How Much New Information Is There in Earnings?
Corporate Decision-Making and Quantitative Analysis
Winter 2024/25 - Individual Report

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Abstract

This project uses the TRR 266 Template for Reproducible Empirical Accounting Research (TREAT) to provide infrastructure for open science-oriented empirical projects. Leveraging data from the CRSP and Compustat databases, alongside Worldscope and Datastream via WRDS, this repository showcases a reproducible workflow integrating Python scripts for data preparation, analysis, and visualization. Integrating multiple databases adds complexity, requiring a detailed understanding of their structures and careful scripting to extract, align, and analyze data effectively. The project replicates and extends Ball and Shivakumar (2008) to analyze the informativeness of quarterly earnings announcements and their contribution to share price movements, highlighting their critical role in investment decisions and impact on investors and analysts. Key tasks include replicating and comparing original results, extending the analysis to 2007–2023, and applying the methodology to a non-U.S. country. The project also documents research design choices, discusses variations between original and reproduced results, and provides insights into earnings informativeness across different timeframes and jurisdictions. Additionally, it sketches a research design for a non-archival study to evaluate the paper's findings. This code base, adapted from TREAT, demonstrates how the template applies to this project and serves as a structured guide for reproducible empirical research in accounting.

Table of contents

List of Figures

1 List of Abbreviations

BHR: Buy-and-Hold Returns

CRSP: Center for Research in Security Prices

CQA: Corporate Decision-Making and Quantitative Analysis

DS: Datastream

DV: Dependent Variable

HU: Humboldt-Universität zu Berlin

IDE: Integrated Development Environment

IV: Independent Variable

TREAT: TRR 266 Template for Reproducible Empirical Accounting Research

US: United States

WRDS: Wharton Research Data Services

WSCP: Worldscope

2 Introduction

The aim of this paper is to illustrate the use of open science tools in empirical accounting research. This project builds on the methodological framework established in the Corporate Decision-Making and Quantitative Analysis (CQA) course, which explored a range of empirical research methods—including archival analysis, field experiments, and survey-based approaches—to develop a comprehensive understanding of corporate decision-making and quantitative analysis. Expanding on prior empirical research conducted in Assignments I and II, this paper extends the empirical focus of the course. Assignment I examined audit market concentration in the EU using Transparency Reports data, offering insights into the dominance of major audit firms and the structure of the European audit market. Assignment II explored the economic implications of corporate financial reporting, focusing on Graham, Harvey, and Rajgopal (2005) to analyze managerial decision-making, earnings management strategies, and voluntary disclosure practices.

Building on these foundations, Assignment III investigates the informativeness of quarterly earnings announcements and their contribution to annual share price movements. The project replicates and extends Ball and Shivakumar (2008), assessing the extent to which earnings releases serve as a source of new information for financial markets. By integrating multiple datasets from WRDS and applying an event-study methodology, this study aims to evaluate the role of earnings disclosures in market efficiency, showcasing the valuation purpose of accounting. At the same time, earnings reports may play a crucial role in contracting by influencing managerial compensation, debt agreements, and other contractual mechanisms tied to financial performance (Ball and Shivakumar 2008). The integration of multiple databases adds complexity, requiring a detailed understanding of their structures and careful scripting to extract, align, and analyze data effectively.

Beyond empirical replication, the project also documents research design choices, replication steps, and explicit assumptions made whenever the original paper was unclear on how to proceed. It discusses variations between original and reproduced results and provides insights into the timeliness and market impact of earnings announcements across different timeframes and jurisdictions. Additionally, it sketches a research design for a non-archival study to evaluate the paper's findings through an alternative methodological lens. This project leverages the TRR 266 Template for Reproducible Empirical Accounting Research (TREAT) to establish an open science-oriented

infrastructure, ensuring transparency and replicability for empirical accounting research.

Earnings announcements provide investors with valuable information about a firm's market value, with stock prices reacting significantly when earnings news deviate from expectations (Fink 2021, 2). The seminal study by Ball and Brown (1968) was the first to document this relationship, showing that stock prices anticipate earnings surprises, with most of the market reaction occurring before the official announcement, suggesting that earnings reports primarily confirm rather than introduce new information. Over the past decades, more than a thousand studies have examined the interplay between capital markets and financial statements, a research stream that originated with Ball and Brown (1968) (Kothari 2001).

