PhD Seminar in Management Accounting Research[1]

Eva Labro, Kenan-Flagler Business School, University of North Carolina at Chapel Hill

Limperg Institute, Summer 2024 Tentative Syllabus

The seminar has three **objectives**. First, you will become familiar with some topics and paradigms in management accounting research. We will discuss a number of alternative approaches to both analytical and empirical research. I aim to build bridges between the various methodological approaches to managerial accounting research by offering content that is topic driven rather than methodology driven. Each session on a topic typically starts from the economic theory that underlies testable hypotheses. A firm believer in the importance of theory to inform any research effort, I will start with discussing the core theory papers that constitute the root thinking on a particular topic. These are often older papers that are heavily (and sometimes wrongly) cited, yet scantly read. Then, we move on to discuss empirical work that tests such hypotheses, illustrating the evolution of research paths on a topic, the hurdles encountered, and the steps taken to overcome them. This empirical work can be experiments, surveys, or using publicly available or proprietary compiled data sets.

Second, it will illustrate the evolution of research paths on a topic, the hurdles encountered, and the steps taken to overcome them. Discussion time is devoted to identifying what the problems are for empirical researchers to test the theory, where the gaps in the theory are, how empirics and theory can be bridged, and how the various empirical methods can best contribute to the empirical testing of theories. Insights here should help you when carving out your own research path.

Third, I aim to build bridges from managerial accounting to other research areas within (and outside of) accounting. In doing so, I show management accounting's relevance to other fields in accounting, trying to overcome the silo-thinking of the different accounting areas which I perceive to be an impediment to learning and progress of the accounting field as a whole. The seminar will exemplify how an understanding of both real managerial decisions and information production within firms is crucial to improve understanding of many issues typically considered

[1] A management accounting system is typically viewed as a system that provides information for internal decision making and decision influencing in an organization. Hence, the internal information serves two roles: planning and control.

to belong in the other areas of accounting research or in other business areas such as corporate finance or operations management.

<u>Course schedule:</u>

We will have class on June 24 through 28, each day from 9h until 12h for the morning session, and from 14h until 16h for the afternoon session.

<u>Preparation before first class:</u>

- All the information for this course is available on the drop box folder for the course. Most articles should be available via your libraries, but I have posted a few that may not be. Let me know is you have trouble accessing a reading.
- To ensure that everybody comes with a baseline level knowledge of the Principal-Agent problem, please read chapter 14 (only sections A and B) of Mas-Colell, Whinston and Green (1995) "Microeconomics theory". I have posted a scan of this chapter under the " Readings" tab on drop box. Please upload a file with a summary of these sections in your own words in the relevant assignment on drop box by **June 23**.
- Each student will need to present one of the 4 empirical papers that are indicated in the program below. Please communicate with each other about who will present each paper and let me have the list of students that will present each paper by **June 17**. Four days before the relevant class, please send me the first version of your slides. This will be before the seminar starts for those most students.
- Preparation before every class. You need to upload your word files with answers to preparation questions for each class, including for the first class, by midnight on the day before the class in the relevant folder on drop box (under "Assignments Students").
- Reading:
    - For an introduction to my perspective on management accounting research, read Labro (2015), "Journey of management accounting research: hobby horses ridden", *Journal of Management Accounting Research*, 27(1), 133-138.
    - Optional: If you have little exposure to management accounting, read Chapter 3 in Dierynck and Labro (2018), "Management Accounting Information Properties and Operations Management", *Foundations and Trends in Technology, Information and*

Operations Management, 12(1), 1-114, as an introduction aimed at novices. Available under "Readings" tab on drop box.

- Optional: If you have limited insight on what might be considered management accounting research topics, read Ittner and Larcker (2001), "Assessing empirical research in managerial accounting: a value-based management perspective", *Journal of Accounting and Economics* 32, 349-410.

