# PAC ANNUAL CONFERENCE

November 10 & 11, 2022

# PROFESSIONAL ACCOUNTING FUTURES

Professional Accounting Centre
UNIVERSITY OF TORONTO
MISSISSAUGA

PAC ANNUAL CONFERENCE

on Professional Accounting Futures

November 10 & 11, 2022

# THE IMPACT OF MACROECONOMIC CHALLENGES ON PROFESSIONAL ACCOUNTANTS AND INVESTORS


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# PROFESSIONAL ACCOUNTING FUTURES

November 10, 2022

## Macro-Economic Developments and Accounting Estimates

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# Earnings and the Macroeconomy

*Lakshmanan (Shiva) Shivakumar*

*London Business School*

# Accounting earnings and the macroeconomy

- Internal view: Managers aim to improve revenues and lower costs

$$Earnings = Revenue - Expenses$$

- External view: Firm is a 'nexus of contracts'
  - Manager's aim to take advantage of changes in external environment
  - Strategically change exposure to various macroeconomic factors
  - Corporate decision change "exposures" to steer firm based on macroenvironment


$$Earnings = \beta_0 Inflation + \beta_1 Real\ GDP\ growth + \beta_2 Employment + \beta_3 Population\ growth + \beta_4 Demographic\ changes + \beta_5 Regulatory\ effects + \beta_6 Other\ macro\ factors$$

# Choosing Macro Exposure

Managers steer multiple wheels anticipating the constantly changing roads ahead

External view of earnings :

- Offers an alternative model to predict earnings
- Presents an alternative way way to evaluate performance
- Enables better understanding of investor behavior (e.g. Post-earnings-announcement drift)

# Earnings prediction models

- Internal-view prediction model:
  - Relatively simple
  - Ignores changes in macro expectations
  - Assumes a stable structural model

$$Earnings(t) = \alpha_0\, Cash\ flow(t-1) + \alpha_1 Accruals(t-1) + \alpha_2 BVE(t-1)$$

- External-view prediction model
  - Allows expectations of macro-activities to change over time
  - Noisy model, if all relevant factors are not considered
  - Difficult to estimate with time-varying macro exposures

$$Earnings(t) = f\{\beta_0 E\big(Inflation(t)\big),$$
$$\beta_1 E\big(Real\ GDP\ growth(t)\big), \beta_2 E\big(Employment(t)\big),$$
$$\beta_3 E(Population\ growth(t), \beta_4 E\big(Demographic\ changes(t)\big),$$
$$\beta_5 E\big(Regulatory\ effects(t)\big), \beta_6 E(Other\ macro\ factors(t))\}$$

# Earnings prediction models

- Internal-view prediction model:
  - Relatively simple
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$$Earnings(t) = \alpha_0 Cash\ flow(t-1) + \alpha_1 Accruals(t-1) + \alpha_2 BVE(t-1)$$

Predominant approach in academic studies

- External-view prediction model
  - Allows expectations of macro-activities to change over time
  - Requires macro-exposures to be relatively stable
  - Noisy model, if all relevant factors are not considered
  - Difficult to estimate with time-varying macro exposures