Building on this foundation, the original study by Ball and Shivakumar (2008) investigates the extent to which quarterly earnings announcements contribute new information to the market, assessing their role in shaping annual share price movements. By estimating the R^2 from regressions of annual stock returns on earnings announcement window returns, the paper quantifies the informativeness of earnings releases, finding that they account for only 1% to 2% of total annual volatility. This challenges the assumption that earnings provide substantial new information and instead suggests a confirmatory role in financial reporting. These findings align with the semi-strong form of market efficiency, which suggests that stock prices already reflect all publicly available information, including prior signals about earnings. Unlike traditional event studies that assume market efficiency, Ball and Shivakumar (2008) allow for potential market mispricing by not imposing a unit slope restriction in their regressions, meaning that their approach can capture under- or overreaction to earnings announcements. They also emphasize that extending the event window beyond the earnings announcement period would shift the research focus from earnings "surprise" to broader financial reporting effects, such as its role in debt contracting and executive compensation.

While Ball and Shivakumar (2008) provide key insights into the informativeness of earnings announcements, their study was conducted within a specific timeframe and market context. Since then, financial markets have undergone significant changes due to regulatory reforms, economic crises, and technological advancements in financial information processing. Moreover, the extent to which earnings informativeness varies across international markets remains underexplored. By replicating their study with updated data from 2007–2023 and applying the methodology to

Canada as a non-U.S. country, this project reassesses the robustness of their findings. Through this approach, it critically evaluates the generalizability of the original results.

The paper is structured into sections corresponding to Tasks 1–3 (Section 3, Section 4, Section 5), each detailing the research design choices and assumptions, documenting the replication steps and results. Section 3 follows an exact replication approach by replicating key tables and figures from the original study using US data (1972–2006) to establish baseline results. Section 4 extends the analysis through empirical generalization, applying the same methodology to 2007–2023 US data to compare how results evolve over time. Section 5 employs a generalization and extension approach by applying the methodology to a non-US country, requiring adjustments for different databases and market structures. This framework aligns with the replication taxonomy outlined by Salterio, Luo, and Adamson (2022). Finally, Section 6 sketches the survey design as a non-archival study that allows evaluating the key findings of the seminal paper, following Bloomfield's (2016) triangulation principle. The concluding remarks are provided in Section 7.

3 Task 1 - Replication of Key Tables and Figures

Task 1 is the most comprehensive, replicating the methodology of key tables and figures from Ball and Shivakumar (2008) using daily US stock return data (1972–2006) to establish baseline results, ensuring alignment with the original findings before extending the analysis in Section 4. By reconstructing Table 1 (Panel A), Table 2 (all panels), and Figure 1 (all panels), the task evaluates the robustness of the original results and identifies potential discrepancies, offering insights into data consistency, methodology, and market dynamics over the examined period. The use of daily CRSP data is essential for capturing short-term stock price movements around earnings announcements, ensuring precise event window calculations. The discussion of replication findings is presented in Section 3.3.

3.1 Research Design Choices and Assumptions

Following Ball and Shivakumar (2008), I focus on earnings announcements and stock returns from 1972 to 2006, ensuring alignment with the original study's methodology. This replication mirrors the research design, maintaining consistency in sample selection, event window definitions,

and return calculations.

Based on the original paper, I do not gather analyst expectations or estimate earnings deviations, requiring only stock return data and earnings announcement dates, simplifying data collection.

To ensure clarity where Ball and Shivakumar (2008) lacks explicit guidance, I impose the following assumptions:

1. Earnings announcement windows are defined as the three-day period surrounding the release (-1 to +1). According to Center for Research in Security Prices (CRSP) (2024) guide,since CRSP excludes weekends and holidays, if Day 0 falls on a non-trading day, it shifts to the next trading day. Similarly, Day -1 or +1 adjusts to the nearest available trading day.
2. Firm-years are selected based on available CRSP stock return data. While Ball and Shivakumar (2008) restricts the sample to firms with at least 240 trading days per year, I follow course guidance and do not impose this restriction, allowing for a slightly larger sample.
3. Compustat includes active and inactive firms; since the original study does not filter based on firm activity, all firms meeting sample selection criteria (four quarterly earnings announcements per year, available stock returns) are retained.
4. Permanent identifiers (`PERMNO`, `PERMCO`, `GVKEY`) ensure accurate historical tracking (Gow and Ding 2025). `PERMNO` is used instead of `PERMCO` as it uniquely identifies individual securities rather than companies, preventing aggregation issues from multiple share classes.
5. The replication relies on Compustat and CRSP, linked via the CRSP/Compustat Merged (CCM) database. As Compustat updates daily, while CRSP and CCM update annually, timing mismatches may arise. Unlike the original study, this replication uses the latest WRDS version as of January 2025, meaning database updates may introduce firm coverage or value differences.
6. Since Ball and Shivakumar (2008) analyze returns, I use `RET` variable in CRSP too to simplify the process. Bid and ask prices are ignored.
7. Same as Ball and Shivakumar (2008), I group earnings announcements based on their actual announcement dates (`RDQ` from Compustat) rather than the fiscal periods they cover. Since Compustat provides the precise earnings announcement date and CRSP aligns stock returns with trading days (`date` in CRSP), this approach ensures consistency. So, no adjustments

