### Public Interest Explorer: Harnessing Text Mining and Large Language Models for Enhanced Public Interest Oversight

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#### The Public Interest Oversight Board (PIOB)

PIOB provides independent oversight of the activities of the International Audit and Assurance Standard Board (IAASB) and International Ethics Standard Board for Accountants(IESBA), supported by the International Federation of Accountants (IFAC) to ensure that they align with public interests.

A critical task for PIOB is to obtain accurate portrayals of public interests.

## **Project Objective**

- Supply PIOB with online-sourced information regarding the public interest in the field of auditing standards
- To reach it, we:
- ➤ Scrape files from relevant websites
- >Store files in a database
- ➤ Build application for search
- > Retrieve files in database

### **Data and Websites**

#### • 14,332 Documents were retrieved from 13 website:

- International Organization of Securities Commissions (IOSCO)
- International Forum of Independent Audit Regulators (IFIAR)
- International Corporate Governance Network (ICGN)
- American Investment Council (AIC)
- European Securities and Markets Authority (ESMA)
- European Fund and Asset Management Association (EFAMA)
- Securities Industry and Financial Markets Association (SIFMA)
- The Investment Association (TheIA)
- Financial Reporting Council (FRC)
- Council of Institutional Investors (CII)
- Public Company Accounting Oversight Board (PCAOB)
- Integrated Reporting (new part of IFRS foundation)
- European Financial Reporting Advisory Group (EFRAG)

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- ➤ Store files in a database
- ➤ Build application for search <a href="https://vasasearch.business.rutgers.edu">https://vasasearch.business.rutgers.edu</a>
- ➤ Automatically generate periodical reports <a href="https://raw.rutgers.edu/public\_interest.html">https://raw.rutgers.edu/public\_interest.html</a>

Search for files based on file name/ topic

| Year   Select All   2023                                 | Select All     2023  |              |             |             |        |             |
|--|--|--------------|-------------|-------------|--------|-------------|
| 2023   | 2023     2022     2021     2020     2019       2018     2017     2016     2015     2014       2013     2012     2011     2010     2009       2008     2007     2006     2005     2004       2003     2002     2001     2000     1999       1998     1997     1996     1995     1994       1993     1992     1991     1990     1989       Topic       Data Source |              |             |             |        |             |
| 2018   | 2018   |              |             |             |        |             |
| 2013   | 2013   | □ 2023       | 2022        | 2021        | 2020   | 2019        |
| 2008   | 2008   | □ 2018       | 2017        | 2016        | 2015   | □ 2014      |
| 2003   | 2003   | □ 2013       | 2012        | 2011        | □ 2010 | 2009        |
| 1998   | 1998   | □ 2008       | 2007        | 2006        | 2005   | 2004        |
| 1993   | 1993   | □ 2003       | 2002        | 2001        | 2000   | <b>1999</b> |
| Topic  Data Source ()   Select All   IOSCO               | Topic  Data Source  Select All  10SC0  | □ 1998       | □ 1997      | <b>1996</b> | □ 1995 | 1994        |
| Data Source (a)   Select All   IOSCO                     | Data Source O Select All Source O Select All SIFMA SIFMA SIFMA SIFMA SIFMA SIFMA SIFMA SIFMA SIFMA   | □ 1993       | <b>1992</b> | <b>1991</b> | □ 1990 | <b>1989</b> |
| Select All  IOSCO AIC EFAMA ESMA SIFMA  IFIAR ThelA ICGN | Select All IOSCO AIC EFAMA ESMA SIFMA IFIAR ThelA ICGN   | Topic        |             |             |        |             |
| Start  | Start  | □ Select All | □ AIC       |             | □ ESMA | SIFMA       |
|  |  |              |             |             | St     | art         |
|  |  |              |             |             |        |             |

audit deficiencies audit failures audit business model audit network audit quality audit scandals auditor independence auditors opinion internal controls audits less complex entities business model conflict interest credit loss estimates critical mindset emerging forms external reporting ethical behavior ethical requirement ethics fee dependency fraud going concern technology data analytics nonassurance services noncompliance regulations noncompliance laws objectivity professional skepticism self review sustainability internal controls external reporting international audit confidentiality cybersecurity framework international standards governance audit compliance audit interview cyber compliance

