

A Conversation on Macroeconomic Models for Policy Advice*

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June 8, 2016

I had a Twitter conversation on macroeconomic models for policy evaluation and advice with Noah Smith, author of the blog “Noahpinion,” Bloomberg View writer, and a very popular presence on Twitter with almost 38,000 followers.

The conversation was triggered by my response to a tweet by Noah that was indicating a set of slides produced by Justin Wolfers for a fest in honor of Olivier Blanchard as a “must-read.” The slides are available here: <https://t.co/84GmlhIBmK>. My comment was that I hoped Justin’s presentation added a lot to the slides, “because they contain some very cheap shots.”

What followed was a very interesting conversation, that was joined at various points also by Pedro Serôdio, Steve Randy Waldman, and (I assume) Guido Iodice, who manages the Twitter account for the Italian blog “Keynes blog.”¹

This document collects most of the content of the conversation, which I think is informative on many things: from different perspectives and opinions on macro models and their usefulness, to different styles of conversation about economics, to views on economics as a science. I tried to preserve chronological order (or close-to-chronological order) when the conversation split across different threads. I believe I included all the relevant tweets, but I apologize to the protagonists if I missed any. Everything can be found online anyway if anyone wants to reconstruct more than I did.

I present the conversation without adding any additional comment, except for clarifications when the conversation splits across multiple threads.

I am grateful to the participants—especially Noah, who started the conversation—for a very interesting exchange.

If you are interested in the topic, read what follows, and draw your own conclusions.

* The views I express in this document are personal and do not reflect the views or policies of the CEPR, NBER, and the Central Bank Research Association.

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¹ Justin Wolfers also posted a tweet in response to my initial one. See below.

Here is the initial exchange that my reply to Noah's tweet triggered on June 6:

The screenshot shows a vertical thread of four tweets. The first tweet is from Noah Smith (@Noahpinion) on June 6, recommending a paper by Justin Wolfers. The second tweet is from Fabio Ghironi (@FabioGhironi) on June 6, praising the paper but noting some 'cheap shots'. The third tweet is from Justin Wolfers (@JustinWolfers) on June 6, replying to Fabio Ghironi and Noahpinion, stating he began his talk by describing what was to follow as 'pointlessly provocative and deeply imprecise.' The fourth tweet is from Fabio Ghironi (@FabioGhironi) on June 6, replying to Justin Wolfers and Noahpinion, wishing a video of the talk were available online. Each tweet includes a profile picture, name, handle, date, text, and interaction icons (reply, retweet, like, and more options).

The profile header for Noah Smith (@Noahpinion) is shown. It includes a profile picture, the name 'Noah Smith', the handle '@Noahpinion', a gear icon for settings, and a blue 'Following' button.

@FabioGhironi @JustinWolfers Also, Justin, were there some other slides with sub-points that are missing from this set?

5:21 PM - 6 Jun 2016

The interaction icons for the tweet are shown: a reply icon, a retweet icon, a heart icon, and a three-dot menu icon.

After this brief exchange, the following conversation happened on June 7:

The image shows a screenshot of a Twitter thread with seven tweets. Each tweet includes a profile picture, the user's name and handle, the time since posted, the text of the tweet, and interaction icons (reply, retweet, like, quote, and more options).

Noah Smith @Noahpinion · Jun 6
Your MUST-read item of the day is Justin Wolfers on how macroeconomics is changing, and needs to change more: users.nber.org/~jwolfers/pape...
29 retweets, 82 likes

Fabio Ghironi @FabioGhironi · Jun 6
@Noahpinion Much respect for @JustinWolfers, but I hope his presentation added a lot, because the slides contain some very cheap shots.
1 like