are made to realign quarters.

By following the steps outlined in Section 3.2 and adhering to the assumptions made, I aim to replicate the results from Ball and Shivakumar (2008). A thorough step-by-step approach, with each step clearly documented, helps to understand and verify the outputs.

3.2 Replication Steps

The analysis involves gathering and filtering stock return and earnings announcement data, linking CRSP stock data with Compustat firm-level accounting data fundamentals, and estimating the relationship between annual returns and earnings-announcement window returns. The replication process follows a structured workflow of data pull, preparation, and analysis, ensuring consistency with the original study.

Step 1: Pulling the Data and Managing the Databases

Data is pulled from WRDS using Python to integrate daily stock returns from CRSP (`crsp_a_stock.dsf`) with quarterly earnings announcement data from Compustat (`comp_na_daily_all.fundq`), linked via the Compustat-CRSP link table (`crsp_a_ccm.ccmxpf_lnkhist`). `permno` unique identifier matches stock returns to firm fundamentals via `gvkey` for exact firm/year match. Key variables include `ret` (daily stock return) and `rdq` (earnings announcement date), enabling event study analysis from 1972 to 2023. While WRDS provides extensive financial datasets, documentation on precise variable selection and dataset integration is limited, requiring additional validation and cross-referencing with prior research. The data is pulled for the entire range 1972-2023 required for Task 1 and 2 to prevent double preparation step.

Step 2: Data Preparation

Although not finished, the plan would be as follows: The merged dataset would integrate stock return data from CRSP (`crsp_daily_stock_returns`), firm fundamentals from Compustat (`compustat_fundq_1972_2023`), and the CRSP-Compustat linking table (`linkdata_compustat_crsp.parquet`). The `PERMNO` identifier from CRSP and `GVKEY` from Compustat are connected via `LPERMNO` in the linking table, ensuring correct firm-year alignment. Unnecessary variables from linked table, such as `linkprim`, `liid`, `linktype`, and `usedflag`, are dropped. The resulting dataset would retain only daily stock returns (`ret`), earnings announcement

dates (`rdq`), fiscal year-end indicators (`fyr`), and firm identifiers (`permno, gvkey`), used further for Buy-and-Hold Returns (BHR) calculation and regression analysis.

After defining the event windows for each earnings announcement day in Q1-Q4, retain only the firms that have four earnings announcements per year, such that each of them falls within the same calendar year. Additionally, for the subgroup replication of Table 2 Panels C-D classify the firms based on their fiscal year-end (`fyr`) to define whether firms have December fiscal year-end firm or in any another month. Control for the duplicate and missing firm/years.

Step 3: Analysis Implementation and Reproduction of Tables and Figure
The analysis step computes the BHR returns and performs a cross-sectional regression for each distinct firm/year.

Since Ball and Shivakumar (2008) do not explicitly describe their return computation, I compute Buy-and-Hold Returns (BHR) following the cumulative return formula as discussed in Gundersen (2022). The BHR formula captures compounded returns over multiple days, reflecting the stock's actual performance, which is used to replicate Table 1.

3.3 Results

Since Tables and Figure replication not finished, this section presents only the original **?@fig-fig1_original**.

4 Task 2 - Extending the Analysis to 2007–2023

This Section extends the analysis to 2007–2023, a period defined by major economic events such as the 2008 financial crisis and the COVID-19 pandemic, which may have influenced the informativeness of earnings announcements. While the task is relatively straightforward in terms of programming—requiring adjustments to the sample period—it demands careful economic interpretation of observed trends, market shifts, and potential institutional details that may influence the relationship between earnings announcements and stock returns.

