable area of focus should be empowering the users of benchmarks to make more efficient choices and apply pressure to administrators, through increasing transparency, particularly around the methodology used to compile benchmarks, including how judgements and other intangible inputs are used.

[125] ICIS "Anonymity is a necessary evil in some markets, where participants believe that transparency poses a commercial risk. ICIS experience of energy markets shows, however, that market participants generally benefit from a reduction in, or indeed abolition of anonymity."

[126] Please see the ESRB response to the public consultation

[127] The Mortgage Credit Directive under negotiation may also include provisions on the use of benchmarks.

[128] See Finance watch response to the public consultation on benchmarks

Furthermore, in the absence of a requirement to assess suitability of benchmarks for referencing retail financial contracts, as this issue is not specifically addressed by the requirements under the CCD and the legal text of the MCD under negotiation, different Member States would adopt divergent approaches to ensuring the suitability of benchmarks for their use in retail financial contracts. This would lead to uneven levels of consumer protection across different Member States and it would not ensure the optimum level of protection for consumers. Thus, a unified requirement for a benchmark suitability assessment for retail financial contracts is required.

Impact on administrators and contributors: administrators would need to clearly specify any suitable or unsuitable uses of their benchmarks on their benchmark statement and they could face contingent costs if their benchmarks would not be fit for the specified purposes, for example in the event of manipulation. Most administrators did not believe that special provisions should apply in relation to retail contracts, but some considered that in some circumstances the use of benchmarks by retail consumers should be restricted[129].

Impact on users and other bodies: this option benefits consumers by ensuring that important contracts are not referenced to unreliable benchmarks. It would impose costs on lenders who would, inter alia, have to make an assessment recorded in writing and may have to use different benchmarks if the current benchmarks they use are unsuitable. However in most cases the enhanced transparency proposed under this initiative, in particular the provision of the benchmark statement by the benchmark administrator should facilitate any assessment. Providing such an assessment should be a matter of good practice and therefore may not impose significant costs on users. According to consultation responses, most users believed that retail users and investors should be protected due to their particular vulnerabilities"[130]. However some felt that there was no particular distinction to be made between retail and other users[131].

9.4.4. Option 4: Mandatory notification of benchmarks' use

One of the key reasons why some users are not protected against the use of unreliable benchmarks is that the benchmark administrators frequently do not know who the user is and what they are using it for[132]. As a result the benchmark administrator does not have any liability to the user.

Option 4 would propose to address this shortcoming by requiring any user of a benchmark to notify the benchmark administrator of its use. The benchmark administrator would then provide an assessment to the user of whether the benchmark is suitable and would be liable to the users in respect of its assessment of suitable use. This option could have a positive impact in respect of enhancing consumer protection for the most widely used benchmarks but it would also imply high additional costs for benchmark users. Many benchmarks, such as

[129] BATS Chi-X "If it is a widely acceptable benchmark, especially in circumstances where other administrators are providing similar coverage, there appears little need to restrict its use. More esoteric benchmarks, however, may have components that are less understood by end users. For them, a more restricted use seems conceivable"

[130] FSUG "Similarly, retail investors may stick with a seriously underperforming investment fund due to the inappropriate use of a particular index or benchmark in communications between the fund manager and investor".

[131] DBA "If the very large wholesale markets trust the benchmarks this is an indicator of the general trustworthiness of the benchmarks".

[132] See Baltic exchange response to the public consultation on benchmarks

strategy indices, are only used by a small group of licensed users so this measure would impose a cost but provide no benefit. For the most widely used indices such as EURIBOR, this measure would provide a benefit but at a potentially prohibitive cost. EURIBOR is used to reference millions of mortgages and this would therefore require millions of notifications to EBF-EURIBOR and millions of suitability assessments. The costs of performing these would therefore require the hiring of hundreds of additional staff; the overall burden would probably make the benchmark uneconomic. In addition there is a danger that benchmark administrators would simply adopt a defensive approach to any suitability assessment and declare all but a narrow set of uses as unsuitable.

Impact on stakeholders: although this option was not specifically raised in the consultation, a number of responses identified that it was difficult for benchmark administrators to know who was using their benchmarks and for what purposes.

Impacts on users and other bodies: users and other bodies were divided, with associations representing consumers, such as the European Consumer Organisation (BEUC) defending that users were at a particular disadvantage and required additional protections[133]. This option would enhance the protection of users of benchmarks and reduce their costs.

9.4.5. The preferred options

	Impact on stakeholders	**Effectiveness**	**Efficiency**
Option 1 No action (baseline)	*0*	*0*	*0*
Option 2 transparency on methodology, underlying data and purpose whilst allowing for delayed or partial transparency of underlying data when justified	*(+)Administrators and contributors: Minimal additional cost and reduction of transparency obligations when justified* *(+)Regulators and users: transparency on methodology and suitable use but higher costs for lenders and indirectly users*	*(++) Allow users and regulators to assess accuracy and reliability of benchmark* *(+) Reduces possibility of transparency having negative effects on integrity and reducing incentive to contribute*	*(+) Small costs to benchmark administrators but significant benefit to users and regulators* *(+) Proportionate as it allows for reduced transparency when justified*
Option3 Assessment of suitability of benchmarks' use for certain retail contracts:	*(-) Administrators: potential contingent costs if benchmarks unfit for specified purposes* *(++)Users: Increases accountability to retail consumers and user*	*(+) Provides consumers with recourse against administrators for malfeasance* *(+) Levels bargaining power between consumers and lenders*	*(+) Additional cost to banks providing mortgages but significant benefit to users in terms of investor protection*

[133] BEUCs response to the Commission public consultation on benchmarks

Option 4 Mandatory notification of benchmarks	*(++) Administrators: Imposes a duty of care on benchmark administrators* *(-) Users: enhances consumer protection but at a high cost*	*(-) No effect for many small benchmarks* *(+) Effective for unlicensed users of widely used benchmarks* *(-) Easy to circumvent by declaring benchmarks unsuitable for most uses*	*(--) Very large additional cost for the most widely used benchmarks which could prejudice their viability* *(-) additional costs for users*

Based on the analysis above, options 2 and 3 receive the highest score. Option 2 allows for the correct assessment of benchmark appropriateness by users by ensuring transparency on benchmarks' methodology, underlying data and purpose. Option 3 contributes to the use of robust and reliable benchmarks to reference retail financial contracts by requiring to perform a benchmark suitability assessment for certain retail contracts to ensure the use of benchmarks which are fit for purpose.

9.5. Ensure effective supervision of benchmarks

Option	Description
Option 1 No action (baseline scenario)	No supervision of benchmarks at European level. Contributions to and provision of CIBOR in Denmark and LIBOR in UK to become regulated activities in 2013. No other national or supranational supervisory powers over EU benchmarks administrators and contributors. IOSCO and ESMA/EBA have issued non-binding principles on benchmarks. ESMA and EBA do not currently have the legal power to issue binding guidelines or supervise EU benchmarks' administrators and contributors.
Option 2 Private benchmark provision, independent private oversight	A committee, consisting of independent experts from the private sector, but not including representatives of the benchmark administrator,, would oversee the respect by the benchmark administrator of standards of governance.
Option 3 Private benchmark provision, public supervision and enforcement	The provision of benchmarks would become a regulated activity, subject to a registration obligation for benchmark administrators with supervision by competent authorities. Competent authorities would have enforcement and sanctioning powers. Contributors to benchmarks located in the EU would be subject to direct supervision if they are already regulated entities under financial or other European regulation. Administrators would be required to adopt a code of conduct be signed by the benchmark administrator and benchmark contributors which would be legally binding. For 'critical' benchmarks enhanced oversight provisions would apply. Sub-options on optimum level of supervision by: national supervisory authorities (NSAs), European Supervisory authorities (ESMA), or (NSAs) coordinated by colleges of national supervisors with ESMA participation and mediation for critical benchmarks.
Option 4 Public provision of critical benchmarks	Existing (e.g. central banks) or newly created public entities could be mandated to provide critical benchmarks of European dimension.

9.5.1. Option 1 No action (baseline scenario)

Under the no action option, there would not be any European supervisory instrument to enforce the compliance with the requirements on the enhancements in the benchmark setting process. Only the UK and Denmark have currently or will have in 2013 supervisory powers over administrators of and contributors to LIBOR and CIBOR. Regarding currently existing

independent private oversight, there exist independent industry oversight committees for some benchmarks (such as LSE or IPRO) but not for all of them. This leads to a lack of EU enforcement and oversight of the benchmark setting process in the EU and creates an unlevel playing field across administrators and contributors of benchmarks. Finally, for benchmarks for which there is private oversight in place, it does not guarantee the independence of the oversight bodies.

9.5.2. Option 2 Private benchmark provision, independent private oversight

This option provides for the enhanced oversight of benchmarks and their compliance with industry code of business rules. Furthermore, oversight committees composed of market experts may count with an in deep market knowledge and the appropriate skills to perform the task of benchmark oversight and provide flexibility in the oversight of different types of benchmarks. As a result, this would be an appropriate option according to about a fourth of respondents to the consultation, mainly benchmark administrators such as Rate Validation Services (RVS), which recommends that: *an independent advisory board, made up of "eminent individuals" drawn from academic, regulatory and business backgrounds should oversee the services.*

However private sector experts, as market participants, may suffer from conflicts of interest similar to those affecting administrators and contributors. Thus, it may be difficult to ensure their independence from the entities on which they exercise their oversight. Furthermore, in opposition to public supervision, oversight committees could only monitor compliance with conduct of business rules, but not with public regulation and they could not encourage compliance through enforcement and sanctioning powers. Thus, it would not strengthen accountability of benchmark administrators and contributors to public authorities. Because of these reasons, about two thirds of respondents to the consultation call for the involvement of public authorities in the oversight of European benchmarks, including users, contributors, some administrators and important public institutions such as the ESRB which states that: "*competent authorities should be provided with supervisory tools in order to make supervisory oversight more effective"*[134].

Impact on administrators and contributors: this option would imply a low compliance burden for administrators and contributors. However, there would be a lack of coordination across different EU jurisdictions, which would lead to an unlevel playing field and a lack of accountability from administrators and contributors.

Impact on users and other bodies: this option would not provide accountability to the public authorities or a tool for enforcement of compliance. Thus, it would not effectively enhance the reliability of benchmarks and provide investor and consumer protection. Furthermore, this option would apply directly to administrators of benchmarks, but only indirectly to contributors as the independent industry committees would not have direct oversight on them. According to the existing evidence (such as in the LIBOR case, oil prices attempted manipulation, etc.) a high risk of attempted manipulation and conflicts of interest exist at contributor level for benchmarks.

[134] Please see ESRB response to the public consultation on benchmarks

9.5.3. Option 3 Private benchmark provision, public supervision and enforcement

While there is broad agreement in the consultation responses on the need for enhanced supervision, there are mixed views about whether benchmarks provision should be publicly supervised. Benchmark administrators generally oppose their functions becoming a regulated activity and advocate for private oversight, but investors and other benchmark users broadly support the regulation of benchmark provision.

This option would ensure supervision of benchmark administrators to the highest possible level by requiring them to become regulated activities. Concerning contributors, only those who are already regulated entities would be supervised in order to ensure proportionality, whilst the rest would sing a legally binding code of conduct with the benchmark administrator. Thus, this option would provide authorities with a tool for enforcement of compliance and accountability of administrators and contributors whilst respecting proportionality. It would ensure the independence of the supervisor as it would be a public authority and it would allow for market choice, innovation and competitiveness as benchmark provision would remain in private hands. About two thirds of respondents to the public consultation called for public oversight of the benchmark setting process, including users of benchmarks, market authorities, contributors and even some administrators. According to the CFA[135] Institute: *public institutions should have a role in the supervision and oversight of benchmarks.*

Impact on administrators and contributors: making benchmark provision a regulated activity would increase the administrative burden, mainly for administrators, but also for contributors and these costs would be passed on to users. However, it would also give administrators and contributors legal certainty on their obligations. In view of this, whilst most administrators support self-regulation in their responses to the consultation, some support regulation, such as EBF-EURIBOR: *Euribor supports the introduction of European public supervision on benchmarks before and after the fixing delivery.* However, other administrators warn of the potential negative effects: *regulation should not be too prescriptive and burdensome because it could mean the costs for producing a benchmark become prohibitive*[136] *and it could discourage participation*[137].

This option respects the principle of proportionality, in particular as it would not regulate contributors to benchmarks which are not already regulated (see section 7.2.). Some concerns have been raised regarding the impact of any initiative on small index administrators who do not wish or know their benchmarks are used to reference financial instruments. To address this, regulators would be required to notify benchmark administrators if their benchmarks are used to reference financial instruments and so they wold come within the scope. Until this would be done, the benchmark administrator would have a defence. Once notified, if they would not wish to become subject to the initiative, they could enforce their intellectual or other property rights to stop their benchmarks being used to reference financial instruments. An appropriate period of time to enforce these rights would be provided for.

Costs for contributors[138] would be lower than for administrators, as all contributors under scope are already regulated entities and the requirements for contributors would be less than

[135] CFA institute response to the public consultation on benchmarks
[136] EON's response to public consultation
[137] European Banking Federation's response to consultation
[138] Please see cost section X "Cost benefit analysis" of this IA.

for administrators. However, benchmark administrators could benefit from the enhanced robustness of their benchmarks, and contributors from clear guidelines, which would allow them to better manage their risks and avoid large fines. Finally, markets would benefit from more robust benchmarks and since most benchmark administrators and contributors are also market players and users of benchmarks, the benefits of enhanced benchmarks would be shared.

Impact on users and other bodies: this option would allow for the maximum level of consumer and investor protection, by ensuring compliance and accountability. Thus, it would increase benchmark reliability whilst maintaining market choice of benchmarks. According to most users responding to the consultation, including the Financial Services Users Group: *there is need for regulation, oversight, sanctions and redress mechanisms*[139].The existence of a college of competent authorities for critical benchmarks would facilitate information sharing and coordination in the supervision of critical benchmarks whilst allowing for proportionality and respecting subsidiarity.

9.5.4. Option 4 Public provision of critical benchmarks

Only benchmarks of critical importance which are fundamental to the smooth running of the markets and the real economy could be considered to be public goods justifying their provision by public entities. Most respondents to the public consultation agree that most 'non-critical benchmarks' are not public goods, and best provided by the private sector, which guarantees competitiveness and innovation in their provision. However, a few respondents to the consultation consider that: *some benchmarks may need to be provided publicly*.[140][141]

Impacts on administrators and contributors: according to most respondents to the consultation benchmarks should not be provided by public authorities unless strictly necessary for financial stability, as it would only be proportionate in this case. Public provision would eliminate competition in the provision of benchmarks, limit innovation and adaptation to market needs, as well as choice. Furthermore, it would come at a high cost to the EU benchmark industry as the transfer of benchmark provision to the public sector will carry the loss of jobs, income and investments in innovation on this field. It would also imply high costs for the public sector, as it would not be competitive in the provision of benchmarks and it would need to acquire the knowledge, skills, systems, etc. to do so. Also, it may also deter contributors from contributing as they may be reluctant to disclose sensitive information or commercial secrets to public authorities. Finally, as expressed by some administrators*: a producer must have the depth of knowledge and experience to produce an effective product. Such expertise may not reside in a public institution*[142].

Impacts on users: the main advantage of this approach is that it might reduce conflicts for benchmarks, which are of 'critical' importance and thus enhance market stability. However, whilst this option would reduce conflicts of interest in the provision of critical benchmarks

[139] FSUG response to public consultation
[140] European Consumers organization response to public consultation
[141] Please see the public statements by the Commissioner Barnier and the ECB on concerns about banks leaving panels for interbank interest rate benchmarks:
http://ec.europa.eu/commission_2010-2014/barnier/headlines/speeches/2013/02/20130208_en.htm
http://www.ecb.int/press/pr/date/2013/html/pr130208.en.html
[142] CME response to public consultation

some respondents to the consultation state that: *public bodies may also be subject to conflicts of interest (but to a lesser extent) and industry administrators are better positioned to design, construct and produce benchmarks or indices that meet users' specific needs*[143].

9.5.5. The preferred options

	Impact on stakeholders	**Effectiveness**	**Efficiency**
Option 1 No action (baseline)	*0*	*0*	*0*
Option 2 Private benchmark provision, independent private oversight	*(+) Administrators and contributors: low compliance burden and flexibility but lack of legal certainty* *(--) Users: lack of accountability of administrators and contributors and no enforcement of compliance. Lack of benchmark reliability.*	*(--) Lack of independence of the supervisor* *(--) No tool for enforcement of compliance* *(-) Lack of accountability of administrators and contributors* *(+)Use of industry knowledge* *(-)EU unlevel playing field*	*(+) Low administrative and compliance burden*
Option 3 Private benchmark provision, public oversight and enforcement	*(-) Administrators and contributors: higher compliance burden and accountability* *(+) Users: accountability and enforcement of compliance. Reliable benchmarks but higher costs* *(+) Regulators: tool for ensuring compliance and accountability but higher costs and need for resources and capabilities. Coordinated supervision and information sharing*	*(++) Independence of the supervisor* *(++) Tool for enforcement of compliance* *(+) Accountability of administrators and contributors* *(+)EU level playing field*	*(-) Higher compliance costs and cost for users and supervisors*
Option 4 Public provision of critical benchmarks	*(-) Administrators and contributors: cost to EU benchmark industry. Reduced competitiveness and market choice* *(-) Users: reliable benchmarks but reduced choice and suitability and contractual continuity issues*	*(+)Eliminates most conflicts of interest* *(+) Tool to address specific critical benchmarks with strong social benefits* *(--) Benchmarks with high integrity but possibly not competitive or fit for purpose* *(--) Reduces competiveness and choice*	*(--) Very high cost of EU industry and public sector*

The preferred option is option 3 because it ensures the competitiveness of the EU benchmarks industry and improves the integrity of EU benchmarks. It also ensures the maximum level possible of investor and consumer protection and the accountability of benchmark administrators and contributors. It ensures that benchmark provision remains within the private sector allowing for innovation, competitiveness and free market choice.

[143] CFA Institute's response to public consultation

9.5.6. Supervisory structure

This option, determines the competent authority for the supervision of different benchmarks' administrators, for which different options are compared in the chart below. Contributors to benchmarks would be supervised by their current supervisors, as according to this option only already regulated contributors would be directly supervised.

Supervision by:	Impact on stakeholders	Effectiveness	Efficiency
Current lack of supervision	0	0	0
Option 1. National supervisory authorities (NSAs) in the countries where benchmark administrators are established	*(-) Administrators, contributors and users: effective for national benchmarks but not for critical benchmarks with cross-border impacts or contributors* *(-) Regulators: NSAs best equipped to supervise national benchmarks but need for coordination in the supervision of critical benchmarks with cross-border impact or which contributors are based in different Member States*	*(-) It does not provide the necessary level of coordination in the supervision of critical benchmarks where contributors are based on different Member States, or which have a large impact in several Member States, such as Euribor*	*(-)Lack of coordination and information for supervision of critical benchmarks*
Option 2. European supervisory authorities, ESMA	*(+)Administrators, contributors and users: Maximum level of coordination in the supervision of European benchmarks* *(-) Regulators: NSAs best equipped to supervise national benchmarks or critical benchmarks with no cross-border impact for which administrators and contributors are all based in the same Member State*	*(-)Not all benchmarks provided in the EU are set or used or require supervision at EU level*	*(-)NSAs best equipped to supervise national benchmarks*
Option 3. National supervisory authorities (NSAs). **For critical benchmarks coordination by colleges of national supervisors with the participation and binding mediation by ESMA when necessary.** **Supervision of regulated contributors by their current CAs.**	*(++)Administrators, contributors and users: Highest level of coordination in the supervision of critical benchmarks but flexibility and respect of subsidiarity and proportionality* *(++) Regulators: NSAs best equipped to supervise national benchmarks Colleges of competent authorities would facilitate coordination and information sharing. Participation and mediation by ESMA would ensure coordination and effective supervision.*	*(++) Allows for the supervision of benchmark administrators and contributors at national level whilst ensuring coordination and effective supervision of critical benchmarks through the colleges of supervisors* *(++) Allows for the effective resolution of disagreements in colleges of supervisors for critical benchmarks through binding mediation by ESMA*	*(+)NSAs best equipped to supervise national benchmark administrators and contributors and colleges to ensure coordination and information sharing* *(+) ESMA best equipped to coordinate the supervision and mediate in colleges of supervisors for critical benchmarks*

The preferred option would be option 3 as it would guarantee the most effective level of supervision for critical benchmarks which failure would have a significant cross-border impact or which contributors are based in different Member States.

Benchmark administrators and contributors would be regulated by the supervisor of the Member State in which they are located. However, the failure of critical benchmarks could have a significant impact outside the jurisdiction where their administrator is located. Furthermore, where the contributors to critical benchmarks are located in different Member States, their effective supervision would be difficult if it is spread amongst a number of national supervisors. Therefore, for critical benchmarks, supervision by a college of national supervisors should be required. This would be necessary in order to ensure the effective exchange of supervisory information among competent authorities and their coordination in the supervision of critical benchmarks. However, there could be instances where different national supervisory authorities could disagree on important issues. Therefore, ESMA should sit in the colleges of supervisors for critical benchmarks and have binding mediation powers to intervene in case disagreement on important issues.

10. PREFERRED OPTIONS PACKAGE

The chart below provides a summary of the comparison of all options analysed against their effectiveness and efficiency in achieving the main objectives of this initiative on benchmarks.

		Effectiveness				**Efficiency**	**Consistency**
Operational objective / Policy issue	**Policy options**	**Integrity & reliability**	**Lower risk manipulation**	**Appropriate use and suitabilityy**	**Continuity***	**Costs & proportionality**	**Consistency**
Baseline	*No policy change*	*0*	*0*	*0*	*0*	*0*	*0*
Limit incentives and opportunities for manipulation	**Manage and disclose conflicts of interest**	*(+)*	*(+)*	*(-/+)*	*(+)*	*(+)*	*(++)*
	Structural separation	*(+)*	*(++)*	*(-)*	*(--)*	*(--)*	*(-)*
Sufficient data and minimised discretion	**Transaction data if available and reliable, otherwise well founded and verifiable discretion (ex-post checked)**	*(++)*	*(++)*	*(+/-)*	*(+)*	*(+/-)*	*(+)*
	Mandatory use of transaction data only	*(+)*	*(+)*	*(-)*	*(--)*	*(--)*	*(-)*
	Mandate contributions for critical benchmarks only	*(+)*	*(+)*	*(+)*	*(++)*	*(+/-)*	*(+)*
Ensure robust governance and controls address risk	Supervisory authorities to issue non-binding guidelines for administrators & contributors	*(-)*	*(--)*	*(+/-)*	*(+)*	*(+/-)*	*(-)*
	Mandate adequate management systems and effective controls	*(++)*	*(++)*	*(+)*	*(+)*	*(+/-)*	*(++)*
Enhance transparency and ensure the use of robust and reliable benchmarks	**Require transparency on methodology, underlying data process and purpose**	*(+)*	*(+)*	*(++)*	*(+)*	*(+)*	*(++)*
	Assessment of suitability of benchmarks' use for retail contracts	*(+)*	*(+)*	*(++)*	*(+/-)*	*(+/-)*	*(++)*
	Mandatory notification of benchmarks	*(-)*	*(-)*	*(+)*	*(--)*	*(--)*	*(-)*
Ensure effective oversight	Private benchmark provision, independent private oversight	*(-)*	*(--)*	*(-)*	*(+)*	*(+/-)*	*(-)*
	Private benchmark provision, public	*(++)*	*(++)*	*(+)*	*(++)*	*(+/-)*	*(++)*

	supervision and enforcement						
	Public provision of critical benchmarks	*(+)*	*(+)*	*(--)*	*(--)*	*(--)*	*(--)*

Impacts: from very positive ++ to positive +; very negative – – to negative –; +/- mixed; n.a.; 0 = baseline (baseline impact is assumed to be 0 for the sake of comparison with other options)

* Continuity: ensuring the continuity of benchmarks provision is a constraint under which this proposal is being developed.

The preferred options presented in the table above have been selected in accordance with the option analysis on section 9. However they would only be fully effective in achieving the objectives of this initiative when implemented as a package as on their own they address just some of the drivers of benchmark manipulation and the use of unreliable benchmarks. Therefore implementing them on their own would not ensure a comprehensive and coherent approach to these problems. For example implementing governance requirements would address part of the problem, but in the absence of measures in relation to conflicts of interest and the exercise of discretion, the incentive and opportunities to manipulate benchmarks would remain and so the objective of restoring the integrity of benchmark would not be achieved. In particular, in the absence of effective oversight, provided through the public supervision, these requirements would not be adhered to whilst also maintaining private provision of benchmarks. As a result, the package ensures the continuity, competitiveness and innovation in benchmark provision and thus the competitiveness of the EU benchmark industry.

The package of preferred options provides a clear delineation of responsibilities and obligations in respect of the benchmarks process, eliminating loopholes and reducing the possibilities of overlaps and underlaps in supervision. Benchmark contributors are made responsible for ensuring that the data that they submit is accurate and is not manipulated. Benchmark administrators are made responsible for the process as a whole and in particular checking the input data and ensuring the integrity of the benchmark calculation. Users are assured that the benchmarks provided in the union are robust, reliable and fit for purpose, given sufficient information to make an appropriate choice of benchmarks and their rights of action are enhanced in the event these standards are not met.

This package is proportionate; many of the measures are by their nature inherently proportionate; the requirements in relation to the use of transactions data will affect large and small administrators equally as will the requirement on transparency. The requirements in relation to governance, controls and the management of conflicts of interest may have a disproportionate effect on smaller administrators. Therefore provision is made to ensure that measures in this respect are less onerous for smaller administrators.

Regarding the preferred options package compatibility with the legislation on benchmarks adopted in the UK and Denmark, most measures included in the UK and Denmark reform packages coincides with the options analysed in section 9 and retained as part of the preferred options package above (i.e. options on the use of transaction data, managing conflicts of interest, setting up adequate systems and controls, etc.) and the measures which have not been retained are still compatible with the preferred options package. For example, the measure of trusting the provision of LIBOR to a new administrator under the UK regulation has been analysed under the option of structural separation of the administrator, but it has not been retained as it has not proven efficient or proportionate for the wide scope of our initiative. However, this option would still be compatible with the requirements of the Commission initiative as the latter does not pre-empt it. The option of reducing currencies and tenors to ensure they are based on sufficient and reliable transaction data would be a sub option of the requirement to use transaction data.

Regarding the measures under the Danish legislation, although most have also been retained, the introduction of alternative benchmarks such as CITA has been analysed and discarded under the option 9.5.4. *Public provision of benchmarks*, as its analysis has proven that benchmark provision should be competitive and market driven in line with stakeholders' views. Nevertheless, the measures under the preferred options package are compatible with the public introduction of alternative benchmarks by Member States.

Overall, the preferred options package effectively, efficiently and proportionately enhances the reliability of EU benchmarks and ensures the appropriate use of robust and reliable benchmarks in the EU. As a result it protects the users of benchmarks, consumers and investors and assures that financial markets serve the real economy.

11. COST-BENEFIT ANALYSIS AND ADMINISTRATIVE BURDEN CALCULATION

11.1 Costs-Benefit Analysis

In this section the Commission services provide a cost-benefit analysis (CBA) of the preferred options package. Please see annex X for calculations and further details.

11.1.1. Estimated compliance costs for administrators of benchmarks

The estimated compliance costs for administrators of benchmarks reflect additional costs resulting from their obligations under the preferred options package and not their total costs relating to benchmark provision. They derive from the obligations on the table below:

Obligation	Requirement	One-time costs	Recurring costs (yearly)
1. Provision of benchmarks becoming a regulated activity	*Application for registration and compliance with registration conditions*	** Application for authorization **(€9.5 M)*** ** Application for controlled functions **(€9.5 M)*** **Upgrading governance procedures for compliance **(€10M)***	*Compliance monitoring **(€ 5 M)***
2. Transparency obligations on calculation and underlying data	*Publishing comprehensive information on benchmark calculation and underlying data*	*Recurring*	*Included under administrative burden **(€ 2 M)***
3. Disclosure requirements on internal procedures, policies and conflicts of interest	*Adjusting disclosure systems, policies and procedures*	*Included under administrative burden **(€ 2 M)***	*Only one-off costs as it will be maintained and monitored by regular members of staff and compliance officer*
4. Systems and controls	*Upgrading systems and controls to comply and maintaining them*	*Record keeping device included in admin. burden **(€ 6 M)**and upgrading systems and controls **(€ 10 M)***	*Maintaining systems and controls **(€ 5 M)***
5. Issuing legally binding codes of conduct to be signed by contributors	*Drafting codes of conduct and publishing on website*	*Included in administrative burden, **(€ 1 M)***	*Only one-off costs as it will be maintained and monitored by regular members of staff and compliance officer*
6. Internal and external audits	*Cooperation with audits and record keeping*	*Recurring*	*Internal audit performed by staff. External audit (**€ 5 M)***

7. Complains procedure	*Implementing and supporting the complains procedure*	*Included in administrative burden, **(€ 1 M)***	*Only one-off costs as it will be maintained and monitored by regular members of staff and compliance officer*

The estimated compliance costs for administrators would be composed of one-time costs in the order of € 49 million for all EU administrators (approx. € 98,000 per administrator) and recurring costs of about € 17 M for all EU (approx. € 34,000 per administrator yearly). These costs would only apply to benchmark administrators under the scope. As many of these are financial institutions, which are already regulated entities, they will have many of the systems, controls, procedures and personnel in place to comply with the requirements of this initiative. However, as it is complex to separate business as usual costs from additional costs deriving from this initiative the estimates assume they do not have them in place. These are just averaged estimates and the real costs of compliance for administrators would also vary in relation to the nature and number of benchmarks provided, as monitoring and ensuring compliance would present different degrees of complexity and requirements would be proportional to the risks posed by these benchmarks (critical vs. non-critical, transaction vs. estimates based, etc.).

11.1.2 Compliance costs for contributors to benchmarks

The estimated compliance costs for contributors to benchmarks reflect additional costs resulting from their obligations under the preferred options package and not the total costs linked to their contributions. Contributors under scope would already be regulated entities, and would have many of the systems, controls and procedures in place to comply with the requirements of this initiative. This has been taken into account of in the estimates of the costs deriving from the obligations presented on the table below, which are broad estimates:

Obligation	**Requirement**	**One-time costs**	**Recurring costs (yearly)**
1. Provision of benchmarks becoming a regulated activity	*Application for registration and compliance with registration conditions*	** Application for controlled functions **(€ 4 M)*** **Upgrading governance procedures for compliance **(€ 4 M)***	** Compliance monitoring (**€ 1 M)***
2. Transparency obligations on calculation and underlying data	*Publishing comprehensive information on benchmark calculation and underlying data*	*Recurring*	*Included under administrative burden **(€ 0.5 M)***
3. Disclosure requirements on internal procedures, policies and conflicts of interest	*Adjusting disclosure systems, policies and procedures*	*Included under administrative burden **(€ 1 M)***	*Only one-off costs as it will be maintained and monitored by regular members of staff and compliance officer*
4. Systems and controls	*Upgrading systems and controls to comply and maintaining them*	*Upgrading systems and controls **(€ 4 M)***	*Maintaining systems and controls **(€ 1 M)***
5. Legally binding codes of conduct to be signed by contributors	*Drafting codes of conduct and publishing on website*	*It will be drafted by administrators and they just need to sing it and publish on their website*	*N.A*
6. Internal and external audits	*Cooperation with audits and record keeping*	*Recurring*	*Internal audits **(€ 1 M)***

The estimated compliance costs for contributors to be composed of one-time costs in the order of € 13 million for all EU (approx. € 26,000 per contributor) and recurring costs of about € 3.5 M for all EU (approx. € 7,000 per contributor yearly). These costs would only apply to contributors to benchmarks under scope which are regulated entities. As these normally are large size institutions, such as financial institutions, with yearly turnovers in the order of millions and even billions of Euros[144]. These costs would not represent a large burden for these institutions as many of them will have most of the systems, controls, procedures and personnel in place to comply the requirements of this initiative and in consequence their costs will be much lower. Finally, these are averaged estimated costs, and the real costs will depend on the number and nature of benchmarks to which different contributors provide submissions or underlying data[145].