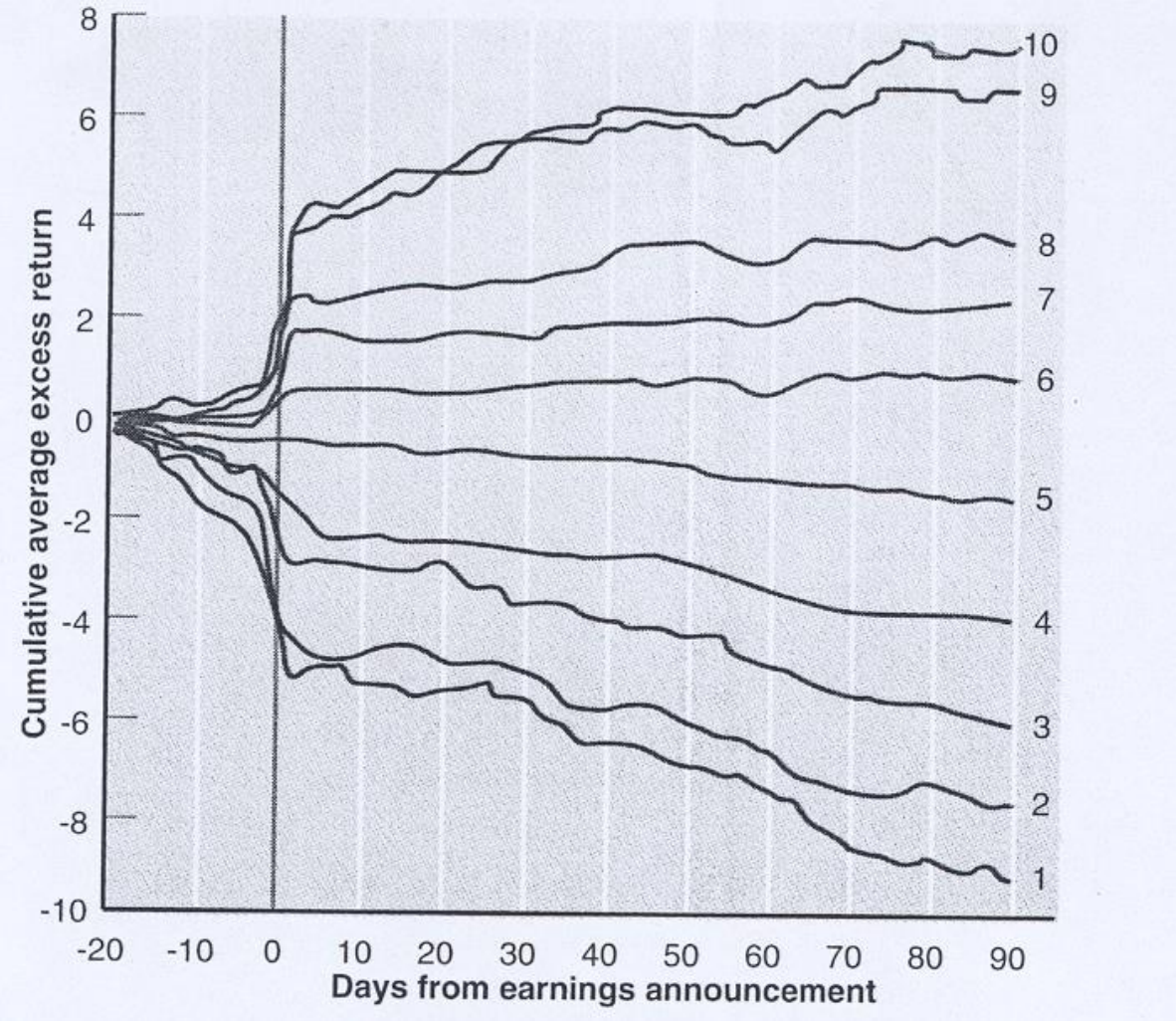
$$Earnings(t) = f\{\beta_0 E\big(Inflation(t)\big),$$
$$\beta_1 E\big(Real\ GDP\ growth(t)\big), \beta_2 E\big(Employment(t)\big),$$
$$\beta_3 E(Population\ growth(t), \beta_4 E\big(Demographic\ changes(t)\big),$$
$$\beta_5 E\big(Regulatory\ effects(t)\big), \beta_6 E(Other\ macro\ factors(t))\}$$

Predominant approach in practice (analysts' reports)

London Business School

# Post-Earnings-Announcement Drift and Inflation Exposure

# Post-earnings-announcement drift (PEAD): Price Reactions to Quarterly Earnings Report




1. Global phenomenon
2. Under-reaction to earnings persists for 9 months
3. Exists mainly in illiquid stocks
4. A hedge portfolio that is long on P10 stocks and short on P1 stocks earns about 1% per month in the next few months.
5. Not compensation for risk
6. Investors fail to incorporate earnings autocorrelation
   - But why?
   - Investor and analysts inattention?

# Payoffs to PEAD (1972-2005)

$$SUE = \frac{\Delta E_{iq}}{Std\ dev(\Delta E_{iq})}$$

| SUE-sorted portfolio | P1 | P2 | P3 | P4 | P5 | P6 | P7 | P8 | P9 | P10 | PMN = P1-P10 | Fama-French 3-factor alpha | t-stat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average monthly Returns in 3-months post-formation (%) | 0.62 | 0.78 | 0.77 | 0.96 | 1.06 | 1.22 | 1.45 | 1.65 | 1.77 | 1.94 | 1.31 | 1.42 | 9.10 |

Source: Chordia et al. (FAJ, 2009)

# Do investors account for inflation exposure?

**Chordia and Shivakumar (JAR, 2005)**

Changes in earnings contain macro-economic information

$$\Delta E_{it} = \beta_{Ei} INF_t + \varepsilon_{it}$$

$\Delta E_{it}$ : Change in earnings for firm i in period t

$INF_t$ : Inflation in period t

$\beta_{Ei}$ : Exposure of firm i to inflation

$\varepsilon_{it}$ : idiosyncratic change in earnings for firm i

Sorting firms in a month on $\Delta E_{it}$ (or its standardized variant, SUE) should sort on inflation exposure, $\beta_{Ei}$.