Grading:

1. Principal-Agent crash course assignment based on the Mas-Colell et al textbook sections (10%). This is graded based on effort.
2. Preparation for every class (30%):

I expect all students to come well prepared to each class by having read and tried to digest the assigned main papers and resorted to the refresher reading if necessary. Further reading is optional based on your interest. Before all classes, students submit answers to short questions on drop box designed not only to assess their level of preparation but also to direct their attention to those aspects of the theory papers to distill. These questions are designed to be helpful in guiding your reading of the theory papers and seeing the woods for the trees. Please upload your answers by midnight of the day before class, to allow me to make the slides available via drop box in the morning of class.

3. Participation (25%):

Students can participate during the class through asking questions and making comments. Bear in mind that it is the quality of your contributions that counts, and not the quantity. Criteria considered in evaluating your class participation are the following. Is the participant a good listener? Would the quality of the seminar discussion diminish if this student were not a member of the class? Are the points made relevant to the discussion? Is there a tendency to make "safe" comments (e.g. regurgitating facts of the papers on the program), rather than a willingness to try out communicating new ideas and attempting to see links between the papers on the schedule?

4. Preparing short review remarks (10%):

For Day 2's afternoon session, your assignment refers to the reviewing packet of a paper (which is available on the Readings tab on drop box) which was submitted to a top accounting journal. The packet contains the manuscript for the first round, the review letters and the revised manuscript submitted to the second round with its response memo. Your assignment is to read the paper critically, and think about which points you would make in the second round referee report on this paper. Also decide what you will recommend to the editor (choose between accept, conditional accept, minor revision, major revision, reject & revise, and reject). You do not need to write an actual referee report, but I expect you to be prepared to discuss your points in class.

5. Presentation of an empirical paper (25%):

Highlighted in blue in the syllabus are empirical papers, which I expect a student to present. Use the following guidelines to prepare your slides and presentations:

- Aim for a presentation/discussion that would take 20-25 minutes if you were not interrupted.
- Expect to be interrupted with questions and discussion points.
- Don't just (boringly) present the paper but include discussion of aspects of the paper. Don't leave the discussion points to the very last couple slides but interweave them in the presentation when the points become relevant. Have an eye for the big picture and don't dwell on minute detail.
- Include an assessment of the strength of the link between theory and empirics. Therefore, it will be useful to read all the other papers assigned to that class before drafting your slides.
- Include and deliberately point out things you find positive (novel, well executed, interesting, etc.) about the paper. Furthermore, start your presentation off on your first slide with saying some overall positive things about the paper. Our profession as a whole tends to be too focused on the negatives, so I would like to make an attempt at de-biasing.
- Please send me a first version of your presentation slides **4 days before the relevant class**, so that I can comment on where to make improvements, if necessary.

Day 1, Morning and afternoon session: Introduction to the Seminar & Costing

After an introduction to management accounting and the seminar, we start with the very basics of information production in a firm and a topic at the core of management accounting: costing as an approximation of the underlying (true) production technology and resource consumption patterns of the firm. An understanding of these measurement / approximation issues is necessary both in terms of improving practice (how can managers know whether or not they have access to a precise information system, and what can they do to obtain or improve on an existing system should they so wish) and advancing empirical work (in order to translate theoretical work on the antecedents and/or consequences of providing more precise information in organizations, we need empirical proxies that capture the concept of information precision with observable data). Viewing accounting systems as approximation exercises, we will discuss in this session what they are trying to approximate (marginal versus full costing debate), how the approximation is done (the costing methods), what can go wrong in a cost approximation and what we can do to improve cost approximations. We will conclude with some discussion on where the literature in this area is going or needs to go. Consistent with my view that different research methods contribute to the understanding of a management accounting topic of interest, this session will include multiple methodological perspectives: analytical, simulation, experimental, archival and field-based research. Furthermore, this session gives a great idea of thinking through the hurdles a literature needs to overcome, and how these different methods can help move it forward.