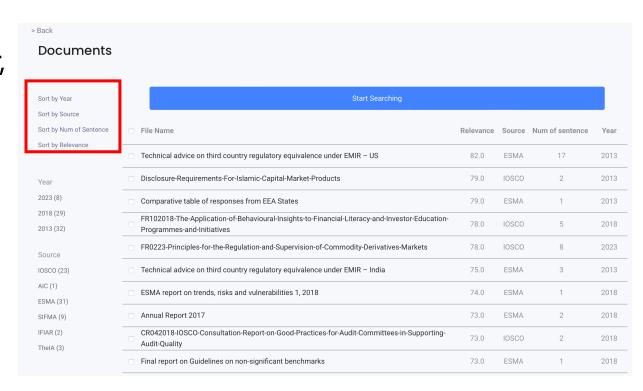
accountability accounting estimates

auditing standards ifac innovation fintech interviews gdpr

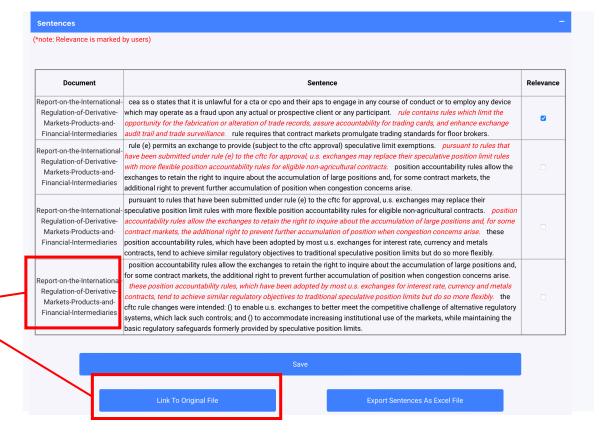
key audit matters

 Sort files by year, source, number of sentence, relevance

 View multiple documents at the same time



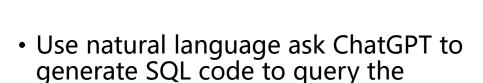
- The sentence with key words is in red; sentences before and after it are provided to help understand the context
- Documents can be marked as relevant after manual review and be seen by other users
- Link to the original file
- Export result is shown on the next slide



• Export relevant sentences as excel file.

| Α                 | В    | C  | D              | E         |
|-------------------|------|--|----------------|-----------|
| filename          | year | sentence   | topic          | relevance |
| FR0223-Principles | 2023 | principle: accountability - relevant market authorities should establish a clear framework of criteria or procedures as to design and review of commodity derivatives contracts, ensuring that the relevant market authority retains powers to address or vary the provisions of contracts, which produce manipulative or disorderly conditions, or systemic risk.   | accountability | 0         |
| FR0223-Principles | 2023 | accountability implies more than the mere retention of necessary powers, by entailing a solid framework for the appropriate use of those powers.   | accountability | 0         |
| FR0223-Principles | 2023 | accountability such entities should consider undertaking measures to ensure the authenticity of the reported data, such as periodically documenting and disclosing the following information to the public * the source and method of collecting initial data (i.e., primary or secondary source); * statistical techniques or methodology used for processing of initial data to develop valuable assessments; * rationale for adopting the methodology; * procedure of review and approval of the selected methodology; and * change in the methodology and rationale behind the same. | accountability | 0         |
| FR0223-Principles | 2023 | see , p. reforming otc derivatives markets: a uk perspective, fsa/hm treasury, december , available at: the commodity market, although in certain jurisdictions this is refined to apply to all positions which exceed a predetermined accountability limit.   | accountability | 0         |
| FR0223-Principles | 2023 | in the united states, the framework for addressing threats of manipulation and congestion has included both federally mandated position limits in certain contracts, position limits in other contracts fixed by exchanges and (since ) position accountability exemptions.  | accountability | 0         |
| FR0223-Principles | 2023 | appendix a - summary of the principles (without footnote citations) principles for the design and review of physical commodity derivatives contracts principle: accountability - relevant market authorities should establish a dear framework of criteria or procedures as to design and review of commodity derivatives contracts, ensuring that the relevant market authority retains powers to address or vary the provisions of contracts, which produce manipulative or disorderly conditions, or systemic risk.   | accountability | 0         |
| FR0223-Principles | 2023 | original revised (new revision) contract design principles principle: accountability - market authorities should establish a clear framework as to design and reviewcriteria or proceduresfor commodity derivatives contracts.   | accountability | 0         |
| FR0223-Principles | 2023 | principle: accountability - relevant market authorities should establish a clear framework of criteria or procedures as to design and review of commodity derivatives contracts, ensuring that the relevant market authority retains powers to address or vary the provisions of contracts, which produce manipulative or disorderly conditions, or systemic risk.   | accountability | 0         |
| FR102018-The-Ap   | 2018 | non-economic incentives (such as introducing accountability and conveying social norms) can foster group saving behaviour.   | accountability | 0         |