# Inflation Effects for Earnings

- Why inflation matters?
  - Adjustment costs: Not everyone shifts prices at the same time

- What determines inflation exposure?
  - Bargaining power with customers and suppliers
  - Fixed or floating prices in customer and supplier contracts
  - Elasticity of labour supply
  - Fixed or floating interest rates
  - Hedging contracts

# Chordia and Shivakumar (JAR, 2005)

$$\Delta E_{it} = \beta_{Ei} INF_t + \varepsilon_{it}$$

## Conjecture

- Firms with high SUE, have high earnings exposure to inflation and do well in the future quarters on account of inflation
- Firms with low SUE, have low inflation exposure and future inflation does not benefit these firms as much. So, perform poorly in future quarters

## Testable predictions

- H1: Inflation exposure varies across SUE-sorted portfolios
- H2: If investors ignore $\beta_{Ei}$ in their earnings forecasts, then future returns should vary predictably across the SUE-sorted portfolios.
    - H3: The returns to SUE portfolios should be predicted by inflation

# Inflation Exposure and future monthly returns to SUE-sorted portfolio

| Dependent variable: | | $P_1$ | $P_2$ | $P_3$ | $P_4$ | $P_5$ | $P_6$ | $P_7$ | $P_8$ | $P_9$ | $P_{10}$ | $PMN = P10-P1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Inflation** | **Coeff** | -0.093 | 0.004 | 0.024 | 0.034 | 0.040 | 0.062 | 0.104 | 0.162 | 0.220 | 0.394 | 0.49 |
| **Exposure** | ***t*-stat** | -2.52 | 0.13 | 0.67 | 1.29 | 1.31 | 2.31 | 3.47 | 5.07 | 5.97 | 7.93 | |
| **Monthly** | **Coeff** | 0.78 | 1.00 | 1.05 | 1.22 | 1.37 | 1.42 | 1.50 | 1.61 | 1.63 | 1.70 | 0.92 |
| **Returns(%)** | **t-stat** | 2.46 | 3.25 | 3.40 | 3.91 | 4.49 | 4.79 | 5.11 | 5.53 | 5.62 | 6.00 | 7.31 |

# Inflation Exposure and future monthly returns to SUE-sorted portfolio

| Dependent variable: | | $P_1$ | $P_2$ | $P_3$ | $P_4$ | $P_5$ | $P_6$ | $P_7$ | $P_8$ | $P_9$ | $P_{10}$ | PMN =P10-P1 |
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| | t-stat | 2.46 | 3.25 | 3.40 | 3.91 | 4.49 | 4.79 | 5.11 | 5.53 | 5.62 | 6.00 | 7.31 |

Supports H1: Inflation exposure varies across SUE-sorted portfolios

# Regression of quarter-ahead returns on inflation for SUE-sorted portfolios

| | ALL firms | $P_1$ | $P_5$ | $P_{10}$ | F-test |
|---|---|---|---|---|---|
| **Regression:** | **(1)** | **(3)** | **(4)** | **(5)** | |
| ***Intercept*** | −0.677 | −2.448 | −1.131 | 0.206 | 0.00 |
| | (−15.13) | (−8.21) | (−4.60) | (0.67) | |
| **INF**$_{q,q}$ | | −0.352 | 0.149 | 0.568 | 0.00 |
| | | (−2.51) | (0.98) | (4.01) | |
| **SUE**$_{i,q}$ | 0.480 | −0.063 | 0.644 | 0.324 | 0.00 |
| | (22.95) | (−1.56) | (0.81) | (3.80) | |
| **SUE**$_{i,q-1}$ | 0.124 | 0.167 | −0.208 | 0.038 | 0.08 |
| | (4.18) | (2.11) | (−2.27) | (0.40) | |
| **SUE**$_{i,q-2}$ | 0.088 | 0.233 | −0.032 | −0.069 | 0.02 |
| | (2.86) | (2.60) | (−0.35) | (−0.64) | |
| **SUE**$_{i,q-3}$ | −0.071 | 0.004 | 0.100 | −0.233 | 0.27 |
| | (−2.42) | (0.04) | (1.13) | (−2.25) | |
| **MKT**$_{q+1}$ | 0.985 | 1.000 | 0.978 | 0.992 | 0.41 |
| | (169.43) | (53.49) | (51.37) | (54.75) | |
| **SMB**$_{q+1}$ | 0.605 | 0.664 | 0.660 | 0.527 | 0.00 |
| | (80.56) | (26.58) | (26.27) | (22.54) | |
| **HML**$_{q+1}$ | 0.456 | 0.526 | 0.472 | 0.380 | 0.00 |
| | (68.54) | (24.56) | (21.13) | (18.75) | |
| **Adj $R^2$ (%)** | 21.22 | 21.60 | 20.30 | 21.40 | |
| **No. of obs.** | 181752 | 18023 | 18431 | 18515 | |

