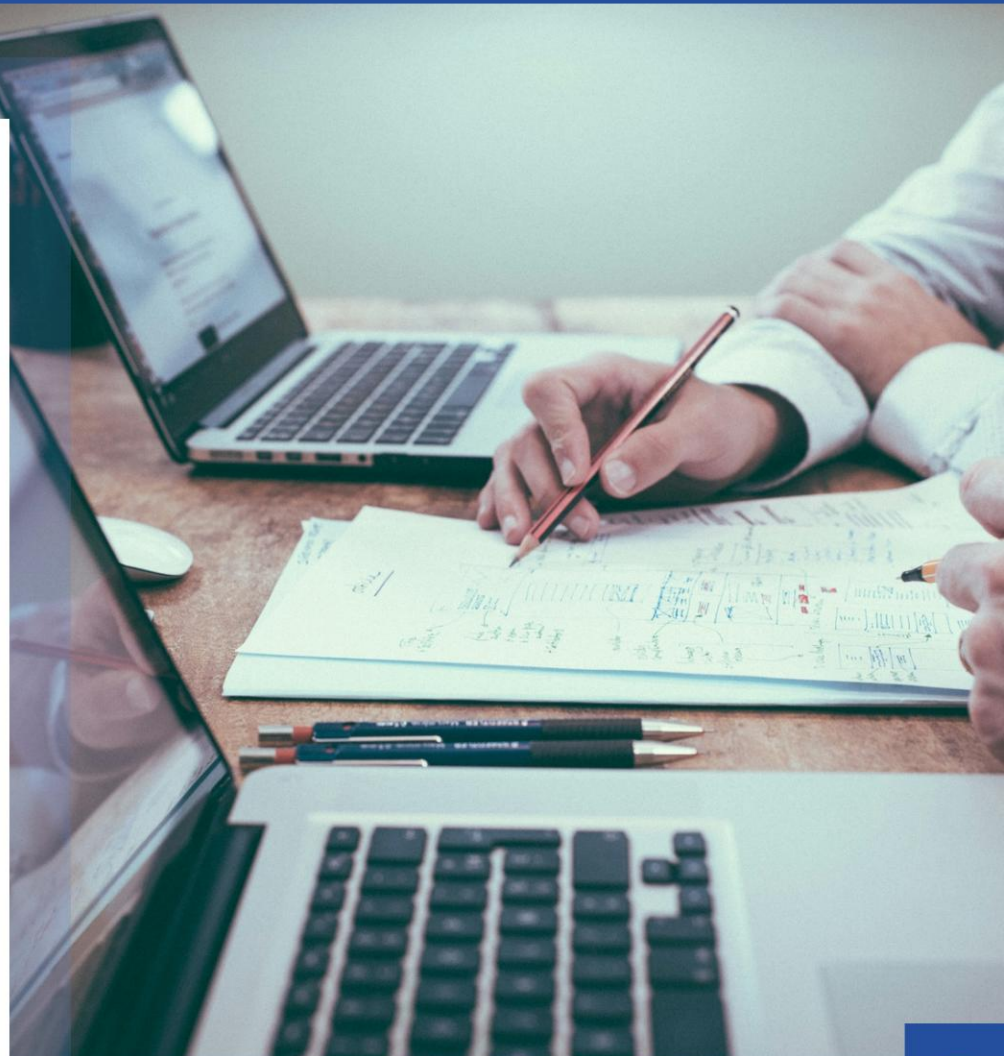


Insights from CIVICA's EXECML project: How AI and machine learning are transforming executive compensation research

Speaking with Juan-Pedro Gómez, lead of the CIVICA project “Using Machine Learning to Uncover Subjective Incentives in Executive Compensation” (EXECML), we explore how AI and machine learning are uncovering hidden incentives in executive pay and ESG reporting.

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In 2024 CIVICA launched [eight innovative collaborative research projects](#) across partner institutions across CIVICA's alliance reinforcing the alliance's commitment to interdisciplinary excellence in the social sciences. One of these projects, **“Using Machine Learning to Uncover Subjective Incentives in Executive Compensation” (EXECML)**, explores how Artificial Intelligence (AI) and data-driven technologies can reshape our understanding of executive pay, ESG metrics and corporate governance.

Speaking with Juan-Pedro Gómez from [IE University](#), project lead of EXECML, we gained insight into the progress and emerging findings of this forward-looking initiative under CIVICA's Data-Driven Technologies for the Social Sciences priority. By transforming narrative corporate disclosures into measurable data, the project offers new evidence on how firms design



incentive structures and rebalance executive pay in response to ESG objectives.

What is the “Using Machine Learning to Uncover Subjective Incentives in Executive Compensation” research project?

EXECML is a CIVICA-funded research project that applies Artificial Intelligence (AI) and Machine Learning (ML) to better understand how top executives are rewarded. While executive compensation is often measured through salary, bonuses and stock-based pay, companies also use less tangible performance criteria, such as leadership quality, strategic vision or ESG (Environmental, Social and Governance) objectives, which are typically described in text rather than numbers.

The aim of this project was to use Natural Language Processing (NLP) to analyse corporate financial disclosures and compensation reports, transforming narrative information into measurable data. By doing so, it aimed to provide new insights into corporate governance, incentive design and the evolving role of ESG metrics in executive pay.

What has EXECML achieved so far?