11.1.3 Estimated costs of supervision

Regarding the costs of supervision of benchmark administrators, under the preferred option it would be for national authorities to supervise national non-critical benchmarks under the coordination of ESMA. ESMA would also participate and mediate in the colleges of supervisors for critical benchmarks, including exercising binding mediation when necessary. This would involve additional costs for national competent authorities (NCAs) for the supervision of benchmarks administrators and supervised contributors and for ESMA for the participation and mediation in the colleges of supervisors for critical benchmarks.

As for contributors which also already regulated entities, financial institutions, their activity of contributing to benchmarks would also be supervised, this would imply additional costs for NCAs in charge of their supervision.

The estimates provided in the table below are based rough extrapolation of the supervisory costs estimated for the regulation of LIBOR by the UK FSA and the Commission own estimates of ESMA cost for coordination of the supervision of critical benchmarks by NCAs in the colleges of supervisors. The latter costs for ESMA have been estimated by the Commission to be an initial operational expense € 0.275 M, mainly for IT systems and recruitment of staff, and a recurring expense of € 0.324 M yearly for the employment of 2 members of staff to carry out these duties.

Estimated one-off costs of supervision of benchmark administrators and contributors:

	Individual costs[146]	**Number of EU competent authorities**[147]	**Total costs**

[144] According IMF data on financial institutions turnover: http://www.imf.org/External/Pubs/FT/GFSR/2010/02/pdf/text.pdf

[145] The one-off and recurring costs of compliance for benchmark administrators and contributors are much lower than those estimated by the FSA for the administrators of/contributors to LIBOR. However, most benchmark administrators and contributors will just need to comply with the general requirements of the initiative and not with the requirements for critical benchmarks, which will ensure proportionality.

[146] Based on the extrapolation of supervision costs estimated for LIBOR *FSA consultation paper on the regulation and supervision of benchmarks*[146]*:* http://www.fsa.gov.uk/static/pubs/cp/cp12-36.pdf

[147] Estimated one-off costs relate to setting up systems and controls for the supervision of benchmarks by NCAs (totally a maximum of 56 entities including NCAs for the supervision of benchmark administrators and NCAs for the supervision of contributors which are subject to financial regulation and supervison in all MS. Costs per CA are estimated to vary from €100,000 to €500,000 depending on the nature, risk and number of benchmarks to be supervised by the CAs in different jurisdictions. These are based on a maximum estimate of € 0.5 M for the supervision of administrators of critical benchmarks.

One-time costs for supervision of administrators and contributors[148]	~ € 0.1 to 0.5 M	56	~ € 5.6 to 28 M

Estimated recurring cost of supervision of benchmark administrators and contributors[149]:

	Individual costs[150]	**Number of CAs**	**Total costs**
Recurring costs for supervision of administrators (yearly)	~ € 0.1 to 0.5 M	28[151]	~ € 2.8 to 14 M
Recurring costs for supervision of contributors (yearly)	~ € 0.04 to 0.3 M	28	~ € 1.1 to 8.4 M
Total recurring costs of supervision	~ € 0.14 to 0.8 M (per Member State)		~ € 3.9 to 22.4 M

It needs to be considered that regulatory requirements would vary widely across different jurisdictions and for the supervision of different types of administrators and contributors. Because of this reason, a wide range is provided for estimated supervision costs as they could be up to 80% lower for the supervision of administrators of and contributors to non-critical benchmarks and also vary widely across different jurisdictions.

The cost above would be higher for Member States in which a large number of benchmarks are provided and used to reference financial contracts. It has been assumed that although some authorities would need to supervise a relatively large number of benchmark administrators and contributors, there would be significant economies of scale in their supervision.

Finally, recurring costs of supervision of this initiative derive mainly from the cost personnel to carry out these tasks. Thus, the cost associated by this initiative will have an impact on creation of new jobs in Europe[152].

11.1.4 Estimated costs for creditors and credit intermediaries required to assess benchmarks' suitability to reference retail financial contracts

Under the preferred options package, where a financial entity such as a bank intends to enter into a financial contract with a consumer where the payments are referenced by a benchmark, it should assess the suitability of the benchmark for this use and warn the consumer if it is unsuitable. However, as benchmark suitability assessment would normally be performed as part of the general financial product suitability assessments required the Consumer Credit Directive (CCD)[153] and the Mortgage Credit Directive (MCD)[154], it is assumed that systems will already be in place and staff trained to perform these assessments. Thus, training material, procedures and IT systems would just need to be updated to comply with this

[148] Assuming that supervision will take place for each benchmark providing firm or contributing firm, independently of the number of benchmarks it provides or contributes to, we will consider the costs of supervision to be for number of administrators and no for number of benchmarks.

[149] The cost contributors' supervision of have been estimated as a maximum of half of those for the supervision of contributors to LIBOR under the current FSA paper on *"The regulation and supervision of benchmarks",* (March 2013) as the requirements of the Commission initiative are less stringent than those of the regulation adopted by UK authorities, for example by not regulating not already regulated contributors.

[150] Based on the extrapolation of supervision costs estimated for LIBOR *FSA consultation paper on the regulation and supervision of benchmarks*[150]*: http://www.fsa.gov.uk/static/pubs/cp/cp12-36.pdf*

[152] For example, it has been estimated by the FSA that the compliance with the obligations under FSA review of LIBOR would be carried out by a team of 5 people. http://www.fsa.gov.uk/static/pubs/cp/cp12-36.pdf

[153] http://ec.europa.eu/internal_market/finservices-retail/credit/consumer/index_en.htm

[154] http://ec.europa.eu/internal_market/finservices-retail/credit/mortgage/index_en.htm

requirement and the benchmark suitability assessment would require just an additional ¼ of an hour per 'non-intermediated' transaction for suitability assessment. In consequence, creditors and credit intermediaries will face limited additional one-off and recurring costs[155].

11.1.5 Benefits

The main benefits derived from this initiative are reducing the risk of manipulation of benchmarks, enhancing their reliability and contributing to their appropriate use In consequence, this proposal will contribute to enhanced market fairness and ensure consumer and investor protection. Such benefits are difficult to quantify. However, given the global importance of robust and reliable benchmarks for maintaining market stability and restoring confidence in financial markets, the benefits would outweigh the costs. The high level objectives and benefits of this initiative are presented on the table below:

Objectives	**Benefits**
Reducing the risk of benchmark manipulation	** Enhanced financial stability and restored confidence in financial markets*
Enhancing the reliability of benchmarks	** Enhanced fairness, integrity and efficiency of financial markets*
Ensuring the appropriate use of robust and reliable benchmarks	** Enhanced consumer and investor protection*

On top of the high level benefits specified above, other benefits of this initiative are:

- the effective management of conflicts of interest;
- proactive supervision of the benchmark provision process which will allow for early identification of and reaction to potential issues;
- increased accountability and oversight of administrators and contributors to benchmarks; and
- ensuring continuity of benchmarks for existing contracts and certainty for new contracts.

Another important benefit is reducing the potential detriment to borrowers and investors caused by benchmark manipulation. Italian consumer groups Adusbef and Federconsumatori, which filed a complaint in July 2012[156], estimated that EURIBOR manipulation affected 2.5 million Italian households with mortgages tied to Euribor, costing them 3 billion euros ($3.7 billion), based on record 2008 Euribor rates. The number of households affected in Spain is estimated to be 18 M[157]. Although at the moment it is not possible to quantify the total impact of benchmark manipulation[158] on EU consumer and retail investors, these figures provide an idea of the large impacts of manipulation on investors and retail financial consumers. Thus, the benefits of avoiding large losses to investors and consumers in the future and enhancing their protection are undeniable.

[155] More detailed information of these costs can be found in annex X. Cost-benefit analysis

[156] http://www.bloomberg.com/news/2012-07-31/barclays-documents-seized-in-italy-in-euribor-fraud-probe-1-.html

[157] http://www.ipsnews.net/2012/03/euribor-under-scrutiny-by-peoples-campaign-in-spain/

[158] The overall impact of LIBOR and EURIBOR manipulation has not been determined yet as investigations are still on-going.

Furthermore, the large amount of fines already paid by the financial industry for the attempted manipulation of LIBOR, currently in the order of 3 billion Euros, and the fact that some analysts consider these fines small in comparison to the potential illicit gains by financial institutions manipulating these benchmarks in prejudice of their counterparties[159] provide an insight of the need to enhance market efficiency, integrity and fairness. This initiative is key in achieving these objectives.

Finally, although the benefits of ensuring robust and reliable benchmarks and their appropriate use are difficult to quantify, these will definitively contribute to the achievement of the general EU financial policy objectives of restoring confidence in financial markets and financial stability.

11.2 Administrative burden calculation

In this section the Commission services provide an estimate of the administrative burden for benchmark administrators and contributors resulting from the preferred options package. The administrative requirements under the preferred option package are proportional to the shortcomings identified and broadly in line with requirements under the international on-going work streams on reform of benchmark provision and use.

11.2.1 Estimated administrative costs for administrators

Estimated combined one time and recurring administrative burden for administrators: approx. € 10 M one-off costs on the first year (€ 20,000 € avg. per administrator) and € 4,000 recurring costs per administrator yearly (but this would vary according to the nature and the number of benchmarks which they provide) and € 2 M yearly total recurring costs for all benchmark administrators in the EU. However, as many benchmarks will already have appropriate transparency in place their costs may be lower.

11.2.2. Estimated administrative costs for contributors

The estimated administrative costs for contributors would be composed of one time and recurring costs: approx. € 1 M one-off costs on the first year for all EU contributors (approx. € 2000 per contributor) and € 1,000 yearly avg. recurring costs per contributor, but this would be proportionate to number of benchmarks to which they contribute, and € 0.5 M yearly total for all contributors in the EU. These normally are large size institutions, such as financial institutions, with yearly turnovers in the order of millions and even billions of Euros[160].Thus, these costs would not represent a large burden for these institutions as many of them will have most of the systems, controls, procedures and personnel in place to comply the requirements of this initiative and in consequence their costs will be much lower. Finally, these are averaged estimated costs, and the real costs will depend on the number and nature of benchmarks to which different contributors provide submissions or underlying data[161].

11.2.3 Estimated administrative costs of supervision

[159] According to later news on fines for LIBOR manipulation on Reuters article: http://uk.reuters.com/article/2013/01/29/uk-rbs-Libor-settlement-idUKBRE90S07I20130129

[160] According IMF data on financial institutions turnover: http://www.imf.org/External/Pubs/FT/GFSR/2010/02/pdf/text.pdf

[161] The one-off and recurring costs of compliance for benchmark administrators and contributors are much lower than those estimated by the FSA for the administrators of/contributors to LIBOR. However, most benchmark administrators and contributors will just need to comply with the general requirements of the initiative and not with the requirements for critical benchmarks, which will ensure proportionality.

The administrative costs of benchmark supervision under the preferred option package, they would broadly match the cost of supervision estimated under section *11.1.3.*

12. INTERNATIONAL IMPACT

Financial markets are global markets, and benchmarks are produced and used on an international basis; therefore, any EU legislation would have an impact on third countries and the approach taken by third countries would impact on the effectiveness of the EU legislation. For this reason coordination at international level is necessary, and any measure should be taken in the light of the following impacts:

- Confidence in European benchmarks;
- Regulatory arbitrage and risks of delocation;
- Market access to non-EU firms.

12.1. Consistency with international legislation

The Commission is participating in IOSCO's Board Level Task Force on Financial Market Benchmarks reform with observer status to facilitate international coordination. The proposed legal framework is consistent with the international Principles for Financial Benchmarks published by IOSCO in July 2013. Therefore, we assume that any regulatory initiatives in other important jurisdictions would also be developed along the same lines.

In addition, this initiative is broadly consistent with the IOSCO report on Principles for Oil Price Reporting Agencies (PRAs)[162], which sets out principles intended to enhance the reliability of oil price assessments that are referenced in derivative contracts. Please see annex VI: IOSCO's Principles for Oil Price Reporting Agencies.

12.2. Confidence in European benchmarks

Because most other major jurisdictions do not currently impose the same level of regulatory requirements, it is likely that EU-based benchmark administrators and contributors would initially be subject to more burdensome rules than their non-European counterparts. However in light of the IOSCO principles on benchmarks, and in the aftermath of the TIBOR, EURIBOR and LIBOR events, many other countries are likely to strengthen their rules and benchmark administrators may voluntarily choose to follow the IOSCO principles on benchmarks; most PRA's producing oil benchmarks have chosen to incorporate IOSCO principles on oil benchmarks[163]. Furthermore, new measures would enhance and certify the integrity and reliability of benchmarks, which could provide a competitive advantage to European firms by strengthening their reputation and confidence on the benchmarks they produce.

[162] IOSCO, Principles for Oil Price Reporting Agencies, October 5th 2012, http://www.iosco.org/library/pubdocs/pdf/IOSCOPD391.pdf

[163] http://www.risk.net/energy-risk/news/2258379/lack-of-regulatory-clarity-hampering-pra-code-of-conduct

12.3. Regulatory arbitrage and risks of de-location

The legislative proposal would include a third country regime to ensure that benchmarks used in the Union, independently from where they are provided, are sufficiently robust. This regime would mitigate the risk of regulatory arbitrage. In addition, the third country regime should be proportionate, thus, taking into account the application of IOSCO principles might be considered, if IOSCO principles are sufficiently robust and if there is an authorisation system and an on-going oversight regime by regulators in the third country, to allow their use in EU financial contracts; therefore a commodity benchmark produced by a benchmark administrator located in a non-Union jurisdiction could be used in the Union as a reference to; for example; a derivative if that jurisdiction has in place legislation governing the regulation and supervisions of benchmarks that broadly meets the IOSCO standards.

12.4. Impact on non-EU firms and their market access

This initiative is intended as part of a coordinated international approach to address the vulnerabilities of benchmarks. Benchmarks produced outside the Union may be used in the Union provided that they are sufficiently robust. Compliance with international standards such as the IOSCO principles, if they are sufficiently robust and supervised, might be considered as the appropriate level of equivalence. A level playing field is thus ensured by the fact that other jurisdictions would be taking similar legislative initiatives in line with the IOSCO principles.

As regard entities located outside the EU that contribute to benchmarks calculated in the EU, these would, be subject to the codes of conduct of EU regulated benchmark administrators. For critical benchmarks, the application of additional requirements and powers would also be ensured. This would contractually impose on them similar obligations to governance and control obligations that apply to Union based contributors. These contributors will also be subject to the Market Abuse Regulation. Compliance with codes of conduct established in accordance with the legislative framework would provide a degree of legal certainty and may constitute a cost effective tool to ensure compliance with these rules.

Third countries could be positively impacted as the EU regulatory framework would improve the integrity and accuracy of benchmarks produced in the EU. Because a number of the world's most important benchmarks, notably LIBOR, EURIBOR, and a number of energy market benchmarks, are produced in the EU, users of those benchmarks in third countries would be able to rely on more robust benchmarks in the future.

13. IMPACT ON FUNDAMENTAL RIGHTS

An assessment was made of the preferred policy options for the initiative on benchmarks to ensure their compliance with fundamental rights[164]. This entailed identifying which preferred options could affect fundamental rights embodied in the EU Charter of Fundamental Rights ("CFR") and assessing whether any restrictions on fundamental rights imposed by these

[164] Based on COM (2010) 573, Strategy for the effective implementation of the Charter of Fundamental Rights by the European Union, particularly the check list:
http://ec.europa.eu/justice/news/intro/doc/com_2010_573_en.pdf

options were necessary, proportionate, provided for by the law and respecting the essence of these rights and freedoms.

Most of the preferred options considered as part of this impact assessment do not interfere with any of the fundamental rights in the CFR, rather they serve to reinforce the right to consumer protection (Article 38). However, certain preferred options were identified which might impact on certain rights and freedoms. These are:

1. Benchmark provision and contribution to a benchmark would become a regulated activity;

2. Regulated benchmark administrators in the EU would be subject to supervision by competent authorities equipped with enforcement powers including powers to access premises and data traffic records; and

3. Regulated benchmark administrators and submitters would be required to keep documents and records in relation to submissions for an appropriate period of time and make these available to competent authorities on request.

The following fundamental rights of the EU Charter of Fundamental Rights are of particular relevance to these options:

- respect for private and family life, Article 7
- protection of personal data, Article 8
- freedom of expression and information, Article 11
- freedom to conduct business, Article 16
- consumer protection, Article 38

Consumer protection would be promoted, whereas the other rights would be to some extent limited by the preferred options. Limitations on these rights and freedoms are allowed under Article 52 of the Charter. However, any limitation on the exercise of these rights and freedoms must be provided for by the law and respect the essence of these rights and freedoms. Subject to the principle of proportionality, limitations may be made only if they are necessary and genuinely meet the objectives of general interest recognised by the Union or the need to protect the rights and freedoms of others. A detailed analysis of why such limitations are necessary with regard to the production and use of benchmarks is provided for in annex XI.

14. SOCIAL IMPACTS

The options considered in this impact assessment would increase investor protection, thereby also benefiting institutional investors such as pension funds who invest in financial instruments in order to secure a higher rate of return for pension policy holders. It would also benefit consumers which mortgages are referenced to benchmarks within the scope by contributing to the fairness and accuracy of their mortgage repayments.

It would also benefit consumers and businesses, including SME's, by ensuring that the benchmarks to which the financial instruments they use to hedge their risks and finance their spending and investments more accurately reflect economic reality.

It can be anticipated that greater market integrity would lead to higher investor confidence and greater participation in financial markets. In addition, by contributing to reducing markets' disorder, these options should improve the stability and reliability of financial markets. As a result, it would be easier for enterprises to raise capital to grow and create more jobs.

Given the proportionality of the costs for administrators of benchmarks and flexibility provided by this initiative in terms of adapting the requirements to administrators of non-critical benchmarks, it is not likeable that a significant number of benchmark administrators may discontinue their benchmark provision. Thus, a reduction in the number of jobs created by this industry is not estimated as a consequence of this initiative. On the opposite, most recurring costs of compliance with this initiative derive from the cost of staff to carry out these tasks. Thus, the cost associated by this initiative will have a direct impact on the creation of new jobs in the financial industry in Europe.

Finally, it does not appear that the preferred options identified would have any direct or indirect impacts on environmental issues. Although oil and other commodity prices have a direct impact on the environment through their impact on supply and demand, the options identified here would not have a straightforward effect on the levels on these prices. They would ensure prices better reflect economic reality, but this does not entail a general bias to pushing prices up or down.

15. CHOICE OF INSTRUMENT TO ENSURE AN EFFECTIVE RESPONSE

15.1. Non-legislative cooperation between Member States with principles by ESMA and EBA

One option to achieve the objectives of this initiative would be through cooperation between the authorities in the EU Member States, coordinated by ESMA, EIOPA and EBA. ESMA and EBA published non-binding Principles for Benchmarks-Setting Processes in Europe on 6 June 2013 and the EBA issued non-binding recommendations to EBF-Euribor following their review of EURIBOR in January 2013 and to national competent authorities (NCAs) on the supervision of contributing banks.

The disadvantage of this approach is that it is voluntary; because there is no legal basis for EBA and ESMA to issue binding guidelines, market participants may opt not to follow these proposals. In the absence of EU legislative action, there would be no obligation on Member States to implement a framework for benchmarks, and the Commission would not be able to take action against Member States that did not act, or which took a different approach than that proposed by ESMA and EBA.

15.2. Propose new stand-alone EU legislation on benchmarks in a Directive or a Regulation

Currently most Member States do not regulate the production of benchmarks; to date only Denmark and the UK have implemented legislation that regulates benchmarks. This

illustrates the likelihood of divergent responses by Member States to addressing this issue. A divergent approach is likely to remain because the interests of Member States differ because of the international nature of benchmarks: a benchmark may be produced in Member State A, based on contributions from Member State B and used in Member State C. Each of the Member States' interests and ability to regulate such a benchmark would differ; Member State C would be interested in the protection of users but this could only be fully achieved by ensuring the reliability of production in Member State A, and the integrity of contributors in Member State B. In the absence of a Union legislative framework, the individual national actions would be ineffective, as there is no obligation or incentive on Member States to cooperate with each other and the absence of such cooperation leaves scope for regulatory arbitrage.

Having discarded the option of a non-legislative instrument, this leaves the option of a harmonising legal instrument, either a Directive or a Regulation. A harmonising legal instrument would ensure that all Member States applied the same regulatory framework based on the same principles, thereby ending the current fragmented regulatory response and reducing compliance costs.

Traditionally, the main legislative instrument chosen for EU financial services legislation has been a Directive. This was because the legislative proposals mainly sought to approximate national rules on the taking up of business and the provision of services in a gradual manner. The choice of a Directive enables Member States to integrate rules into their different legal systems, while allowing some margin to extend EU rules to areas uncovered by the EU legislation.

However, a Directive is not the right choice of instrument in view of the objectives of this initiative. A Directive would leave scope for Member States to maintain divergent rules, whereas a Regulation would ensure uniform rules. The provisions to be applied to benchmarks are likely to be prescriptive in laying down some general requirements and the cross border nature of benchmarks creates a need for maximum harmonisation of these requirements. Again if the benchmark is contributed to in one member state, produced in another and used in a third, a maximum harmonisation framework would be easiest for administrators and contributors to comply with and for users to understand. In addition certain of the preferred options require a Regulation to be effective. Only a Regulation can implement these important options and deliver investor protection and financial stability objectives.

Nevertheless, a Regulation can leave some flexibility for national competent authorities in applying the rules. While a Directive requires national implementing provisions to be adopted, leaving scope for interpretation of the Directive, a Regulation is directly applicable without requiring national legislation, thereby ensuring greater legal certainty for those subject to the legislation.

Implementation of a Directive into national law can also be a time consuming process. In contrast, a Regulation is immediately applicable after adoption by the legislator and, while it is likely to require binding technical standards to be adopted through delegated acts in certain areas to ensure consistent application, these can be prepared in parallel to the process for adoption of the legislation. Further, a regulation does not require any monitoring of correct implementation by the Commission, and those concerned by the provisions of a Regulation would be able to depend on them immediately. Finally, a Regulation could be directly

invoked by concerned parties before national administrations and courts, whereas this applies only in very limited circumstances for Directives.

For all these reasons, the Commission services consider that a Regulation rather than a Directive is the most appropriate instrument for this initiative.

16. MONITORING AND EVALUATION

The Commission is the guardian of the Treaty and therefore would monitor how Member States are applying the changes proposed in the legislative initiative on benchmarks. When necessary, the Commission would pursue the procedure set out in Article 226 of the Treaty in case any Member State fails to respect its duties concerning the implementation and application of Community Law.

The evaluation of the consequences of the application of the legislative measure could take place three years after the entry into force of the legislative measure, in the context of a report to the Council and the Parliament on the effectiveness of the legislative initiative and appropriateness of the sectoral approach.

The evaluation should measure the accomplishment of the measurable objectives previously determined in the objective tree:

a) Reduce the number of cases of benchmark manipulation

b) Reduce the number of findings of inappropriate governance and controls

c) Reduce the number of benchmarks vulnerable to manipulation

d) Increase the number of benchmarks based on sufficient and representative data

e) Increase the number of statements on benchmarks purpose and methodology

Indicators and sources of information that could be used in the evaluation are as follows:

a) Data on the variance of benchmarks produced before and after the implementation of the proposals;

b) Data on the number of breaches of the market abuse regulation in respect of benchmarks and on the number of on-site inspections, supervisory measures and sanctions and penalties imposed;

c) Data on the number of breaches of the Regulation on benchmarks and on the number of on-site inspections, supervisory measures and sanctions and penalties imposed;

d) Data on the number of civil actions for failure to comply with this regulation by users of the benchmark against administrators and contributors

e) Number of complaints received by the Commission from benchmark users

f) The costs of producing benchmarks and the fees charged for the licensing;

g) A report, which could be undertaken by ESMA, on the experience gained by regulators in enforcing the initiative and how cooperation has worked.

ANNEX I: GLOSSARY

Benchmark: any index by reference to which the amount payable under a financial instrument or a financial contract, or the value of a financial instrument is determined or is used to measure the performance of an investment fund.

Benchmark assessor: a natural person employed by the benchmark administrator who calculates the benchmark or is primarily responsible for overseeing the mechanism if the calculation is performed algorithmically.

Benchmark calculation: the process of calculating a benchmark.

Benchmark calculator: an entity calculating a benchmark on behalf of a administrator which outsources this activity to it.

Benchmark process: all the stages and processes involved in the production and dissemination of a benchmark from the gathering of the input data and the calculation of the benchmark based on the input data to the dissemination of the benchmark to users including any review, adjustment and modifications to this process.

Benchmark administrator: the natural or legal person that has control over the provision of a benchmark.

Benchmark user: means any person who issues or owns a financial instrument or is party to a financial contract which references a benchmark.

Calculation agent: means an agent of the benchmark administrator who conducts a benchmark calculation.

Central Counterparty: an entity that interposes itself between the counterparties to the contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer.

Contributor: any natural or legal person providing any input data to an administrator, or to another person for the purposes of passing to an administrator, that is required in connection with the determination of that benchmark, and is provided for that purpose.

Commodity benchmark: means a benchmark where the underlying asset is a commodity or commodities.

Consumer: a natural person who, in financial contracts covered by this Regulation is acting for purposes which are outside his trade, business or profession.

Creditor: a natural or legal person who grants or promises to grant credit in the course of his trade, business or profession as per the EU Consumer Credit Directive.

Credit agreement: an agreement whereby a creditor grants or promises to grant to a consumer credit in the form of a deferred payment, loan or other similar financial accommodation, except for agreements for the provision on a continuing basis of services or for the supply of goods of the same kind, where the consumer pays for such services or goods for the duration of their provision by means of instalments as per the EU Consumer Credit Directive.

Credit benchmark: a benchmark where the underlying are credit default swaps or any similar underlying that measure the credit of an entity or group of entities.

Credit default swap: means a derivative contract in which one party pays a fee to another party in return for a payment or other benefit in the case of a credit event relating to a

reference entity and of any other default, relating to that derivative contract, which has a similar economic effect.

Critical benchmark: a benchmark, the majority of contributors to which are supervised entities, that if it were to cease to be provided, would have a significant adverse impact on the financial stability, or the orderly functioning of markets, or consumers, or the real economy of one or more Member States.

Distribution agent: means an agent of the benchmark administrator who disseminates or distributes the benchmark or is responsible for licensing the benchmark to users.

European Banking Federation: the European Banking Federation is the united voice of banks established in Europe. It is a forum where best practices are exchanged, legislative proposals and initiatives are debated and common positions adopted. Its members are the national banking associations of the EU and EEA Member States.

Energy market participant: means any person, including transmission system operators, who enters into transactions, including the placing of orders to trade, in one or more wholesale energy markets.

European Systemic Risk Board: the ESRB is responsible for the macro-prudential oversight of the financial system within the Union in order to contribute to the prevention or mitigation of systemic risks to financial stability in the Union that arise from developments within the financial system and taking into account macro-economic developments, so as to avoid periods of widespread financial distress.

Financial benchmark: a benchmark where the contributors are credit institutions or investment firms or insurance firms and undertakings and the benchmark is primarily used as a reference price for financial instruments.

Financial contract:

(a) any credit agreement as defined in point (c) of Article 3 of Directive 2008/48/EC of the European Parliament and of the Council ;

(b) any credit agreement as defined in point 3 of Article 3 of [Directive [2013/…/] of the European Parliament and of the Council on credit agreements relating to residential property];

Financial instrument: any of the instruments listed in Section C of Annex I to Directive 2004/39/EC for which a request for admission to trading on a trading venue has been made or which are traded on a trading venue.

Free float adjustment: method by which the market capitalization of an index's underlying companies is calculated. Free-float methodology market capitalization is calculated by taking the equity's price and multiplying it by the number of shares readily available in the market. Instead of using all of the shares outstanding like the full-market capitalization method, the free-float method excludes locked-in shares such as those held by promoters and governments.

Input data: the data in respect of the value of one or more underlying assets, or prices, including estimated prices, or other values, used by the administrator to determine the benchmark.

Investment fund: AIFs as defined in point (a) of paragraph 1 of Article 4 of Directive 2011/61/EU of the European Parliament and of the Council, funds and units within the scope of Directive 2009/65/EU of the European Parliament and of the Council.

Issuer of a financial instrument: a legal entity governed by private or public law, which issues or proposes to issue financial instruments, the issuer being, in case of depository receipts representing financial instruments, the issuer of the financial instrument represented.

Interest rate benchmark: a benchmark where the underlying asset is an interest rate or interest rates or from which an interest rate can be simply and unambiguously be derived.

Located: in relation to a legal person, the Member State or third country where that person's registered office or other official address is situated and in relation to a natural person, the Member State or third country where that person is resident for tax purposes

Management body: the governing body, comprising the supervisory and the management function, which has ultimate decision-making authority and is empowered to set the entity's strategy, objectives and overall direction;

Mortgage credit agreements under the EU mortgage credit Directive: credit agreements which are secured either by a mortgage or by another comparable security commonly used in a Member State on residential immovable property or secured by a right related to residential immovable property. Also credit agreements the purpose of which is to acquire or retain property rights in land or in an existing or projected residential building and those for the purpose of the renovation of the residential immovable property a person owns or aims to acquire.

Panel benchmark: a benchmark the where the contributors are fixed over time or for a period.

Provision of a benchmark:

(a) administering the arrangements for determining a benchmark; and

(b) collecting, analysing or processing input data for the purpose of determining a benchmark; and

(c) determining a benchmark through the application of a formula or other method of calculation or by an assessment of input data provided for that purpose.

Rebase: to establish a new base level for (a price index, etc.).

Reference: in relation to a financial instrument or financial contract and benchmark, that benchmark is the reference to which the amount payable under that financial instrument or that financial contract, or the value of that financial instrument is determined;

Submitter: means the natural person employed by the contributor for the purpose of contributing input data.

Supervised contributor: a supervised entity that contributes input data to an administrator located in the Union

Trading venue: any regulated market, MTF or OTF as defined in article 2 MIFIR.

Transaction data: observable prices, rates, indices or values representing transactions between unaffiliated counterparties in an active market subject to competitive supply and demand forces;

Wholesale energy market: any market within the Union on which wholesale energy products are traded.

ANNEX II: SUMMARY OF THE PUBLIC CONSULTATION ON BENCHMARKS

DG MARKT services held a public consultation between 15th September and 29th November 2012. Responses to the public consultation were received from:

- Member States financial authorities;

- Administrators, contributors and users of benchmarks;

- Exchanges and clearers;

- Financial institutions and their associated bodies;

- Non-financial institutions in the energy and transport sectors; and,

- Individual citizens, academics and associations.