Papers:

- Labro, E. (2019). "Costing Systems", *Foundations and Trends in Accounting*, edited by Sunil Dutta and Stefan Reichelstein, 13(3-4), 267-404. Available under "Files" tab.
    - Chapters 1, 3, 4, 5 and 6
- Anand, V., R. Balakrishnan and E. Labro (2019). "A Framework for Conducting Numerical Experiments on Cost System Design", *Journal of Management Accounting Research*, 31(1), 41-61.
- Labro, E. and L. Stice-Lawrence (2020). Updating Accounting Systems: Longitudinal Evidence from the Health Care Sector. *Management Science*, 66(12), 6042-6061. This paper will be presented by a student.

Refresher reading:

- Labro, E. (2019). "Costing Systems", *Foundations and Trends in Accounting*, edited by Sunil Dutta and Stefan Reichelstein, 13(3-4), 267-404.
    - Chapter 2 offers a thorough "compare and contrast" of different types of costing methods used in practice, including very recent developments in costing.

Further reading:

- Cardinaels, E. and E. Labro (2008). "On the Determinants of Measurement Error in Costing Systems", *The Accounting Review,* 83(3):735-756.

<u>Preparation question:</u>

1. Write a short reflection on how, in your view, multiple methods have contributed to research on costing systems. (Max 300 words.)

Day 2, Morning session: Agency Theory, Monitoring and Performance Measurement

Note that the session on costing has mostly focused on the role of cost information to support decision-making, although if you read on in the Foundations and Trends in Accounting reading, you will have noticed that the second pillar of management accounting (performance measurement) also is supported by cost information. This class, we start by comparing and contrasting the role of information more generally in both contexts (decision making and performance measurement). We kick off the performance measurement literature with a coverage of Holmström (1979) to make sure also those students who have not covered this seminal paper in much depth previously are up to scratch on basic agency theory. Holmström (1979) shows in a single Agent, single Period model that any publicly observed piece of information that does not satisfy the sufficient statistic condition generates value for an agency. This is good news for accounting, since many of the accounting numbers we provide do not satisfy the sufficient statistic condition.

Most theoretical and empirical work based on agency theory has focused on the Incentive Compatibility (IC) constraint and the use of performance measurement to provide incentives. However, the agency model also includes an Individual Rationality (IR) constraint, sometimes also called Participation constraint (PC), that ensures the agent obtains his reservation utility. We will discuss one of my current empirical working papers that studies wage and non-wage levers that firms and plants use to manage employee retention concerns using *survey* data form the US Census.

The first best solution in agency theory implies observing the effort the agent puts in, a.k.a. monitoring. The second best solution models a situation where such observation is costly or impossible, and relies on putting performance measurement systems in place to incentivize the agent to put in effort. Giroud (2013) attempts to empirically capture that first-hand monitoring using airline route changes.

Papers:

- Labro, E. (2019). "Costing Systems", *Foundations and Trends in Accounting*, edited by Sunil Dutta and Stefan Reichelstein.
    - Chapter 10

- Holmström, B. (1979). "Moral Hazard and Observability", *Bell Journal of Economics* 10 (Spring), 74-91.
- Labro, E. and J. Omartian (2024). "Managing Employee Retention Concerns: Evidence from US Census Data", working paper. This paper is on drop box under the "Reading" tab.
- Giroud, X. (2013). "Proximity and Investment: Evidence from Plant-level Data", *Quarterly Journal of Economics*, 861-915.

Preparation questions:

1. In the second-best optimal contract, the Agent who puts in high effort will always be paid more than the Agent who puts in low effort. True or false? Explain.
2. Explain in your own words the sufficient statistic condition discussed in Holmström (1979). Do not use any mathematical notation.

Day 2, Afternoon session: The Editorial Process & Reviewing

Refer to the instructions described earlier in the syllabus. Each student will be called on in random sequence to recommend their decision and provide in maximum 3 minutes the core grounds on which you base your recommendation. We will also discuss the refereeing process more generally, as well as use the opportunity to talk about how a second round review may differ from a first round review – an experience that takes a bit longer in ones career to get multiple observations on! Note that this paper illustrates the opportunity offered by having a deep understanding of costing (the topic discussed yesterday) to research issues of broader relevance, and is an example of a paper that links cost information to the wider information environment.