# Regression of quarter-ahead returns on inflation for SUE-sorted portfolios

| | ALL firms | $P_1$ | $P_5$ | $P_{10}$ | F-test |
|---|---|---|---|---|---|
| **Regression:** | **(1)** | **(3)** | **(4)** | **(5)** | |
| ***Intercept*** | −0.677 | −2.448 | −1.131 | 0.206 | 0.00 |
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| **Adj $R^2$ (%)** | 21.22 | 21.60 | 20.30 | 21.40 | |
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Supports H2: If investors ignore $\beta_{Ei}$ in their earnings forecasts, then future returns should vary predictably across the SUE-sorted portfolios.

# Returns to PMN in months sorted by lagged inflation

## Hedge-Portfolio PMN = P10 – P1

| | | Low inflation | Medium inflation | High inflation | High – Low |
|---|---|---|---|---|---|
| **$INF_{t-2,t-2}$ (%)** | **Mean** | 0.09 | 0.34 | 0.80 | 0.71 |
| **$PMN_t$ (%)** | **Mean** | 0.48 | 0.95 | 1.31 | 0.83 |
| | ***t*-stat** | (2.38) | (5.58) | (4.89) | (2.45) |
| **Fama–French-adjusted returns (%)** | **Mean** | 0.71 | 1.02 | 1.59 | 0.88 |
| | ***t*-stat** | (3.97) | (6.51) | (7.37) | (3.13) |

# Regression of PMN returns on lagged inflation

| | Return-measurement period | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 3-months | | 6-months | | 9-months | | 12 months | |
| ***INTERCEPT*** | 3.71 | 4.39 | 8.82 | 9.37 | 13.33 | 13.99 | 16.46 | 16.75 |
| | (2.47) | (2.95) | (4.37) | (4.77) | (4.59) | (4.94) | (3.84) | (4.08) |
| **INF** $_{t-4,\ t-2}$ | 1.17 | | 2.41 | | 3.51 | | 4.42 | |
| | (2.50) | | (3.41) | | (3.74) | | (4.56) | |
| **INF** $_{t-11,\ t-2}$ | | 0.52 | | 0.82 | | 1.07 | | 1.05 |
| | | (3.70) | | (3.52) | | (3.40) | | (2.79) |
| **MKT** | −0.06 | −0.05 | −0.11 | −0.12 | −0.11 | −0.14 | −0.13 | −0.17 |
| | (−1.38) | (−1.29) | (−2.52) | (−2.83) | (−2.26) | (−2.81) | (−2.18) | (−2.72) |
| **SMB** | −0.29 | −0.30 | −0.25 | −0.27 | −0.23 | −0.24 | −0.24 | −0.24 |
| | (−3.97) | (−4.37) | (−3.71) | (−4.00) | (−3.17) | (−3.34) | (−2.96) | (−2.83) |
| **HML** | −0.16 | −0.17 | −0.06 | −0.08 | −0.06 | −0.09 | −0.04 | −0.08 |
| | (−2.40) | (−2.64) | (−0.84) | (−1.18) | (−0.77) | (−1.22) | (−0.57) | (−0.98) |
| **SUE**$_{pmn,q}$ | 0.03 | 0.03 | −0.08 | −0.08 | −0.12 | −0.12 | −0.14 | −0.16 |
| | (0.82) | (0.83) | (−2.01) | (−1.95) | (−3.06) | (−2.89) | (−2.24) | (−2.35) |
| **SUE**$_{pmn,q-1}$ | −1.17 | −1.64 | −2.63 | −2.98 | −3.91 | −4.16 | −3.99 | −3.79 |
| | (−1.70) | (−2.36) | (−2.89) | (−3.27) | (−2.60) | (−2.85) | (−2.18) | (−2.08) |
| **SUE**$_{pmn,q-2}$ | 0.40 | 0.01 | 0.46 | −0.04 | 0.94 | 0.28 | −1.01 | −1.36 |
| | (0.49) | (0.02) | (0.46) | (−0.04) | (0.75) | (0.21) | (−0.68) | (−0.85) |
| **SUE**$_{pmn,q-3}$ | 0.93 | 0.81 | 1.20 | 1.33 | −0.97 | −0.51 | −1.34 | −0.42 |
| | (0.96) | (0.85) | (0.89) | (1.00) | (−0.56) | (−0.30) | (−0.63) | (−0.19) |
| ***F*-test (*p*-value)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Adj $R^2$ (%)** | 20.31 | 23.12 | 24.94 | 25.85 | 28.5 | 27.43 | 33.22 | 28.19 |