(Please see list of public contributors to the consultation in section 1.2).

1.1. Summary of the responses

Some 84 contributions were received, of which 75 were authorised for publication, including 8 from Member States (financial authorities and securities regulators), 9 from exchanges and clearers, 17 from index administrators, calculators and publishers and associated bodies, 33 financial institutions and associated bodies (funds, banks, associations, investment funds, etc.), 3 from non-financial institutions and 14 from others (citizens, academics, associations, etc.). It should be noted that some institutions are both administrators and users of benchmarks (e.g. exchanges) or contributors to and users of benchmarks (e.g. banks).

Contributions received from stakeholders varied in detail; the most developed comments were provided by public authorities and stakeholders involved in benchmark provision, submissions and use, as well as banks and exchanges.

Below are presented the overall reactions to the main issues in the provision and use of benchmarks raised in the public consultation document:

Global coordination: As benchmarks are globally produced and used, the process of reforming benchmarks should be coordinated at European and global level to ensure consistency and a level playing field. Thus, any EU initiative on benchmarks should be coordinated with the international consensus developed through the process that the Financial Stability Board is co-ordinating and which builds on the work by the IOSCO Board Level Task Force on financial market benchmarks.

Scope: Whilst an initiative on benchmarks is broadly supported for interbank lending benchmarks, there are mixed opinions about whether other types of benchmarks, such as commodity, equity and proprietary benchmarks, should be covered by an EU initiative on benchmarks. The main argument for this position is that for some of these benchmarks self-regulation is sufficient and that whilst all benchmarks share some characteristics, there are also many features which differentiate them and make them more or less susceptible to

manipulation. Some of the differentiating features stated are the nature of the underlying data (ranging from actual transaction data to subjective estimates), the origin of underlying data (ranging from prices publicly available on exchanges to voluntary contributions in over-the-counter (OTC) markets), the replicability of the indices, the transparency of their methodologies and the degree of discretion applied in their calculation and the existence of inherent conflicts of interest in their provision. Furthermore, some benchmark administrators, such as price reporting agencies (PRAs) state that their commodity price assessments are not financial but purely journalistic activities and thus they should not be covered by this initiative.

Role of regulation: There was a fair degree of consistency in the responses regarding the need to re-establish confidence in benchmarks which have shown to be susceptible to potential manipulation, mainly interbank lending benchmarks such as LIBOR and EURIBOR and other benchmarks sharing similar characteristics. However, there is not a clear consensus regarding the need for desirability of a regulatory framework for different categories of benchmarks. Whilst some respondents advocate for benchmarks becoming a regulated activity, others defend self-regulation by non-binding principles or industry codes of conduct. A two tier approach to regulation, with high level non-binding standards for all benchmarks and binding principles for specific benchmarks for which there is evidence of risks has also been suggested. Any regulation should be well calibrated to avoid undesired outcomes.

Methodology: There is general agreement on the need for robust, fully transparent and understandable methodologies on benchmark production which allow users to replicate these benchmarks to the highest degree possible, allowing them to be used to verify the integrity of benchmarks and better assess whether their methodologies are fit for their needs. There is also overall consensus on the preference for the use of thorough methodologies over discretion and the preference for using underlying actual transaction data or firm bids and offers over subjective estimates or assessments. However, some contributors point out that for highly OTC, opaque, volatile or illiquid markets where few transactions take place, the use of estimates or assessments may be necessary and it may provide a better representation of the underlying market reality than insufficient or unrepresentative transaction data. In these cases, some respondents highlight the advantages of hybrid methodologies using both actual transaction data and estimates and ex-post verification of underlying data and the appropriate use of discretion.

Conflicts of interest/Potential for manipulation: There is broad consistency among respondents regarding the fact that administrators of and contributors to benchmarks need to have adequate processes for identifying, avoiding and, if this is not possible, managing conflict of interest. The consultation responses link conflict of interest to the inappropriate use of discretion or the ability and the financial incentive to manipulate the benchmark value. Some responses mention specific references to inherent conflicts of interest in the provision of benchmarks in which the contributors or administrators are also users of indices or interested parties. For example, for interbank lending rates (e.g. LIBOR and EURIBOR) and strategy/proprietary indices used and sometimes produced by fund managers who have direct interest in the performance of these funds. Some of the solutions to conflicts of interest issues suggested by respondents are reforms to governance, controls and compliance and the combination of competition, and transparency with tailored regulatory backstops when appropriate.

Panels and mandatory reporting: There is a broad consensus on the fact that panels must be representative and proportionate to the market they represent. However, some respondents

point out that panels are in general prone to manipulation and information is better sourced from regulated markets and public/transparent sources whenever possible. Responses also highlight that the selection of panel, index contributors, or constituents should be based on clear, objective, and robust criteria and governed by relevant independent bodies and that panel members should be sufficiently numerous, diverse and sufficiently active in the underlying markets. Regarding potential mandatory participation, whilst some responses support it due to the advantages of large panels, these benefits could be undermined if panels become unrepresentative due to the inclusion on inactive or unrepresentative participants. Finally, some responses state that data submissions should be made only by entities regulated for this purpose and stress the possible advantages of requirements for transparency in panel reporting where current levels of transparency are inadequate. Some responses raise other potential transition issues which involve a potential decrease in market transparency if voluntary contributors are discouraged to contribute to benchmarks by new regulatory requirements.

Transparency: Most responses advocate for the highest level of transparency possible on governance, processes and methodologies at both administrator and submitter level, as an effective way for users to monitor and encourage the robustness of benchmarks. However, it is highlighted in some of the responses that a high level of transparency on contributions in some particular markets, for example commodities, may discourage voluntary submissions. Furthermore, some respondents recommend delayed transparency for some indices in order to avoid potential credit or market signalling issues. Transparency on what benchmarks measure and their most relevant characteristics is recommended in most consultation responses as necessary for allowing users to make the right assessments on whether benchmarks are fit for purpose.

Governance and supervision: There is a broad consensus among the consultation responses regarding the need for high governance and transparency standards for benchmarks. Most responses request the highest level of transparency possible on governance, processes and methodologies at both administrator and submitter level, as an effective way for users to monitor and encourage benchmark robustness

Accountability: audits & controls. There is general agreement on the need for more thorough audits and controls as they are key to ensuring the integrity of benchmarks, but at contributor and administrator level. Independent external audits of contributions, calculation and benchmark production procedures have been highlighted by several responses as one of the main improvements required in this area.

Use: Many respondents argue that the choice of which benchmark to use should be left to the market and it should not be regulated. However, some respondents consider there is a need to regulate the use of benchmarks which affect retail investors or consumers and ensure financial controls are referred to robust and reliable benchmarks which comply with minimum standards in their provision.

Licensing: Many responses, mainly from users of benchmarks and public authorities, support the reforms for non-restrictive licensing of benchmarks in the Markets in Financial Instruments Directive (MIFID) based on reasonable commercial terms on a non-discriminatory open access basis, whilst other responses, mainly from benchmark administrators, are against these reforms.

Public versus private provision: Although some contributors, mostly public authorities and consumer organizations, argue that benchmarks share some characteristics of public goods, others, particularly benchmarks administrators, defend the private nature of benchmarks and point out the intellectual property rights associated to them. Most respondents agree that benchmark's provision should be private as competition among different administrators is one of the main incentives to enhance benchmarks' robustness and integrity and ensure they keep up to the date with market developments. However, many responses agree in the fact that private provision of benchmarks should be subjected to the supervision of public authorities under a public regulatory framework.

Transition issues: Most responses agree on the need to take into consideration potentially important transition and legacy issues, especially if any initiative would require methodologies for the calculation of benchmarks or their definitions to be radically modified. This could trigger significant legal, economic and continuity issues. Some responses also express that significant regulatory changes in this area could face real logistical, legal and other hurdles and that the potential impact of introducing a regulatory framework for benchmarks should be carefully assessed. Some respondents believe that the transition to substitute benchmarks should be authorized, encouraged but not imposed by the regulator. Finally, it is highlighted that there should be sufficient time for transition and it should be carefully managed and phased-in.

1.2. List of public contributors to the consultation (not including confidential)

Financial authorities – 6

BAFIN

Bank of Latvia

ECB Eurosystem

ESRB (European Systemic Risk Board)

French Treasury

HM Treasury UK

Index administrators, calculators and publishers and their associated bodies – 17

Argus

Bloomberg LP

Danish Bankers Association

EURIBOR-EBF

ICI Global

ICIS

Index Industry Association

IPD (Investment Property Databank)

Markit

MSCI

Platts

Rate Validation Services

RIMES

S&P Dow Jones Indices

STOXX

Thompson Reuters

WMBA (Wholesale Market Brokers Association)

Exchanges and clearers – 8

BATS Chi-X

CME Group

Deutsche Börse Group

FESE

London Stock Exchange

NASDAQ OMX

NYSE Euronext

The Baltic Exchage

Financial institutions and associated bodies - 30

ABI (Associazione Bancaria Italiana)

AFG (Assoc. Française de la Gestion Financière)

AFME (Assoc. for Finantial Markets in Europe)

AIMA (Alternative Investment Management Assoc.)

AMUNDI Asset Management

ASSIOM FOREX (Financial Markets Association -Italy)

ASSOSIM (Italian Assoc. of Financial Intermediaries)

Barclays

BlackRock

BVI (German Investment Fund and Asset Mgt. Assoc.)

Caixabank

EFET (European Federation of Energy Traders)

EBF (European Banking Federation)

EUSIPA (European Structured Investment Products Assoc.)

French Banking Federation

GFMA (Global Financial Markets Assoc.)

ICAP

ICMA (Intl. Capital Market Assoc.)

IMA (Investment Management Assoc.)

ING

INTESA SanPaolo

ISDA (Int. Swaps and Derivatives Assoc.)

Kames Capital

Pfandbrief

Russell Investments

State Street

UBS AG

Unicredit

Vanguard

VOEB, Bundesverband Öffentlicher Banken (Fed. Assoc. of Public Banks in Germany)

Non-financial institutions – 3

Deutsche Lufthansa

EnBW (Energie Baden-Württemberg AG)

EON

Other – 11

BDEW (DE Federal Association of Energy & Water)

BEUC (European Consumers Organization)

CFA Institute

EDHEC Risk Institute

EuroFinuse (European Federation of Fin Serv Users)

Finance Watch

Financial Services User Group

Groupe Consultatif Acutariel Europeen

IATA

Lucidine Conseil

Society of Pension Consultants

ANNEX III: EU AND INTERNATIONALWORK STREAMS ON BENCHMARK RATES REFORM

EU work Streams

European supervisory authorities work on benchmarks[165]

- The EBA and ESMA published three pieces of work on benchmarks simultaneously to the publication of the consultation paper by IOSCO on 11th of January 2013:

- a) Draft Consultation Paper on Principles for Benchmarks-Setting Processes in Europe. The draft consultation paper sets out a number of draft principles for the players involved in the benchmark setting process. The aim of this consultation is to issue principles in Q2 2013. These are likely to be as voluntary principles addressed to all market participants

- b) Euribor-EBF (EEBF) Review: a report and a letter to the EBF with recommendations related to the administration and management of Euribor, following an ESMA-EBA investigation. DG MARKT has not been involved in this taskforce.

- c) EBA recommendations to national authorities on the supervisory oversight of banks participating in the Euribor panel.

- In a joint letter to Commissioner Barnier dated 7th March 2013, the three European Supervisory Agencies EBA, ESMA, and EIOPA argued that "wider work is required to regulate how indices and benchmarks are compiled, produced and used" and expressed their support for the Commission work on this field and the formal regulation and supervision of benchmarks.[166]

- ESMA and EBA published non-binding Principles for Benchmarks-Setting Processes in Europe on 6 June 2013 and the EBA issued non-binding recommendations to EBF-Euribor following its review of EURIBOR in January 2013 and to national competent authorities (NCAs) on the supervision of contributing banks. As mentioned on the report containing the ESMA-EBA Principles for benchmarks, these are aimed at bridging the gap until an EU framework on benchmarks is established and the ESAs call for EU regulation to be proposed by the Commission.

The Wheatley Review of LIBOR[167] *and HMT's Legislation on Benchmarks*[168]

- Following the events surrounding Libor Martin Wheatley (chief executive of the Financial Conduct Authority (FCA) produced a review in September 2012. The Wheatley Review set out a ten-point plan for the reform of LIBOR and these recommendations were incorporated into the Financial Services Bill which came into effect on the 1 April 2012. These rules could apply to a wide range of benchmark; to date only LIBOR is a regulated benchmark but the Government may include additional benchmarks in the future. Under this legislation the submission and administration of LIBOR, as well as key individuals, are now regulated by the FCA. The FCA has been given the power to make rules in relation to the submission of LIBOR which have been developed following a consultation

[165] http://www.esma.europa.eu/system/files/2012-675.pdf
[166] http://www.esma.europa.eu/system/files/esa-2013-007.pdf, 7 March 2013, ESA/2013/007
[167] http://cdn.hm-treasury.gov.uk/wheatley_review_libor_finalreport_280912.pdf
[168] http://cdn.hm-treasury.gov.uk/wheatley_review_Libor_finalreport_280912.pdf

launched in January 2012. These rules and guidance cover the systems, controls and codes of practice of entities administering and submitting to LIBOR. Policies to manage internal conflicts of interest are also required. As regards input data LIBOR submissions should, so far as possible, be supported by transaction data.

- On 9 July 2013 the Hogg Tendering Advisory Committee for LIBOR announced that the British Bankers' Association (BBA) had accepted its recommendation that NYSE Euronext Rate Administration Limited should be the new LIBOR administrator. NYSE Euronext Rate Administration Limited, a new subsidiary of NYSE Euronext, will, subject to authorisation from the Financial Conduct Authority (FCA) and following a period of transition, take over the administration of LIBOR from BBA LIBOR Ltd. The BBA is currently working with the new administrator to effect the orderly and timely transfer of the administration of LIBOR, which is expected to be complete by early 2014. A new offence of making false or misleading statements, in relation to LIBOR has also come into effect.

- The Wheatley Review recommended that: "*further work is undertaken on other important benchmarks at an international level. In particular, work should be undertaken to develop and agree an overarching international framework that could be used as a guide for sponsors of benchmarks, regulatory authorities and other relevant participants*[169]*. This work should be taken forward by IOSCO, through the Board Level Task Force, and the European Commission, coordinated by the Financial Stability Board (FSB)"*[170]

- It also stated that: "this Review has been narrowly focused on LIBOR, and the recommendations are therefore only made in respect of LIBOR. However, the Review is aware of other work underway in relation to benchmarks generally, including the EU Commission's consultation on benchmarks and the Board Level Task Force set up by IOSCO. In light of this wider work, it is suggested that legislation should ensure that the regulatory regime can be extended to other benchmarks in the future, if appropriate"

Danish national authorities review of CIBOR[171]

- Following the LIBOR scandal, the Danish government passed legislation to move supervision of rate-setting to the Danish Financial Supervisory Authority from 1 January 2013. Rules were implemented to improve both governance, in particular in relation to the oversight committee, and transparency.

- In order to facilitate choice, the Copenhagen Interbank Tomorrow/Next Average (CITA) was introduced at the end of the 2012 as a supplement to CIBOR . CITA rate is a secured swap rate, based on transactions. The seven banks setting the CIBOR rate are Danske Bank, Deutsche Bank, Nordea, Jyske Bank, Nykredit, Sydbank and Spar Nord Bank. Barclays pulled out of the rate-setting panel for CIBOR in August 2012.

European Commission investigation of a possible cartel under LIBOR and EURIBOR and into a potential cartel by contributors to price assessments for oil and biofuels by Platts

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[169] http://cdn.hm-treasury.gov.uk/wheatley_review_libor_finalreport_280912.pdf

[170] Please See annex V on the findings and recommendations of the Wheatley review of LIBOR; see full report here: http://cdn.hm-treasury.gov.uk/wheatley_review_libor_finalreport_280912.pdf

[171] http://www.bloomberg.com/news/2012-09-27/danish-banks-to-offer-cita-loans-after-review-finds-cibor-flawed.html

DG Competition of the European Commission

- In October 2011, the Commission undertook unannounced inspections at the premises of a number of companies active in the sector of interest-rate derivative products linked to the Euro Interbank Offered Rate (EURIBOR) in a number of Member States, as it had concerns that these companies may have violated EU antitrust rules. The Commission started investigating these cases as a matter of top priority before the so-called "LIBOR scandal" triggered by Barclays on the LIBOR/EURIBOR rate manipulation by a number of banks and their employees.

- In 2012-13, the Commission continued to investigate a number of cases related to the benchmark rates of LIBOR, EURIBOR, TIBOR – the Tokyo rate – and with regard to a number of banks and brokers. The alleged rate-rigging is a major competition concern as it has to be ensured that competition in financial markets takes place on a level-playing field[172].

- The Commission has recently undertaken an investigation into a possible cartel in relation to the potential submission of distorted prices by contributors to some of Platts oil and biofuels products assessed prices in order to manipulate those[173].

EP ECON Committee public hearing on "Tackling the Culture of Manipulation"[174]

The European Parliament hold a public hearing on "Tackling the culture of market manipulation - global action post LIBOR/EURIBOR" (please see summary in annex XVII) on 26/09/ September 2012. This hearing was addressed by representatives from important public sector and private stakeholders such as: Commissioner Barnier, Commissioner Almunia, Masamichi Kone (Chairman of IOSCO), Gary Gensler (Chairman of the US CFTC), Daniel L. Doctoroff (CEO and President of Bloomberg), Thierry PHILIPPONNAT (Secretary General of Finance Watch), etc.

International work Streams

FSB coordination of international work streams on benchmark reform (IOSCO task force on benchmark and BIS report)

- Globally, FSB is coordinating the international initiatives reviewing the regulatory frameworks for benchmarks worldwide. At the FSB's request published Principles for Financial Benchmarks in July 2013 which were welcomed by the G20.IOSCO also published principles for oil price reporting agencies in October 2012 to address risks identified in oil price assessment practices[175]. In gas markets, recent allegations of benchmark manipulation have led to investigations under competition legislation, and have underlined the need for the comprehensive rules introduced by REMIT.

- A report entitled "Towards better reference rate practices: a central bank perspective" was released on 18th March 2013 by a Working Group established by the Economic Consultative Committee (ECC) comprised officials from 13 central banks and monetary authorities and chaired by Hiroshi Nakaso (Assistant Governor, Bank of Japan). The

[172] http://europa.eu/rapid/press-release_MEMO-11-711_en.htm?locale=en
[173] http://europa.eu/rapid/press-release_MEMO-13-435_en.htm
[174] http://ec.europa.eu/avservices/ebs/schedule.cfm?page=1&date=09/24/2012&institution=Parliament
[175] http://www.iosco.org/news/pdf/IOSCONEWS253.pdf

report provides recommendations on how to improve reference rate practices from a central bank perspective. On it the Working Group has identified an urgent need to strengthen the reliability and robustness of existing reference rates and a strong case for enhancing reference rate choice and calls for prompt action by the private and the public sector.

- Following from this work, the Official Sector Steering Group (OSSG) which is composed of regulators and central banks of the major reference rates was set up in June 2013. This group will focus on important interest rate benchmarks and it will assess the relevant benchmarks against international standards, identify alternative benchmark rates and develop a contingency planning process in the event that one of the major benchmarks fails.

US Commodity Futures Trading Commission settlements for LIBOR manipulation[176] *and participation in IOSCO's Board Level Task Force on Financial Benchmarks*[177]

- Following investigations into LIBOR manipulation the CFTC has settled charges for manipulation with several financial institutions including Barclays, UBS and RBS. The CFTC Chairman, Mr. Gary Gensler, is co-chairing the IOSCO Board Level Task Force on Financial Benchmarks jointly with the FCA Chairman, Mr. Martin Wheatley.

Japan authorities request for review to bank lobby setting TIBOR[178]

- In October 2012, Ikko Nakatsuka, Japan's new financial services minister, urged the Japanese Bankers Association (JBA) to determine whether its process for setting the benchmark yen lending rate should be reviewed and to identify the required improvements. Although an internal review by the JBA found "no major issues" with the benchmark-setting process, Mr Kunibe (Head of the JBA), stated that the JBA would set up a committee of specialists to consider the future of the Tokyo interbank offered rate, including analysis of the procedures followed by the banks which contribute estimates of the cost of funds in the market, and the JBA's role in calculating the benchmark.[179]

Review of HIBOR by the Hong Kong Monetary Authority (HKMA) and announcement on measures to strengthen the HIBOR fixing mechanism[180]

- After considering the Treasury Markets Association's (TMA) report and the Hong Kong Association of Banks' (HKAB) submission, the Hong Kong Monetary Authority (HKMA) announced on 6th February 2013 a package of measures to strengthen the fixing mechanism for the HKD Interest Settlement Rate (more commonly known as the Hong Kong Interbank Offered Rate or HIBOR). The measures are designed to enhance the transparency and robustness of the HIBOR fixing mechanism.

[176] http://www.bbc.co.uk/news/business-18671255
[177] http://www.cftc.gov/PressRoom/PressReleases/pr6518-13
[178] http://www.bloomberg.com/news/2012-10-05/japan-urges-bank-lobby-to-review-tibor-amid-u-k-rate-reform.html
[179] http://www.ft.com/intl/cms/s/0/5fa72ede-99f0-11e2-9732-00144feabdc0.html
[180] http://www.hkma.gov.hk/eng/key-information/press-releases/2013/20130206-4.shtml

Korea's New Lending Rate Benchmark following an investigation into the manipulation of certificate-of-deposit rates

- South Korea chose a new benchmark rate for bank lending following an antitrust agency investigation into the possible manipulating of certificate-of-deposit rates in July 2012.The Korean Financial Services Commission plans to use a so-called short-term Cost of Funds Index in cooperation with lenders as an alternative for banks to base their short-term lending rates on.

ANNEX IV: FINDINGS EVIDENCING THE RISK OF BENCHMARK MANIPULATION

There is ample evidence that conflicts of interest together with the inappropriate use of discretion, ineffective governance and lack of transparency lead to the tangible risk of benchmark manipulation. For example, since June 2012 three large financial institutions such as Barclays, UBS and RBS have been found liable for attempted manipulation of LIBOR, EURIBOR and TIBOR by the UK and US financial authorities and agreed to pay fines approaching $ 3 billion in the settlements. According to various estimates, interest rate benchmark manipulation could cost the banking industry tens of billions of USD[181] as evidenced by the fact that contributing banks are leaving the EURIBOR (euro) setting panel because continued participation exposes them to reputational and regulatory risk, as well as large fines. (DG Competition of the European Commission among them) and by the on-going international work streams on benchmarks rates reform. See Annex III: Int. Work Streams on Benchmark Rates Reform.

The main reasons for the attempted manipulation of these rates by contributing banks were: either to avoid signalling to financial markets concerns about their credit risk or profiting for potential gains on derivatives trading. The high potential costs for the banking industry are in proportion to the large potential impact on investors and consumers of market manipulation. The impact could be very large, even if the rates were manipulated by just 1 basis point during a short period of time. The Federal Reserve Bank of New York (FED) already identified the potential manipulation of LIBOR in 2007[182] and Mr Tim Geithner, then head of the New York Fed, sent a note to Sir Mervyn King, the Governor of the Bank of England, warning him about the risk of "deliberate misreporting" of LIBOR in May 2008 and sharing its proposals for reform with the British Banking Authorities[183].

The Commission has also recently undertaken an investigation into a possible cartel in relation to the potential submission of distorted prices by contributors to some of Platts oil and biofuels products assessed prices in order to manipulate those[184].

More recently, The Wheatley Review of LIBOR has identified 'weaknesses in governance arrangements for the compilation process, and within contributing banks themselves'. It also states that the current LIBOR administration process leaves opportunity for contributors to attempt to manipulate submissions in line with the incentives for manipulation that are present and the increasing reliance on judgement. These findings led to the recommendation that: 'The BBA should transfer responsibility for LIBOR to a new administrator, who will be responsible for compiling and distributing the rate, as well as providing credible internal governance and oversight'. On 9 July 2013 the Hogg Tendering Advisory Committee for LIBOR announced that the British Bankers' Association (BBA) had accepted its recommendation that NYSE Euronext Rate Administration Limited should be the new LIBOR administrator. The BBA is currently working with the new administrator to effect the orderly and timely transfer of the administration of LIBOR, which is expected to be complete

[181] Please see estimates in Economist's report: http://www.economist.com/node/21558281

[182] FED's response to a Congressional Request for Information on Barclays - LIBOR Matter can be found on: http://www.newyorkfed.org/newsevents/news/markets/2012/Barclays_LIBOR_Matter.html

[183] Mr Geithner's email s to Sir Mervyn King with recommendations to enhance LIBOR governance can be found on:http://www.newyorkfed.org/newsevents/news/markets/2012/Libor/June_1_2008_LIBOR_recommendations.pdf

[184] http://europa.eu/rapid/press-release_MEMO-13-435_en.htm

by early 2014. (Please see annex V: Key recommendations of the Wheatley review of LIBOR).

There exists evidence of shortcomings in the governance and oversight of the production and use of different categories of benchmarks. For example, most commodities price assessments share some characteristics with interest rate benchmarks setting, such as being based on surveys of a limited number of voluntary contributors (as well as actual transaction data in some cases) and discretion being applied in the their assessment. The Commission is currently investigating a possible cartel in relation to the alleged submission of distorted prices by contributors to some of Platts oil and biofuels products published prices in order to manipulate those[185].

IOSCO, at the request of G20, published in October 2012 its final report on 'Principles for Oil Reporting Agencies', addressing 'preliminary areas of potential concern' identified on its consultation on this topic , mainly on governance issues such as: internal quality control procedures; conflict of interest and transparency policies; formal documentation and retention policies; audit trails; complaints processes; etc. (See Annex VI: IOSCO's Principles for Oil Price Reporting Agencies).

Furthermore, on its report IOSCO acknowledges that the status quo 'creates the opportunity to manipulate the commodity market' and warns that the potential for misconduct in the oil market 'is not mere conjecture'. The report provides examples of several cases of attempted manipulation of benchmarks in the physical commodity market. One example concerns Marathon Petroleum, the US-based oil company, which settled charges of attempting to manipulate the Platts' assessment of the West Texas Intermediate crude oil price, paying $1m to the CFTC in 2007. According to the same report, on the physical gas market, the US-based pipeline company Energy Transfer Partners, also paid $10m to the CFTC to settle allegations of attempted manipulation of the physical natural gas market.

The potential for manipulation of energy price assessments by PRAs on the gas market has also been highlighted by Total Oil Trading SA, one of the world's largest oil trading groups, in its response to IOSCO's Consultation Paper on the Functioning and Oversight of Oil Price Reporting Agencies in August 2012. TOTAL warns of 'inaccurate pricing' in the benchmarks for the oil market that underpin billions of dollars of trading each day[186]. It states that *'the use of judgement may bias prices away rather than toward the market*'.

Furthermore, the Office of Fair Trading (OFT) published a report in January 2013 in which it states that: *the OFT is aware of concerns that this system of oil and wholesale road fuel price reporting involves methodologies and processes that make manipulation and distortion of reported prices possible. Pump prices could be influenced by the level of these reported prices, because most supply contracts between wholesalers and retailers in the UK are based on Platts reported prices for wholesale petrol and diesel. Therefore, any distortion or manipulation of these reported prices could directly influence pump prices.*[187].

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[185] EC press release on the investigations: http://europa.eu/rapid/press-release_MEMO-13-435_en.htm

[186] Please see TOTAL Oil Trading response to IOSCO's Consultation on Oil Price Reporting: http://www.iosco.org/library/pubdocs/pdf/IOSCOPD391.pdf

[187] Please see report published by the OFT: http://www.oft.gov.uk/OFTwork/markets-work/othermarketswork/road-fuel-CFI/

With regard to the gas market, press reports in the UK state that the Financial Conduct Authority (FCA) and Ofgen are investigating claims by an employee of a PRA that the price assessment for the day ahead price of the gas wholesale market may has been manipulated by some of the big power companies[188]. According to these press reports, the concerned PRA's management also reported to the energy regulator that it had seen evidence of suspect trading on 28 September, a key date as it marks the end of the gas financial year and can have an important influence on future prices. Press reports have highlighted that traders contributing price data in the gas market have exploited weaknesses similar to those of LIBOR, as assessments are based on surveys of submissions which are not always verifiable from a limited number of voluntary contributors, among which Chinese walls do not work in practice (the market being largely opaque and OTC).

Regarding equity and bond markets benchmarks, they are generally produced in mechanical ways which are considered to offer low risk of manipulation. However, they share some characteristics with interest rate and commodities benchmarks which may create incentives for manipulation, such as being used to reference financial contracts of enormous value and in some cases existing conflicts of interests (i.e. proprietary indices being produced by companies managing portfolios whose returns are referenced to those indices). The opportunity for manipulation may also exist as even based on transactions, discretion is still exercised at some stages of their production (i.e. discretion may be used when deciding which companies' shares or bonds enter or leave an equity or bond index or applying float adjustment methodology to equity indices).

[188] *Please see press reports from 13/11/12 on the Guardian and Bloomberg websites:*
http://www.bloomberg.com/news/2012-11-13/uk-regulators-probing-price-fixing-in-natural-gas-market.html
http://www.guardian.co.uk/business/2012/nov/12/Libor-like-manipulation-gas-markets

ANNEX V: KEY RECOMMENDATIONS OF THE WHEATLEY REVIEW

LIBOR reform

- The Wheatley Review proposes a comprehensive reform of LIBOR, but not to replace it, due to the legal uncertainty and risk of litigation associated with wholesale replacement.

Regulation of LIBOR

- The authorities should introduce statutory regulation of administration of, and submission to, LIBOR, including an Approved Persons regime, to provide the assurance of credible independent supervision, oversight and enforcement, both civil and criminal.

Institutional reform

- The BBA should transfer responsibility for LIBOR to a new administrator, who will be responsible for compiling and distributing the rate, as well as providing credible internal governance and oversight.

- The new administrator should fulfil specific obligations as part of its governance and oversight of the rate, having due regard to transparency and fair and non-discriminatory access to the benchmark.

The rules governing LIBOR

- Submitting banks should immediately look to comply with the submission guidelines presented in the Wheatley Review report, making explicit and clear use of transaction data to corroborate their submissions.

- The new administrator should, as a priority, introduce a code of conduct for submitters that should clearly define:

  - guidelines for the explicit use of transaction data to determine submissions;

  - systems and controls for submitting firms;

  - transaction record keeping responsibilities for submitting banks; and

  - a requirement for regular external audit of submitting firms.

Immediate improvements to LIBOR

- The BBA should cease the compilation and publication of LIBOR for those currencies and tenors for which there is insufficient trade data to corroborate submissions, immediately engaging in consultation with users and submitters to plan and implement a phased removal of these rates.

- The BBA should publish individual LIBOR submissions after 3 months to reduce the potential for submitters to attempt manipulation, and to reduce any potential interpretation of submissions as a signal of creditworthiness.

- Banks, including those not currently submitting to LIBOR, should be encouraged to participate as widely as possible in the LIBOR compilation process, including, if necessary, through new powers of regulatory compulsion.

- Market participants using LIBOR should be encouraged to consider and evaluate their use of LIBOR, including the a consideration of whether LIBOR is the most appropriate benchmark for the transactions that they undertake, and whether standard contracts contain adequate contingency provisions covering the event of LIBOR not being produced.

International co-ordination

- The UK authorities should work closely with the European and international community and contribute fully to the debate on the long-term future of LIBOR and other global benchmarks, establishing and promoting clear principles for effective global benchmarks.

