# BOSTON COLLEGE

Laura Veronika Gati <gati@bc.edu>

### Your talk

7 messages

**Ethan Struby** <estruby@carleton.edu>
To: "gati@bc.edu" <gati@bc.edu>

Wed, Oct 21, 2020 at 1:40 PM

Hi Laura,

I wanted to catch you after your talk but got roped into feeding a baby so I'm writing you instead.

First, wanted to say that I liked the paper! I think there's a lot of cool insight in the optimal policy discussion.

I also wanted to say that the BC macro audience is probably the most critical you'll encounter so I hope you don't feel frustrated by the tough questions. I'm still scared of Jaromir three years out!

I noticed the paper isn't up yet on your web site— if you'd like, i would be happy to read it and send you comments as someone who has been on the hiring committee for our last two macro searches. (Because of parental leave I'm not interviewing this year). I have some half written comments about your slides I can send you as well, but I don't want to assume you care to hear them.

- Ethan

Ethan Struby
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# Laura Veronika Gati <gati@bc.edu> To: Ethan Struby <estruby@carleton.edu>

Wed, Oct 21, 2020 at 2:53 PM

Hi Ethan,

Thank you so much, I am very happy to hear that you liked the paper! I did expect to get a tough audience, but not this tough, maybe. The main reason it's frustrating is because it's very hard for me to gauge if they actually like the paper and the presentation or not. So good to know that you did!

Wow, thank you very much for offering to read the paper. I would be much obliged if you do, in fact, I am also very curious to hear your thoughts on the presentation, or read your notes. So please, do send them along.

I will write again to send the draft. Hopefully I can do that this weekend when the newest update is done.

Laura

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**Ethan Struby** <estruby@carleton.edu>
To: Laura Veronika Gati <qati@bc.edu>

Wed, Oct 21, 2020 at 2:55 PM

Sounds good! I also promised to read Marco's, so I'll probably do his first in a first-in-first-out policy way, but if you send it to me this weekend I'll try to read it ASAP since I know deadlines are approaching.

- ES

Ethan Struby Assistant Professor, Department of Economics Carleton College https://sites.google.com/site/strubyecon/ https://apps.carleton.edu/profiles/estruby/

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#### Laura Veronika Gati <gati@bc.edu>

To: Ethan Struby <estruby@carleton.edu>

Wed, Oct 21, 2020 at 3:51 PM

Great, thank you so much! Laura

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## Laura Veronika Gati <gati@bc.edu>

To: Ethan Struby <estruby@carleton.edu>

Sat, Oct 24, 2020 at 3:53 PM

Hi Ethan,

So here it is: the most recent draft of the paper. Looking forward to seeing your reactions!

Thanks again for taking the time to read it!

Laura

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Ethan Struby <estruby@carleton.edu> To: Laura Veronika Gati <gati@bc.edu> Mon, Oct 26, 2020 at 8:27 PM

Hi Laura,

I've had a chance to read your paper, and to think about it a little bit. I've attached my markup version of the paper; the markup is pretty minor (a few typos, suggested rewordings of sentences, etc).

Like I said in my original, I like the paper overall. I think you've got some very nice, clearly presented results, and I think all the additional wrinkles in the optimal policy problem are especially interesting! Most of my suggestions below aren't critical of the results you have but strengthening how you show them off, both in the paper and in the presentation. I think a lot of the questions that you were getting at the presentation are really answered in this version of the paper.

The empirical and policy motivation (e.g., the thing that people got stuck on early).

I think you can emphasize a bit more why examining the guestion matters in general, and even in a low-inflation environment. This was Pablo's question. I think his suggested answer -- that just because we're low inflation now does

not mean we always will be -- is good. I also think that you can emphasize that your paper matters also for inflation expectations that are drifting *lower* than the central bank would like (although I think you need to explain how that would be welfare-harming in the context of disanchoring more clearly in the paper - basically, does your model give us reason to believe Powell is right to be worried about this?) And I think you can emphasize that *despite* the fact that inflation expectations have lowered and are more stable, policymakers continue to be concerned about this; your model speaks to (1) why that might be and (2) What they should do given that they are concerned.