Day 3, Morning session: Multiple Tasks, Multiple Performance measures and the Balanced Scorecard

We start relaxing the assumptions of Holmström (1979)'s model. During this class, we are moving away from the one task setting to look at multiple tasks. Multiple tasks naturally bring up the issue of multiple performance measures and the Balanced Scorecard. We start with Holmström and Milgrom (1991), which is the seminal paper on multi-tasking. This paper also explains why we find so many instances where employees are not offered strong incentives but are paid flat wages, an empirical phenomenon that is hence entirely consistent with agency theory. The real seminal paper is their predecessor Holmström and Milgrom (1987), but this is such a hard paper to read that the more accessible 1991 paper has become more widely cited.

Next, we study Eyring (2020) who uses a *field* study on physician ratings and its effect on multiple tasks, and additionally includes an inter-temporal dimension. We will also cover Chen et al (2016) and discuss opportunities for triangulation through methodological diversity, in this case covering an *experiment* using an eye-tracking devise.

Papers:

- Holmström, B. and P. Milgrom (1991). "Multitask principal agent analysis: Incentive contracts, asset ownership, and job design", *Journal of Law, Economics & Organization* 7, 524-552.
- Eyring, H. (2020). "Disclosing Physician Ratings: Performance Effects and the Difficulty of Altering Ratings Consensus", *Journal of Accounting Research*, 58(4), 1023-1067. This paper will be presented by a PhD student.

Paper we will consider briefly:

- Chen, Y., Jeremias, J. and T. Panggabean (2016). "The Role of Visual Attention in the Managerial Judgment of Balanced-Scorecard Performance Evaluation: Insights from Using an Eye-Tracking Device", *Journal of Accounting Research* 54(1): 113-145.

Further reading:

- Holmström, B. and P. Milgrom (1987). "Aggregation and linearity in the Provision of Intertemporal Incentives", *Econometrica* 55(2), 303-328.

Preparation question:

1. Holmstrom and Milgrom (1991) supports the notion that management accounting measurement may impact organizational design, rather than simply reflect organizational design. Do you agree or disagree? Explain.

Day 3, Afternoon session: Inter-temporal (multi-period) agency considerations

We continue to relax the assumptions of Holmström (1979)'s one agent – one task – one period model. This class, we move away from a single period to include multi-period considerations. Holmström (1999) shows how career concerns may impact incentives to put in effort or make decisions. Bouwens et al (2023) study target ratcheting in hierarchies, thereby also adding multiple agency relationships to the issue at hand. Indjejikian, Matejka and Schloetzer

(2014) look at what the accounting literature has done on target ratcheting, and provide some ideas for future research.

Papers:

- Holmström, B. (1999). "Managerial Incentive Problems: a Dynamic Perspective", *Review of Economic Studies* 66: 169-182.
- Bouwens, J., C. Hofmann, and N. Schwaiger (2023). "Target Setting in Hierarchies: The Role of Middle Managers", *Journal of Accounting Research*. This paper will be presented by a PhD student.

Further reading:

- Indjejikian, R., Matejka, M. and J. Schloetzer (2014). "Target Ratcheting and Incentives: Theory, Evidence, and New Opportunities", *The Accounting Review*, 89(4), 1259-1267.

Preparation questions:

1. In your own words, what does Holmström (1999)'s assumption that there are no contingent contracts mean?
2. Does Holmström (1999) predict that old or young workers will work harder? What it the intuition behind this prediction?
3. In an extension to the model, Holmström (1999) shows that career concerns induce risk aversion that may be problematic when the manager (Agent) is in charge of choosing investment projects. Explain why exactly that is the case and the intuition behind this result in your own words.