ANNEX VI: IOSCO'S PRINCIPLES FOR OIL PRICE REPORTING AGENCIES

The Board of the International Organization of Securities Commissions published on 5th October its final report on Principles for Oil Price Reporting Agencies (PRAs), which sets out principles intended to enhance the reliability of oil price assessments that are referenced in derivative contracts subject to regulation by IOSCO members.

These principles were prepared in response to the G20 Leaders' request in November 2011 that "IOSCO, in collaboration with the IEF, the IEA and OPEC, to prepare recommendations to improve their functioning and oversight to our Finance Ministers by mid-2012" and followed by the G20 Leaders' Los Cabos Declaration.

This report builds upon issues that were identified in Oil Price Reporting Agencies, the joint report of the International Energy Forum (IEF), International Energy Agency (IEA), Organization of Petroleum Exporting Countries (OPEC) and IOSCO, published in October 2011. It also has been informed by the comments received in response to IOSCO's March 2012 Consultation Paper Functioning and Oversight of Oil Price Reporting Agencies, as well as discussions and comment by the international organizations at key points.

The PRA principles detail a set of recommended practices for PRAs aimed at promoting the quality and integrity of oil price assessments that will enhance the reliability of oil derivatives contracts that reference such assessments. This in turn will enhance the price discovery and risk management function of the oil derivatives markets and help minimize the susceptibility of contracts to manipulation or price distortion.

Significant measures under the principles will expect PRAs to:

• Ensure that their methodologies provide sufficient information to explain how assessments are produced, including how changes to a methodology will be communicated to stakeholders;

• Give priority to concluded transactions and, if not, to explain the reasons;

• Adopt robust internal quality control procedures applicable to the submission and evaluation of market data used in an assessment;

• Adopt robust conflict of interest policies aimed at reducing the possibility of any undue influence in the assessment process;

• Institute documentation and retention policies (i.e., audit trail);

• Institute a formal complaints process, which includes recourse to an independent third party; and

• Commit to make available to market authorities audit trails and other related documentation intended to facilitate determination of the reliability of assessments or to investigate and prosecute illegal conduct affecting a derivatives market.

Although the PRA principles were developed in the context of oil derivatives markets, PRAs are encouraged to implement the principles more generally to assessments that are referenced by any commodity derivatives contract, without regard to the nature of the underlying.

The principles recognize that there is no requirement on any physical market oil participant to submit transaction data to PRAs. Because data are submitted on a voluntary basis, IOSCO's approach has focused on creating incentives for PRAs to institute processes that IOSCO believes will enhance reliability of assessments that are indicators of the values in the physical oil underlying a derivatives contract.

IOSCO recommends that market authorities consider whether to prohibit trading in any commodity derivatives contract that references a PRA-assessed price unless that assessment follows the PRA principles.

IOSCO proposed, in collaboration with the IEA, IEF and OPEC, to evaluate the implementation of the PRA principles after 18 months. Should IOSCO and the IOs conclude that implementation has been ineffective, further recommendations could be developed. The report complements the separate work IOSCO is undertaking on the broader issue of benchmarks across securities and derivatives and other financial sectors.

ANNEX VII: BENCHMARKS INDUSTRY AND SIZE OF FINANCIAL MARKETS IMPACTED

Benchmarks industry

It is complex to estimate the industry market size due to the fact that whilst indices revenue is relatively small compared to other financial industry revenues (i.e. financial benchmarks revenues represent only about 7% on average of their administrators revenues[189]) they reference and impact financial instruments of great value. Furthermore, some types of benchmarks are provided for free so there are scarce revenues generated by their production industry revenue and employees are not valid indicators to estimate their relevance. In addition, there is not index industry research or public aggregated data available on the size or value of the index industry and only listed or large benchmark administrators report this data. **According to estimates based on available data, the total industry revenue for financial benchmarks (including equities, fixed income, credit and other indices) would be around EUR 1.7bln[190].** Regarding the size of the commodity benchmarks market, the annual aggregated revenue for the three main commodity Price Reporting Agencies (Platts, Argus and ICIS, known as PRAs) would be of approximately EUR 538 M[191]. This would bring the combined revenue for these two revenue generating categories of benchmarks to over EUR 2 billion.

Regarding the number of jobs generated by the index industry, some indices are relatively low labour intensive to produce, particularly transaction based ones whose calculation is normally automated (i.e. the EBF responsible for the administration of EURIBOR and EONIA only has 5 employees and according to EBF the Reuters 'the fixings team' responsible for the calculation and publication of EURIBOR and probably other similar indices such as LIBOR, consist of approximately 5 employees). However, others, such as price assessment by PRA's are more labour intensive. For example, the 3 main PRAS (Platts, Argus and ICIS) have a combined staff of approximately 1600[192] employees worldwide and most of them work directly in commodity price assessment which is their main activity. It's not possible to assess the total number of employees for the industry as most companies do not disclose information on the number of employees working on their index business line.

The main sources of revenue for the benchmark industry are licenses and data provision[193] and their proportion depends on the different types of benchmarks. However, benchmark administrator's heterogeneity means that whilst some administrators motivation is revenue generation, many produce them for other reasons, such as: for commercial and marketing purposes (e.g. Barclays providing bond indices as an incentive for investors to trade with their desk); as added value to other principal products (e.g. indexes provided as complements to financial data Bloomberg of Reuters terminals); to issue financial products referenced to them or reference investment performance (e.g. proprietary indices used by investment funds) or to meet an industry demand for free (e.g. EURIBOR is provided free of charge by EBF).

[189] Source Bloomberg and EC calculations. Please see note number 2 for more information

[190] Source Bloomberg: EC estimates of the size of financial indices industry based on reported revenues for this business line by index producers on their latest annual financial reports, including: NYSE, NASDAQ, LSE(FTSE), the CME Group, the ICE, (Dow-Jones Indices), S&P, MSCI, Markit, Reuters and Bloomberg.

[191] Source: Bloomberg and latest annual financial reports published by the companies on their websites.

[192] Latest annual financial reports published by the companies on their websites.

[193] Mainly historical or real time data on index values, constituent's data and 'corporate actions' tracking

As a consequence, revenue or number of employees may not be representative of the total dimension and importance of the benchmark industry. The impact of this industry on financial markets (estimated via the value of financial instruments priced by reference to benchmarks) may provide a better picture of the relevance of this industry.

Size of financial markets impacted by benchmarks

The size of the market for financial instruments and contracts potentially impacted by the benchmark industry is enormous. This is due to the high value of financial instruments and retail financial contracts which returns and payments are priced by reference to benchmarks.

Furthermore, the market values of financial instruments and retail financial contracts priced by reference to benchmarks in different categories (interest rate, commodity, equity, fixed income and other) are diverse and whilst for some instruments there is hard data available (i.e. exchange traded financial instruments) for others there are only limited data or estimates available (OTC derivatives). Finally for non-strictly financial contracts (such as actuarial contracts referenced by life expectancy benchmarks or weather derivatives) there is not public aggregated data available.

Due to the limitations exposed above, the impact of the benchmark industry on financial markets and retail financial contracts will be estimated for each of the different categories of benchmarks, always taking into consideration that the final number will be an indicative figure based on the available data.

Interest rate benchmarks

- According to estimates from ESMA[194], the estimated value of financial contracts referenced to **interest rate benchmarks** would be approximately **USD 915 to 1015 trillion**. Of this total, **USD 500 to 600 trillion** would be referenced to unsecured interest rate benchmarks (mostly LIBOR and EURIBOR). The value of financial contracts referenced by **interest rate swaps (IRS)** would be **UDS 402 trillion** (notional amount), for **collateralised interbank lending (REPO) would be USD 13 trillion** (for US, JP and EU) and for **overnight interbank lending** it would be **USD 42 billion.**

Commodity benchmarks

These benchmarks can be distinguished between commodity price indices set by diverse commodity exchanges (such as CME or LIFFE) and commodity price indices set by PRAs. The latter refer mainly to the spot price of the commodities in the physical markets, but often serve as basis to reference financial contracts. In addition, financial data providers or investment firms (such as S&P or Thomson Reuters), publish aggregated indices used to track commodity baskets mainly by Commodity Mutual Funds (CMFs) and other commodity tracking funds (ETFs or ETPs). Most commodity derivatives contracts, either exchange

[194] ESMA consultation paper on Draft Consultation Paper Principles for Benchmarks-Setting Processes in Europe (to be published in January)

traded or OTC, will be referenced by benchmarks in one of categories above mentioned. **Thus, the commodities financial market value impacted by the benchmark industry would approximately match the total notional value, which for 2010 accounted to USD 3663 billion (EUR 2517 billion approx.[195])**

Table 2: Estimated global commodities financial market size USD Billions - December 2010		
Commodities Financial market size	**Notional Value**	**Gross Market Value**
Total	**3,663.00**	**NA**
Exchange traded Commodities	811.00	NA
OTC Commodities	2,852.00	526.00
*Source: Annex I. Non Paper 18.05.2011- Document Prepared by the Commodities Task Force on the Relationship between Price Formation in the Commodity and Commodity Derivatives Markets		
*Estimates should be treated as indicative and non comprehensive		

Furthermore, as mentioned in the main text, commodity price assessments are originally designed to reference prices in commodities physical markets and contracts. Thus, the prices of a large percentage of global commodities production directly depend on these price assessments. As presented in the table below, **the total annual production of commodities amounted to USD 5,080bn in 2009/10.**

Table 2b: Physical and Financial Market Size of Major Commodities				
2009/10, US$ billion	**Physical market(a)**		**Financial market (exchange traded)**	
(end period)	**Annual production**	**Annual exports**	**Annual turnover**	**Open interest(b)**
Oil(c)	2,395	206(e)	22,843	193
Natural gas(d)	584	67	2,084	29
Coal(e)	844	124	24	4
Copper(e)	143(f)	44(d)	10,891	81
Iron ore	222	117	na	na
Gold(e)	104	na	6,249	76
Corn	130	16	1,093	20
Wheat	143	28	602	14
Soybeans	199	68	4,775	41
Rice	235	16	35	1
Sugar	81	27	4,425	27

[195] Source: Table 2. Non Paper 18.05.2011- Document Prepared by the Commodities Task Force on the Relationship between Price Formation in the Commodity and Commodity Derivatives Markets.

TOTAL	**5,080**	**713**	**53,021**	**486**

(a) RBA estimates based on volumes and indicative world prices

(b) Average of open interest outstanding at the end of each month

(c) Export and inventory figures for OECD economies

(d) Physical market data are for 2009 calendar year

(e) Physical market data are for 2010 calendar year

(f) This figure is for new production only and does not include scrap metal supply

Sources: RBA estimates; ABARES; Bloomberg; CFTC; IEA; RBA; USDA

Equity, fixed income and other securities indices:

Most of these indices are originally created to track investment performance, but they are mirrored by investment funds for pricing returns on investments, being used as benchmarks in the secondary markets. There is not enough data available to estimate the value of financial contracts priced by reference to equity and fixed income indices, but aggregating the value of net assets for mutual funds (MTFs) and exchange traded funds (ETFs) tracking equity and fixed income indices, approximately **USD 1879 billion would track equity indices and USD 399 Billion would track fixed income indices**[196]. Thus, the potential value of financial instruments value impacted by these benchmarks would be of approximately USD 2300 bn.

Table 3. Estimated value of financial contracts priced by reference to equity and fixed income indices				
USB Billions, December 2010	**Market capitalization**	**ETF**	**Index MTF**	**Total ETF + MTF**
Equity	47,089	1,054	825	**1,879**
Fixed Income	49,500	207	192	**399**
*Sorce: Frontier Economics, Blackrock and ICI				
*Estimates should be treated as indicative and non comprehensive				

Credit Indices: These indices such as credit default swap (CDS) indices and SovX which provide a measure of sovereign credit risk, are used to reference mainly index linked (CDS) derivatives. The notional value of outstanding OTC index CDS derivatives in December 2011 was of approximately USD 10.5 trillion according to BIS data and most of these instruments would be priced by referenced to credit indices[197].

Other benchmarks: statistical, actuarial, real estate, sentiment, weather, etc.

[196] Source: Table 3. Frontier Economics, Blackrock and ICI data: http://www.ici.org/pdf/2012_factbook.pdf,

[197] Source: BIS table 19. Amounts outstanding of OTC derivatives by risk category and instrument. December 2011: http://www.bis.org/statistics/otcder/dt1920a.pdf

Whilst in most cases these other benchmarks were not designed to serve as reference prices, some are currently being used for this purpose in diverse commercial or financial contracts. As these are mostly private contracts or over-the-counter instruments, no aggregated data exists on their values. In consequence, it is not possible to calculate the market value of contracts referenced by this category of benchmarks.

ANNEX VIII: MAGNITUDE OF THE PROBLEM OF BENCHMARKS MANIPULATION

So far, the main proved cases of benchmark manipulation for which those responsible have admitted the misconduct and settled charges relate to interest rate (LIBOR and EURIBOR) and commodity (oil and gas) price assessments in the US[198]. As these benchmarks are used to price financial instruments and commercial contracts of great value, their manipulation may have had an important impact on investors, industry and consumers.

Interest rate benchmarks

In June 2012 Barclays agreed to USD 453 million in the settlement imposed by US and UK financial authorities for attempted manipulation of LIBOR and EURIBOR rates. However, more than a dozen banks are being investigated for LIBOR rate fixing by 13 regulators on three continents, including authorities in the European Union (DG Competition), Japan, Singapore, and Canada[199]. According to estimates interest rate benchmark manipulation could cost the banking industry between 20 billion to 40 billion USD[200].

The high potential costs for the banking industry are related to the large potential impact on investors and consumers of market manipulation[201]). This could be very large, even if the rates were manipulated by just 1 basis point during a short period of time[202]. It is not possible to accurately estimate the size of the problem of manipulated interest rate benchmarks at the moment, as there is no evidence yet of how many banks have been involved in the attempted manipulation, as well as the time frame of manipulation and value of contracts linked to it. Furthermore, as rates were allegedly manipulated both upwards and downwards, it is difficult to identify the overall positive or negative effect on different sides affected. Besides, as financial contracts referred to LIBOR and EURIBOR rates have different maturity, settlement and rate re-settlement dates, different contracts would have been affected by rate manipulation on different dates. However, by looking at published analysis and estimates of the impact of Barclays' attempted manipulation, it is possible to get a better understanding of the large potential impact of manipulation on investors and consumers.

It appears that the main motivations behind the attempts to manipulate interest rate benchmarks such as LIBOR and EURIBOR are either to avoid signalling to markets credit issues of financial institutions (by contributing unsecured interbank lending rates lower than the actual ones during financial stress periods) or to profit from trades on derivatives referenced to these benchmarks (by manipulating the reference rates prior to settlement).

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[198] There also settled cases of benchmarks attempted manipulation in the oil sector in the US (Marathon Petroleum in 2007) and in the gas sector (Energy Transfer Partners).

[199] http://www.ft.com/intl/cms/s/0/aa28764c-1f85-11e2-b273-00144feabdc0.html#axzz2CAwIoFNF

[200] http://www.reuters.com/article/2012/07/20/us-banking-Libor-settlment-idUSBRE86J00H20120720

[201] As specified in section 2 of this IA, LIBOR and EURIBOR reference returns and payments for enormous volumes of derivative contracts, commercial and personal consumer loans, home mortgages and other transactions (up to USD 800 trillion financial instruments are priced by reference to LIBOR and up to USD 570 trillion to EURIBOR

[202] For example, if one or more banks would have managed to move the 3-month Libor fix by 1 basis point (a basis point is 0.01 percentage point) on a specific date with derivative contracts worth EUR 10 trillion referenced to it, the total impact on the value of these contracts would be: EUR 10,000,000,000,000 x 0.0001 x 0.25 duration = EUR 250,000,000.

According to the CFTC Barclays settlement on LIBOR[203], Barclays attempted to manipulate LIBOR and EURIBOR rates for both of these reasons during a period ranging from 2005 until early 2009. Furthermore, as stated in the Barclays settlement (art. 81 and 82) Barclays also attempted to coordinate LIBOR and EURIBOR manipulation with other banks.[204].In addition, according to Andrew Verstein[205]: "At least 75 percent of the panel banks may unilaterally affect the average by moving the quote in their preferred direction".[206]

Regarding the potential impact of the alleged manipulation LIBOR and EURIBOR on consumers, it is not possible to fully estimate today the overall impact as, apart from the above mentioned limitations, there is no aggregated data available on the total value of loans and mortgages referenced to LIBOR and EURIBOR. Regarding the impact on UK consumers, one report estimates that 2% UK residential mortgages, about 250,000, taken mainly by buy-to-let borrowers and sub-prime borrowers, would have been referenced to LIBOR. Investors in residential mortgage backed securities, a form of bond that pays interest linked to LIBOR, may have received lower payments if the rates were manipulated, but this depends on the overall upwards or downward effect of manipulation.[207]

Regarding the impact on non-British European citizens, according to the ECB response[208] to the European Commission Consultation on a Possible Framework for the Regulation of Reference Indices[209], 'almost 60%, on average, of the total loans to the non-financial sector in the euro area at the end of March 2012 were based on floating rate,(approx. EUR 3tn). While the available statistics do not provide details about which benchmark rates are used, in terms of reference or maturity EURIBOR is known to be the most widely used reference rate. Although lower (but also growing over time), the percentage of loans to households based on floating rates reached 40% in the same period' (approx. EUR 3tn). Variable rate mortgages would represent an important part of the variable rate loans to households and most of them would be referred to EURIBOR.[210]

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[203] http://www.cftc.gov/PressRoom/PressReleases/pr6289-12: The CFTC Order finds that Barclays attempted to manipulate and made false reports concerning two global benchmark interest rates, LIBOR and EURIBOR, on numerous occasions and sometimes on a daily basis over a four-year period, commencing as early as 2005':. The CFTC Barclays Order "also finds that throughout the global financial crisis in late August 2007 through early 2009, as a result of instructions from Barclays' senior management, the Bank routinely made artificially low LIBOR submissions to protect Barclays' reputation from negative market and media perceptions concerning Barclays' financial condition. Dishonest U.S. Dollar LIBOR submissions occurred on a regular basis during the global financial crisis from August 2007 through early 2009, and, at limited times, for Yen and Sterling LIBOR during the same period"

[204] http://www.fsa.gov.uk/static/pubs/final/barclays-jun12.pdf: Barclays' Derivatives Traders attempted to influence the EURIBOR (and to a much lesser extent, US dollar LIBOR) submissions of other banks by making requests to external traders. One of the Derivatives Traders also embarked on co-ordinated strategies to align Barclays' positions with traders at other banks and to influence the EURIBOR rates published by the EBF". On the other side, "Derivatives Traders also made internal requests for EURIBOR and US Dollar LIBOR submissions based on the trading positions of traders at other banks who had asked them to pass requests on to Barclays' Submitters"

[205] Yale Law School Center for the Study of Corporate Law, see Verstein's benchmarks academic review in: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2025124

[206] http://www.bloomberg.com/news/2012-07-16/Libor-flaws-allowed-banks-to-rig-rates-without-conspiracy.html

[207] http://www.ft.com/intl/cms/s/0/3cf4e5c4-c143-11e1-8eca-00144feabdc0.html#axzz2EBnrGFJY

[208] http://www.ecb.europa.eu/pub/pubbydate/2012/html/index.en.html?skey=public

[209] http://ec.europa.eu/internal_market/consultations/2012/benchmarks_en.htm

[210] According to the Housing Finance in the Euro Area report by the ECB, (March 2009, table 2, chart 7), 43% of new mortgage loans in the Euro area in 2007 were referenced to variable interest rates. The report states that

Finally, the impact of LIBOR manipulation may have been high for US consumers, as there are at least 900,000 outstanding US home loans indexed to LIBOR that were originated from 2005 to 2009, representing about 3% of mortgages originated in the US from 2005 to 2009; these mortgages carry an unpaid principal balance of $275bn, according to the Office of the Comptroller of the Currency.[211]

The overall effect of manipulation on retail financial contracts and consumer loans above mentioned would depend on whether the rate was manipulated upwards or downwards on the specific payment settlement days for these instruments. However, considering the large impact this rates have on consumers, they should not be susceptible to manipulation.

Commodity benchmarks

Total Oil Trading SA warned IOSCO of 'inaccurate pricing' in the benchmarks for the oil market[212] in August 2012[213], and alleged attempts to manipulate gas price assessments reported by one PRA analyst have been widely covered by the international media in November 2012. There also settled cases of attempted manipulation of benchmarks in the oil sector in the US (Marathon Petroleum in 2007) and in the gas sector (Energy Transfer Partners)[214]. There is no official data on the overall impact of these cases of attempted manipulation from past and of the on-going investigations. However, considering that commodity price assessments by PRAs underpin an enormous value of physical contracts (physical market annual productions of USD 2,395bln for oil and USD 584bln for gas in 2009/10[215]) and financial derivative instruments (notional value of approx. USD 3650bln in 2010[216]) the potential impact of commodity benchmarks manipulation could be very large.

Finally, there are currently no recent reports of cases of equity or fixed income index manipulation, but some responses to the public consultation on the regulation of indices point to potential conflicts of interest, particularly in proprietary indices[217]. Considering the great value of assets linked to equity, fixed income and credit benchmarks, (mainly ETFs and

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in the eleven Euro area countries where variable rates dominate (all except Belgium, Germany, France and the Netherlands), 'predominantly the EURIBOR with the corresponding maturity is used for adjusting the interest rates': http://www.ecb.int/pub/pdf/scpops/ecbocp101.pdf

[211] http://www.ft.com/intl/cms/s/0/1b2d25aa-cb66-11e1-911e-00144feabdc0.html#axzz2DGR6PM16

[212] However, according to the FT, IOSCO backed away from its initial tough proposals for regulation of the benchmarks in the physical energy market due to concerns that in case it would have carried on with its regulatory ideas, they would have resulted in 'some market participants to decrease or even to cease their submission of data' to PRAs, making energy price assessments more opaque than they currently are: http://www.ft.com/intl/cms/s/0/3c859a3c-1163-11e2-a637-00144feabdc0.html#axzz2BqGPqAgd

[213] http://www.iosco.org/library/pubdocs/pdf/IOSCOPD391.pdf

[214] Please see section 4.1. “Lack of Governance and Supervision".

[215] Source: http://www.rba.gov.au/publications/bulletin/2011/jun/7.html

[216] Please see section “Size of benchmarks market. Potential impact on financial markets”

[217] ESRB response to public consultation, on the regulation of indices page 3, paragraph 1: "The imperative of reform should also apply more generally to other indices used as references or benchmarks in financial contracts or financial instruments: those which are compiled from submissions such as some CDS and repo indices; those which are computed from actual transactions such as commodity price indices and asset price indices; and proprietary benchmarks, particularly those which are tailored to define payoffs from structured retail products, and which might entail conflicts of interest".
http://ec.europa.eu/internal_market/consultations/docs/2012/benchmarks/consultation-document_en.pdf

MTFs assets worth approximately USD 1880bln[218] for equities and 400bln for bonds) the impact of any potential manipulation could also be important.

[218] Please see table 3 of section "Size of benchmarks market. Potential impact on financial markets"

ANNEX IX: WHAT ARE BENCHMARKS? DEFINITION, MAIN TYPES, COMMON CHARACTERISTICS

An index is a statistical measure, typically of a price or quantity, calculated from a 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 administrators.

Main entities in the benchmark production process (figure 1)

- **Benchmark contributor:** the person contributing to benchmark data submissions which are used for the calculation of the benchmark. They are often market participants in the relevant instrument. Examples include regulated firms such as banks or brokers, and unregulated such as oil traders and energy traders or exchanges. They may exercise discretion depending on whether their contributions are objective data based on transactions or subjective estimates or in terms of what data to submit.
- **Benchmark administrator:** the person responsible for the administration, calculation and publication of the benchmark. It may outsource the calculation or publication. It may exercise discretion when, for example, deciding which contributors should submit underlying data and when calculating of the benchmark.
- **Benchmark user:** a person that uses a benchmark for example in a financial instrument, contract or transaction.

Types of benchmarks

A variety of underlying assets or prices may be used to determine benchmarks.[219] These include[220]:

- **Interest rate benchmarks**: based on bank borrowing rates (such as LIBOR[221]and EURIBOR[222]) or interest rate swaps (IRS) such as Overnight Index Swaps (OIS) or overnight interbank lending (EONIA).
- **Commodity prices assessments:** which use commodity prices as their underlying data (such as Gold COMEX or Brent oil ICE)
- **Equity, fixed income and other securities indices:** they use equities, bonds or other securities as their base (such as FTSE 100 index or NASDAQ OMX)
- **Credit indices:** which provide a measure of sovereign credit risk (such as CDS indices and SovX)
- **Other indices:** includes statistical, actuarial, real estate, sentiment, freight, etc.

Benchmark administrators

Benchmarks are provided by a wide variety of administrators[223] which include:

- **Public entities:** such as the National Bank of Spain which provides MIBOR
- **Trade organizations:** such as the BBA and EBF which provide LIBOR and EURIBOR
- **Exchanges:** such as LSE which provides FTSE 100
- **Price reporting agencies**: such as Argus, Platts and ICIS Heren which publish price assessments for oil, gas and many other commodities
- **Other commercial organizations and independent administrators**: such investment firms providing proprietary indices to their clients

Types of Index

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

[219] Please see annex IX for more details on benchmark types, administrators and calculation methodology

[220] Please see annex XX for an overview of the wide range and variety of indices and price assessments used as benchmarks.

[221] LIBOR (London InterBank Offered Rate) is defined as "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". It is administered by the British Bankers Association and calculated by Thompson Reuters: http://www.bbaLibor.com/bbaLibor-explained/definitions

[222] EURIBOR (European Interbank Offered Rate), is the rate at which Euro interbank term deposits are offered by one prime bank to another prime bank within the EMU zone, and is published at 11:00 a.m. (CET) for spot value (T+2).It is administered by the European Banking Federation (EBF) and calculated by Thompson Reuters: http://www.Euribor-ebf.eu/Euribor-org/about-Euribor.html

[223] Please see Annex VII for more detail on benchmarks industry size and markets impacted

a) **Interbank interest rates**: In addition to LIBOR[224], EURIBOR[225], etc. which are based on banks estimates of unsecured borrowing rates, there are a whole range of similar indices such as Eurepo[226], which uses as its base repo rates, Euroswaps, which uses Swap rates and EONIA[227] which uses actual overnight transaction rates as its base.

b) **Commodity prices assessments:** 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.

c) **Equity, fixed income and other securities indices:** 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. Some of these indices measure not the average but the variance or another moment of the underlying data; for example the VIX, which measures the implied volatility of S&P 500 index options.

d) **Credit indices:** There are other financial indices such as CDS indices and SovX which provide a measure of sovereign credit risk.

e) **Other indices:** This category of benchmarks is highly heterogeneous and non-comprehensive (statistical, actuarial, real estate, sentiment, weather, freight, etc.) which are mostly publicly available figures. In many cases they are produced by public bodies such as statistics institutes based on reliable data and statistical procedures

Producers of Indices

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

a) **Public entities,** such as the European Central Bank (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

[224] LIBOR (London InterBank Offered Rate) is defined as "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". It is administered by the British Bankers Association and calculated by Thompson Reuters: http://www.bbaLibor.com/bbaLibor-explained/definitions

[225] EURIBOR (European Interbank Offered Rate), is the rate at which Euro interbank term deposits are offered by one prime bank to another prime bank within the EMU zone, and is published at 11:00 a.m. (CET) for spot value (T+2).It is administered by the European Banking Federation (EBF) and calculated by Thompson Reuters: http://www.Euribor-ebf.eu/Euribor-org/about-Euribor.html

[226] EUREPO is the rate at which, at 11.00 a.m. Brussels time, one bank offers, in the euro-zone and worldwide, funds in euro to another bank if in exchange the former receives from the latter the best collateral within the most actively traded European repo market. http://www.Euribor-ebf.eu/eurepo-org/about-eurepo.html

[227] EONIA® (Euro OverNight Index Average) is the effective overnight reference rate for the euro. It is computed as a weighted average of all overnight unsecured lending transactions undertaken in the interbank market, initiated within the euro area by the contributing banks; http://www.Euribor-ebf.eu/Euribor-eonia-org/about-eonia.html

indices or National Central Banks of euro and non-euro countries calculating benchmark indices (MIBOR is provided monthly by the Bank of Spain).

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

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

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

e) **Other commercial organisations** such as independent financial data 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.

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.[228] The choice of methodology depends, amongst other things, on what is practicable, what the index is designed to measure, what it is used for as well as precedent.

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"[229]. This rate is a subjective estimate, but it may be verifiable to the

[228] LIBOR calculation methodology can be seen under BBA-LIBOR Calculation section in http://www.bbaLibor.com/bbaLibor-explained/the-basics: "Every bbaLibor rate produced by Thomson Reuters is calculated using a trimmed arithmetic mean. Once Thomson Reuters receive each submission they rank them in descending order and then exclude the highest and lowest 25% of submissions - this is the trimming process. The remaining contributions are then arithmetically averaged to create a bbaLibor quote. This is repeated for every currency and maturity, producing 150 rates every business day"

[229] BBA LIBOR definition: http://www.bbaLibor.com/bbaLibor-explained/definitions

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"[230]. 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[231].

Gathering of data & contributors

The underlying data may be collected in a variety of ways. In some cases all the data may be available because for instance it is mandatory to report all transactions to a particular entity[232].

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,[233] or alternatively they can survey the relevant markets – either actively by contacting participants or passively by relying on participants to report data to them[234]. In both cases the contributions are voluntary and the results may not be sufficient to provide an accurate representation of the underlying market. Finally, for some benchmarks, the role of the contributors is limited because the underlying data is freely available[235].

Calculation Methodology

A benchmark is calculated from this underlying data using a formula, typically an average or an assessment. 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.

Stock indices are one of the best known and most straightforward indices. The Dow Jones Industrial Average is calculated as a simple arithmetic average of the leading industrial stocks. 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 index is calculated using a complex model[236]. 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[237] appropriately adjusted. Some indices may normally be based

[230] EBF EURIBOR definition: http://www.Euribor-ebf.eu/Euribor-org/about-Euribor.html
[231] Source ECB glossary: http://www.ecb.europa.eu/home/glossary/html/act2e.en.html
[232] For example, all overnight secured 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
[233] 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
[234] This is the approach typically adopted by commodity price assessments administrators
[235] For example stock indices may gather the closing prices from publically reported data.
[236] http://www.cboe.com/micro/vix/vixwhite.pdf
[237] For example the transaction price for a comparable grade of oil.

on actual transaction data, but if this data is not available on a particular day the index may revert to an estimate based value[238].

Benchmarks may also incorporate non-quantitative information. For example, an oil benchmark administrator 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.

An index aims to provide an objective and consistent representation of the data over time. Typically the index is therefore calculated entirely using a formula. However in some cases, a choice is made that the best way to represent the underlying data through a purely subjective process ("an assessment"), which may use data and available information, but not in any systematic way or using any formula. This is in particular the case for a number of commodity benchmarks, for example the ICIS Heren oil price benchmarks[239].

[238] See Mibor

[239] See pg 3 Report by IEA, IEF, OPEC and IOSCO to G20 Finance Ministers, October 2011 http://www.iosco.org/library/pubdocs/pdf/IOSCOPD364.pdf

ANNEX X: COST BENEFIT ANALYSIS AND ADMINISTRATIVE BURDEN CALCULATION

In this annex the Commission services provide a cost-benefit analysis (CBA) of the preferred options package. The table below presents a summary of the main preferred options which would have an economic impact on benchmarks' administrators and contributors.