# Make your database talk to you



- ChatGPT summarize retrieved content
- ChatGPT generate periodically report

https://raw.rutgers.edu/public interest.html

database



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#### ESMA Brief - 2020

Review of Principles and Compliance Areas: Market Ethics, Governance, and Information Sharing (Topic: governance)

The code under discussion covers crucial principles and areas like ethics, governance, transparency, and information sharing in markets. It addresses issues such as market manipulation and compliance risks, and aims to prevent behavior that could disrupt market functioning or distort price discovery. It lays out stringent requirements for administrators of benchmarks, including governance, conflict of interest, record keeping, input data, methodology, and code of conduct requirements. The code applies sanctions for each infringement, including non-compliance with the code of conduct and breaches of governance and control requirements. Respondents acknowledge the complexity of precise information identification in areas like internal or external investigations, board changes, key contract disputes, declining financial performance, and more. Despite favoring the proposed code, most respondents highlight the need to provide high-level obligations, giving the issuer the choice of consistent arrangements and procedures. Issues such as market abuse, short-selling, auditing, and corporate governance are also relevant. The report highlights the importance of open and transparent standards with a strong governance framework for reporting, with most respondents agreeing with the utilization of the ISO standard. Furthermore, the product identifier used in derivatives reporting should meet several conditions, including appropriate governance framework, accessibility, reliability, and neutrality.

Complex Information Identification and Sustainability Priorities in the Finance Industry (Topic: esg)

Several sectors where information identification is particularly difficult include internal and external investigations, board changes, declining financial performance outside insolvency, and transactions like mergers and acquisitions or joint ventures. Guidelines are being written on outsourcing to the cloud by a task force reporting to the financial innovation standing committee. The European Securities and Markets Authority (ESMA) is working to integrate Environmental, Social, and Governance (ESG) factors and sustainability into its activities. Actions recommended include the disclosure of ESG factors by issuers and harmonization of ESG disclosure from credit rating agencies (CRAs). This should increase the transparency of the impact ESG considerations have on credit ratings. ESMA has also set up a new subgroup to develop standards for ESG disclosures due to requirements set out by the Sustainable Finance Disclosures Regulation (SFDR). There is a highlighted need for moving towards a more sustainable economy, and tackling ESG-related risks. Various workshops focusing on market data issues, cyber/cloud computing, investors' ESG disclosures, and high-frequency trading have been arranged. Asset classes like Environmental, Social, and Governance (ESG)-oriented equity indices and funds have outperformed counterparts not focusing on ESG. The importance of ESG factors for investors saw net inflows in money markets even when equities suffered net outflows



# THANK YOU