# Regression of PMN returns on lagged inflation

| | Return-measurement period | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 3-months | | 6-months | | 9-months | | 12 months | |
| ***INTERCEPT*** | 3.71 | 4.39 | 8.82 | 9.37 | 13.33 | 13.99 | 16.46 | 16.75 |
| | (2.47) | (2.95) | (4.37) | (4.77) | (4.59) | (4.94) | (3.84) | (4.08) |
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| **MKT** | −0.06 | −0.05 | −0.11 | −0.12 | −0.11 | −0.14 | −0.13 | −0.17 |
| | (−1.38) | (−1.29) | (−2.52) | (−2.83) | (−2.26) | (−2.81) | (−2.18) | (−2.72) |
| **SMB** | −0.29 | −0.30 | −0.25 | −0.27 | −0.23 | −0.24 | −0.24 | −0.24 |
| | (−3.97) | (−4.37) | (−3.71) | (−4.00) | (−3.17) | (−3.34) | (−2.96) | (−2.83) |
| **HML** | −0.16 | −0.17 | −0.06 | −0.08 | −0.06 | −0.09 | −0.04 | −0.08 |
| | (−2.40) | (−2.64) | (−0.84) | (−1.18) | (−0.77) | (−1.22) | (−0.57) | (−0.98) |
| **SUE**$_{pmn,q}$ | 0.03 | 0.03 | −0.08 | −0.08 | −0.12 | −0.12 | −0.14 | −0.16 |
| | (0.82) | (0.83) | (−2.01) | (−1.95) | (−3.06) | (−2.89) | (−2.24) | (−2.35) |
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| **SUE**$_{pmn,q-3}$ | 0.93 | 0.81 | 1.20 | 1.33 | −0.97 | −0.51 | −1.34 | −0.42 |
| | (0.96) | (0.85) | (0.89) | (1.00) | (−0.56) | (−0.30) | (−0.63) | (−0.19) |
| ***F*-test (*p*-value)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Adj $R^2$ (%)** | 20.31 | 23.12 | 24.94 | 25.85 | 28.5 | 27.43 | 33.22 | 28.19 |

Supports H3: The returns to SUE portfolios should be predicted by inflation

# Why do investors ignore inflation exposure?

- Insufficient information to compute inflation-exposure for each firm
  - Significant time-variation in inflation exposure of a firm
  - Substantial time needed to analyse and identify inflation exposure
  - Significant uncertainty remains even after careful analysis
- Cost vs Benefit
  - At firm-level, substantial time needed to obtain marginal forecast improvements
    - Basu et al. (2010) find that analysts' ignore inflation exposures in their forecasts
  - Individual stock trading involves significant idiosyncratic risks
- Trading costs
  - Price impact of trades prevent trading based on inflation exposures unprofitable for illiquid stocks (Chordia et al., 2009)
  - Post-earnings-announcement drift persists

# Conclusion

- Understanding the links between macroeconomy and accounting helps to
  - Develop better earnings prediction models
  - Improve our understanding of investor and analyst behavior
  - Aid macroeconomic predictions
  - Conduct deeper analyses of macroeconomic issues

- Literature is still in its infancy
- Significant potential exists for improving our understanding of the links between macroeconomy and accounting

# PAC ANNUAL CONFERENCE

## PROFESSIONAL ACCOUNTING FUTURES

November 10, 2022

# Global Uncertainties and their Implications for Accounting, Auditing, and Financial Reporting


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# Global Uncertainties and their Implications for Accounting, Auditing, and Financial Reporting

by Dan A. Simunic

The University of British Columbia & Simon Fraser University

# Preamble

- When I was asked to give a talk on this very broad and controversial topic for the PAC Conference – I was hesitant.  Why me?

- After some thought, I decided that as a professor and observer of global issues for the last 50+ years – since my days as a student of economics and management science at the University of Chicago – I may have something useful to say about the myriad problems that we now face.

# Preamble

- I have two streams of comments:

  First:

  – What are the major global problems and what (if anything) do they have in common?

  – What are the possible implications of these problems and their possible solutions for society?

  Second:

  – How might the economic uncertainties arising from these problems impact on financial reporting?

  – How might these problems (and their possible resolution) affect us as accountants and auditors in the future?

# Preamble

- As befits an academic, the core of my comments is based on two papers:
  - "The Simple Analytics of Welfare Maximization", by Francis Bator, *American Economic Review,* March 1957, pp. 22-57.
  - "A Bayesian Approach to Asset Valuation and Audit Size", by William R. Scott, *Journal of Accounting Research*, Autumn 1973, pp. 304-330
- I will also reference a famous third paper:
  - "The Problem of Social Costs", by Ronald Coase, *Journal of Law & Economics*, October 1960, pp. 1-44.