Operational Objectives	Preferred Option
1. Ensure effective oversight	*Under this option, administrators of and contributors to benchmarks under the scope would become regulated entities under the supervision of NCAs and ESMA for administrators of critical benchmarks(Critical benchmarks)which contributors are based on different Member States*
2. Ensure robust internal governance and controls address risk	*Requirement to implement adequate management systems and effective controls for both administrators of and contributors to benchmarks (including adequate management structures, well defined responsibilities, legally binding codes of conduct, internal and external audits, complaints and outsourcing procedures and due diligence of personnel)*
3. Limit incentives and opportunities for manipulation	*Requirement to manage and disclose conflicts of interest (including Chinese walls and reporting of conflicts of interest)*
4. Minimise discretion - ensure benchmarks are based on accurate & sufficient data	*Requirement to use underlying transaction data if sufficient and representative. Otherwise verifiable assessments ex-post checked whenever possible. Contributions could be mandated for critical benchmarks*
5. Enhance transparency and accountability and ensure the use of appropriate and robust benchmarks	*Providing transparency on the purpose, methodology, calculation processes and underlying data of different benchmarks and of keeping audit and supervisory trails. Assessment of suitability of benchmarks' use for retail contracts*

The costs and benefits discussed in this section will derive from our best estimates of the impact of the high level requirements of this initiative on benchmarks. These estimates will be based on the comparison with the current baseline scenario, under which benchmark provision is not a regulated activity.

The estimates presented below provide a very broad forecast of the potential cost and benefits for administrators and contributors. Although the Commission consulted widely on potential costs of regulation and supervision, very few responses to the public consultation provided quantitative information on this topic. Thus, estimates are based on a series of assumptions and on the extrapolation of estimates for the regulation of provision and contributions to LIBOR provided on the *FSA consultation paper on the regulation and supervision of benchmarks*[240], as well as the Commission's own estimates. However, as most benchmarks provided in the EU are not critical and already have controls and procedures in place, the costs of supervision for their administrators and contributors will be much lower. In consequence, estimates are highly conservative and wide ranges are provided in some cases, particularly regarding the potential costs of supervision.

Overview of the population of firms affected

The proposed initiative will directly impact administrators of and contributors to benchmarks. According to estimates on the administrative burden sections, the approximate number of benchmark administrators under scope in Europe is 500 and the approximate number of contributors to benchmarks under scope is also 500. The forecasts of costs and benefits presented below are based on these estimations.

[240] *FSA consultation paper on the regulation and supervision of benchmarks*[240]*, annex I:*http://www.fsa.gov.uk/static/pubs/cp/cp12-36.pdf

Estimated compliance costs for administrators of benchmarks

The estimated compliance costs for administrators of benchmarks reflect additional costs resulting from their obligations under the preferred options package and not their total costs relating to benchmark provision. They derive from the obligations on the table below:

Obligation	Requirement	One-time costs	Recurring costs (yearly)
1. Provision of benchmarks becoming a regulated activity	*Application for registration and compliance with registration conditions*	** Application for authorization* ***(€9.5 M)*** ** Application for controlled functions* ***(€9.5 M)*** **Upgrading governance procedures for compliance* ***(€10M)***	*Compliance monitoring* ***(€ 5 M)***
2. Transparency obligations on calculation and underlying data	*Publishing comprehensive information on benchmark calculation and underlying data*		*Included under administrative burden* ***(€ 2 M)***
3. Disclosure requirements on internal procedures, policies and conflicts of interest	*Adjusting disclosure systems, policies and procedures*	*Included under administrative burden* ***(€ 2 M)***	*Only one-off costs as it will be maintained and monitored by regular members of staff and compliance officer*
4. Systems and controls	*Upgrading systems and controls to comply and maintaining them*	*Record keeping device included in admin. burden* ***(€ 6 M)****and upgrading systems and controls* ***(€ 10 M)***	*Maintaining systems and controls* ***(€ 5 M)***
5. Issuing legally binding codes of conduct to be signed by contributors	*Drafting codes of conduct and publishing on website*	*Included in administrative burden,* ***(€ 1 M)***	*Only one-off costs as it will be maintained and monitored by regular members of staff and compliance officer*
6. Internal and external audits	*Cooperation with audits and record keeping*		*Internal audit performed by staff. External audit (****€ 5 M)***
7. Complains procedure	*Implementing and supporting the complains procedure*	*Included in administrative burden,* ***(€ 1 M)***	*Only one-off costs as it will be maintained and monitored by regular members of staff and compliance officer*

Estimated one-time compliance costs for administrators of benchmarks[241]

Requirement	Avg. cost/applic/ hour/ €	Number of aplic./ hours	Number of administrators in EU	Compliance costs/ million €	Overhead ~ 25%/ million	TOTAL recurring costs/ € million	Per administrator/ €
Application for authorization [242]	15,000[1]	1	500	7.5	2	**~ € 9.5 M**	**~ € 19,000**
Application for controlled functions	3,000[243]	5[244]	500[245]	7.5	2	**~ € 9.5 M**	**~ € 19,000**
Upgrading governance procedures	32.1	500 hrs.	500	8	2	**~ € 10 M**	**~ € 20,000**
Upgrading systems and controls	32.1	500 hrs.	500	8	2	**~ € 10 M**	**~ € 20,000**
One-off costs included under administrative burden						**~ € 10 M**	**~ € 20,000**
TOTAL						**~ € 49 M**	**~ € 98,000**
Source: Eurostat hourly wages, UK FSA data, Commission own calculations							

Estimated recurring compliance costs for administrators of benchmarks

Requirement	Avg. cost/ applic / hour/ €	Number of aplic./ hours	Number of administrators in EU	Compliance costs/ million €	Overhead ~ 25%/ million	TOTAL recurring costs/ € million	Per administrator / €
Compliance officer	32.1	250	500	4	1	**~ € 5 M**	**~ € 10,000**
Internal and	32.1	250	500	4	1	**~ € 5 M**	**~ € 10,000**

[241] The 25% overhead costs cover any potential costs related to compliance with this initiative which may not have been included in the Commission estimates, such as training of staff, office space and administrative expenses, IT and other equipment allocated to this task, etc.

[242] Based on application for authorisation costs estimated for LIBOR *FSA consultation paper on the regulation and supervision of benchmarks:* http://www.fsa.gov.uk/static/pubs/cp/cp12-36.pdf

[243] Based on controlled function application costs estimated for LIBOR *FSA consultation paper on the regulation and supervision of benchmarks*[243]*:* http://www.fsa.gov.uk/static/pubs/cp/cp12-36.pdf

[244] This is based on the assumption that each administrator would need to apply for controlled functions for: director, CEO, compliance officer and two analysts.

[245] This is an approximate number based on the list of administrators envisaged to be under the scope of a potential initiative which includes EU: stock Exchanges (approx. 50); interest rate benchmark administrators (approx. 30), PRAs (approx. 10), market data and intelligence administrators (approx. 60) and; financial institutions (approx. 200) and others (approx.150).

external audits							
Systems and controls maintenance	32.1	250	500	4	1	**~ € 5 M**	**~ € 10,000**
Included in administrative burden						**~ € 2M**	**~ € 4,000**
Total						**~ € 17 M**	**~ € 34,000**
Source: Eurostat hourly wages, UK FSA data, Commission own calculations							

The estimated compliance costs for administrators would be composed of one-time costs in the order of € 49 million for all EU (approx. € 98,000 per administrator) and recurring costs of about € 17 M for all EU administrators (approx. € 34,000 per administrator yearly). These costs would only apply to benchmark administrators under the scope. As many of these are financial institutions, which are already regulated entities, they will have many of the systems, controls, procedures and personnel in place to comply with the requirements of this initiative. However, as it is complex to separate business as usual costs from additional costs deriving from this initiative the estimates assume they do not have them in place. These are just averaged estimates and the real costs of compliance for administrators would also vary in relation to the nature and number of benchmarks provided, as monitoring and ensuring compliance would present different degrees of complexity and requirements would be proportional to the risks posed by these benchmarks (critical vs. non-critical, transaction vs. estimates based, etc.).

Given the proportionality of the costs for administrators of benchmarks above and flexibility provided by this initiative in terms of adapting the requirements to administrators of non-critical benchmarks, it is not likeable that a significant number of benchmark administrators may discontinue their benchmark provision. Thus, a reduction in the number of jobs created by this industry is not estimated as a consequence of this initiative. On the opposite, most recurring costs of compliance with this initiative derive from the cost of staff to carry out these tasks. Thus, the cost associated by this initiative will have a direct impact on the creation of new jobs in the financial industry in Europe.

Compliance costs for contributors to benchmarks

The estimated costs of compliance for contributors to benchmarks reflect additional costs resulting from their obligations under the preferred options package and not the total costs linked to their contributions. It should also be considered that contributors under scope will be already regulated entities, and they will have many of the systems, controls and procedures in place, as well as personnel available, to comply with the requirements of this initiative. The broad estimates of compliance costs for administrators presented on the table below reflect this:

Obligation	Requirement	One-time costs	Recurring costs (yearly)
1. Provision of benchmarks becoming a regulated activity	*Application for registration and compliance with registration conditions*	** Application for controlled functions **(€ 4 M)*** **Upgrading governance procedures for compliance **(€ 4 M)***	** Compliance monitoring (**€ 1 M)***

2. Transparency obligations on calculation and underlying data	*Publishing comprehensive information on benchmark calculation and underlying data*	*Recurring*	*Included under administrative burden **(€ 0.5 M)***
3. Disclosure requirements on internal procedures, policies and conflicts of interest	*Adjusting disclosure systems, policies and procedures*	*Included under administrative burden **(€ 1 M)***	*Only one-off costs as it will be maintained and monitored by regular members of staff and compliance officer*
4. Systems and controls	*Upgrading systems and controls to comply and maintaining them*	*Upgrading systems and controls **(€ 4 M)***	*Maintaining systems and controls **(€ 1 M)***
5. Legally binding codes of conduct to be signed by contributors	*Drafting codes of conduct and publishing on website*	*It will be drafted by administrators and they just need to sing it and publish on their website*	*N.A*
6. Internal and external audits	*Cooperation with audits and record keeping*	*Recurring*	*Internal audits **(€ 1 M)***

Estimated one-time compliance costs for contributors to benchmarks

Requirement	**Avg. cost/ hour/ €**	**Number of aplic./ hours**	**Number of administrators in EU**	**Compliance costs/ million €**	**Overhead ~ 25%/ million**	**TOTAL one-off costs/ € million**	**Per administrator / €**
Application for controlled functions	3,000 [246]	2 [247]	500 [248]	3	1	**~ € 4 M**	**~ € 8,000**
Upgrading governance procedures	32.1	200 hrs.	500	3	1	**~ € 4 M**	**~ € 8,000**
Upgrading systems and controls	32.1	200 hrs.	500	3	1	**~ € 4 M**	**~ € 8,000**
One-off costs included under administrative burden						**~ € 1 M**	**~ € 2,000**

[246] Based on controlled function application costs estimated for LIBOR *FSA consultation paper on the regulation and supervision of benchmarks*[246]*:* http://www.fsa.gov.uk/static/pubs/cp/cp12-36.pdf

[247] This is based on the assumption that each administrator would need to apply for controlled functions for: director, CEO, compliance officer and two analysts.

[248] This is an approximate number based on the estimated number of already regulated contributors to benchmarks in the EU provided on the administrative burden calculation section.

TOTAL		**~ € 13 M**	**~ € 26,000**
Source: Eurostat hourly wages, UK FSA data, Commission own calculations			

Estimated recurring compliance costs for contributors to benchmarks (Euros, rounded to € million)[249]

Requirement	Avg. cost/ hour/ €	Number of hours yearly	Number of contributors in EU	Compliance costs/ million €	Overhead 25%/ million	TOTAL recurring costs/ € million	Per administrator/ €
Compliance monitoring	32.1	50 hrs.	500	0.8	0.2	**1 M**	**~ 2,000**
Internal audits	32.1	50 hrs.	500	0.8	0.2	**1 M**	**~ 2,000**
Systems and controls maintenance	32.1	50 hrs.	500	0.8	0.2	**1 M**	**~ 2,000**
Included in administrative burden						**0.5 M**	**~ 1,000**
Total						**~ € 3.5 M**	**~ 7,000**
Source: Eurostat hourly wages, UK FSA data, Commission own calculations							

The estimated compliance costs for contributors to be composed of one-time costs in the order of € 13 million for all EU (approx. € 26,000 per contributor) and recurring costs of about € 3.5 M for all EU (approx. € 7,000 per contributor yearly). These costs would only apply to contributors to benchmarks under scope which are regulated entities. As these normally are large size institutions, such as financial institutions, with yearly turnovers in the order of millions and even billions of Euros[250].These costs would not represent a large burden for these institutions as many of them will have most of the systems, controls, procedures and personnel in place to comply the requirements of this initiative and in consequence their costs will be much lower. Finally, these are averaged estimated costs, and the real costs will

[249] The number of hour's estimates for compliance with different requirements of this initiative has been based on the number of hours estimated for compliance with similar request on previous impact assessments by the Commission for initiatives including similar requirements.

[250] According IMF data on financial institutions turnover: http://www.imf.org/External/Pubs/FT/GFSR/2010/02/pdf/text.pdf

depend on the number and nature of benchmarks to which different contributors provide submissions or underlying data[251].

Estimated costs of supervision

Regarding the costs of supervision of benchmark administrators, under the preferred option it would be for national authorities to supervise non-critical and critical benchmarks under the coordination of ESMA. ESMA would also participate and have a mediation role in the colleges of supervisors for critical benchmarks which have a cross-border impact or which contributors are based in different Member States. This would involve additional costs for national competent authorities (NCAs) for the supervision of critical benchmarks administrators and contributors and for ESMA the coordination of the supervision of critical benchmarks.

As for contributors which are already regulated entities, such as financial institutions, their activity of contributing to benchmarks would also be supervised, this would imply additional costs for NCAs in charge of their supervision.

The estimates provided in the table below are based rough extrapolation of the supervisory costs estimated for the regulation of LIBOR by the UK FSA and the Commission own estimates of ESMA cost for coordination of the supervision of critical benchmarks by NCAs in the colleges of supervisors. The latter costs for ESMA have been estimated by the Commission to be an initial operational expense € 0.275 M, mainly for IT systems and recruitment of staff, and a recurring expense of € 0.324 M yearly for the employment of 2 members of staff to carry out these duties[252].

Estimated one-off costs of supervision of benchmark administrators and contributors:

	Individual costs[253]	Number of EU competent authorities	Total costs
One-time costs for supervision of administrators and contributors[254][255]	~ € 0.1 to 0.5 M	56	~ € 5.6 to 28 M

Estimated recurring cost of supervision of benchmark administrators and contributors[256]:

[251] The one-off and recurring costs of compliance for benchmark administrators and contributors are much lower than those estimated by the FSA for the administrators of/contributors to LIBOR. However, most benchmark administrators and contributors will just need to comply with the general requirements of the initiative and not with the requirements for critical benchmarks, which will ensure proportionality.

[252] Please see legislative financial statement accompanying the Commission proposal for a Regulation on indices used as benchmarks in financial instruments and financial contracts.

[253] Based on the extrapolation of supervision costs estimated for LIBOR *FSA consultation paper on the regulation and supervision of benchmarks*[253]*:* http://www.fsa.gov.uk/static/pubs/cp/cp12-36.pdf

[254] Assuming that supervision will take place for each benchmark providing firm or contributing firm, independently of the number of benchmarks it provides or contributes to, we will consider the costs of supervision to be for number of administrators and no for number of benchmarks.

[255] Estimated one-off costs relate to setting up systems and controls for the supervision of benchmarks by a maximum of 56 entities including NCAs for the supervision of benchmark administrators and NCAs for the supervision of contributors in the financial sector in all MS. Costs per CA are estimated to vary from €100,000 to €500,000 depending on the nature, risk and number of benchmarks to be supervised by the CAs in different jurisdictions. These are based on a maximum estimate of € 0.5 M for the supervision of administrators of critical benchmarks.

[256] The cost contributors' supervision of have been estimated as a maximum of half of those for the supervision of contributors to LIBOR under the current FSA paper on *"The regulation and supervision of*

	Individual costs[257]	Number of CAs	Total costs
Recurring costs for supervision of administrators (yearly)	~ € 0.1 to 0.5 M	28[258]	~ € 2.8 to 14 €
Recurring costs for supervision of contributors (yearly)	~ € 0.04 to 0.3 M	28	~ € 1.1 to 8.4 M
Total recurring costs of supervision	~ € 0.18 to 1.1 M (per Member State)		~ € 3.9 to 22.4 M
Source: Eurostat hourly wages, UK FSA data, Commission own calculations			

It needs to be considered that regulatory requirements would vary widely across different jurisdictions and for the supervision of different types of administrators and contributors. Because of this reason, a wide range is provided for estimated supervision costs as they could be up to 80% lower for the supervision of administrators of and contributors to non-critical benchmarks and also vary widely across different jurisdictions.

The cost above would be higher for Member States in which a large number of benchmarks are provided and used to reference financial contracts. It has been assumed that although some authorities would need to supervise a relatively large number of benchmark administrators and contributors, there would be significant economies of scale in their supervision.

Finally, recurring costs of supervision of this initiative derive mainly from the cost personnel to carry out these tasks. Thus, the cost associated by this initiative will have an impact on creation of new jobs in Europe.[259]

Estimated costs for creditors and credit intermediaries required to assess benchmarks' suitability to reference retail financial contracts

Under the preferred options package, where a financial entity such as a bank intends to enter into a financial contract with a consumer where the payments are referenced by a benchmark, it should assess the suitability of the benchmark for this use and warn the consumer if it is unsuitable. However, as benchmark suitability assessment would normally be performed as part of the general financial product suitability assessments required by the Consumer Credit Directive (CCD)[260] and the Mortgage Credit Directive (MCD)[261], it is assumed that systems will already be in place and staff trained to perform these assessments. Thus, training material, procedures and IT systems would just need to be updated to comply with this requirement and the benchmark suitability assessment would require just an additional ¼ of an hour[262] per 'non-intermediated' transaction for suitability assessment. In consequence, creditors and credit intermediaries will face limited additional one-off and recurring costs. Based on an hourly wage of € 32.1[263], the cost of assessing suitability for new retail loans

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benchmarks", (March 2013) as the requirements of the Commission initiative are less stringent than those of the regulation adopted by UK authorities, for example by not regulating not already regulated contributors.

[257] Based on the extrapolation of supervision costs estimated for LIBOR *FSA consultation paper on the regulation and supervision of benchmarks*[257]*:* *http://www.fsa.gov.uk/static/pubs/cp/cp12-36.pdf*

[259] For example, it has been estimated by the FSA that the compliance with the obligations under FSA review of LIBOR would be carried out by a team of 5 people. http://www.fsa.gov.uk/static/pubs/cp/cp12-36.pdf

[260] http://ec.europa.eu/internal_market/finservices-retail/credit/consumer/index_en.htm

[261] http://ec.europa.eu/internal_market/finservices-retail/credit/mortgage/index_en.htm

[262] Extrapolated from estimates for similar requirements under the Consumer Credit Directive (CCD), see note 251

[263] http://adminburden.sg.cec.eu.int/calculator.aspx

would be of approximately € 8 per loan. It is not possible to accurately estimate which will be the number of retail financial contracts referenced to benchmarks (variable rates) under the scope of this initiative in the EU in the future in order to estimate the total cost of compliance with this requirement.

BENEFITS

The main benefits derived from this initiative are reducing the risk of manipulation of benchmarks, enhancing their reliability and contributing to their appropriate use In consequence, this proposal will contribute to enhanced market fairness and ensure consumer and investor protection. Such benefits are difficult to quantify. However, given the global importance of robust and reliable benchmarks for maintaining market stability and restoring confidence in financial markets, the benefits would outweigh the costs. The high level objectives and benefits of this initiative are presented on the table below:

Objectives	**Benefits**
Reducing the risk of benchmark manipulation	** Enhanced financial stability and restored confidence in financial markets*
Enhancing the reliability of benchmarks	** Enhanced fairness, integrity and efficiency of financial markets*
Ensuring the appropriate use of robust and reliable benchmarks	** Enhanced consumer and investor protection*

On top of the high level benefits specified above, other benefits of this initiative are:

- the effective management of conflicts of interest;
- proactive supervision of the benchmark provision process which will allow for early identification of and reaction to potential issues;
- increased accountability and oversight of administrators and contributors to benchmarks; and
- ensuring continuity of benchmarks for existing contracts and certainty for new contracts.

Another important benefit is reducing the potential detriment to borrowers and investors caused by benchmark manipulation. Italian consumer groups Adusbef and Federconsumatori, which filed a complaint in July 2012[264], estimated that EURIBOR manipulation affected 2.5 million Italian households with mortgages tied to Euribor, costing them 3 billion euros ($3.7 billion), based on record 2008 Euribor rates. The number of households affected in Spain is estimated to be 18 M[265]. Although at the moment it is not possible to quantify the total impact of benchmark manipulation[266] on EU consumer and retail investors, these figures provide an idea of the large impacts of manipulation on investors and retail financial consumers. Thus,

[264] http://www.bloomberg.com/news/2012-07-31/barclays-documents-seized-in-italy-in-euribor-fraud-probe-1-.html

[265] http://www.ipsnews.net/2012/03/euribor-under-scrutiny-by-peoples-campaign-in-spain/

[266] The overall impact of LIBOR and EURIBOR manipulation has not been determined yet as investigations are still on-going.

the benefits of avoiding large losses to investors and consumers in the future and enhancing their protection are undeniable.

Furthermore, the large amount of fines already paid by the financial industry for the attempted manipulation of LIBOR, currently in the order of 3 billion Euros, and the fact that some analysts consider these fines small in comparison to the potential illicit gains by financial institutions manipulating these benchmarks in prejudice of their counterparties[267] provide an insight of the need to enhance market efficiency, integrity and fairness. This initiative is key in achieving these objectives.

Finally, although the benefits of ensuring robust and reliable benchmarks and their appropriate use are difficult to quantify, these will definitively contribute to the achievement of the general EU financial policy objectives of restoring confidence in financial markets and financial stability.

ADMINISTRATIVE BURDEN CALCULATION

In this section the Commission services provide an estimate of the administrative burden for benchmark administrators and contributors resulting from the preferred options package. The administrative requirements under the preferred option package are proportional to the shortcomings identified and broadly in line with requirements under the international on-going work streams on reform of benchmark provision and use.

Administrative costs for administrators

Based on the preferred option package above, the main activities which would imply additional administrative costs, particularly information disclosure costs, for benchmarks' administrators under the scope would be:

Requirement	Administrative burden	Quantified cost
1. Provision of benchmarks becoming a regulated activity	*Cooperation with public authorities, including maintenance of appropriate records. Submission of reports on demand.*	*Under compliance costs*
2. Transparency obligations on calculation and underlying data	*Publishing information on benchmark calculation and underlying data*	*100 hours yearly per benchmark administrator*
3. Disclosure requirements on internal procedures, policies and conflicts of interest	*Adjusting disclosure systems, policies and procedures*	*100 hours*
4. Record keeping requirements: recording devices or systems and data archiving system.	*One off investment in record keeping device of data archive system*	*12,000 Euro per administrator*
5. Issuing legally binding codes of conduct to be signed by contributors	*Drafting codes of conduct and publishing on website*	*50 hours*

[267] According to later news on fines for LIBOR manipulation on Reuters article: http://uk.reuters.com/article/2013/01/29/uk-rbs-Libor-settlement-idUKBRE90S07I20130129

6. Internal audits and external audits (if required for critical)	*Cooperation with audits and record keeping*	*Under compliance costs*
7. Complains procedure	*Drafting and publishing guidelines for complains on website*	*50 hours*

As the size and complexity of benchmark administrators vary significantly, the cost of compliance with these requirements would depend on these variables. Therefore, the cost could vary significantly across administrators. It is important to take into account that the main administrators have transparency policies and record keeping systems and procedures already in place as industry best practice standards. Part of the administrative costs could therefore be seen as Business as Usual costs. However, as it is not possible to assess the number companies that have done so, all information obligations imposed by the Regulation are therefore regarded as new information obligations for benchmark administrators.

The estimates below represent the average cost across all benchmark administrators and do not take into account that some firms would only need to adjust existing policies, procedures and recordkeeping systems and processes to come into compliance with the requirements of this initiative. However, the calculation does not include additional recurring costs for transparency obligations for equity and other indices published on exchanges, as their calculation and underlying data are generally highly transparent (to the point that they allow to replicate the indices) and thus would not imply additional costs to enhance transparency on calculation and underlying data.

For efficiency reasons the wage per hour per company has been set at one level for all companies in the European Union as benchmark provision is performed across all EU countries and often cross-border. It is expected that the employees executing the work are skilled professional staff that would more or less earn the same in all European countries. The wage figures used below are taken from Eurostat data on average hourly wages in the EU published on the EU Database on Administrative Burden website[268].

Estimated one time administrative costs for administrators[269]

Obligation	**Avg. cost/ applic/ hour/ €**	**Number of aplic./ hours**	**Number of administrators in EU**	**Admin. costs/ million €**	**Overhead ~ 25%/ million**	**TOTAL Admin. costs/ € million**	**Per administrator/ €**
Adjusting disclosure	32.1	100	500[270]	1.6	0.4	**~ € 2 M**	**€ 4,000 €**

[268] http://adminburden.sg.cec.eu.int/calculator.aspx

[269] These costs are estimated by administrator and not by number of benchmarks provided. Thus, although codes of conduct will need to be issued for all benchmarks, as administrators will normally have a model code of conduct approved by the Board which they adapt to different benchmarks, it will be assumed that the additional information disclosure obligation will be mainly related to drafting and publishing the original code of conduct.

[270] This is an approximate number based on the list of administrators envisaged to be under the scope of a potential initiative which includes EU: stock Exchanges (approx. 50); interest rate benchmark administrators (approx. 30), PRAs (approx. 10), market data and intelligence administrators (approx. 60) and; financial institutions (approx. 200) and others (approx.150).

systems, policies and procedures							
Issuing legally binding codes of conduct	32.1	50	500	0.8	0.2	**~ € 1 M**	**€ 2,000 €**
Complains procedure	32.1	50	500	0.8	0.2	**~ € 1 M**	**€ 2,000 €**
IT systems and record keeping device	One-time costs of avg. 12,000 euro		500	6		**~ € 6 M**	**€ 12,000**
Total						**~ € 10 M**	**€ 20,000**

Estimated recurring administrative costs for administrators (yearly)[271]

Obligation	**Avg. cost/ hour/ €**	**Est. Number of hours yearly**	**Number of administrators in EU**	**Admin. costs/ million €**	**Overhead ~ 25%/ million**	**TOTAL Admin. costs/ € million**	**Per administrator/ €**
Transparency on benchmark calculation and underlying data	32.1	100	500	1.6	0.4	**~2M**	**~ € 4,000**

Estimated combined one time and recurring administrative burden for administrators: approx. € 10 M one-off costs on the first year (€ 20,000 € avg. per administrator) and € 4,000 recurring costs per administrator yearly (but this would vary according to the number of benchmarks which they provide) and € 2 M yearly total recurring costs for all benchmark administrators in the EU. However, as many benchmarks will already have appropriate transparency in place their costs may be lower.

Estimated number of benchmark administrators by type of benchmarks in the EU[272]

Type of Administrator	**Estimated Number**	**Types of benchmarks provided**
European exchanges	50	Equity, commodity, bond, etc.
EU Interest rate benchmark administrators	30	Interest rate benchmarks
Financial institutions under scope	200	Strategy indices (which are not financial instruments)

[271] As the procedures for providing transparency of benchmark calculation and underlying data would be automated for most benchmarks, including the majority of benchmarks published on exchanges which are based on already public data, it has been estimated that each administrator would allocate 100 hours yearly to ensuring that information on benchmark calculation and underlying data is provided adequately.

Market data and intelligence administrators	60	CDS, commodity, fixed-income, IRS, actuarial, volatility
Commodity PRAs	10	Commodity price assessments
Others	150	All other benchmark administrators
Total	**500**	

Estimated administrative costs for contributors

It is complex to estimate the total overall number of contributors to benchmarks in the EU due to the following reasons: the current number of contributors to benchmarks in the EU is constantly changing; there is currently no obligation to report when a company contributes to a benchmark; and many entities contribute to a large number of different benchmarks.

Furthermore, administrative costs for could vary significantly across diverse contributors depending of the number and type of benchmarks to which they contribute. However, considering that only contributors which are already regulated entities would be under the scope of this initiative, it is feasible to provide a broad estimate of their number. As they already regulated, they will already have in place transparency policies, record keeping systems and procedures and personnel to fulfil some of the requirements of this initiative. Thus, part of the administrative costs could therefore be seen as Business as Usual costs. The cost estimates below represent the average cost across all contributors to benchmarks, independently of the number and type of benchmarks to which they contribute. They are based on the assumption that, as firms are already regulated; they would only need to adjust existing policies, procedures and recordkeeping systems and processes to come into compliance with the requirements under the preferred options package.

Based on the preferred options package, the main activities which would imply additional administrative costs for contributors to benchmarks under the scope would be:

Requirement	Administrative burden	Quantified cost
1. Contribution to benchmarks becoming a regulated activity	*Cooperation with inspection by public authorities, including maintenance of appropriate records. Submission of reports on demand.*	*Under compliance costs*
2. Transparency obligations on calculation and underlying data	*Publishing comprehensive information on the calculation or assessment and underlying data for all contributions*	*50 hours yearly*
3. Disclosure requirements on internal procedures, and conflicts of interest and changes	*Adjusting disclosure systems, policies and procedures*	*25 hours*
4. Record keeping requirements: recording devices or systems and data archiving system.	*One off investment in record keeping device of data archive system*	*No significant additional information disclosure costs as already regulated entities must have it*
5. Issuing legally binding codes of conduct to be signed by contributors	*It will be the benchmark administrator who drafts the legally binding code of conduct and contributors will just need to sign it and publish it on their website.*	*No significant additional information disclosure costs*
6. Internal and external audits	*Cooperation with audits and record keeping*	*Under compliance costs*

Estimated one-time administrative costs for contributors

Obligation	Avg. cost/ hour/ €	Number of hours[273]	Number of contributors in EU	Admin. costs/ million €	Overhead ~ 25%/ million	TOTAL Admin. costs/ € million	Per administrator/ €
Adjusting disclosure systems, policies and procedures	32.1	50	500	0.8	0.2	**~ € 1 M**	**~ € 2,000**

Estimated recurring administrative costs for contributors (yearly)

Obligation	Obligation	Number of hours yearly	Number of contributors in EU	Admin. costs/ million €	Overhead ~ 25%/ million	TOTAL Admin. costs/ € million	Per administrator/ €
Additional transparency obligations for calculation or assessment and underlying data	32.1	25	500	0.4	0.1	**~€ 0.5 M**	**~€ 1,000**

Estimated combined one time and recurring administrative burden for contributors: approx. € 1 M one-off costs on the first year for all EU contributors (approx. € 2000 per contributor) and € 1,000 yearly avg. recurring costs per contributor, (but this would be proportionate to number of benchmarks to which they contribute) and € 0.5 M yearly total for all contributors in the EU.