Currently, the project has already generated substantial academic output. Two working papers have been completed in collaboration with external researchers, and two additional papers are in earlier development stages.

The first working paper, titled “[ESG Metrics in Executive Compensation: A Multitasking Approach](#)”,¹ authored by Juan-Pedro Gómez, together with Vikas Agarwal and Manish Jha, both at the J. Mack Robinson College of Business at Georgia State University, and Kasra Hosseini at the Erasmus School of Economics, Erasmus University Rotterdam. This paper has been presented at numerous universities and international conferences.

The second working paper, “[Executive Bonus Adjustments to Industry Non-Financial Violations](#)”, authored by Mariya N. Ivanova with Claudia Imperatore and Francesca Franco ([Bocconi University](#)), is currently under revision and will be presented at a workshop organised with project funding in March 2026 at IE University in Madrid.

The members of the CIVICA project are also currently preparing the first draft of “*Uncovering Subjective Incentives in Executive Compensation*,” (see more details below), while Juan-Pedro Gómez is developing a related study on how compensation disclosure influences executive incentive structures, in collaboration with Kasra Hosseini and Sahand Divani at IE Business School,

Key Findings: How ESG Metrics Reshape Executive Compensation Incentives

EXECML's paper entitled *“ESG Metrics in Executive Compensation: A Multitasking Approach,”* applies multitasking theory to executive compensation design. Specifically, if a task is difficult to measure but value-enhancing (as many ESG objectives are assumed to be), the firm can provide optimal incentives indirectly. It achieves this by reducing incentives for other tasks that are easier to measure and compete for the manager's time—in this case, standard financial tasks. This reduction lowers the “opportunity cost” of the executive dedicating time and effort to the new, less measurable ESG task.

Empirical findings strongly support the hypothesis that standard financial tasks and ESG tasks act as substitutes for managerial effort. When firms add at least one ESG metric into an executive's compensation contract, the expected pay-performance sensitivity (or “dollar delta”) of standard financial or accounting metrics decreases significantly.

This reduction is economically meaningful. On average, the dollar delta decreases by about \$4,600, around a 20% reduction from the baseline average. This implies that, for the average executive in the study, the compensation contract is structured so that a 500 basis point (b.p.) increase in the stock price is expected to boost performance-based compensation by about \$100,000. When an ESG metric is introduced, the contract is intentionally redesigned so that the same 500 b.p. increase yields only \$80,000. This reduction in the sensitivity of pay to financial performance is what we refer to as rebalancing incentives—indirectly shifting focus and effort away from traditional financial metrics toward the new ESG objective.

These findings have been featured in *ProMarket*,² a debate platform of the Stigler Center for the Study of the Economy and the State at the University of Chicago Booth School of Business, and in *Insights*,³ a knowledge-sharing platform of IE University.

EXECML's Research Progress: Data Collection and Analysis of Executive Compensation Disclosures

For the project entitled *“Uncovering Subjective Incentives in Executive Compensation”* an extensive literature review has been conducted

Compensation, an extensive literature review has been conducted, formulation of research questions and testable hypotheses, planned the research design, and completed preliminary data collection.

A relevant update is that we expect to receive data soon on the Compensation Discussion and Analysis (CD&A) filings of U.S. companies, a key source for our analysis. This represents a meaningful advancement, as our CD&A sample is more comprehensive and potentially more scalable than those used in the literature so far.

This will allow us to focus on the contextualization and narrative emphasis of subjective metrics—specifically, whether firms allocate disproportionate disclosure space to subjective components and how that emphasis evolves over time. If subjective metrics are indeed gaining importance, systematically quantifying narrative emphasis could represent a sharper and more meaningful contribution to the literature.

What are the next steps for EXECML?

The research team is currently revising the ESG paper for submission to a top-tier finance or accounting journal. The paper has been accepted for presentation at the 2026 European Accounting Association (EAA) Annual Meeting in Prague. The EAA meetings are an internationally recognised conference in accounting.

After finalising the extraction, cleaning, and structuring of the text data from CD&A filings, the team will test its hypotheses and prepare the first draft of the paper before the summer.

How the CIVICA framework has advanced the project

The CIVICA framework has been instrumental in advancing this research. The paper *“ESG Metrics in Executive Compensation: A Multitasking Approach”* has been presented at several international conferences including the 7th Erasmus Corporate Governance Conference at Erasmus University Rotterdam; the Finance Forum at UPN in Pamplona; the Future Finance Fest (3f) Conference in Vilnius; the 2025 AES Congress at Columbia University in New York; and the 2025 meetings of the Financial Management Association in Vancouver. The CIVICA grant covered the travel expenses of the project’s PI, Juan-Pedro Gómez, to attend three of these events. The paper has also been presented at numerous universities, including Georgia State University, Hong Kong University, IE University, Monash University, Peking University, Toulouse Business School, Universidad de Zaragoza, the University of Leicester, the University of New South Wales, the University of Sydney, and Durham University.

IE Business School will organise a one-day Workshop on Executive Compensation on March 12. The workshop has been made possible thanks to the CIVICA project. Two papers from the CIVICA project will be presented, together with two additional papers by recognised scholars from HEC Paris and SSE in Stockholm, a CIVICA partner.

Through this support, CIVICA has enabled the project to expand its international reach, deepen collaboration across partner institutions and advance cutting-edge, data-driven research in corporate governance.