4.1 Research Design Choices and Assumptions

Assumptions from Section 3.1 still hold.

4.2 Replication Steps

The pull, preparation, and analysis step would remain the same as designed in Section 3.2 with the only change in data range.

4.3 Results

The sample shift to 2007–2023 is expected to bring potential shifts in earnings announcement informativeness due to significant economic and regulatory events. The 2008 Global Financial Crisis likely disrupted earnings predictability, with heightened volatility and uncertainty increasing the market's sensitivity to earnings reports. The COVID-19 pandemic 2020 introduced extreme market uncertainty, potentially amplifying the informativeness of earnings announcements as investors relied on them to gauge firm resilience and recovery. Additionally, the introduction of Regulation (EU) No 537/2014 may have influenced earnings informativeness by improving transparency, audit quality, and financial reporting compliance across EU countries. Differences in compliance and audit coverage could have led to variations in how earnings announcements reflect new information in stock prices, potentially contributing to cross-country disparities in earnings informativeness.

5 Task 3 - Cross-Country Replication

Task 3 extends the analysis beyond the U.S. by replicating Figure 1 using 1972–2023 data from a non-U.S. market, examining how earnings informativeness varies across regulatory environments and market structures. This requires mapping CRSP/Compustat variables to their Worldscope/Datastream equivalents while adjusting for accounting standards, market liquidity, and institutional factors. Worldscope provides earnings announcement data, and Datastream covers stock returns. While the core methodology remains, careful data handling and interpretation are essential for cross-country analysis, particularly with Canada.

5.1 Research Design Choices and Assumptions

Since this task employs a generalization and extension approach by applying the same methodology to a country different from original report, it requires adjustments for different

databases and market structures. Based on the original paper, I do not gather analyst expectations or estimate earnings deviations for my replication. Instead, I only require stock return data and earnings announcement dates.

Canada was chosen for its quarterly reporting frequency, ensuring comparability with U.S. data, as most firms report four times per year, with some semi-annual reports (Short 2025). Despite its smaller market size, Canada's regulatory environment, liquidity, and institutional settings closely align with the U.S., making it an ideal candidate. Additionally, Canadian firms registered with the SEC can report under U.S. GAAP, making their financial disclosures fully compatible with U.S. firms.

In addition, I impose the following assumptions apart from those listed in Section 3.1 to ensure generalization and extension approach due to usage of other databases or where Ball and Shivakumar (2008) do not provide explicit guidance:

1. To ensure a smooth and conflict-free process, I handle the WSCP/Datastream workflow separately, preventing potential interference with the CRSP/Compustat pull process and improving debugging efficiency. Although a unified pull/prepare/do_analysis file for all databases would be ideal and streamline management, the large-scale nature of the extracted datasets demands modular approach.
2. Since I do not perform subgroup analysis for December and non-December fiscal year end firms as in Table 2 Panels C-D, `item5350` for FISCAL PERIOD END DATE is not relevant for this task, as Figure 1 applies to the analysis of the entire dataset. So, the sample is all firm-years with available data on the quarterly Worlscope and daily Datastream files.
3. I verified whether Worldscope and Datastream follow the same earnings announcement date convention as Compustat or if they report earnings based on fiscal periods. I decided to use Worldscope items 5901–5904 from historical stock-related data in `wrds_ws_stock`, which represent the actual date when a company publicly reports its earnings for each quarter, where, however, data for these fields is generally not available prior to 1992 (Thomson Financial 2007, 281). This may cause limited data sample size.
4. This task is a generalization to a non-U.S. setting, meaning methodological differences will certainly arise due to variations in data structure and reporting standards. Worldscope - Stock Data `wrds_ws_stock` table is updated quarterly, while Datastream Daily Stock File

`wrds_ds2dsf` is updated weekly, which may introduce timing mismatches when aligning financial fundamentals with stock returns. Given that, future applications should consider database updates and coverage differences between CRSP and Datastream.

5. Similar to Section 3, I use returns `ret` variable in Datastream for returns, presented as percentage change. Bid and ask prices are ignored.
6. I ignore the currency effect (CAD or USD) in DS table, as returns are measured in percentages, making them relative rather than absolute values.

5.2 Replication Steps

The process is same as in Section 3.