# The Main Problems

- Climate change – global warming and its many manifestations (heat waves, intense storms, ocean acidification, etc.)
- Wars – both economic and “hot” - between the NATO countries and Russia and China
- Disruptions to supply chains, and perhaps the end of globalization (“near” or “friend” shoring?)
- New diseases that nearly became pandemics in 2003 (SARS1) and did so in 2020 (SARS2) - with the resulting disruptions and social unrest

# The Main Problems

When I look at this list, I see three types of problems:

- A fundamental economic problem – global warming
- Political problems with strong economic implications – real wars and trade wars
- A social problem with weaker economic implications – global diseases and their mitigation

The common theme, of course, is *economics.*

# The Main Problems

Comments:

- These problems are all very serious!
- We should not fool ourselves into thinking that they either don't exist or will somehow magically go away on their own.
- All three types of problems are potentially existential in nature.
- The problems and their (possible) solutions will have significant implications.

# The Problem of Externalities

- Global warming is an extreme case of a problem that has long been studied in economics – a negative externality – but whose resolution is difficult and politically controversial.
- Negative externalities occur when individuals and firms do not internalize all the costs from their economic decisions (transactions). They are basically interaction effects, where marginal costs are not calculated correctly.
- Global warming involves both negative production externalities and negative consumption externalities.

# The Problem of Externalities

- A key observation:

  Externalities destroy the Pareto-efficiency (optimality)* of the competitive market solution. That is, they vitiate the intellectual basis for the organization of our "free market" economy – unless they can somehow be "solved".

  * Pareto-efficiency: No one can be made better off by reallocating resources except by making someone else worse off.

# The Problem of Externalities

- The importance of this observation cannot be overstated. It implies that:
  - There is nothing special or particularly desirable - in a social welfare sense - about free-market outcomes (i.e. the nature of good & services produced, their prices, etc.).
  - There is a logical basis and justification for various government actions (e.g. laws, regulations, prohibitions, etc.).
  - Alternative forms of government and governance *may* produce superior outcomes (of course they could also produce worse outcomes).

# The Problem of Externalities

- Two solutions have been proposed by economists:
  - Taxation by governments to discourage negative externalities (e.g. a carbon tax). This solution goes back to the writings of A.C. Pigou and is sometimes called a “Pigovian tax”.
  - Allowing the economic agents who produce externalities and those harmed by the externalities to negotiate an optimal level of externality production. This is Ronald Coase’s solution.
- Question: Which solution might work for global warming? Which do you prefer?

# The Problem of Externalities

- I don't believe that the global warming externality problem can be solved by simple taxation. This is too weak. As to Coase's proposed "solution" – it is obviously irrelevant.
- Indeed, I doubt that a serious solution to global warming is compatible with democracy – where people largely vote their self-interest.* We may be pushed into alternative types of governance.

*Note: As I write this on Nov. 2, CNN released a poll which showed the #1 issue for the majority of the American electorate was the economy – particularly the price of food, the price of gasoline, and inflation. Moreover, despite being one of the largest emitters of greenhouse gasses, the U.S. does not have a national carbon tax.

# Some Possible Implications

- I think we can expect to see more government intrusion into the economy and society, more laws and regulations, and more outright prohibitions of certain actions and choices. All three problem types – pure economic, political, and social - lead in this direction.
- The situation is analogous to the world of accounting, auditing, and financial reporting that existed prior to the passage of the U.S. Sarbanes-Oxley Act of 2002.
- Prior to 2002, we experienced the “wild, wild, west” of crazy financial reporting and compliant auditors (especially in the U.S.). Now we have the “wild, wild west” of global individualism, freedom, and out-of-control consumerism - not to mention too many I-phones and too much “social media”.

# Some Possible Implications

- The bottom line is that we are going through a period of great economic uncertainly about how the future will unfold, including future:
  - Laws and regulations
  - International investment and trade relationships
  - How the economy and its governance are organized
- Two questions:
  - What are the implications for financial reporting?
  - What are the implications for us as accountants and auditors?

# Uncertainty and Financial Reporting

- I'm going to use the paper by Bill Scott to examine the implications of uncertainty for financial reporting, since Scott explicitly incorporates uncertainty about financial statement (F/S) amounts into his analysis.
- Here is the essence of the paper:
  - Scott describes the financial statements as being an n x 1 vector of numbers where assets are positive numbers and liabilities are negative numbers. The change in this vector of numbers period-to-period also measures income, subject to adjustment for any capital transactions.