The presentation (and the paper) I think need to make a clearer case for deviating from RE and for endogenous gain learning in particular.

It might be worth presenting the regression in the introduction as a *new* fact -- the extent to which inflation surprises adjust expectations has changed over time -- alongside other facts we know from the literature, like errors being serially correlated and predictable, etc, that point to moving away from FIRE. I also think you could present the asymmetry of the response to surprises as a new stylized fact that is hard to square with linearized structural models with RE *or* certain forms of imperfect information. (For example, I don't think signal extraction by a Bayesian learner whose beliefs have converged can generate that pattern, and I think that's a special case of constant gain where the gain is optimally selected using model-consistent expectations, Bayes' rule and an infinite signal history. Decreasing gain also seems like it'd be inconsistent with a regression coefficient that's sometimes significant and sometimes isn't). But as is, it's not obvious that your regression results are inconsistent with RE because I don't have intuition for what the relationship between forecasting error and long term expectations "should" be under rational expectations. If you can clarify that, I think it helps answer the question of "why do we need to do it this way" a bit better.

Relatedly: Your regression isn't CG's regression, but you need to probably think about explaining the difference a little more clearly when asked. Part of the answer is that CG derive an expression for the relationship between average forecast errors and average forecast revisions based on bayesian learning and sticky information; it has a more structural interpretation. You're just uncovering a fact about individuals' changes in LT forecasts given short-term errors. but it's not competing with your regression in any way. You're just pointing out that the correlation between LT forecast revisions and errors is time-varying. Their results point to moving away from RE, you're uncovering a fact about beliefs related to long-term anchoring of beliefs.

Also, while I agree that it's not likely to affect much of anything, I wasn't totally satisfied with your answer to my question about the identity of forecasters. I was asking that to be a little picky about the data in a way that you sometimes encounter on the market. (To reveal what's behind the curtain a little bit: I'm not interviewing for Carleton this year. I have for the past two years. I always try to come up with substantive challenging questions about what folks are doing for the initial interviews just to make sure they know what they're doing. I don't know if other people have this interviewing strategy or not). But: You're tracking the revision of forecaster i based on their surprise. The problem as I presented to you was that the SPF identifiers are not necessarily a particular individuals' forecast, so the revision could be due to a change in the forecaster rather than the update of that forecaster's beliefs. My understanding of your answer was "it doesn't matter" but I didn't know why that was the case based on your presentation. I think a better response would be to say something like "Since I'm using forecasts for after the Philly Fed took over the SPF, I'm more confident that they're being consistent about identifiers since they try to track whether the forecasts are associated with an individual or a firm, and apply the identifier to that association" and it's not obvious how it would affect the results anyway. (I guess I'm mainly thinking about this page from the Philly Fed; https://www.philadelphiafed.org/-/media/research-and-data/real-time-center/survey-of-professional-forecasters/spf-caveats.pdf?la=en)

#### The estimation exercise:

So just to make sure: the g() function is the thing you're estimating via SMM? Should I be concerned that you're talking about the anchoring of inflation in the long run when you're estimating this gain function based on data at a business cycle frequency?

Also, it looks like the model isn't doing a *great* job of capturing the autocovariogram based on figure 11. Now, it's possible with some confidence intervals things might not look quite so bad -- if the moments you're missing are very imprecisely estimated, then the SMM procedure won't put much weight on them. I'm also assuming part of the problem is a lack of mechanisms for generating persistence other than sluggish adjustment of expectations. But I think you'd want to come up with some explanation of why your model is missing the *sign* of a lot of covariances in figure 11.

**Lucas critique questions and discussing optimal policy**: I think this needs to be reorganized a bit. It's confusing to go from discussing the policymaking tradeoffs to the Lucas critique (in section 5.1) to discussing the volatility tradeoff in section 5.2. I would put the Lucas critique business in a separate subsection or paragraph (which you point out is coming) and describe the novel components of the Ramsey problem generated by endogenous learning and what optimal policy does before going on the defensive.