Day 4, Morning session: Delegation and Agency Problems

Information needs differ from firm to firm, and hence information production will also differ. Delegation can create incentives for information production and use, but comes at a cost of increased agency problems between the principal in headquarters and the agent in the business unit. These agency problems may, in turn, be resolved through incentive compensation and performance measurement. As Prendergast (2002)'s theory explains, this may be the reason for puzzling results in the empirical literature. Note that we have now moved from the complete to the incomplete contracting literature, which offers an explanation for the practice of delegating decision-making. Labro et al (2022) shows that we need to start thinking more about the characteristics of the information provided rather than about "information" more generally to empirically understand how organizational architecture (including delegation of decision-making rights) may be adapted. Aghion et al (2007) addresses the role of information available through other channels on delegation. Deller and Sandino go beyond incentivizing employees in a decentralized organization, but consider the selection of employees.

Papers:

- Prendergast, C. (2002). "The Tenuous Trade-off between Risk and Incentives", *Journal of Political Economy* 110(5), 1071-1102.
- Labro, E., M. Lang and J. Omartian (2023). "Predictive Analytics and the Centralization of Authority", *Journal of Accounting and Economics*, 75(1).
- Deller, C. and T. Sandino (2020). "Who Should Select New Employees, Headquarters or the Unit Manager? Consequences of Centralizing Hiring at a Retail Chain", *The Accounting Review* 95(4): 173-198. This paper will be presented by a PhD student.

Further reading:

- Aghion, P., Bloom N. and J. Van Reenen (2014). "Incomplete Contracts and the Internal Organization of Firms", *Journal of Law, Economics and Organization* 30(1):37-63.
    - This paper gives a nice overview of how the incomplete contracting literature addresses questions on firm management and organization.

Preparation questions:

1. Prendergast (2002) identifies the most crucial assumption in his paper himself. What is this assumption and why is it so crucial?
2. Carefully read how Prendergast (2002) defines input and output measures, and summarize these definitions in your own words. Are output or input measures more expensive to collect in Prendergast (2002)'s model?

Day 4, Afternoon session: Information and Internal Capital Allocation

Continuing on the theoretical roads taken this morning, this class we will look at the role of information in internal capital allocation. Stein's (2002) model introduces a distinction between hard and soft information, and connects it to organizational design. This has implications for the role of managerial accounting which can potentially harden soft information. We will briefly look at an empirical paper by Berger et al (2005), which relies strongly on this theory. Moving already in the direction of the theme for tomorrow's class, we will discuss Shroff (2017), who connects the financial accounting information environment to the internal information environment, and subsequently to the quality of the internal capital markets and investment efficiency.

Papers:

- Stein, J (2002). "Information Production and Capital Allocation: Decentralized versus Hierarchical Firms", *Journal of Finance* 57(5): 1891-1921.

Papers we will consider briefly:

- Shroff, N. (2017). "Corporate Investment and Changes in GAAP", *Review of Accounting Studies* 22: 1-63.
- Berger, A., Miller, N., Petersen, M., Rajan, R. and J. Stein (2005). "Does Function Follow Organizational Form? Evidence from the Lending Practices of Large and Small Banks", *Journal of Financial Economics*, 76: 237-269.

<u>Preparation questions:</u>

1. What is the core essence of Stein's (2002) definition of hard information?
2. How does the Berger et al (2005) paper empirically capture hard versus soft information?
3. Are there other ways in which the empirical accounting literature has thought about the distinction between hard and soft information?

<u>Day 5, Morning session: Interdependence of Managerial Accounting and Financial Accounting</u>

As discussed at the start of the seminar, I strongly believe in the interconnectedness of the various accounting subfields, even though many researchers take a more "pigeon holed" perspective. I also discussed the importance of focus on the second pillar of management accounting: decision-making. This class, we will combine both of my pet peeves – what a great class!:-) We explore the theoretical relation between earnings and market returns as well as the properties of accounting earnings frequency distributions under the maintained hypothesis that managers use unbiased accounting information benevolently to prudently manage the firms of which they are appointed stewards (Hemmer and Labro, 2019). This paper finds that reported losses are less persistent than reported gains, the market response to earnings exhibits an "S-shape" and earnings relate to returns asymmetrically in the way documented by e.g. Basu (1997). Furthermore, the implied frequency distribution of aggregate earnings is neither symmetric nor necessarily unimodal. Instead, it is likely to exhibit a clear discontinuity at zero and looks similar to the plots reported by Burgstahler and Dichev (1997). However, within our set-up, none of these phenomena are due to reporting noise, bias or some undesirable strategic managerial behavior. Rather, the manager using information internally to learn about the quality of his decision-making causes these phenomena. Chen et al (2018) empirically connect the internal and external information environment. Li et al (2014) use an external reporting setting (analyst conference calls) to study an internal accounting research question.