# Uncertainty and Financial Reporting

- Scott's paper (continued):
  - The most novel – and controversial - feature of the analysis is that Scott's auditor *determines and reports the values* of the client's assets and liabilities, and also *designs an optimal audit* of these assets and liabilities using Bayesian pre-posterior analysis. Thus the state space is the set of F/S numbers, and the auditor's beliefs are posterior probability distributions over those numbers.
  - As in the real world, Scott's auditor reports point estimates in the financial statements – but other possibilities like reporting the auditor's entire posterior distribution over F/S amounts are also discussed.

# Uncertainty and Financial Reporting

- Scott's paper (continued):
  - The auditor's loss function – in designing an audit and reporting - is a key feature of this (any) Bayesian analysis.
  - Scott assumes that auditors are motivated to minimize the expected losses of financial statement users caused by mis-stated F/S numbers (true values differ from reported values). This is a strong and controversial assumption.
- Scott's analysis is a normative, but I think reasonable, depiction of how F/S *should* be produced.

# Uncertainty and Financial Reporting

- The salient question (for us) is how does increasing prior uncertainty about F/S amounts affect the process?
- The answer lies in the assessment of the auditor's posterior beliefs about the F/S amounts. This would be an n-dimensional probability distribution (where n is the number of dollar amounts in the F/S). This distribution has a variance-covariance matrix.
- The posterior distribution depends on the auditor's prior beliefs about F/S amounts and the results of an (optimal) audit.

# Uncertainty and Financial reporting

- Some implications:
  - Increasing volatility (uncertainty) in the firm's (client's) environment changes the variance-covariance matrix and the variance of the auditor's posterior beliefs about F/S amounts can be expected to increase.
  - An increase in prior uncertainty over F/S amounts can be expected to motivate a more intensive audit.
  - An increase in posterior uncertainty over F/S amounts can be expected to result in more material misstatements in the F/S when point estimates are reported.

# Uncertainty and Financial Reporting

- Some key results:
  - In a more uncertain world, auditors should provide more information to shareholders, investors, creditors etc. about their entire n-dimensional posterior distribution over F/S amounts.
  - To the extent this is successful, auditors are less likely to be sued for F/S misstatements.
  - Auditors will need to perform more intensive and costly audits. Technological innovations in auditing may help control these costs.

# Uncertainty and Financial Reporting

Note:

- In Scott's analysis, auditors are not responsible for differences between reported F/S amounts (point estimates) and actual future realized values. However, in the real world, they may be held responsible!
- The difference between reported point estimates and realized values can be expected to increase as the volatility of a firm's environment increases.
- Reporting more information about the posterior distribution would help to alleviate this problem.

# Some Implications for Accounting and Auditing

Finally:

- More and more onerous laws and regulations designed to ameliorate climate change, or shape industrial policy and trading relationships, implies a need for different types of information (e.g. ESG) about firm performance and compliance.
- This has obvious implications for financial reporting – both accounting and assurance.
- Are we up to this task?

# Concluding Thought

Good Luck to Us All!

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# PROFESSIONAL ACCOUNTING FUTURES

Panel 1 November 10, 2022

***Impact of Macro-economic Developments on the Accounting Profession – Accounting Standards, Estimates, Auditing and the Profession in General***


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November 2022

# PAC Annual Conference – Deloitte presentation

# Impact of Macroeconomic Developments on the Accounting Profession
# Financial reporting – audit considerations

## Highlights

**Some key considerations**

**Recoverability and impairment of non-financial assets**
As a result of the changes in the current economic environment (including impacts of the COVID-19 pandemic), entities should consider whether they are experiencing any conditions (e.g., decreased revenues, order cancellations, supply chain disruptions, store closures, or declines in share price) that indicate that their assets should be tested for impairment.

**Accounting for financial instruments**
As a result of the current macro-economic environment (including additional volatility in the global markets), entities may need to assess their investments and loans for impairment. Investments that may be affected include equity securities and private debt and, in certain instances, investments in sovereign debt. This also includes investments in equity method investments and joint ventures.

**Revenue from contracts with customers**
Changes in economic activity caused by the pandemic will cause many entities to renegotiate the terms of existing contracts and arrangements which have accounting implications. Further, previously acceptable business practices regarding revenue recognition criteria such as collectability, and experienced right of return levels may be revisited resulting in revenue recognition accounting considerations.

**Going concern**
As a result of current macroeconomic developments, some businesses may need to consider whether such impacts and/or disruption will be prolonged and result in diminished demand for products or services or significant liquidity shortfalls (or both) that, among other things, raise substantial doubt about whether the entity may be able to continue as a going concern

**Inventories**
Some entities with inventories that are seasonal or are subject to expiration may have to assess whether a larger reserve for obsolescence or slow-moving stock (e.g., markdowns) may be necessary at an interim or annual period as a result of a slower sales pace.