Conceptually, I'm sympathetic to Jaromir's point that there's always something a little funny about the normative implications of this kind of model -- e.g., the gain function might not be invariant to how policy is set. Suppose that I knew monetary policy were set optimally, I would think something very different if I made a big forecast error (e.g., that there had been a huge shock) than if I thought the policy were not set fully optimally and made a similar-sized error (I could think there'd been a typical-sized shock but the central bank wasn't aggressive enough).

You're very likely to encounter that question a lot so you need a snappy answer.

Right now, my reading of your paper is that the answer you have is:

- (1) Conceptually, we can imagine the exercise as "what should the policymaker in the transition to a given DGP"
- (2) There are other things we could do (but you're not doing) to make the model more forward looking (okay but it seems weird to appeal to this when you're not doing it. Maybe you could hold onto this as an answer when someone brings it up -- "yeah, I've been thinking about how to incorporate something like forward guidance; here's one way; i kept this formulation to nest/maintain comparability with these other papers on recursive learning in the DNK model like Milani").
- (3) Endogenous gain can be a convenient way of capturing how actual expectations appear to behave in practice. (I think it's important to be a little careful here. For example, the claim at the end of section 5.1: "as long as the private sector extracts information from data to form beliefs, expectations will quantitatively resemble adaptive expectations" doesn't follow from Proposition 2 and I'm not sure what the basis for the claim actually is.

I think that these answers are okay, but unlikely to convince a Jaromir type. (I could be wrong). Is this how the other behavioral optimal policy folks have addressed it?

I think if you highlight the general lessons from the optimal policy exercise -- the fact that large adjustments in policy may have large implications for anchoring when agents are backward looking -- then the Lucas critique question becomes a bit easier to answer. You can say a bit more credibly "Here are the results that are likely to hold in other models where the lucas critique doesn't bite quite as hard." And also that this is a natural way to think about the anchoring or unanchoring of inflation expectations if we believe that inflation is a monetary phenomenon that is under the control of the central bank in the long run.

#### A couple of generic comments about the presentation:

- -- I think he left by the time you were at BC, but we used to have this notion of the "Sanjay rule" (after Sanjay Chugh). The rule was that someone should be able to walk out of your presentation after five minutes, and tell someone basically what it was about and what you did. Which is to say, you need to front load the takeaway and signpost heavily where you're going to go. Maybe this isn't always the way to go, but I find having a "the presentation in one slide" up front to be helpful in controlling the early part of the presentation.
- -- I agree with Fabio that you need to maintain control over the presentation, and that the way to do that is to find a way of gently delaying or deferring questions when they're going to be relevant later. I got the advice at some point (maybe from Ryan?) to write down every question I got about my paper and come up with a good answer for it, because you tend to get the same questions repeatedly, so if you haven't done that already, I would start. If you're going to talk about something later, you can tell them that!

That said, I want to reiterate that this is probably the most critical audience you'll present in front of, unless you interview at the University of Minnesota or something.

-- I don't think you need to go into computational details on a slide, although I guess for some audiences/jobs you might want to. If they care, they can ask and you can answer.

I hope that all helps. This got frequently interrupted by a small, yelling baby, so if there's any sentences I forgot to finish in the middle I apologize.

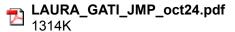
Let me know if there's anything you need me to clarify, or if there's any way I can help you on the market. I'm not on the interview team at Carleton this year, thankfully, so I feel a little less conflict-of-interesty about giving job market

advice:)

- ES

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Laura Veronika Gati <gati@bc.edu>
To: Ethan Struby <estruby@carleton.edu>

Mon, Oct 26, 2020 at 9:27 PM

Hi Ethan,

Thank you so much for these numerous and insightful comments! I appreciate the time and energy you invested (next to a yelling baby too!) in reading it and thinking about it. I need some time to digest them, so I won't say anything silly in response right now, but I am sure this will be very helpful as I sharpen both paper and presentation.

And now that you're not so conflict-of-interesty, I will gladly take you up on job market questions if they come up.

Thanks so much! Laura

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Laura