Estimated number of contributors to benchmarks in the EU

Type of contributors (only already regulated contributors are under scope and just apply to benchmarks based on data or estimates contributions versus publicly reported prices or values)	Estimated number of contributors
Regulated financial institutions contributing to interest rate benchmarks	200
Commodity traders regulated under EU law (REMIT and others)	100[274]
Other contributors regulated in the EU (for CDS indices, bond indices, etc.)	200
Total	**500**

Estimated administrative costs of supervision

Regarding the administrative costs of benchmark supervision under the preferred option package, they will roughly match the cost of supervision estimated under the compliance cost section.

[273] As the procedures for providing transparency of benchmark calculation and assessment and underlying data would be automated for most benchmarks, including the majority of benchmarks published on exchanges which are based on already public data, it has been estimated that each contributor would allocate 25 hours yearly to ensuring that this information is provided adequately.

[274] European regulated energy trading companies member of EFET are over 100: http://www.efet.org/

ANNEX XI: IMPACT ON FUNDAMENTAL RIGHTS

Some of the preferred policy options for the initiative on benchmarks could affect fundamental rights embodied in the EU Charter of Fundamental Rights ("CFR"). Limitations on these rights and freedoms are allowed under Article 52 of the Charter. However, any limitation on the exercise of these rights and freedoms must be provided for by the law and respect the essence of these rights and freedoms. Subject to the principle of proportionality, limitations may be made only if they are necessary and genuinely meet the objectives of general interest recognised by the Union or the need to protect the rights and freedoms of others. These limitations and their proportionality will be discussed here.

Subject the business of providing benchmarks to regulation

It has been argued by price reporting agencies (PRAs) in their responses to the consultation that their activity is a journalistic and therefore that subjecting price reporting agencies to regulation would restrict the right to freedom of expression and information and the freedom to conduct business. It could also be argued that subjecting the provision of benchmarks to regulation is a restriction of the freedom to conduct business, to the extent that the costs of complying with regulation might discourage firms from starting, or continuing to provide, a business of benchmark provision.

First it is necessary to consider whether there is a public interest objective which would justify a limitation of this fundamental right. The public interest objective which justifies this limitation is ensuring market integrity and a high level of protection of consumers against the use of unreliable benchmarks.

Second, is such a limitation necessary? The evidence set out in the problem definition (see sections 4.1.1 and 4.1.2) shows that benchmarks provided by PRAs are subject to the same vulnerabilities to manipulation as other types of benchmarks such as interest rate benchmarks (discretion, conflicts of interest and the lack of governance and controls provide incentives

and opportunities to manipulate the benchmark). Not only is the provision of benchmarks by PRAs subject to the same risks, but there are allegations of actual attempts to manipulate benchmarks provided by PRAs. The analysis in section 9 has shown that regulation of benchmark administrators would be effective in protecting investors from their use of non-robust benchmarks and the integrity of markets from the manipulation of benchmarks. Therefore, subjecting PRAs to regulation meets the test of necessity in order to meet the public interest objectives of protecting investors and market integrity and to protect the rights of consumers and their right not to suffer harm to their right to property in the form of financial losses caused by the manipulation of benchmarks.

Third, it is necessary to consider whether the proposed limitation of the fundamental right is **proportionate**. First the proposals only apply to the activity of producing the benchmark number and would not cover the rest of the price assessment business such as providing commentary and supporting data. The scope is therefore set as narrowly as possible to meet the objectives. In respect of the proposals that apply, as explained in section 9.6.3, proportionality has been considered in relation to this option as it is limited to administrators and to contributors which are already subject to EU regulation. Contributors which are not subject to EU regulation would not be brought into regulation by this initiative, but their compliance with its requirements would be ensured through the code of conduct with the benchmark administrator. This option is not likely to deter benchmark administrators from continuing their business and publishing their benchmarks, but it is expected to render price reporting accurate and free from manipulation. Therefore, subjecting PRAs to regulation meets the test of proportionality.

Finally the **essence of the fundamental rights** in question is preserved as this initiative does not restrict anyone from freely expressing their views, concerning for example oil prices. It does however place restrictions on the production of oil price indices which directly affect the price of financial instruments. However the right to continue to produce these assessments remain - as long as they are produced in a way which is free of conflicts of interest, based on verifiable data and if discretion is used it can be justified. Also, the regulation of these activities would not result in impediments to express true and good-faith assessments.

In light of the above, the option to subject the business of providing benchmarks to regulation complies with the CFR as it would be provided for by law (see section 13.2), it is necessary to meet the public interest objectives of ensuring market integrity and protecting investors and it is proportionate to meeting those objectives.

Supervision of benchmark administrators by authorities with enforcement powers

The preferred option of making benchmark provision a regulated activity is complemented by the granting of enforcement powers to competent authorities to supervise the compliance of benchmark administrators and to sanction non-compliance. The powers of competent authorities envisaged include access to premises and to data traffic records in line with the horizontal approach to powers and sanctions in the Commission's financial services proposals[275]. This option could be considered to place limits on the fundamental rights to private and family life and the protection of personal data.

The **public interest objective** which justifies such a limitation is, as for the above-mentioned option, the objective of ensuring market integrity and ensuring a high level of protection of consumers against use of unreliable benchmarks.

To the extent that this option limits the rights to private life and the protection of personal data, this is **necessary** to ensure compliance with the legislation on benchmarks. Rules on the provision of benchmarks require supervision and enforcement if they are to be effectively applied, as self-imposed codes of conduct do not provide the means for their application to be binding on participants, and lack a body with the powers to ensure their application. Therefore, subjecting benchmark administrators to supervision by competent authorities with powers to detect and sanction breaches meets the test of necessity in order to meet the public interest objectives of protecting investors and ensuring market integrity.

The option must also meet the test of **proportionality**. This option is proportionate as the access to data by competent authorities is limited to the purpose of ensuring the enforcement of the requirements on benchmarks or market abuse investigations by competent authorities. Personal data would therefore only need to be accessed in cases where the competent authority has a reasonable suspicion that the requirements of the benchmarks regulation have been breached. In addition, the Data Protection Directive 95/46/EC applies, which provides safeguards by requiring that personal data which is processed must be accurate, adequate and not excessive in relation to the legitimate purposes for which it is processed. In addition personal data must only be processed for no longer than necessary. Therefore, providing for supervision of benchmark administrators by competent authorities with powers to detect and sanction breaches of the requirements on benchmark administrators meets the test of proportionality. For the same reasons as explained above, it also preserve the essence of the fundamental rights in question.

In light of the above, this option complies with the CFR as it would be provided for by law. It is necessary to meet the public interest objectives of ensuring market integrity and protecting investors and it is proportionate to meeting those objectives.

Require sufficient underlying data and justification for discretion

This preferred option entails that where transaction data is not used and discretion is exercised, contributors and administrators should document and be able to justify any discretion they exercised. To the extent that it is necessary to justify discretion where transaction data is not used, records of personal data may need to be kept, for example for a administrator to record the name, firm and telephone number of the person to whom its employee spoke on the telephone in order to obtain an assessment of a price for calculating a benchmark. This option could be considered to place limits on the fundamental right to the protection of personal data. The requirement to ensure sufficient underlying data and justify discretion could also be considered to be a restriction on the fundamental right to conduct a business, on the grounds that administrators who are not able to fulfil these requirements would not be able to pursue the business of benchmark provision.

The public interest objective which justifies such a limitation is, again, the objective of ensuring market integrity and ensuring a high level of protection of consumers against use of inappropriate benchmarks. The option meets the test of necessity as without it, competent authorities would not be able to have access to records of benchmark submissions to ensure that the requirements on justifying discretion where it is used, as well as requirements on conflicts of interest and governance, have been complied with. It is also necessary as without

it, users of benchmarks could not have confidence that benchmarks would be provided on a sound basis and could face harm (i.e. financial losses) due to the potential manipulation of benchmarks. The right to conduct a business must be balanced against the right of users not to suffer harm to their fundamental right to property in the form of financial losses due to the manipulation of benchmarks.

This option is also proportionate as personal data only needs to be kept when transaction data is lacking, and is restricted to the data needed to demonstrate compliance with the requirements for benchmarks on governance, accuracy and representativeness. The Data Protection Directive 95/46/EC applies to such data, which requires that personal data which is processed must be accurate, adequate and not excessive in relation to the legitimate purposes for which it is processed. In addition personal data must only be processed for no longer than necessary. The option is also more proportionate than the option to require mandatory use of transaction data, as it leaves flexibility to benchmark administrators to continue to provide their benchmarks when transaction data is lacking by using their discretion, so long as this discretion is justified. Therefore, this option meets the test of proportionality and at the same time preserves the essence of the rights to protection of personal data and to conduct a business.

In light of the above, this option complies with the CFR as it would be provided for by law, it is necessary to meet the public interest objectives of ensuring market integrity and protecting investors and it is proportionate to meeting those objectives. The proposal is in compliance with the Charter as it would lead to more effective and harmonised regimes for the production and use of benchmarks, improving market integrity. To this end the policy options ensure that the submission of information to contribute to the production of a benchmark and the production of benchmarks which are an individual assessment of prevailing market conditions are subject to requirements which do not hamper these activities. These policy options would contribute to market integrity by preventing the manipulation of benchmarks within the EU, and ensuring that they robust and reliable are used.

In conclusion, regulating the provision of benchmarks as outlined above is necessary to ensure that those who provide, or submit to, benchmarks which directly affect financial market prices adhere to sound governance principles, and to ensure that competent authorities can supervise and enforce the adherence to these principles. It is necessary also because sanctioning of offences under market abuse rules and possible restitution only occurs after the fact, and investors as a result could be subject to distorted prices for an extended period of time. The preferred policy options would contribute to the public interest objective of market integrity, and they are necessary to ensure a high level of consumer protection, as currently investors can suffer losses to their investments due to distorted benchmark values or the use of inappropriate benchmarks. They are proportionate as the regulation of these activities is limited to solely those practices which directly impact financial market prices.

ANNEX XII: CONSISTENCY OF THE OBJECTIVES WITH OTHER EU POLICIES

This initiative is closely related to the programme of reforms launched by the Commission following the start of the financial crisis. This programme implements the commitments made by the G20 and aims at tackling more structural issues in the EU financial sector and addressing the main sources of its vulnerability as revealed by the crisis. The building blocks of this financial reform package were set out in the Communication of 4 March 2009, Driving European Recovery, and the Communication of 2 June 2010 "Regulating financial services for sustainable growth".

In addition, following the event in relation to LIBOR in Spring 2012, the issue of benchmarks have become at the focus of international work. The Financial Stability Board (FSB) and other institutions, such as the International Organization of Securities Commissions (IOSCO), have in the course of 2012 undertaken work in this field. In particular, at the meeting of the G20 Finance Ministers and Central Bank Governors held in Mexico City on 5th November 2012, it was stated that "in relation to LIBOR, EURIBOR and other financial benchmarks, we welcome actions taken and on-going reviews to identify measures to address weaknesses and restore confidence in benchmark and index setting practices and welcome the coordinator role of the FSB as agreed".

Thus, at Union level, in addition to the amendments of the proposals for MAR and CSMAD[276] , it is necessary to improve the oversight and governance frameworks for financial benchmarks. The work started by the European Securities and Markets Authority (ESMA) and the European Banking Authority (EBA) illustrate the need to act expeditiously in this field. It is important to note that this initiative is complementary to existing provisions in the current EU legal framework (see: Markets in Financial Instruments Directive (MiFID)[277], Market Abuse Directive (MAD)[278], Prospectus Directive[279], Regulation on Wholesale Energy Market Integrity and Transparency (REMIT)[280] and Undertakings for Collective Investment in Transferable Securities Directive (UCITS)[281]) and is consistent with the EU's growth and jobs objectives, in particular to ensure financial markets better serve the real economy.

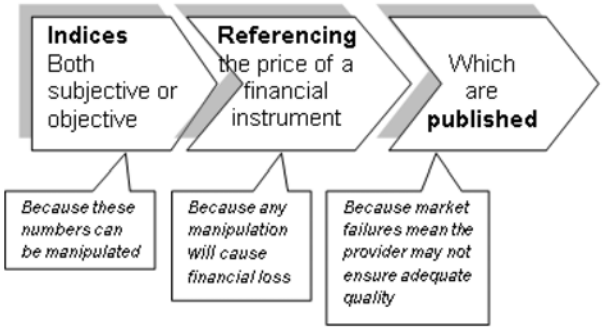
[276] Ibid footnotes 2 and 3 on MAR & MAD: http://ec.europa.eu/internal_market/securities/abuse/index_en.htm
[277] MIFID: http://ec.europa.eu/internal_market/securities/isd/mifid_en.htm
[278] MAD: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32004L0072:EN:NOT
[279] Prospectus Directive: http://ec.europa.eu/internal_market/securities/prospectus/index_en.htm
[280] REMIT: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:326:0001:0001:EN:PDF
[281] UCITS Directive: http://ec.europa.eu/internal_market/investment/ucits-directive/index_en.htm

ANNEX XIII: DEFINING THE SCOPE

Defining the scope by benchmark characteristics

Figure 1 scoping exercise for benchmarks that should be targeted by intervention

Figure 1 Targeted benchmarks



Scoping for most relevant problem drivers: discretion and conflicts of interest

Stakeholder's views: A variety of opinions were expressed on this issue. Some thought that all benchmarks should be included in the proposal as all were subject to the same vulnerabilities. Others believed that the more subjective benchmarks should be subject to more onerous requirements.[282] Others thought that objective indices should be excluded.[283] On the other hand some administrators believed that subjective indices should not be included as they constituted journalism.[284]

The key problem driver is conflicts of interest. Wherever there is discretion which is subject to a conflict of interest, then there is a risk of manipulation in the absence of adequate governance and controls (see sections 8 to 10). Therefore indices which involve discretion, either in their calculations or contributions, should be subject to some form of mitigating measures. However the discretion exercised can vary from assessments, which involve almost completely subjective judgments to well-defined formulas concerning objective transaction data, such as equity indices, where the discretion may be occasional.

However it was shown that all indices will involve some discretion and where there is discretion, manipulation is possible. Therefore the scope of this impact assessment exercise should include all types of benchmark, regardless of the method of calculation or the nature of the contributions.

Scoping for impact and vulnerability: Published indices

[282] *"The indices above [based on objective data] should be out of scope as they are very different from price assessments that use surveys, panels, and voluntary contributions are one segment."* MSCI

[283] *"While it may be correct that criminal and antitrust sanctions can never hinder certain individuals and companies from infringing the respective provisions, it would nevertheless not be proportionate to extend the envisaged regulation to administrators of objective indices. This group of undertakings did not participate in the LIBOR scandal nor is there any incentive to engage in manipulations in the future*." Deustsche Bourse

[284] *"Any mandatory regulation should not cover price reporting by PRAs as they consider their activities to be journalistic."* ICIS

Stakeholders' views: Most agreed that a benchmark must be a reference for the price financial instrument or contract or the performance of an investment fund for it to cause economic harm or distort the information provided to users on the performance of financial instruments.

Where benchmarks are used as a reference price for a financial instrument or contract, any manipulation causes economic loss and where a contributor also uses a financial instrument that references it, there is an incentive to manipulate. Furthermore, were benchmarks are used to measure the performance of financial instruments they may be subject to conflicts of interests and their manipulation will lead to suboptimal investment choices by investors. Therefore benchmarks that price a financial instrument or consumer contract or that measure the performance of an investment fund should be targeted.

Stakeholder's views: While a variety of views were expressed, most recognised the distinction between published indices and non-published indices in respect of the market failures (explained in section 4.2.1) and the greater risks that published indices pose.[285] Respondents to the consultation also argued that regulation of purely private indices would not be necessary [286]or in some cases not possible[287]. Others recognised the specific market failure whereby the difficulty in monetising the benchmark may lead to providing the benchmark more frequently than is necessary (i.e. daily) with adverse consequences for its quality.[288]

Published indices are more likely to be produced in a way that is insufficiently robust given their wide use and the inability of administrators to internalise all the benefits of investments in ensuring their reliability. They are also more likely to be used inappropriately and, if widely used are likely to inflict greater damage on a wider population than indices which are not in the public domain. This calls for attention to be targeted at published benchmarks (and benchmarks which are otherwise available to the public – for example because they are leaked to the public even if they are not published). As a result the scope of proposed options would apply only to published benchmarks.

Scoping for impact and vulnerability: 'financial' benchmarks

Stakeholders' views: Most agreed that a benchmark must be a reference for the price or the performance of a financial instrument or contract for it to cause economic harm or distort the information provided to users on the performance of financial instruments.

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[285] *"Interest rate indices can be considered "public goods" whenever their usage is widespread and, as a consequence, inaccurate submissions and manipulations can sharply affect the stability of financial markets and can also impact households and companies"* Assiom Forex- The Financial Markets Association of Italy

[286] "*Many indices are created by index administrators to meet a specific client's needs. Such bespoke indices are not wide-spread adopted benchmarks and in such cases ensuring that they are fit for purpose should lie between the administrator and customers."* BATS-ChiX

[287] *"calculation agent which produces "white label" custom indices on behalf of certain clients. In these cases, the intellectual property in the indices are owned by the client and S&P Dow Jones Indices serves solely as an independent third-party calculation agent,"* Dow Jones

[288] *"Most administrators of benchmarks would like to restrict their use so that they can monetise their intellectual property more effectively. However, since most of the data is at best daily and often less frequent that that, it leaks quickly into the public domain. It is much easier to monetise real-time index calculations because continuous supply is needed*" Baltic Exchange

Where benchmarks are used as a reference price for a financial instrument or contract, any manipulation causes economic loss and where a contributor also uses a financial instrument that references it, there is an incentive to manipulate. Furthermore, were benchmarks are used to measure the performance of financial instruments they may be subject to conflicts of interests and their manipulation will lead to suboptimal investment choices by investors. Therefore benchmarks that price a financial instrument or consumer contract or that measure the performance of financial instruments should be targeted independently of the underlying values which they measure.

Why indices which measure non-economic values, such as weather indices, shall be included within the scope of this initiative when they are used as benchmarks?

Even if some indices, such as weather indices, measure non-economic values, they can still be used to reference financial instruments. Thus, even if those indices or their underlying data are initially of a "non-economic" nature, when they are used as benchmarks they will directly impact the returns or payments under listed financial instruments or financial contracts. In consequence, their lack of robustness or potential manipulation would have an adverse impact in those holding the financial instruments or contracts which they reference.

As an example, Eurex[289] and the CME Group[290] lists weather derivatives in several European cities. These are used by entities to manage weather related risks. These weather derivatives are referenced by indices which measure weather factors, for example Heating Degree Day (HDD) and Cumulative Average Temperatures (CAT) Indexes. Diverse entities enter these derivatives in order to transfer the risk associated with adverse weather events. Pension funds and other financial entities may also invest in these financial instruments. In consequence, these entities and their clients will be affected by the unreliability or manipulation of the indices which reference these financial instruments.

Scoping: targeting critical or important benchmarks

Stakeholder's views: A variety of opinions were expressed on this issue; many agreed that any legislative proposal should apply to all benchmarks, as defined above. Others believed that a regulation should not apply to less important indices. However many also believed that the risk of manipulation were concentrated in particular sectors (in particular interest rate and commodities benchmarks) and that any manipulation of benchmarks in these areas would have the greatest effect; therefore regulation should be concentrated in these areas. Others suggest that this dilemma can be addressed by adopting a differentiated approach with more onerous regulation of the more vulnerable or high impact benchmarks.

For benchmarks that are widely used, even minor manipulation may have a significant impact, potentially affecting financial stability. The scope of the options could, in principle, be further restricted to the class of benchmarks that might have a material or significant effect on financial stability, or are more generally deemed important or vulnerable.

[289] Eurex weather derivatives (listed in Frankfurt) http://www.eurexchange.com/exchange-en/products/wed/

[290] The CME Group weather derivatives (listed in several EU cities): http://www.cmegroup.com/trading/weather/files/pm264-fact-card-european-weather.pdf

However vulnerability may vary over time; interest rate benchmarks' weaknesses increased significantly when liquidity dried up in interbank markets after the financial crisis. Similarly, impact can also vary over time; a benchmark can become widely used in a short period of time. It is therefore appropriate to include within the scope of the legislation all benchmarks that reference the price of financial instruments and that are published. The option of defining the scope for action narrowly by reference to indices which are currently important or for which there is recent evidence of vulnerabilities has been discarded, as this would be a reactive approach rather than addressing the risks that any benchmark may pose in the future.

Sectoral Scoping: However because different benchmarks sectors have different characteristics and may be subject to particular vulnerabilities, a proportionate approach dictates that more focused and detailed provisions should be applied on a sector by sector basis. For example where in a particular sector indices are produced by individuals or very small firms, it would be proportionate to tailor the measures to take account of these characteristics. A sectoral approach in the initiative would be achieved by further detailing requirements for particular sectors in a more focused and proportionate manner. Any initiative would adopt a proportionate approach which should ensure that a disproportionate burden is not placed on for example small administrators that do not pose large risks. The sectoral approach would further specify how this can be achieved.

The particular vulnerabilities of commodity benchmarks have already been identified in the consultation responses and a number of recent incidents. In addition an international approach has been agreed in relation to oil benchmarks in the IOSCO report on Principles for Oil Price Reporting Agencies (PRAs)[291]. It is therefore possible at present to identify an internationally consistent set of more detailed rules that focus on the specific vulnerabilities of these types of benchmarks; detailed rules for commodity benchmarks can be therefore included in any initiative.

Critical Benchmarks Additional Rules: A critical benchmark is one which if it failed or was manipulated could have significant adverse impact on the stability of the financial system and the real economy or lead to significant losses for investors. The consultation and evidence have highlighted views that such critical impact should be the focus of stronger safeguards and requirements. Interest rate benchmarks are critical benchmarks[292] and a proportionate approach would suggest that stronger rules should be applied to these benchmarks.

Figure 1 Different levels of Rules

Applying the principle of proportionality and the need for an effective framework it is therefore necessary to define a scope of critical benchmarks which would be subject to stronger and more detailed requirements. Specific parameters should be determined to identify which benchmarks are critical, for example, based on the value of contracts referenced to them and on whether their unreliability could have serious significant adverse implications in the EU.

Defining the scope by actors

[291] IOSCO, Principles for Oil Price Reporting Agencies, October 5th 2012, http://www.iosco.org/library/pubdocs/pdf/IOSCOPD391.pdf

[292] See e.g. ECB response

Entities producing benchmarks

Given the scope of targeted benchmarks, it is then necessary to determine which activities in the benchmark process (submission, calculation and use), and so which entities, need to be in the scope in order to ensure that the options are effective, efficient and proportionate.

The starting point is that all benchmark administrators are potentially subject to conflicts of interest, exercise discretion and may not exercise the necessary degree of control. Therefore it is necessary to regulate their activities. Secondly they sit at the centre of the benchmark process and so are able to exercise control over both the contributions and the use, making their regulation highly effective in terms of achieving this initiatives objectives. Thirdly there are fewer administrators than users or contributors and so it is efficient to concentrate the highest degree of regulation on the administrators. As a result all EU based benchmark administrators involved in the production of the above defined 'target benchmarks' should be in the scope of the options examined here.

However, benchmarks that are provided by central banks are subject to control by public authorities and therefore it is not necessary that these benchmarks should be subject to supervision provided that they otherwise meet the standards and objectives of this Regulation.

Entities contributing to benchmarks

Stakeholders' views: there was an even split between those who thought that administrators or contributors or both should be within scope, with views depending on whether they were a administrator, contributor or user. Some however endorsed a proportionate approach which would involve only targeting entities already subject to EU regulation.[293]

Benchmark contributors are subject to conflicts of interest, may exercise discretion and so may be the source of the manipulation of benchmarks. Requirements for contributors are therefore necessary. The amended proposals for a regulation and a directive to prohibit and criminalise manipulation of benchmarks [294] are targeted at prohibiting the manipulation of benchmarks by contributors and impose serious penalties, including criminal sanctions for any breach; as such they address the leading vulnerability that contributors pose to the benchmark process.

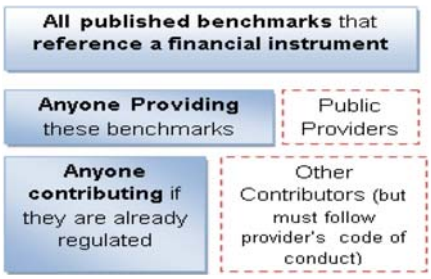
This initiative is intended to address the framework under which contributions are made. However, contributing to a benchmark is a voluntary activity. If any initiative requires contributors to significantly change their business models, they may cease to contribute. However for entities already subject to financial regulation and supervision (supervised contributors) bringing the activity of contributing within scope would impose only a small marginal cost on them. It is therefore proportionate to include all supervised contributors within scope.

[293] *"The production of benchmarks should not be a separate regulated activity. To the extent that production or contribution is already by or from a regulated entity then it may be possible to expand the role of the regulator to ensure that this aspect of the business is appropriately supervised with the objective of assuring impartiality and accuracy"* Baltic Exchange

[294] http://ec.europa.eu/internal_market/securities/abuse/index_en.htm

For contributors not subject to financial regulation and supervision (non-supervised contributors), authorisation or otherwise becoming subject to rules would impose significant costs. Financial regulators would also be ineffective supervising firms, such as agricultural entities, for which they have no expertise. Supervising non-supervised contributors would impose significant costs, provide minimal benefits and so they will not be within the direct scope. Nonetheless non-supervised contributors will be subject to the market abuse regulation and will be contractually bound to comply with the requirement of the administrators' code of conduct.

Figure 2 Entities within the scope of the initiative



Users

Certain uses of benchmarks, such as exchanges listing instruments priced by reference to benchmarks, are already regulated. This initiative aims at providing users of benchmarks with reinforced protection. In addition, specific consideration should be given to the use of benchmarks in contracts with consumers, such as mortgages (see section 10).

ANNEX XIV: ILLUSTRATIVE EXAMPLE OF THE POTENTIAL RISK OF MANIPULATION BASED ON THE USE OF DISCRETION AND CONFLICTS OF INTERESTS FOR ANY HYPOTHETICAL BENCHMARK

Suppose Bob, as a hobby, sets up a wine index in Bordeaux; this index, published in the online local newspaper, is only intended to be an indicator of local wine prices for visiting tourist wine connoisseurs. The underlying data for this index is obtained by phoning a fixed panel of contributor vineyards and asking them the price of their best wine. Bob then calculates the index as an average of these prices (giving more weight to the largest vineyards). The index therefore involves discretion – for the contributors in choosing which their best wine is and for the administrator, Bob, in choosing who should be on the panel and how to weigh them. This discretion means that potentially both Bob and the contributing vineyards have the opportunity to manipulate the index. But why would they want to?

However Chinese commercial visitors coming to Bordeaux to export wine back home start using the index to set the price in commercial export agreements with the vineyards. The local banks then issue financial derivatives that reference the index to allow the vineyards to hedge these export agreements; the index is now a benchmark. And now there is a conflict of interest because the contributor vineyards have an interest in the value of the benchmark because it prices the wine derivatives they buy from the local banks. Thus while the contributor discretion creates the opportunity, this conflict creates an incentive to manipulate the benchmark.

Aware of this Bob starts charging the local banks 10 euros to use his benchmark which pays for his son Bill to go round occasionally and check whether vineyards are giving the price for their best wine. Given that he is aware that only 10,000 euros of contracts reference his benchmark this seems a reasonable level of governance and controls. However, banks in London, New York and Beijing, are in fact selling these derivatives not just to the local vineyards but also to users such as Californian vineyards for export hedging, and to other investors keen to invest in fine wine. These banks can do this because the benchmark is published. In time these derivatives total billions meaning that manipulating the benchmark can reap millions for traders – but also cause losses to Californian vineyards and other investor. As a result the governance and controls Bob has implemented are now clearly not commensurate with the risks the benchmark poses and the massive incentives to manipulate the rate.

ANNEX XV: SUMMARY OF COMPLAINT LODGED BY MR. X (BULGARIAN CITIZEN) TO THE OMBUDSMAN

(About irregular practices of creditors establishing themselves reference indices for the borrowing rates for consumers (anonimised)).

By emails dated 22/11/2012, 26/11/2012 and 10/12/2012, Mr. X, a Bulgarian national, has asked the Commission services to answer the following questions:

"Please give your statement whether the usage of "methodology developed by the creditor itself" including components which are not transparent and can be changed any time based only on the internal will of the creditor is in compliance with the EU directives. Shall the creditor transfer the risks of the services to the consumer? Is this in compliance with consumer protection EU directives / "EU Consumer Credit Directive 2008/48/EC". In case of discrepancies: what are the next steps and who is going to trigger them?"

Mr. X has provided the Commission services with the following documents in Bulgarian (original) and English (unofficial translation):

(1) Letter of the Ombudsman of the Republic of Bulgaria of 04/12/2012 in reply to Mr. X's complaint of 13/11/2012

By complaint of 13/11/2012 Mr. X has requested the Ombudsman of the Republic of Bulgaria to ask the Constitutional Court of the Republic of Bulgaria to declare unconstitutional the definition of "reference rate" under Additional Provision § 1(6) of Bulgaria's Consumer Credit Act with regard to the words "or an index, which is calculated based on methodology developed by the creditor itself".

By letter of 04/12/2012 the Ombudsman of the Republic of Bulgaria replied to Mr. X that the contested definition does not contradict Article 19(2) of the Constitution of the Republic of Bulgaria.

However, the Ombudsman acknowledged that:

"Having in mind other complaints from citizens and identified problems together with the lack of adequate control upon the way of the methodology definition for index calculation in the last year I've send recommendations to the head of the Bulgarian National Bank to take corresponding actions, including change of the regulation in order to protect the consumers better. In the yearly report of the Ombudsman activities for 2011 towards the Bulgarian parliament I emphasized again the problem and I recommended initiating changes in the corresponding legislation. Unfortunately up till now and although the expressed willingness of the Financial Minister in the beginning of the current year to submit legislation changes connected with the referral interest rate, such changes are not submitted".

(2) Annual Report on the Activities of the Ombudsman of the Republic of Bulgaria for the year 2011

Please take note of pages 142-143 of this Report:

"Law on Credit Institutions, Law on Consumer Credit, and the unilateral change of the interest rate by the credit institutions

I would like to draw your attention to another problem with the legal framework and the operations of the banks. From the citizen complaints and signals which I've received I found out that consumer rights are not sufficiently protected by the regulations. The Law on Credit Institutions (LCI) contains provisions on information which must be provided by the banks to the clients with the granting of a credit. Some of this information is associated with the changes in the interest rate till full repayment of the loan. The text of Art. 58, paragraph. 1, item 2 of the LCI is missing criterion of "objectivity" in the interest rate change. This edition of the provision allows banks to determine the conditions under which they can change the interest rate on loans without to follow any established criteria. It is enough only to inform the borrower of the changed conditions for the loan.

Under the Consumer Credit Act, banks can also change interest rate unilaterally without criteria for conditions that change.

By defined in § 1, item 6 of the Supplementary Provisions of the law "reference interest rate is the interest rate that the creditor used as a base for calculating the interest rate on the loan. It is a market index or an index which is calculated from a methodology developed by the creditor itself. Reference rate is made public by providing it in electronic format and the information it is kept available to interested persons in writing at the premises of the creditor".

This definition enables the bank to unilaterally change the interest rate choosing the option for reference rate that is an index calculated by creditor's methodology, which is not subject to control and there are no legislatively defined performance requirements.