Step 1: Pulling the Data and Managing the Databases

I follow the linking approach between Worldscope and Datastream based on Dai and Drechsler (2021). The original study uses data from 1972 onward, while Worldscope's `year_` variable only provides data starting from 1980 (Wharton Research Data Services 2025). This constraint may lead to differences in sample coverage. Hence, filter Datastream `marketdate` to 1980 to prevent mismatched observations where stock data exists but earnings do not.

Next, retrieve quarterly earnings announcement dates from Worldscope and daily stock returns from Datastream, filtering for Canadian firms from 1980 onward. The datasets are saved separately and later merged using firm-level identifiers. Only common equity (`typecode` = EQ) is included to ensure consistency with CRSP.

The pull step results into three comprehensive datasets: DS table with 27,950,012, Link table with 77,944, WSCP table with 1,942,202 observations.

Step 2: Data Preparation

First, I merged Worldscope stock data with the linking table using `code` as unique identifier, resulting in 747,760 observations. This merged dataset was then joined with Datastream daily stock data using unique `infocode`, producing a final dataset with 10,249,737 observations.

If a firm had missing values for any of the Earnings Per Share Report Date fields (item5901–item5904), it did not meet the criteria set by Ball and Shivakumar (2008) and was excluded from the sample. This filtering step removed 3,609,492 missing firm-year observations. Additionally, 5,996,793 firm-year entries were dropped because their four earnings announcements did not fall

within the same calendar year. Furthermore, I extend dynamically shift the missing values for trading days -1,0,1 within 3 day window, due to small sample size to keep more earning announcemnet windows.

From this cleaned dataset, BHR event returns are computed. Then, annual stock returns for the firms of the filtered sample are extracted from Datastream pulled data . Finally, the Annual BHR Returns are calculated. Notably, after pulling the annual stock data for further annual return calculation, all infocodes present an average of 250 trading days, highlighting full year stock coverage.

Step 3: Analysis Implementation and Reproduction of Tables and Figure

I conduct the earnings informativeness analysis by computing summary statistics (Table 1), running annual regressions (Table 2), and generating a replication of Figure 1. First, I loaded the computed event-window and annual buy-and-hold returns (BHR_3day, BHR_Annual) and produced summary statistics similar to Ball and Shivakumar (2008). Next, I performed annual cross-sectional regressions of stock returns on earnings-announcement returns, benchmarking against an Abnormal R^2 (adjusted R^2 minus 4.8%), while handling missing data and ensuring a valid number of observations per year. Finally, the script plots Figure 1, visualizing Abnormal R^2 trends (Panel A) and slope coefficients (Panel B) over time, saving it as both a PNG and a pickle file for further use.

5.3 Results

Comparing the replication results with those from Ball and Shivakumar (2008) (see **?@fig-fig1_original**) reveals both similarities and discrepancies. The original figure shows a general upward trend in abnormal R^2 , peaking in the early 2000s, whereas the replicated figure captures greater volatility in the later years (2010–2023). Additionally, Ball's figure suggests a smoother long-term dynamic, while the replication exhibits more pronounced fluctuations, particularly post-2010. Panel B in replicated figure exhibits higher volatility and larger coefficient magnitudes, suggesting increased earnings informativeness post-2006, while Ball's original figure has more stable and lower-magnitude coefficients.

The post-2000 period in the replication shows more inconsistent abnormal R^2 values, possibly reflecting evolving market structures, shifts in disclosure practices, and increased earnings informativeness following regulatory changes (e.g., IFRS adoption, post-SOX adjustments, different

financial market structure). The pronounced fluctuations could also be driven by global financial crisis, Canada's higher market concentration, fewer publicly traded firms, and potential regulatory differences, which may affect earnings informativeness and stock return patterns. The variability in slope coefficients further suggests that earnings announcements' impact on stock returns is less stable than in prior decades, potentially due to differences in investor response.

6 Task 4 - Research Design for a Non-Archival Study

The research design follows the generalization goal in empirical literature, emphasizing the need to validate findings across different methods (Bloomfield, Nelson, and Soltes 2016). Ball and Shivakumar (2008) assess earnings informativeness through stock price reactions, but triangulation—beyond replication—requires diverse methods to examine the same question (Bloomfield, Nelson, and Soltes 2016, 353). While price reactions indicate market response, they do not capture investor perceptions. A survey directly evaluates whether market participants view earnings announcements as confirmatory or informative. If investors confirm a secondary role, it reinforces Ball and Shivakumar's (2008) findings, ensuring informativeness reflects cognitive and behavioral mechanisms rather than price fluctuations. These insights could inform corporate reporting strategies by clarifying how investors prioritize disclosures.