The degree of judgment and financial statement impacts will be specific to each Company's facts and risk assessment. The degree of judgment and material potential impact will drive management's effort regarding reporting and disclosure; and according auditor response.

For global organizations, the impact of these matters may vary by geographical regions disproportionately, depending on their nature. This poses not only new audit risks to the financial statements but potential engagement of component auditors or increased oversight on existing components for group audits.

# Impact of Macroeconomic Developments on the Accounting Profession
# Financial reporting – audit considerations (continued)

Historically, declines in the stock market can trigger testing of intangible assets, goodwill and other long-lived intangible assets for impairment. However, other factors (triggers) that may accompany stock price declines are typically examined as well.

Below are some key triggering events which might cause companies to evaluate as impairment indicators (also depends on the applicable accounting framework):

## Types of Triggering Events:

**Financial**
Trends and events related to financial markets or corporate financial risk

- Market volatility
- Credit risk
- Commodity risk

**Operational**
Risks relating to products, services, and operational activities

- Store or facility closures
- Declining customer traffic
- Reduced human capital

**Strategic and reputational**
Emerging issues impacting your strategy and brand reputation

- Competitive shifts
- Technology innovation
- Industry convergence

**Geopolitical and regulatory**
Disruptions relating to trade, global markets, and regulatory change

- Health pandemic
- Trade disruptions
- Sustainability risks

**Extended enterprise**
Emerging risks and opportunities related to your third-party ecosystem

- Supply chain interruptions
- Distribution delays
- Reliance on third parties

### Key Testing Questions:

- How does a company define an asset group or CGU?
- What are the core assets and useful lives?
- How does a company model alternative scenarios in a time of unprecedented uncertainty?

### Key Valuation Considerations:

- Is intrinsic value as measured by the DCF weighted more than the market approach in current conditions?
- With depressed current multiples, should forward multiples be used to reflect updated market earnings measures?
- Are the inputs in the estimate of the discount rate aligned with current market volatility?
- Should average historical prices be used to smooth the impact of market volatility?

# Questions?

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# Disclaimer

The views I am about to express are my own, and are not necessarily representative of the Ontario Securities Commission or its staff.

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# Economic Uncertainty and Financial Reporting – securities regulatory observations and areas of interest

## Financial statement preparation – Management

- Increasing estimation uncertainty
- Going concern
- Subsequent events
- Significant judgments & estimates
- Impairment
- Inconsistencies with Management Commentary
- Risk of inappropriate earnings management practices
- Risk of inappropriate non-GAAP measures

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# Economic Uncertainty and Financial Reporting – the Three-legged Stool

## Audit Committee

- Oversight
- Meaningful dialogue with management – probing questions
- Appropriate expertise
- Sufficient engagement with external auditor

## Auditor

- Risk assessments, fraud risk
- Professional skepticism
- Reasonableness of assumptions
- Scrutinize going concern assessments and mitigation plans

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# PAC Annual Conference

***Impact of Macroeconomic Developments on the Accounting Profession***

Brad Owen

November 10, 2022

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# Overview

- Recent external events – war in Ukraine, natural disasters, COVID-19 fiscal and monetary policy and other geopolitical events (supply chain disruption) including inflation are creating global economic uncertainty
  - Impacting uncertainty and estimation risk particularly for fair value measurement and impairment testing and going concern assessments
  - Fraud risk may be increasing
  - Investors will have a hard time comparing/benchmarking estimates between companies and understanding the true sensitivity to changes in assumptions
  - Companies that previously considered peers may no longer be truly comparable
- Incorporating climate risks (physical, regulatory and transition) into strategy and estimation may be challenging to all and limit comparability
- Higher reliance on disclosures around assumption sensitivity and risks in financial statements and MD&A to understand any potential bias/noise in the estimate
- Auditors will be challenged to clearly demonstrate how they considered contradictory evidence and applied professional skepticism in light of uncertainty

# Fair Value Measurements and Impairment Testing

- Likelihood of impairment indicators and triggering events increases significantly
- Driven by changes to commodity/labor prices, supply chain disruption and increase in discount rates
- Challenges in using discounted cashflow – may drive increased use of experts
- Increased auditor attention to consider contradictory evidence, understand consistency of assumptions applied and changes to strategic plans due to market uncertainty and evolving trends
- Some key considerations
  - Model selection
  - Projecting cash flows
  - Inflation
  - Estimating probabilities associated with different cash flow scenarios
  - Determining discount rate
  - Disclosure of estimation uncertainty – potential for increase in number of assumptions and sensitivities being disclosed

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