Given these findings, I made a recommendation to the Governor of the Bulgarian National Bank and the Finance Minister to take necessary action in order to protect the rights of citizens as consumers.

Result: Despite the initial refusal actions to be taken by the government and the National Bulgarian Bank, I'm pleased to see that in the beginning of 2012 the Minister of Finance expressed its intention to introduce proposed regulatory changes related to interest rate calculation on credits. In this regard, I appeal to you and the members of the parliament as right holders of legislative initiative, with a recommendation to initiate changes in those laws to ensure that the lender has the right for changing of the interest rate only on for valid reason and objective criteria, thus protect the rights of citizens as consumers".

(3) Interview with Ms. Violina Marinova, CEO of DSK Bank, published at http://banks.dir.bg/2012/04/03/news10877484.html

In this interview Ms. Violina Marinova, CEO of DSK Bank, has pointed out, inter alia, that:

"What was offered (from the Finance Minister) is a benchmark interest rate linked to EURIBOR, LIBOR or SOFIBOR and this will NOT lead to a decrease of the interest rates, because these indices are quite manipulated and cost of credit could not be exactly determined".

Conclusion:

In the light of the above it could be concluded that:

(1) Please note that CCD neither defines the term „reference rate“, nor regulates the periods, conditions and procedures for changing the reference rate.

Therefore, in our view, Bulgaria is free to introduce national legislation concerning the application of the reference rate, such as the provisions contained in Article 33a and Additional Provision § 1(6) of Bulgaria’s Consumer Credit Act (CCA).

Thus we are unable to find discrepancies between CCD and CCA with regard to the notion of "reference rate".

(2) However, it should be pointed out the existence of numerous complaints lodged by individual citizens and NGOs with regard to the regulation and implementation of the reference rate in Bulgaria.

ANNEX XVI: SUMMARY OF COMPLAINT LODGED BY MR. X (POLISH CITIZEN) TO DG SANCO

(About irregular practices of creditors establishing themselves reference indices for the borrowing rates for consumers (anonimised)**)**

The Polish complainant raised in May 2012 concerns as to WIBOR (used generally as a reference rate for variable rate on consumer credits in Poland):

- It is issued from the offers from the banks (the participants certify that they will conclude transactions between them according to the rates that are not lower); the complainant raises concerns about insufficient regulation of the process of definition of WIBOR and potential collusion

- They complainant points out that the rates on interbank loans are not necessarily the cost of credit for the bank, especially if it earns big amounts of money.

The complaint was not very professionally formulated, but according to DG SANCO’s information:

- There are very few actual interbank transactions for 3 or 6 months, while WIBOR3M or WIBOR6M is the most often used to reference borrowing rates for consumer credits (so probably WIBOR3M and WIBOR 6M is not based on actual transactions); the liquid interbank market is overnight

- According to the data regularly published by the National Bank of Poland, the principal source of financing in Polish banks are deposits (annual Reports on Stability of the Financial Sector).

As it was not CCD issue, DG SANCO had to reply to the complainant that it is not regulated at EU level.

ANNEX XVII: SUMMARY RECORD (BY THE COMMISSION SERVICES) OF ECON PUBLIC HEARING ON "TACKLING THE CULTURE OF MARKET MANIPULATION - GLOBAL ACTION POST LIBOR/EURIBOR" , 24th September 2012, 15:00 – 17:30

3. Public hearing on "Tackling the culture of market manipulation - Global action post Libor/Euribor
ECON/7/10626
Rapporteur: Arlene McCarthy (S&D/UK)

Session 1: Tackling the culture of manipulation
The rapporteur, Arlene McCARTHY (S&D/UK) stressed in her introductory remarks the crucial importance of learning the lessons from LIBOR's manipulation and addressing unsupervised benchmarks as there is a very large volume of financial and commercial contracts referenced to them. She expressed her concern about unregulated interest rate benchmarks as they are used not only used by institutional investors but by SMEs and consumers as well. She pointed out that the consultation launched by the European Parliament into benchmarks regulation has received 165 responses to date which underlines the interest on this topic. She also welcomed the amended proposals from the Commission to extend the scope of the Market Abuse Regulation and criminal sanctions for market abuse Directive to cover benchmarks and ensure both criminal and administrative sanctions for abuse.

The following speakers addressed the hearing:
- Gary GENSLER, Chairman of the US Commodity Futures Trading Commission (CFTC) (by video link).
- Michel BARNIER, Commissioner for Internal Market and Services
- Andrew FARRELL, Partner, Head of Commercial Litigation, JMW Solicitors LLP
- Joaquín ALMUNIA, Commissioner for Competition
- Masamichi KONO, Chairman of the International Organisation of Securities Commission (IOSCO) Board
- Daniel L. DOCTOROFF, CEO and President of Bloomberg
- Thierry PHILIPPONNAT, Secretary General of Finance Watch
- Joanna COUND, Head of Government affairs, Blackrock

The hearing was opened by Mr GENSLER, CFTC Chairman, who focused on four main points:
- The reasons why LIBOR manipulation happened: benchmarks were not based on observable underlying transactions and there was a lack of supervision and control mechanisms to avoid conflicts of interest.
- How extensive is the problem: large scale as shown by the Barclays case, EURIBOR was consistently twice as high as LIBOR, which was remarkably stable: on 85% of days banks did not change their submissions at all; short-term interest rate volatility not reflected in LIBOR rate and interest rate benchmarks not reflecting credit worthiness of their contributors.
- Healing process: Need for benchmarks to be based on actual transactions, as well as legislation enhancing supervisory authorities' powers to supervise benchmarks and reinforced governance to prevent and address conflicts of interest.

- Can LIBOR be mended or should it be replaced? The market should decide, but if it is replaced a long transition period as well as coordination at international level would be needed to ensure a smooth move to healthy transaction-based benchmarks.

Mr BARNIER, Commissioner for Internal Market and Services, focused his intervention on three main points:

- Lack of confidence of investors and citizens in benchmarks and markets: some can be considered as public goods and the lack of integrity and transparency affects us all, as well as confidence in financial markets.
- Need for a strong global response to benchmarks manipulation: no room for complacency; need a policy on manipulation with criminal and administrative sanctions as well a change of culture by reinforced governance and transparency.
- Consultation on benchmarks regulation: Self-regulation is not a valid option; the Commission has launched a public consultation on regulatory options to reinforce the integrity, transparency, governance and use of benchmarks.

Mr Andrew FARRELL, acting on behalf of SMEs affected by the LIBOR manipulation in the UK, remarked that for many SMEs affected by LIBOR manipulation it is not cost-effective to individually seek compensation for being mis-sold complex hedging products. There is a need for behavioural change, not just structural change, and this could be best achieved by making the management of financial institutions management for mis-selling of financial products.

Following these interventions Ms McCARTHY(S&D/UK) opened up a round of questions by asking Mr GENSLER what would be an alternative to contributing banks if banks are dissuaded to contributing towards benchmarks by criminal transactions. Mr GENSLER replied that the best alternative would be transaction-based benchmarks with independent bodies collecting and calculating data. In addition, he insisted on the need for transparent processes and proper supervision and control of contributing banks, as well as sanctions in order to avoid collusion.

Mr LAMBERTS (EFA/BE) questioned Mr GENSLER on the optimal regulatory level for benchmarks and who is best positioned to determine what benchmarks are and who should be the most appropriate regulatory and enforcement institutions. Mr GENSLER replied that this depends on the scope and use of different benchmarks.

Mr FEIO (EPP/PO) on behalf of Ms PIETIKÄINEN (EPP/FI) asked Mr GENSLER how he sees the reform of benchmarks and what could be the alternatives to LIBOR and EURIBOR. Mr GENSLER replied that the solution should be benchmarks based on real transactions. This would diminish the chances of misconduct as less discretion would be required.

Mr KLINZ (ALDE/DE) expressed his concern for the confidence crisis caused by financial institutions still not showing respect for customers and supervisors, and wanted to quantify the damage caused by benchmarks manipulation. He shared this belief that this is a cultural question, thus rules and regulation will not be enough and inquired about what can be done to ensure cultural change in financial sector. Mr BARNIER replied that he does not believe in self-regulation of financial markets or in a sudden change of culture and in consequence there is a need for regulation as well as external and internal supervision.

Ms FERREIRA (S&D, PT) asked how this happened, why it took so long to react and how it could be prevented in future. Mr BARNIER replied that this happened because of lack of supervision on conflicts of interests. The Commission response was quick by adopting proposals for amendments to MAR and MAD in order to include administrative and criminal sanctions for benchmarks manipulation. The Commission is working to ensure that required internal and external supervision is implemented in benchmarks production and contributions to avoid conflicts of interest and further regulatory actions will be considered depending on the on-going public consultation results.

Mr SCHMIDT (ALDE/SE) also referred to the need for change in financial institutions management attitudes and inquired into why there were no earlier reactions to benchmarks manipulation as it started in 2008. Mr GENSLER answered that the CFTC started looking at this with the FSA in 2008 but it was a huge job with time required to put all facts and evidence together.

Ms McCARTHY (S&D/UK) closed the questions round by asking Mr FARRELL what SMEs need from regulators to restore their confidence in financial institutions. Mr FARRELL replied that SME's need protection and enforcement of regulations as well as personal accountability of financial institutions' management.

Session 2: Establishing integrity and trust post Libor/Euribor

Mr Joaquín ALMUNIA, Commissioner for Competition, expressed his belief that the financial sector grew too large and too complex before the crisis, serving its own interests before its clients' interests. He made two main points:

- Banks are essential factors of growth; competition policy supports the good functioning of markets and enforcement needs to be stepped up to ensure market access and fair play. Perverse incentives leading to conflicts of interest and lack of transparency in benchmarks production and contributions need to be, and are being, addressed by regulatory reforms on which the Commission is consulting.
- The Financial and economic evolution of last 3 decades led to the financial crisis and the responsibilities are shared by banks, politicians, regulators and business leaders.

Mr Masamichi KONO, Chairman of the IOSCO Board, stressed that there is a need for global regulation and coordination on benchmarks regulation and supervision in order to enhance their integrity and restore market confidence. Improvement should be market driven but only globally coordinated approaches to benchmarks regulation will work. IOSCO's task force on benchmarks intends to publish a consultation report by the end of 2012 and to develop global recommendations by March 2013.

Mr Daniel L. DOCTOROFF, CEO and President of Bloomberg, argued for transparency, accuracy, objectivity and actual transaction data as well as technical expertise, investment from market players and a market based response. Bloomberg has offered to develop, *pro bono*, an alternative to LIBOR based on the principles of transparency, accuracy and real transactions. He believes that LIBOR must be preserved at least in the short-term but there is a need for markets to move to reference rates which reflect economic reality and generate confidence.

Mr Thierry PHILIPPONNAT, Secretary General of Finance Watch, affirmed that the current benchmarks system has in-built conflicts of interest and there is a need for enhanced

regulation to restore confidence, as self-regulation is not a valid option. He called for harmonised definitions and procedures, benchmarks based on effective rates, and for banks and their management to be held responsible for manipulation.

Ms Joanna COUND, Head of Government affairs at Blackrock, expressed concern about the large impacts that sudden and extreme regulatory changes could have on pension and investment funds. According to her, sudden change can lead to more problems than the initial manipulation due to transition and legacy issues. She called for evolution and not revolution in relation to LIBOR, due to liquidity considerations.

Ms SWINBURNE (ECR/UK) requesting advice for MEPs negotiating MIFID regarding the use of benchmarks, and questioned whether an open access public utility should be devised for benchmarks provision. Mr PHILIPPONNAT argued that benchmarks should be provided by private entities but controlled by public institutions.

Mr KLINZ (ALDE/DE) asked Mr ALMUNIA whether the Commission considered holding individuals responsible, not just companies, for benchmarks manipulation. Mr ALMUNIA replied that competition law can only impose fines on companies which have colluded and never to individuals. Mr KLINZ also asked Mr DOCTOROFF how quickly its alternative to LIBOR could ready, why it offered this for free and how it has been received by other regulatory intuitions. Mr DOCTOROFF replied that Bloomberg considered that no commercial entity should benefit from the provision of an alternative to LIBOR. It would take about 15 months to introduce and regulators were "intrigued".

Mr LAMBERTS (Greens-EFA/BE) shared his understanding that a move from LIBOR will bring disruption but the status quo was not an option. He wondered whether a multiplicity of indices would be better than one critical index such as LIBOR. He asked Mr ALMUNIA about the likely methodology to measure possible fines for LIBOR manipulation. Mr ALMUNIA explained that the levels of any fines for a cartel would be calculated based on the level of sales affected by the cartel and the duration of the infringement.

Mr SANCHEZ PRESEDO (S&D/ES) remarked on the corporate responsibility dimension and insisted on the need for a coordinated approach on benchmark regulation as well as manipulation investigations. Mr ALMUNIA replied that the Commission is coordinating with other jurisdictions and in particular with the US.

ANNEX XVIII: SUMMARY RECORD (BY THE COMMISSION SERVICES) OF OPEN HEARING ON ESMA/EBA CONSULTATION PAPER ON "PRINCIPLES FOR BENCHMARKS-SETTING PROCESSES IN THE EU", organised by ESMA/EBA on 13th February 2013, 14:30 – 17:30

Introduction: The hearing was chaired by Verena Ross (VR, Executive Director of ESMA) and Piers Haben (PH, Director of Oversight at EBA) who framed it in the context of the three work streams on benchmarks by ESMA and EBA:

- ESMA-EBA consultation on Principles for Benchmark Setting Processes in the EU
- Review of EURIBOR's administration and management and recommendations to EEBF
- Formal EBA Recommendations to national authorities on the supervisory oversight of banks participating in the Euribor panel

They emphasized that the intention of the principles for benchmark-setting processes by ESMA is to set an interim regime, which will serve as a glide path to the foreseen European framework on benchmark setting, and which does not prejudge the Commission initiative. They also highlighted the non-binding legal effect of the principles and pointed out that the intention of the hearing was to obtain an overview of the stakeholders' views on the consultation paper (CP). As a result, the hearing was structured in line with the different sections of the CP and stakeholders were asked to provide their views on the following topics:

Scope (CP, page 4)

Price reporting agencies (PRAs, including Argus Media and ICIS) inquired whether the definition of benchmark in the CP was intentionally aligned with the definition in MAR and MAD and VR confirmed this.

The UK Investment Management Association and Markit expressed their views that the terms index and benchmark should be differentiated and that the definition of benchmarks was very broad and vague and it should differentiate transaction based from panel based benchmarks as they present different issues and characteristics.

Markit also suggested that it could be useful to differentiate between benchmark sponsor (responsible for an index) and administrator agent (responsible for the maintenance of the index but not necessarily the calculator). It also suggested that regulatory distinctions should be made for different types of benchmarks within the scope.

PRAs (Argus Media and ICIS) agreed on this and added that one size fits all approach would not be feasible as price assessments provided by PRAs present different issues compared to 'financial' benchmarks. They also emphasized that as they are specialist media organisations and their assessments are part of their financial publications they may not be aware of use of their assessments to reference financial contracts in many occasions.

VR replied that the definition of benchmark was intentionally broad as the principles are intended to be high level and apply to the broad benchmark industry and thus it has been avoided to make the CP specific to certain benchmarks and markets.

The Association of German Public Sector Banks presented its view that a differentiation should be made between existing benchmarks and new benchmarks and that existing benchmarks should be subject to less stringent requirements than new ones. In their view new benchmarks should be created to address shortcomings identified in existing ones.

VR replied that due to concerns about the continuity of financial instruments and contracts referenced to benchmarks, shortcomings and potential risks in both current and future benchmarks should be addressed and existing benchmarks should be reinforced.

The Association of German Pfandbrief Banks suggested that the CP should differentiate between critical and other benchmarks in order not to impose excessive or disproportionate obligations on small benchmark administrators. VR responded by asking how they would define criticalally important benchmarks and welcomed their suggestions in writing.

Other stakeholders also mentioned that the consultation did not make reference to benchmarks used for private purposes which are not published or published just to a limited audience. VR replied that as per the definition on the CP, only published benchmarks would be under the scope of the principles.

Principles of good conduct for benchmark setting (CP, page 7)

A. General framework for benchmarks setting

A.1 Methodology: some stakeholders remarked that underlying data should be sufficiently liquid and questioned the continuity of currently used benchmarks depending on quotes. However, others sustained that the aim of benchmarks is not to reflect the liquidity of the underlying but to have liquidity themselves. Others highlighted that liquidity is normally not consistent throughout the investments and methodologies need to be adapted to available data on the underlying markets and there needs to be transparency about the liquid the underlying market is. VR responded that for benchmarks with liquid underlying markets, panels would not be necessary, but as not all benchmarks can be transaction based, assessments based on a good level of liquidity of underlying data, transparency and checks are necessary.

A.2. Governance structure: PRAs expressed their concern about the requirement for an independent structure *"the process of setting a benchmark needs to be governed by a clear and independent process"*. VR explained that sufficient independence is key to ensuring proper governance and decision making processes and avoiding conflicts of interest.

A.4. Transparency: some stakeholders, mainly stock exchanges such as LSE, NYSE-Euronext and Deutsche Börse, highlighted the need to calibrate transparency on methodology and underlying data for different types of benchmarks and indices, for example by permitting partial or delayed transparency. In their view, this is needed in order to protect the IPRs of benchmark administrators and not to discourage contributors from participating on the benchmark setting process. Deutsche Börse also made reference to the requirements for transparency and open access under Art. 30 MIFIR, and defended that transparency should be calibrated according to users and that excessive transparency could lead to competitive disadvantages for administrators and reduce innovation in index provision.

VR responded that the principles on ESMA's CP are not linked to requirements under MIFID/MIFIR and emphasised that the principles cannot be sector specific and a common approach needs to be reached.

B. Principles for firms involved in benchmark data submissions (where relevant) (CP, page 9)

Several stakeholders (including Ernst & Young, Markit, Argus, ICIS and the Association of German Public Sector Banks) expressed their concern about the fact that they rely on voluntary contributions from submitters based outside the EU which could be discouraged by these requirements, as they seem fit to large financial institutions rather than for small commodity traders. They also raised concerns about the requirement for adequate internal control mechanisms and audits of submissions and procedures under B.8. They inquired about the required periodicity of these controls and audits and explained that verifiable controls are not always possible for existing benchmarks.

C. Principles for benchmark administrators (CP, page 10)

C.3.Limitation of the use of discretion: Markit objected to this requirement to limit discretion as in its opinion in some markets judgment is more relevant than transactions and Thomson Reuters supported the need to flexibility on the choice of methodologies by administrators and users of benchmarks.

C.5. Fiduciary obligation on benchmark administrators: several stakeholders defended the need to differentiate between index administrators and administrators of financial products to investors and to provide a safe harbour for administrators of generic indices whose primary aim is not referencing financial products.

C.6. A benchmark administrator should fully disclose the methodology: according to administrators of strategy indices (also known as smart beta indices), making their methodologies completely public would hurt the interest of investors in this type of research and reduce innovation and competitiveness in the provision of these indices.

C.9. Benchmark administrators should ensure that principles applying to contributing firms in order to prevent any misconduct are implemented: several stakeholders highlighted that this could be costly and difficult for them as their submissions are voluntary and in many cases from non-EU firms. They pointed out the absence of a mechanism for bringing in submitting. Finally, stock exchanges which rely on hundreds of live data feeds from exchanges around the world, versus contributions from submitters, shared their view that this requirement should apply exclusively to administrators of benchmarks based on panels or surveys.

D. Principles for benchmark calculation agents and publishers (CP, page 12-13)

There were not many comments regarding the requirements for benchmark calculation agents, apart from VR confirming that the responsibility for the reliability of benchmark would rest with the administrator even if its calculation was outsourced.

The application of these requirements to public institutions acting as calculators of certain benchmarks (such as the ECB for EONIA or the Danish Central Bank for CIBOR) was questioned and PHs responded that as these public institutions are already heavily supervised in principle these requirements would not apply to them.

F. Principles for users of benchmarks (CP, page13)

F.2. A benchmark user should ensure that the relevant benchmark administrator and benchmark calculation agent comply with the principles: some stakeholders, mainly users of strategy indices, stated that users are not able to ensure the robustness of the indices they use and that these requirements could be seen as an attempt to outsource the compliance function to the users of benchmarks. The Investment Management association highlighted the fact that in many occasions investment managers need to use the benchmarks which their clients choose even if they think they are not appropriate and thus they would not be able to comply with this requirement.

VR responded that this is rather a "due diligence" requirement for users as they are required to check that they are using appropriate and robust benchmarks to reference financial products and that this should be possible as this is a requirement for administrators to provide sufficient information for users to make informed decisions.

F.3. Requirement for contingency plans: users of strategy indices expressed their opinion that contingency plans may not be applicable to users of strategy indices as their clients choose the indices used on many occasions.

General comments

PRAs (Argus and ICIS) stated that shortcomings in price assessments provided by PRAs have already been addressed by IOSCO's principles for oil PRAs. As the principles for benchmarks on the CP by ESMA are in some cases not consistent with the principles from IOSCO, this could hinder the implementation of the latter, which will be reviewed by IOSCO in 18 months. PRAs and other stakeholders stressed the need for coordination on the principles with IOSCO as capital markets and the use and provision of benchmarks are global.

VR replied that ESMA/EBA are participating on the IOSCO task force and aiming to align their principles with ISOCO to the highest degree possible. However, she stressed that whilst the EU needs to be consistent with IOSCO, it also needs to ensure its own needs and interests are addressed.

The International Capital Market Association (ICMA) pointed out the fact that these principles of benchmark setting look just at the pricing of the financial transaction versus the whole financial transaction. They inquired whether these principles are aimed at addressing market abuse (already addressed under MAR/MAD) or investor protection (already addressed under MIFID/MIFIR). They emphasized the need to put this initiative in the context of the regulation of the overall financial transactions.

VR responded that with these principles ESMA is aiming to ensure investor protection through efficient and orderly markets as well as financial stability.

Stakeholders (including stock exchanges and the Association of German Public Sector Banks) asked for clarification on how national competent authorities (NCAs) plan to apply the principles. They expressed their concern that although the principles are non-binding and intended to serve as a glide path for an EU framework on benchmarks, they could be used by NCAs a basis for national regulation of benchmarks.

VR replied that the principles from ESMA/EBA are not intended to serve as a basis for national regulation and that as an EU wide framework for benchmarks is under way they do

not intend to encourage intermediate regulation at national level which could lead to a fragmented approach.

VR closed the hearing by thanking the stakeholders and informing that ESMA/EBA plan to publish a feedback statement together with the final principles by the end of April. When inquired about the date of applicability of these principles she responded that this is still to be decided.

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ANNEX XX: OVERVIEW OF THE WIDE RANGE AND VARIETY OF INDICES AND PRICE ASSESSMENTS USED AS BENCHMARKS

This annex provides some examples of the main types of indices and price assessments frequently used as benchmarks and their main characteristics. The list below aims to provide an overview of the wide range and variety of benchmarks wide range and variety of indices and price assessments used as benchmarks. However, it cannot be considered as an exhaustive or comprehensive list and the IA analysis for the initiative on benchmarks has not been based exclusively on the benchmarks listed in this annex but on all types of benchmarks under the scope of the initiative according to section 7 of this IA.

1.1. Interest rate indices.

These are benchmarks for which the underlying assets are either actual interest rates or interest rates estimates. They range from Interbank Offered rates to REPOs or money market rates. They are mostly calculated surveys of contributing banks by trade associations or private companies (LIBOR, EURIBOR, etc.), but in some occasions by public bodies (WIBOR). Money market rates such as EONIA and SONIA are generally calculated by Central Banks based on actual transaction data.

1.1.1. Interbank Offered Rates (IBOR): average interbank rates at which prime banks lend or borrow unsecured short term deposits.

IBOR – EU								
Index	**Definition**	**Currency**	**Maturities**	**Panel**	**Calculation**	**#Participants**	**Administrato**	**Domicile**
BUBOR	Average interbank rate at which prime banks offer unsecured term deposits with up to 1yr maturity	HUD	15: O/N – 1yr	Yes	Arithmetic average of rates after removing highest and lowest 4 quotes.	15 banks selected by Hungarian Central Bank	Hungarian Forex Associa-tion	Hungary
CIBOR	Average interbank rate at which prime banks lend unsecured with up to 1yr maturity	DKK	14: 1wk – 1yr	Yes	NA	9 banks	Danish Bankers Association	Denmark
EURIBOR	Average interbank rate at which prime banks offer unsecured term deposits with up to 1yr maturity	EUR, USD	15: O/N – 1yr	Yes	Arithmetic average after removing highest and lowest 15%	43 banks	European Bankers Federa-tion (EBF)	Euro Area

LIBOR	Average interbank rate at which prime banks borrow unsecured with up to 1yr maturity	AUD, CAD, CHF, DKK, EUR, GBP, JPY, NZD, SEK, USD	15: O/N – 1yr	Yes	Arithmetic average after removing highest and lowest 25%	6 to 18 banks (minimum 5)	British Bankers Association (BBA), Thomson Reuters	UK
PRIBOR	Average interbank rate at which prime banks offer unsecured term deposits with up to 1yr maturity	CZK	9: O/N – 1yr	Yes	Arithmetic average of rates after removing 1 to 2 highest and lowest quotes.	Minimum 4 banks	Czech National Bank	Czech Rep.
RIGIBOR	Average interbank rate at which prime banks borrow unsecured with up to 1yr maturity	LVL	6: O/N – 1yr	YES	Arithmetic average of rates after removing the highest and the lowest quotes.	7 banks	National Bank of Latvia	Latvia
SOFIBOR	Average interbank rate at which prime banks borrow unsecured with up to 1yr maturity	BGN	14: O/N – 1yr	YES	Arithmetic average after removing highest and lowest 20%	Minimum 8 banks	National authorities (e.g. BNB)	Bulgaria
STIBOR	Average interbank rate at which prime banks borrow unsecured with up to 1yr maturity	SEK	8: T/N – 1yr	Yes	Arithmetic average of rates. If the lowest and/or highest bid differs with 25 basis points or more from the second lowest and second highest bid it will be excluded from the calculation.	Banks in Genium-Inet system	Nasdaq OMX	Sweden
VILIBOR	Average interbank rate at which prime banks borrow unsecured with up 1yr	LTL	7: O/N – 1yr	Yes	Arithmetic average of rates after removing the highest and the lowest quotes.	Minimum 5 banks	NA	Lithuania

	maturity.							
WIBOR	Average interbank rate at which prime banks borrow unsecured with up to 1yr matur.	PZL	9: O/N – 1yr	Yes	Arithmetic average of rates based on transactions data. No trimming of data.	14 banks selected by volume in Polish cash and derivative instruments	National Bank of Poland	Poland

IBOR – NON EU								
Index	**Definition**	**Currency**	**Maturities**	**Panel**	**Calculation**	**#Participants**	**Administrator**	**Domicile**
AIDIBOR	NA	AED	NA	NA	NA	NA	NA	UAS
BAIBOR	NA	ARS	NA	NA	NA	NA	NA	Argentina
BBSW	NA	AUD	NA	NA	NA	NA	NA	Australia
BKBM	NA	NZD	NA	NA	NA	NA	NA	New Zealand
BKIBOR	NA	THB	NA	NA	NA	NA	NA	Thailand
BRAZIBOR	NA	BRL	NA	NA	NA	NA	NA	Brazil
CDOR	NA	CAD	NA	YES	NA	NA	NA	Canada
CHILIBOR	NA	CLP	NA	NA	NA	NA	NA	Chile
COLIBOR	NA	COP	NA	NA	NA	NA	NA	Columbia
EIBOR	NA	AED	NA	NA	NA	NA	NA	UAE
HIBOR	Average interbank rate at which prime banks borrow unsecured with up to 1yr maturity	HKD	8: O/N – 1yr	YES	The Hong Kong Interbank Offer Rate (HIBOR) is determined by the supply of and demand for funds between market players, and therefore is one of the most important indicators of the price of short-term funds in Hong Kong.	NA	NA	China
IIBOR	NA	NA	NA	NA	NA	NA	NA	NA

ICAP NYFR (equivalent of USD-LIBOR)	Average interbank rate at which prime banks borrow unsecured with up to 1yr maturity	USD	2: 1m and 3m	YES	Arithmetic average after removing highest and lowest 25%	24 to 40 banks (minimum 16)	ICAP	UK
JIBAR	NA	ZAR	NA	NA	NA	NA	NA	South Africa
JIBOR	NA	IDR	NA	NA	NA	NA	NA	Indonesia
KIBOR	NA	PKR	NA	NA	NA	NA	NA	Pakistan
KLIBOR	NA	MYR	NA	NA	NA	NA	NA	Malaysia
KORIBOR	NA	KRW	NA	NA	NA	NA	NA	South Korea
MEXIBOR	NA	MXN	NA	NA	NA	NA	NA	Mexico
MIBOR	Average interbank rate at which prime banks borrow unsecured with up to 1yr maturity	IRP	3: 2wk – 3m	YES	Transaction volume weighted average of rates	33 banks/ primary dealers	Fixed Income and Money Market Dealers Association (FIMMDA), National Stock Exchange (NSE)	India
MOSIBOR	NA	RUB	NA	NA	NA	NA	NA	Russia
NIBOR	Average interbank rate at which prime banks lend unsecured with up to 1yr maturity	NOK	10: 1w – 1yr	YES	Arithmetic average of rates	6 banks	Finance Norway (FNO)	Norway
NIBOR (Nigeria)	NA	NGN	NA	NA	NA	NA	NA	Nigeria
PHIBIOR	NA	PHP	NA	NA	NA	NA	NA	Philippines
REIBOR	NA	ISK	NA	NA	NA	NA	NA	Iceland
SABOR	NA	ZAR	NA	NA	NA	NA	NA	South Africa
SHIBOR	NA	CNY	NA	NA	NA	NA	NA	China
SIBOR	Average interbank rate at which prime banks borrow unsecured with up to 1yr maturity	SGD	6: 1m – 1yr	YES	Arithmetic average after removing highest and lowest 25%	17 banks	Association of Banks in Singapore (ABS)	Singapore
TAIPOR	NA	TWD	NA	NA	NA	NA	NA	Taiwan
TELBOR	NA	ILS	NA	NA	NA	NA	NA	Israel
TIBOR	Average interbank rate at which prime banks borrow unsecured with up to 1yr maturity	JPY, EUR	13: O/N – 1yr	YES	JBA discards quotes from the 2 highest and 2 lowest financial institutions and averages the remaining rates	15 to 16 banks	Japanese Bankers Associ-ation (JBA)	Tokyo
TRLIBOR	NA	TRY	NA	NA	NA	NA	NA	Turkey

VINOBOR	NA	VND	NA	NA	NA	NA	NA	Vietnam
ZIBOR (CHF-LIBOR)	Average interbank rate at which prime banks borrow unsecured with up to 1yr maturity	CHF	15: O/N – 1yr	YES	Arithmetic average after removing highest and lowest 25%	6 to 18 banks (minimum 5)	British Bankers Association (BBA)	Switzerland

1.1.2. Repurchase agreements (REPO): average interest rates at which prime banks lend against collaterals.

Index	Definition	Currency	Maturities	Panel	Calculation	#Participants	Administrator	Domicile
EUREPO	Average interbank rate at which prime banks lend against collateral with maturity up to 1yr	EUR	10: O/N – 1yr	YES	Arithmetic average after removing highest and lowest 15%	34 banks (minimum 12, 3 countries)	European Bankers Federa-tion (EBF)	Euro area
Swiss Repo Rate	Average interbank rate at which prime banks lend against collateral with maturity up to 1yr	CHF	12: O/N to 1yr	NO	Volume weighted average of O/N reported transactions	Eurex SIX repo market	Eurex SIX, Swiss National Bank (SNB)	Switzerland
Tokyo Repo Rate	Average interbank rate at which prime banks lend against collateral with maturity up to 1yr	JPY	8: O/N – 1yr	YES	Arithmetic average after removing highest and lowest 15%	22 banks	Bank of Japan (BoJ)	Japan
UK REPO	Average interbank rate at which prime banks lend against collateral with maturity up to 1yr	GBP	10: O/N – 1yr	YES	Arithmetic average after removing highest and lowest 25%	12 banks	British Bankers Association (BBA)	UK
US REPO	Average overnight inter-bank rate at which prime banks lend against collateral	USD	1: O/N	NO	Volume weighted average of O/N reported transactions	NA	ICAP (GovPX)	USA

1.1.3. Money market rates: overnight interest rates at which financial institutions and high quality corporates perform short-term transaction in the money market.