A survey is the most suitable non-archival method, capturing investor sentiment beyond what archival data provides. Unlike lab experiments, which lack real-world applicability, surveys measure the dependent variable (DV) by eliciting participant perceptions (Bloomfield, Nelson, and Soltes 2016, 358). Field experiments, though capturing real-time reactions, require direct intervention, posing ethical and logistical challenges. A long-term research program combining surveys and field studies would enhance validity, leveraging unlimited funds to assess investor decision-making and market responses.

To ensure survey reliability, design strategies follow Brüggemann and Worku (2024). A sample of 300 investors, analysts, and financial professionals will provide institutional and retail perspectives while balancing statistical power and feasibility. The survey will be distributed via email through financial networks, investor associations, and professional platforms (e.g., LinkedIn, CFA societies) and in paper format at finance conferences. The Humboldt-Universität zu Berlin (HU)

brand may be used, subject to approval. Respondents will be assured confidentiality and offered an €20 honorarium. A pilot study with 30 participants will refine question clarity, survey length, and response distribution, helping identify unclear or missing questions and assess completion time.

To minimize response bias, questions will be neutrally worded to capture pre- and post-announcement perceptions. The fully anonymous survey ensures candid responses without requiring personal financial history.

The **DV** is the perceived informativeness of earnings announcements, measured through survey responses on whether they are confirmatory or informative. Independent variables (**IVs**) include investor preparation, market awareness, reaction timing, perceived novelty of earnings, key financial indicators, and external conditions. These are measured via Likert-scale, ranking, and multiple-choice questions, supplemented by qualitative insights from follow-up interviews.

To deepen findings, selected participants will be invited for confidential follow-up interviews, ensuring diversity in investment strategies, industries, and expertise. These interviews will be conducted via video conferencing or phone calls. The following sections provide detailed sketches of the survey and interview designs.

6.1 Survey Questions

1. **How do you typically prepare for earnings announcements in your investment decisions?**
    - I conduct in-depth research and adjust my positions in advance
    - I monitor but rarely adjust positions pre-announcement
    - I rely on market consensus, analyst forecasts, and AI-driven insights
    - I do not make investment decisions based on earnings announcements
2. **How do you typically react to earnings announcements?**
    - I adjust my investment strategy immediately based on the announcement.
    - I wait for further analysis before making changes.
    - I rarely make investment decisions based on earnings announcements.
3. **To what extent do you believe that earnings announcements provide new information beyond what is already reflected in market prices?**
    - Always

- Most of the time
- Sometimes
- Rarely
- Never

4. **Rank the following factors in order of importance when evaluating earnings announcements (1 = most important, 5 = least important):**
   - Earnings per share (EPS) compared to analyst forecasts
   - Revenue growth
   - Management guidance and commentary
   - Market reaction on the day of the announcement
   - Industry trends and macroeconomic conditions
5. **Do you consider earnings announcements to be more confirmatory or informative?**
   - Primarily confirmatory (reinforce existing expectations)
   - Primarily informative (provide new insights)
   - A mix of both

6.2 Follow-Up Interview Questions

1. Can you describe a recent instance where an earnings announcement significantly influenced your investment decision?
2. In your experience, are there specific industries where earnings announcements are more informative than confirmatory?
3. Do you use earnings announcements differently depending on market conditions (e.g., economic downturn vs. growth periods)?

7 Conclusion

This project effectively demonstrates the use of a systematic and collaborative workflow for empirical accounting research, leveraging the TRR 266 Template for Reproducible Empirical Accounting Research. By following an open science approach, I aimed to replicate key tables and figures from Ball and Shivakumar (2008), providing insights into how earnings announcements

contribute to price formation and market efficiency. By extending the analysis beyond the original study's U.S. market focus, the project highlights how market structures and investor behaviors influence the informativeness of earnings disclosures in different jurisdictions.

The study contributes to the ongoing discussion on market efficiency and the economic role of corporate disclosures by providing empirical evidence on how earnings informativeness has evolved over time and across jurisdictions. The cross-country analysis with Canada highlights variations in market responses to earnings announcements, suggesting that institutional factors, market structures, and investor behavior play a role in shaping how financial information is processed. These findings have implications for investors, analysts, and policymakers, as they underscore the importance of regulatory consistency and market transparency in shaping the effectiveness of financial reporting.