Paper:

- Hemmer, T. and E. Labro (2019). Management by the Numbers: A Formal Approach to Deriving Informational and Distributional Properties of "Un-managed" Earnings. *Journal of Accounting Research*, 57(1), 5-51.
- Li, F., M. Minnis, V. Nagar and M. Rajan (2014). “Knowledge, Compensation, and Firm Value: An Empirical Analysis of Firm Communication”, *Journal of Accounting and Economics*, 58, 96-116.
- Chen, C., X. Martin, S. Roychowdhury, X. Wang and M. Billett. (2018) “Clarity Begins at Home: Internal Information Asymmetry and External Communication Quality”, *The Accounting Review* 93(1): 71-101. This paper will be presented by a PhD student.

<u>Preparation questions:</u>

1. In Hemmer and Labro (2019), market returns reflect a belief revision of market participants (e.g. investors) upon an earnings release by a firm. In your own words, and without using mathematical notion, describe what exactly the market participants are updating their beliefs about.
2. An agency conflict between the manager and the shareholders drives the predictions of the model by Hemmer and Labro (2019). True or false? Explain.

<u>Day 5, Afternoon session: Thinking about task characteristics: Incentivizing innovation and creativity</u>

So far, we have talked about the tasks an agent performs in very generic terms. In this class, we think more precisely about characteristics of tasks that may make them harder (or easier) to provide incentives for, homing in on innovation tasks. Yet, our economy becomes much more reliant on knowledge workers, so managing and incentivizing innovation is increasingly important. To set the management accounting literature on innovation in its context, please read section 3.3

in Glaeser & Lang (2024). We start off with some of the theoretical guidance we have on this front: Manso (2011). We then move to empirical papers that have creatively attempted to study innovation incentives and creativity. Azoulay et al (2011) uses large scale data, while Bol et al (2023) uses experimental data. We will use the latter as the context to discuss what laboratory experiments can bring to the table. We also discuss Glaeser, Glaeser and Labro (2023) who look at the role of monitoring and advising in providing oversight of innovators.

Papers:

- Manso, G. (2011). "Motivating Innovation", *The Journal of Finance*, *66*(5), 1823-1860.
- Glaeser, C., S. Glaeser, E. Labro (2023). Proximity and the Management of Innovation. *Management Science,* 69(5), 3080-3099.

Papers we will consider briefly:

- Azoulay, P., J. Graff Zivin, and G. Manso, G. (2011). Incentives and Creativity: Evidence from the Academic Life Sciences. *The RAND Journal of Economics*, *42*(3), 527-554. This paper will be presented by a PhD student.
- Bol, J., L. Laviers, and J. Sandvik (2023). "Creativity Contests: An Experimental Investigation of Eliciting Employee Creativity", *Journal of Accounting Research*, 61(1), 47-94. This paper will be presented by a PhD student.

Context reading:

- Glaeser, S, and M. Lang (2024). "Measuring Innovation and Navigating its Unique Information Issues: A Review of The Accounting Literature on Innovation", Working paper. (Section 3.3.)

Further reading:

- Holmstrom, B. (1989). "Agency Costs and Innovation," *Journal of Economic Behavior & Organization*, *12*(3), 305-327.

<u>Preparation questions:</u>

1. What are characteristics of innovation tasks that affect how we can incentivize agents to do these tasks? Do these characteristics make it easier or harder to incentivize agents? Discuss.
2. How does Manso (2011) model the two types of actions an innovator can take, exploitation and exploration? Use your own words to explain.