Index	Definition	Curr	Maturities	Panel	Calculation	#Participants	Administrator	Domicile
Overnight money market rates								
EONIA	Overnight rate at which banks effectively perform unsecured lending transactions	EUR	O/N	NO	Volume weighted average of O/N transactions reported to ECB's TARGET system.	43 banks (TARGET reporting data)	European Central Bank (ECB), EBF	Euro area
Federal funds rate	Overnight rate at which depository institutions lend balances at the Federal Reserve to other depository institutions	USD	O/N	NO	Volume weighted average rate of O/N repo transactions	NA	Federal Reserve System (FED)	USA
SARON	Overnight rate at which banks effectively perform (collateralised!) repo lending transactions	CHF	O/N	NO	Volume weighted average rate of O/N repo transactions	NA	Swiss National Bank (SNB)	Switzerland
SONIA	Overnight rate at which banks effectively perform unsecured lending transactions	GBP	O/N	NO	Weighted average of unsecured O/N cash transactions	NA	Bank of England (BoE)	UK
TONAR	Overnight rate at which banks effectively perform unsecured lending transactions	JPY	O/N	NO	Weighted average of unsecured O/N cash transactions	NA	Bank of Japan (BoJ)	Japan
Other money market rates								
ABCP	Interest rate at which high-quality corporates borrow against collateral with maturity of up to 9m	USD	Up to 270 days (average 30 days)	NO	Rates calculated on regression techniques using DTCC transaction data	DTCC	Federal Reserve System (FED)	USA
CP	Interest rate at which high-quality corporates borrow unsecured with maturity of up to 9m	USD	Up to 270 days (average 30 days)	NO	Rates calculated on regression techniques using DTCC transaction data	DTCC	Federal Reserve System (FED)	USA

1.1.4. Interest rate swaps: fixed for floating interest rate swaps.

Index	Definition	Curr	Maturities	Panel	Calculation	#Participants	Administrator	Domicile

Danish Swap	Fixed for floating interest rate swap with maturities of more than 1yr	DKK	9: 2yr – 10yr	YES	NA	9 banks	Danish Bankers Association	Denmark
FTSE MTIRS	Fixed for floating interest rate swap with maturities of more than 1yr	EUR, GBP, USD, JPY	10: 1yr – 10yr	NO	The source for IRS Semi Bond Swap rates is the rates displayed on Thomson Reuters, where there are quotes available for both offer and bid, for 2 - 15 years in steps of 1 year, then for 20, 25 and 30 years	NA	FTSE	UK
ISDAFIX	Fixed for floating interest rate swap with maturities of more than 1yr	CHF, EUR, GBP, HKD, JPY, USD	10: 1yr – 10yr	YES	Arithmetic average of rates after removing 2 to 4 highest and lowest quotes.	8 to 16 banks (minimum 6 to 12)	ICAP/ISDA	UK
OIS	(Free of counterparty risk) Fixed for floating interest rate swap with maturities up to 2yrs and the floating lag being tied to an overnight rate (e.g. EONIA)	AUD, CAD, CHF, DKK, EUR, GBP, HKD, JPY, NZD, SEK, USD	Usually 1wk to 2yr	NA	NA	NA	Bloomberg, ICAP, Thomson Reuters, other data providers	Various

1.1.5. Credit default swaps (CDS): index of structured credit products.

Index	Definition	Curr	Maturities	Panel	Calculation	#Participants	Administrator	Domicile
CDX	Index of synthetic/ structured credit products	USD, EUR	Up to 10yr	YES	Markit receives contributed CDS data from official books and records of market. This data then undergoes a rigorous cleaning process by testing for stale, flat curves, outliers and inconsistent data. In case of failing the requirements the data is	14 investment banks	Markit (former JP Morgan company)	USA

					discarded.			
Iboxx	Index of CDS of investible (bond) underlyings.	EUR, GBP, JPY, USD a.o.	Up to 30yr	YES	Markit receives contributed CDS data from official books and records of market. This data then undergoes a rigorous cleaning process by testing for stale, flat curves, outliers and inconsistent data. In case of failing the requirements the data is discarded.	Investment banks	Markit (former Iboxx company)	USA
Itraxx	Index of synthetic/ structured credit products	Various	Up to 10yr	YES	Markit receives contributed CDS data from official books and records of market. This data then undergoes a rigorous cleaning process by testing for stale, flat curves, outliers and inconsistent data. In case of failing the requirements the data is discarded.	10 to 12 investment banks	Markit (former Morgan Stanley company)	USA

1.1.6. Secondary markets sovereign yields: redemption yield of on-the run sovereign bonds.

Index	Definition	Curr	Maturities	Panel	Calculation	#Participants	Administrator	Domicile
Sovereign yields	Redemption yield of on-the run sovereign bonds with maturity of more than 1y	Various	Up to 30yr	NO	NA	NA	National central banks (NCB), National treasury departments	Various
Treasury bills	Redemption yield of on-the run treasury bills with maturity of up to 1y	Various	Up to 30yr	NO	NA	NA	FED	USA

1.2 Commodities price indices.

These are weighted averages of selected commodity prices, which may be based on spot or futures prices. Price information used for the construction of popular commodity indices (such as CRB, DJ-AIGCI, GSCI, RICI, SPCI, etc.) is usually based on observable futures transactions performed through central counterparties, i.e. mercantile or derivatives exchanges.

The main commodity index (such as IMF, World Bank, Dow-Jones, S&P, Thompson Reuters, Platts, Argus, etc.) publishes transparent rules governing the index construction. Manipulation of such indices is thus relatively difficult. However, price reporting agencies (PRAs) such as Argus, ICIS and Platts publish highly specialised price indices based on quotes from panel participants, for which methodologies and underlying data are not always transparent as prices are formed by surveys of voluntary price contributors. In consequence IOSCO is currently investigating the functioning and oversight of Oil PRAs.

The main commodities sectors represented in indices are: Energy, Metals, Grains & Seeds, Softs, Livestock and others. In this section we will differentiate between aggregate, agricultural, energy and metal based indices:

Commodity price indices (CPIs)		
Index	**Administrator**	**Definition**
Aggregate		
(TR/J CRB)	**Thomson Reuters/Jefferies** (prior by the Commodities Research Bureau)	**The (TR/J CRB) index is designed to provide a timely and accurate representation of a long-only, broadly diversified investment in commodities.** It is a tradable index and it currently comprises 19 commodities as quoted on the NYMEX, CBOT, LME, CME and COMEX exchanges. These are sorted into 4 groups, each with different weightings. These groups are: petroleum based products, liquid assets, highly liquid assets and diverse commodities. The index comprises 19 commodities: Aluminium, Cocoa, Coffee, Copper, Corn, Cotton, Crude Oil, Gold, Heating Oil, Lean Hogs, Live Cattle, Natural Gas, Nickel, Orange Juice, Silver, Soybeans, Sugar, Unleaded Gas and Wheat[295].
Thomson Reuters Equal Weight Continuous Commodity Index	**Thomson Reuters**	The **Thomson Reuters Equal Weight Continuous Commodity Index** is recognized as a major barometer of commodity prices. The index comprises **17 commodity futures:** Cocoa, Coffee, Copper, Corn, Cotton, Crude Oil, Gold, Heating Oil, Live Cattle, Live Hogs, Natural Gas, Orange juice, Platinum, Silver, Soybeans, Sugar No. 11, and Wheat. It is sometimes referred to as the **'Old CRB'**. **The 17 components of the CCI are continuously rebalanced to maintain the equal weight of 5.88%.** Since CCI components are equally weighted, they therefore **distribute evenly into the 4 major sectors: Energy 17.65%, Metals 23.53%, Softs 29.41% and Agriculture 29.41%. While other commodity indices may overweight in certain sectors (e.g. Energy), the CCI provides exposure to**

[295] http://www.jefferies.com/cositemgr.pl/html/ProductsServices/SalesTrading/Commodities/ReutersJefferiesCRB/index.shtml

		all four commodity subgroups.
DJ-AIGCI	**Dow Jones-UBS**	The **Dow Jones-UBS Commodity Index (DJ-UBSCI)** is a broadly diversified rolling commodities index composed of futures contracts on 19 physical commodities traded on U.S. exchanges. **It is a tradable index and it is designed to minimize concentration in any one commodity or sector. For relative weights, DJ-AIGCI relies primarily upon liquidity, and to a smaller extent upon production .**No one commodity can compose less than 2% or more than 15% of the index, and no sector can represent more than 33% of the index. Annual rebalancing and reweighting ensure that diversity and liquidity is maintained over time. The index serves as a liquid and diversified benchmark for the commodities' asset class. **The DJ-UBSCI℠ is calculated on an excess return basis**. Also available is the **Dow Jones-UBS Commodity Index Total Return℠ (DJ-UBSCITR℠),** a **total return index based on the DJ-UBSCI℠**. The DJ-UBSCI℠ reflects the return of underlying commodity futures price movements only, while the DJ-UBSCITR℠ reflects the return on fully collateralized positions in the underlying commodity futures[296].
S&P GSCI	**Standard & Poors** (prior Goldman Sachs)	The S&P GSCI serves as a benchmark for investment in the commodity markets and as a measure of commodity performance over time; formerly Goldman Sachs Commodity Index (sold to S&P in 2007) **It is a tradable index and available to market participants at the CME. Individual components qualify for inclusion in the S&P GSCI® on the basis of liquidity and are weighted by their respective world production quantities.** Currently, the S&P GSCI contains 24 commodities from all commodity sectors: six energy products, five industrial metals, eight agricultural products, three livestock products and two precious metals. **The S&P GSCI is world-production weighted; the quantity of each commodity in the index is determined by the average quantity of production in the last five years of available data. It reviews changes to the component list and weights generally once a year.** Since the weights are recalculated based on world production changes can be quite drastic at times. There is also the **Goldman Roll,** which represents monthly sale and purchase of commodities for SP-GSCI (rollover for its futures)[297]. The **S&P-GSCI Excess Return** also exists.
S&P SPCI	**Standard & Poors**	The Standard & Poor's Commodity Index (SPCI) is a commodity price index that measures the price changes in a cross section of agricultural and industrial commodities with actively traded U.S. futures contracts, stretching across five sectors - Energy, Metals, Grains, Livestock, and Fibers & Softs. Only commodities that are consumed for industrial use are included in the index. Weights in the index are determined by the dollar value of Commercial Open Interest (COI) for each component commodity, and rebalanced annually each February.
RICI	**Uhlmann Price Securities**	**The Rogers International Commodity Index (RICI)** is a broad index of commodity futures designed by Jim Rogers in 1996/1997. **The index tracks commodity futures contracts**. It represents the value of a basket of commodities consumed in the global economy, ranging from

[296] http://www.djindexes.com/commodity/
[297] http://www.standardandpoors.com/indices/sp-gsci/en/us/?indexId=spgscirg--usd----sp------

		agricultural to energy and metals products. **The value of this basket is tracked via futures contracts on 38 different exchange-traded physical commodities, quoted in four different currencies, listed on twelve exchanges in five countries**. **The index's weights attempt to balance consumption patterns worldwide** (in developed and developing economies) **and specific contract liquidity.** The list of commodities is subject to change by the RICI Committee. The index is divided into three sub-indices, - RICI Agriculture, RICI Energy and RICI Metals. The sub-indices' contribution to main index from the beginning are Agriculture - 34.90%, Energy - 44.00%, Metals - 21.10% according to the RICI Handbook[298].
Deutsche Bank Liquid Commodity Index (DBLCI)	**Deutsche Bank**	**The DBLCI, launched By Deutsche Bank in February 2003, comprises six commodities,** the least number of commodities relative to other indices These were chosen by a committee. Like the RICI, the DBLCI weights are fixed. However, detailed information on the index, such as weighting calculation, is not disclosed. The DBLCI has been back-calculated to July 1988.
Merrill Lynch Commodity index eXtra (MLCX)	**Merrill Lynch**	**The Merrill Lynch Commodity index eXtra (MLCX), launched in June 2006,** **comprises 18 commodity futures contracts, selected by liquidity. These commodities are then weighted using global production weights.** Caps and floors of 60% and 3%, respectively, are applied to the main six sub-indices in order to control for risk. Going forward, the index weights are updated annually. The history of the index starts in June 1990, on which spot, excess and total return indices were published.
CMCI	**UBS/ BLOOMBERG**	**The UBS Bloomberg CMCI (Constant Maturity Commodity Index).** This global index offers exposure to a basket of 26 different commodity futures contracts of varying maturities for each individual commodity.
NASDAQ Commodity Index	**NASDAQ**	The NASDAQ Commodity Index Family is designed to measure the performance of a single commodity or a group of commodities through the use of futures contracts. The Indexes aim to include the largest and most liquid commodity futures. The Index Family includes Benchmark, Tradable, Sector and Single Commodity indexes as well as 5 different roll versions. They are the NASDAQ Commodity Benchmark Index (NQCI) which includes 33 commodities, the NASDAQ Commodity Tradable Index (NQCIT) which includes 19, the NASDAQ Commodity Sector Indexes which include five main sectors and five additional sub and diversified sectors and the NASDAQ Commodity Single Indexes which are derived from the commodities included in the Benchmark Index. Single Commodity indexes are available for all commodities included in the Benchmark index.
Multi-sector		
WORLD BANK COMMODITY PRICE INDICES	**World Bank**	**The World Bank monitors major commodity markets. Monthly price Indices for over 70 series** are published on the third U.S. business day of each month. Series are available from 1960 for commodity monthly prices for energy, non-energy, food, raw materials, fertilizers, metals, and minerals (1990 = base year). The data is collected from various sources as noted in the Commodity Price Data (*pink sheets)*. They are classified into Energy and Non- Energy[299].

[298] http://beelandinterests.com/PDF/RICI%20Hndbk_Final_01.24.12.pdf

[299] http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTDECPROSPECTS/0,,contentMDK:21574907~menuPK:7859231~pagePK:64165401~piPK:64165026~theSitePK:476883,00.html

IMF COMMODITY PRICE INDICES	**IMF**	**The IMF develops and maintains Indices of Primary Commodity Prices,** (in USD and SDRs terms, this includes industrial metals, food, beverages and agricultural raw materials, and energy) and Indices of Market Prices for NonFuel and Fuel Commodities (in USD and SDRs terms). Weights are updated every 5 years and these indices differ from the ones published by the World Bank that their basket is not only representative of developing countries, but of global commodities trade300.
CBOE/ CME COMMODITY VOLATILY INDICES	**CBOE/ CME**	**The CBOE & CME launched in 2008 a family of volatility indices for commodities,** after the introduction VIX OIL, a volatility index for oil prices. These indices include: OIV (CBOE/NYMEX Crude Oil (WTI) Volatility Index), GIV (CBOE/COMEX Gold Volatility Index), SIV (CBOE/CBOT Soybean Volatility Index), CIV (CBOE/CBOT Corn Volatility Index) and WIV (CBOE/CBOT Wheat Volatility Index)[301].
Main Agricultural & Energy CPIs		
CBOT COMMODITY PRICE INDICES	**CBOT**	**The Chicago Board of Trade (CBOT), established in 1848, is the world's oldest futures and options exchange**. More than 50 different options and futures contracts are traded by over 3,600 CBOT members. It merged with CME in 2007. **It publishes indices and prices for agricultural commodities such as corn, soybeans, soybean oil and wheat among others.** Some examples are: Soybean meal – CBTO, Soybean - CBTO and Soy Oil CBTO.
CME COMMODITY PRICE INDICES	CME	The Chicago Mercantile Exchange (CME) is a commodity derivative exchange. It merged with CBOT in 2007. After merges in 2008, the CME, CBOT, NYMEX and COMEX are now markets owned by the CME Group. It publishes indices on agricultural products (CME Index) such as cattle (Live Cattle – CME), lean hogs (Lean-Hog – CME) and cereals (Wheat – CME, Corn-CME), etc. It also produces indices on energy products such as: Natural Gas NYMEX, Crude Oil WTI – NYMEX, Heating oil NYMEX, Gasoline NYMEX, Ethanol (NYMEX), Electricity (NYMEX), Refined Products (NYMEX), Coal (NYMEX) and Others (Uranium, NYMEX).
NYBOT COMMODITY PRICE INDICES	**NYBOT**	**The New York Board of Trade is a futures exchange located in New York.** The NYBOT is comprised of several formerly independent, niche exchanges including the New York Cotton Exchange (NYCE); the Coffee, Sugar, and Cocoa Exchange (CSCE); the New York Futures Exchange (NYFE); and the Financial Instruments Exchange (FINEX).. Thus, **NYBOT provides commodity prices and indices for agricultural such as cotton, coffee, sugar and cocoa (Cotton – ICE, COFFE C – ICE, Sugar 11 – ICE & Cocoa – ICE), as well as for other commodities such as oil (Brent Oil ICE).**
LIFFE COMMODITY	**LIFFE EURONEXT**	**NYSE Liffe is the global derivatives business of NYSE Euronext**. It comprises the derivatives (futures and options on futures) business of

[300] http://www.imf.org/external/np/res/commod/index.aspx
[301] http://www.cmegroup.com/trading/options-volatility-indexes.html

PRICE INDICES		Euronext originally traded on individual venues in Amsterdam, Brussels, London, Lisbon and Paris markets. **It provides derivatives indexes and prices for agricultural commodities such as wheat, sugar, cocoa and coffee among others.** Some examples of indices are: Wheat - LIFFE London, Sugar LIFFE London, Cocoa LIFFE London, Coffee LIFFE London and Wheat - LIFFE Paris.
ICE CPIs	**ICE**	Intercontinental Exchange, Inc., known as ICE, is an American financial company that operates Internet-based marketplaces which trade futures and over-the-counter (OTC) energy and commodity contracts as well as derivative financial products. While the company's original focus was energy products (crude and refined oil, natural gas, power, and emissions), recent acquisitions have expanded its activity into the "soft" commodities (sugar, cotton and coffee). It provides indices such as **Gasoil-ICE, &NBP –ICE**.
Benchmark prices and indices for petroleum products	**Price Reporting Agencies (PRAs) (Platts, Argus, ICIS) Private Entities**	Major energy/oil brokers and producers submit voluntary quotes to the PRAs. Price Reporting Agencies collect trade and quote data that are submitted voluntarily for a broad set of oil grades to derive benchmark prices which are referenced in spot trading and oil derivatives. The derivation of price assessments is not through a algorithm but involves discretionary determinations as to the “quality” of a given price. Verification of all reported trades (process non-transparent). According to IOSCO, the number of reported deals per benchmark may be lower than five. In illiquid markets price assessments are based on bids and offers through the entire day and might take into account “other market information.”.
NIMEX Indices	**NYMEX**	Indices for Oil and Gas Products: Light Sweet Oil, Gasoline, Heating oil, Natural Gas, Brent Crude. They are trade based indices calculated as the volume weighted average price of trades occurring Globex between 2.28 and 2.30pm EST. Some examples are: Natural Gas – NYMEX, Crude Oil WTI – NYMEX, Heating oil NYMEX and Gasoline NYMEX.
EEX Indices	**EEX**	EEX (European Energy Exchange Phelix baseload futures) operates market platforms for trading in electric energy, natural gas, CO2 emission allowances and coal and derivatives of these products. Contracts are settled financially on the basis of indices such as: Phelix Baseload – EEE, European Gas Index – EGIX , API#2 (ARA), API#4 (RB), etc.
Lean Hog Index, Feeder Cattle Index	**US Department of Agriculture**	The CME Lean Hog Index is a two-day trade based weighted average of average net prices provided by USDA.
Precious metals CPIs		
London Gold Fixing	**London Gold Fixing Ltd- Private Entity**	The gold fixing sets a price for settling gold contracts in the London market twice daily. Participant orders for clients and prop trading must net to within 50 bars of 0 to fix the price. The posted bids are then executable. Calculated based on Submission for 5 member banks
COMEX Indices	**COMEX**	Now part of CME, COMEX is the primary market for trading metals such as gold, silver, copper and aluminium. It provides indices such as GOLD – COMEX, SILVER-COMEX, COPPER-COMEX, etc.

1.3 Equity Indices

Common stock price indices (e.g. Eurostoxx, FTSE, MSCI, NYSE) are based on time-varying panels of company shares. However, any price information considers exclusively observable transactions performed through central counterparties, i.e. stock exchanges and their trading venues. The major index administrators further publish transparent rules governing the index construction. Index manipulations are therefore very difficult to implement. Because of this reason, IOSCO High Level Task Force on Benchmarks does not consider the reform of these type of benchmarks a priority: "Exclude benchmarks that are produced by algorithmic procedures applied to transparent prices that result from transactions on regulated exchanges (e.g., S&P index products). Rationale: A number of benchmarks would otherwise be captured such as traditional equity indices (S&P 500, FTSE), which IOSCO members may not consider to be of immediate priority"

These indices are categorised mainly by region and sectoral coverage. We provide an overview of the main families of Equity indices below, which are subdivided into a very large number of sub-indices:

Global Indices Equity	Region
	world
SPGLOB Index	S&P GLOBAL 1200 INDEX
OOI Index	S&P GLOBAL 100 INDEX
SPADR Index	S&P ADR INDEX
	Americas
SPR Index	S&P 1500 Composite Index
SPX Index	S&P 500 INDEX
SPTSX60 Index	S&P/TSX 60 INDEX
SPLAC Index	S&P LATIN AMERICA 40
	Europe
SPEU Index	S&P EURO INDEX
SPEP Index	S&P EURO PLUS INDEX
SPEURO Index	S&P EUROPE 350 INDEX
SPUK Index	S&P UNITED KINGDOM INDEX
	Asia
SPA50 Index	S&P ASIA 50 INDEX
SPTPX Index	S&P/TOPIX 150 INDEX TSE
HKSPLC25 Index	S&P/HKEx LargeCap Index
HKSPGEM Index	S&P/HKEx GEM Index
AS31 Index	S&P/ASX 50 INDEX

Global Indices Equity	Region
	world
SPGLOB Index	S&P GLOBAL 1200 INDEX
OOI Index	S&P GLOBAL 100 INDEX
SPADR Index	S&P ADR INDEX
	Americas
SPR Index	S&P 1500 Composite Index
SPX Index	S&P 500 INDEX

SPTSX60 Index	S&P/TSX 60 INDEX
SPLAC Index	S&P LATIN AMERICA 40
	Europe
SPEU Index	S&P EURO INDEX
SPEP Index	S&P EURO PLUS INDEX
SPEURO Index	S&P EUROPE 350 INDEX
SPUK Index	S&P UNITED KINGDOM INDEX
	Asia
SPA50 Index	S&P ASIA 50 INDEX
SPTPX Index	S&P/TOPIX 150 INDEX TSE
HKSPLC25 Index	S&P/HKEx LargeCap Index
HKSPGEM Index	S&P/HKEx GEM Index
AS31 Index	S&P/ASX 50 INDEX
Global Indices Equity	**Region**
	world
SPGLOB Index	S&P GLOBAL 1200 INDEX
OOI Index	S&P GLOBAL 100 INDEX
SPADR Index	S&P ADR INDEX
	Americas
SPR Index	S&P 1500 Composite Index
SPX Index	S&P 500 INDEX
SPTSX60 Index	S&P/TSX 60 INDEX
SPLAC Index	S&P LATIN AMERICA 40
	Europe
SPEU Index	S&P EURO INDEX
SPEP Index	S&P EURO PLUS INDEX
SPEURO Index	S&P EUROPE 350 INDEX
SPUK Index	S&P UNITED KINGDOM INDEX
	Asia
SPA50 Index	S&P ASIA 50 INDEX
SPTPX Index	S&P/TOPIX 150 INDEX TSE
HKSPLC25 Index	S&P/HKEx LargeCap Index
HKSPGEM Index	S&P/HKEx GEM Index
AS31 Index	S&P/ASX 50 INDEX
Global Indices Equity	**Region**
	world
SPGLOB Index	S&P GLOBAL 1200 INDEX
OOI Index	S&P GLOBAL 100 INDEX
SPADR Index	S&P ADR INDEX
	Americas
SPR Index	S&P 1500 Composite Index
SPX Index	S&P 500 INDEX
SPTSX60 Index	S&P/TSX 60 INDEX
SPLAC Index	S&P LATIN AMERICA 40
	Europe
SPEU Index	S&P EURO INDEX
SPEP Index	S&P EURO PLUS INDEX
SPEURO Index	S&P EUROPE 350 INDEX
SPUK Index	S&P UNITED KINGDOM INDEX
	Asia
SPA50 Index	S&P ASIA 50 INDEX
SPTPX Index	S&P/TOPIX 150 INDEX TSE
HKSPLC25 Index	S&P/HKEx LargeCap Index
HKSPGEM Index	S&P/HKEx GEM Index

AS31 Index S&P/ASX 50 INDEX

1.4 Fixed Income Instruments Indices

These indices are provided by various Private bodies such as FTSE, S&P, Markit, Goldman Sachs, UBS, etc. The indices follow some formulaic approaches for calculation but the sponsor retains large smoothing algorithms which are not always transparent. Furthermore, the index sponsor usually has discretion on the rules governing the rebalancing of the indices. Regarding the underlying data, there are some varying practices. Some are derived from prices on Regulated Markets, whist many rely on submissions of quotes on bonds/CDS which are not always executable. These indices are categorised mainly by region and sectoral coverage. We provide an overview of the main families of fixed-income indices below, which are subdivided into a very large number of sub-indices:

Fixed Income (FI) Index-family	
Bank of England Yield Curves	
Barclays Capital Indexes	
Barclays Capital TWBC	
Bond Exch. of South Africa	
Citigroup Global Fixed Inc	
Citigroup Domestic FI	
Citigroup Emerging Markets	
Credit Suisse	
Crisil Mutual Fund Indexes	
Deutsche Borse REX/Eurex	
DJ Citigroup Sukuk Index	
DJ CS Inflation Breakeven	
DJ LATixx Index	
DMO GILT Prices	
DnB NOR Fixed Income	
EuroMTS Indexes	
FTSE Corporate Bonds	
FTSE Gov. Bonds	
FTSE GILT Gov. Bonds	
HSBC Fixed Income Indexes	
IHS Global Insight FI	
J.P. Morgan Indices	**Indices included:**
	J.P.Morgan Aggregate Euro
	J.P.Morgan Asia Credit Index
	J.P.Morgan Corporate EMBI
	J.P.Morgan Daily Analytics
	J.P.Morgan Euro EMBI
	J.P.Morgan ELSI
	J.P.Morgan GABI
	J.P.Morgan Gov. Bonds
	J.P.Morgan Gov. Bonds-EM
	J.P.Morgan U.S. Tips Index
Korean Fixed Income Index	
Markit Indices	**Indices included:**
	Markit iBoXX Indices

		Markit iBoXX ABF Markit iBoXX Asia Indexes Markit iBoXX Benchmarks Markit iBoXX EUR ABS Markit iBoXX USD Markit CDX Indices Markit iTraXX Indices
	Merrill Lynch Fixed Income	Indices included: EMU Broad Market Index Global Broad Market Index Global Broad Market Plus Index Global Large Cap Index Pan-Europe Large Cap Index US Broad Market Index
	Merrill Lynch Yield Curves	
	NASDAQ OMX Fixed Income	
	NOMURA BPI	
	NZX Fixed Income Indexes	
	Oslo Bond Indexes	
	PC-Bond (DEX)	
	S&P AMT-Free Municipals	
	S&P ASX Australian Fixed	
	S&P Ratings Xpress	
	Svenska Handelsbanken	
	Swiss Exchange (SWX)	
	Thai Bond Market	
	The Yield Book® Analytics	
	Thomson ReutersDatascope	
	Thomson Reuters Mrtg.Bds	
	UBS Australia	

1.5 Other indices

There is a great number and variety of indices, such as statistical, real estates, freight, actuarial, volatility, weather, sentiment, etc. which are mostly public available figures that whilst in most cases where not designed to serve as reference prices for financial contracts are currently being used for this purpose in diverse commercial contracts or financial products. In many cases they are produced by public bodies such as statistics institutes based on reliable data and statistical procedures, so the incentives and opportunities of manipulation are narrow. Furthermore, it would prove difficult to regulate the production and use of these indices as it would be challenging to limit the scope, restrict their use, etc.

Consumer price indices	**Statistics Offices**	Usually any price information needed for the construction of consumer price indices (CPI) is publicly observable. Also, the items considered in the basket of products are well-defined by national statistical bureaus. However, their weights are determined based on surveys among consumers and are therefore prone to misreporting. This is a well-known CPI panel problem mitigated through statistical tools by statistical offices and central banks. It is not directly related to manipulation issues.
Manufactures Unit Value	**World Bank**	The Manufactures Unit Value Index (MUV) index is a measure of the price of developing country imports of manufactures in U.S. dollar terms. The

Index (MUV)		MUV is a composite index of prices for manufactured exports from the fifteen major developed and emerging economies to low- and middle-income economies, valued in U.S. dollars.
Freight and Shipping	**The Baltic Exchange-**	Shipping Brokers submit voluntary quotes to the Baltic Exchange. The Baltic exchange averages all submissions
Real Estate	**Private entities (S&Ps, FTSE, Moody's, IPD, etc.)**	The most relevant index families for tracking residential real estate prices in the US are the S&P/Case-Shiller Home Price Indices and Radar Logic's RPX,. Other important real estate index families in Europe used to reference financial and derivative contracts are the FTSE UK Commercial Property Index Series, the FTSE EPRA/NAREIT Global Real Estate Index Series, Moodys/REAL Commercial Property Price Index (CPPI) and Investment Property Databank ("IPD") index series.
Actuarial	**Private entities (S&P, FTSE)**	Some of the most wide used actuarial index families are the FTSE All World Index Series (previously FT/S&P – Actuaries World Indices) andthe the Baring Emerging Markets data series which has been integrated into the FTSE.
Sentiment	**Public Bodies, MARKIT,**	Some important ones are the consumer confidence indices (CCI) and purchasing manager indices (PMI), business confidence indices, etc.
Weather Indices	**Public & privte bodies, Meteo Inst. (EarthSat, NCDC)**	Some weather indices are used to reference commodities weather derivatives or weather insurance contracts. CME weather futures and options prices are based on monthly or seasonal index values determined by Earth Satellite (EarthSat) Corp which works with temperature data provided by the National Climate Data Center (NCDC).
Volatility Indices	**Private (CBOE, Reuters, etc.)**	Such as the CBOE Dow Jones Volatility Index (VXD), Thomson Reuters Realized Volatility Index, VIX, Petersen and IVX volatility Indices.