This assignment required a comprehensive application of programming skills and institutional knowledge gained throughout the course, integrating data analysis, replication, and visualization techniques in line with open science principles. In the future, this repository can be cloned or forked (if made public) to facilitate further research on earnings informativeness, enabling additional extensions or robustness tests. Additionally, the survey developed as part of the non-archival study proposal can be further refined and expanded, providing a structured framework for gathering primary data on market participants' interpretations of earnings announcements. Through this approach, the study not only revisits a fundamental question in financial research but also provides a foundation for future empirical investigations into the evolving role of earnings announcements in global capital markets, both through archival and non-archival methodologies. Thanks for reading!

References

Ball, Ray, and Philip Brown. 1968. "An Empirical Evaluation of Accounting Income Numbers." *Journal of Accounting Research* 6 (2): 159. https://doi.org/10.2307/2490232.

Ball, Ray, and Lakshmanan Shivakumar. 2008. "How Much New Information Is There in Earnings?" *Journal of Accounting Research* 46 (5): 975–1016. https://doi.org/10.1111/j.1475-679X.2008.00299.x.

Bloomfield, Robert, Mark W. Nelson, and Eugene Soltes. 2016. "Gathering Data for Archival, Field, Survey, and Experimental Accounting Research." *Journal of Accounting Research* 54 (2): 341–95. https://doi.org/10.1111/1475-679X.12104.

Brüggemann, Ulf, and Fikir Worku. 2024. "Corporate Decision-Making and Quantitative Analysis: Empirical Methods - Survey; Introduction to Assignment II." Institute of Accounting, Auditing, Humboldt University Berlin. https://moodle.hu-berlin.de/pluginfile.php/6320269/mod_resource/content/5/cqa_winter2425_session7.pdf.

Center for Research in Security Prices (CRSP). 2024. "CRSP US Stock & Index Databases - Data Descriptions Guide." Graduate School of Business, University of Chicago. https://www.crsp.org/wp-content/uploads/guides/CRSP_US_Stock_&_Indexes_Database_Data_Descriptions_Guide.pdf.

Dai, Rui, and Qingyi (Freda) Song Drechsler. 2021. "Research Guide for Datastream and Worldscope at Wharton Research Data Services." *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3843551.

Fink, Josef. 2021. "A Review of the Post-Earnings-Announcement Drift." *Journal of Behavioral and Experimental Finance* 29 (March): 100446. https://doi.org/10.1016/j.jbef.2020.100446.

Gow, Ian D., and Tongqing Ding. 2025. *Empirical Research in Accounting: Tools and Methods*. Chapman and Hall/CRC Series on Statistics in Business and Economics. Boca Raton, FL: Taylor; Francis. https://iangow.github.io/far_book/.

Graham, John R., Campbell R. Harvey, and Shiva Rajgopal. 2005. "The Economic Implications of Corporate Financial Reporting." *Journal of Accounting and Economics* 40 (1): 3–73. https://doi.org/https://doi.org/10.1016/j.jacceco.2005.01.002.

Gundersen, Gregory. 2022. "Returns and Log Returns." https://gregorygundersen.com/blog/2022/02/06/log-returns/.

Kothari, S. P. 2001. "Capital Markets Research in Accounting." *Journal of Accounting and Economics* 31 (1-3): 105–231. https://doi.org/10.1016/S0165-4101(01)00030-1.

Salterio, Steven E., Yi Luo, and Constance Adamson. 2022. "Replication of Audit and Financial Accounting Research: We Do a Lot More Than We Think." *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4210603.

Short, Christine. 2025. "The Short List - Reporting Frequency Isn't the Only Difference with How Earnings Results Are Shared Worldwide." *Wall Street Horizon*. https://www.wallstreethorizon.com/blog/Reporting-Frequency-Isnt-the-Only-Difference-with-How-Earnings-Results-Are-Shared-Worldwide.

Thomson Financial. 2007. "Worldscope Database: Datatype Definitions Guide." Issue 6. https://www.tilburguniversity.edu/sites/default/files/download/WorldScopeDatatypeDefinitionsGuide_2.pdf.

Wharton Research Data Services. 2025. "Worldscope - Stock Data." *WRDS*. https://wrds-www.wharton.upenn.edu/pages/get-data/thomson-reuters/worldscope/stock-data/.