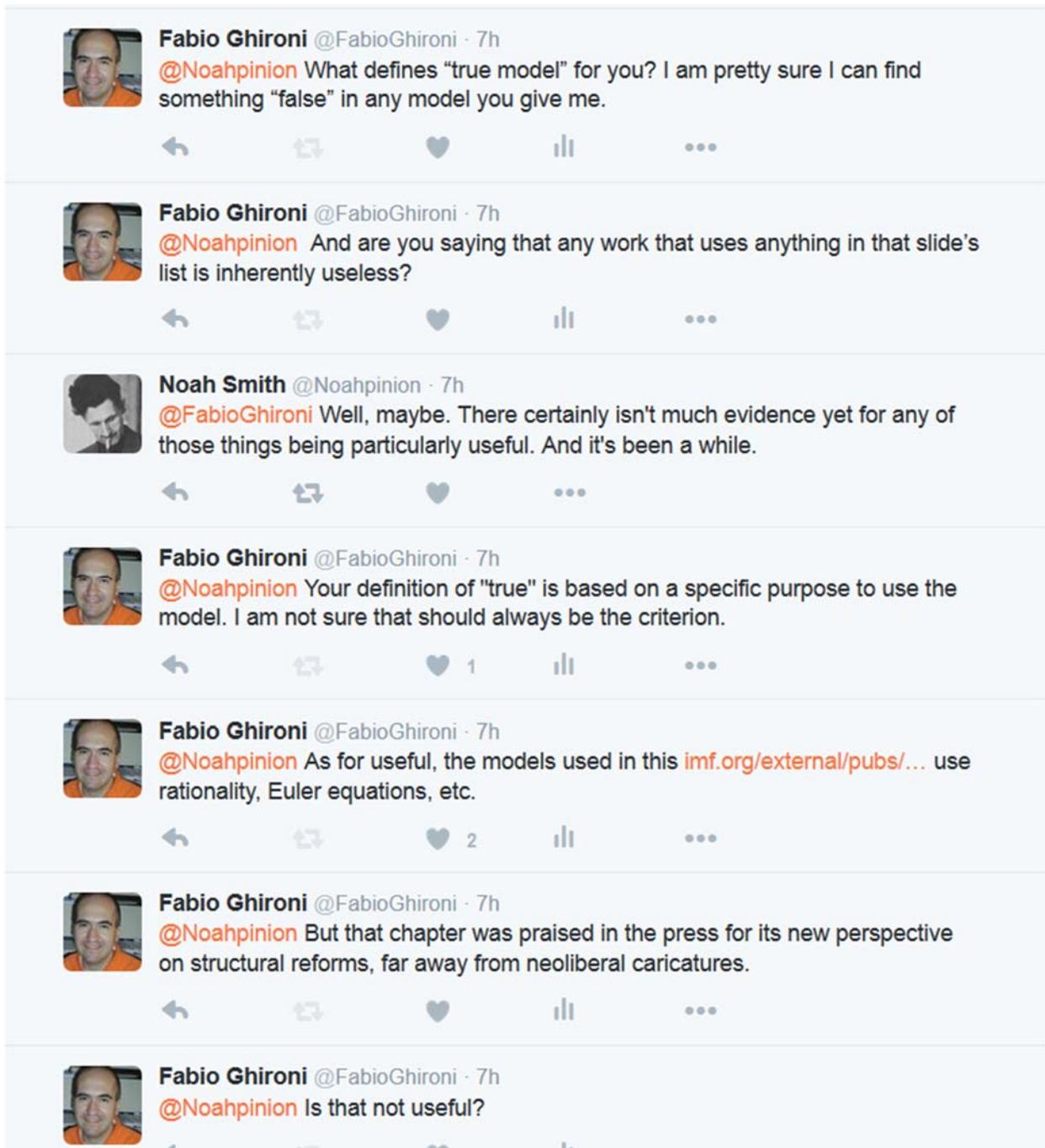
Noah Smith @Noahpinion · 9h
@FabioGhironi Like what, Fabio?
1 like

Fabio Ghironi @FabioGhironi · 8h
@Noahpinion Without more context & explanation, the list of "Things that probably aren't true" just throws away the baby with the bath water
1 like

Fabio Ghironi @FabioGhironi · 8h
@Noahpinion Whether we should care about any of those things being "true" or not also hinges on the purposes for which we are using it.
1 like

Noah Smith @Noahpinion · 8h
@FabioGhironi What purposes would you want to use a false model for!

Fabio Ghironi @FabioGhironi · 7h
@Noahpinion I think we are talking about "model ingredients," rather than "model."



Noah also interjected the following in this part of the exchange:



Fabio Ghironi @FabioGhironi · 10h

@Noahpinion Your definition of "true" is based on a specific purpose to use the model. I am not sure that should always be the criterion.



Noah Smith

@Noahpinion



Following

@FabioGhironi Right. I'm arguing that it always should be.

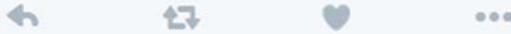
2:27 PM - 7 Jun 2016





Noah Smith @Noahpinion · 7h

@FabioGhironi I think the question is, is it more useful that some guy writing a bunch of vague wordy argument and citing Hayek and Keynes?



Fabio Ghironi @FabioGhironi · 7h

@Noahpinion @pdmsero In that context, I think it was much more useful to use that toolkit to turn the tables on caricatures and...



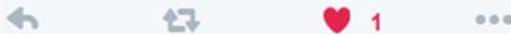
Fabio Ghironi @FabioGhironi · 7h

@Noahpinion @pdmsero make the point that reforms can imply transition costs, the state of the economy matters, & macro policy matters too.



Noah Smith @Noahpinion · 7h

@FabioGhironi @pdmsero I think that point can more easily be made with a single tweet (as you just did) than a fully specified model! ;-)



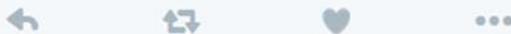
Fabio Ghironi @FabioGhironi · 7h

@Noahpinion @pdmsero :-) Yep. But tweet won't get into WEO, and so it won't help us deliver policy advice that is heard where it matters.



Noah Smith @Noahpinion · 6h

@FabioGhironi @pdmsero The question is whether we want policy advice being influenced by the logic of models with little empirical success.



Fabio Ghironi @FabioGhironi · 6h

@Noahpinion @pdmsero If advice is: "Reforms can be costly for some time, more so during recessions, & you should use macro policy to help"..



Fabio Ghironi @FabioGhironi · 6h

@Noahpinion @pdmsero and if that advice shifts policy in that direction, that's fine by me. Even if the model not "true" by your criterion.



Noah Smith @Noahpinion · 6h

@FabioGhironi @pdmsero Yes, this is the argument that economists should be like lawyers. I'm very uneasy with that, though.



Fabio Ghironi @FabioGhironi · 6h

@Noahpinion @pdmsero Not sure I understand your point. I never thought of myself like a lawyer. :-)



Noah Smith @Noahpinion · 6h

@FabioGhironi I'd characterize "lawyering" as trying to persuade policymakers to be more confident than the evidence warrants.



Fabio Ghironi @FabioGhironi · 6h

@Noahpinion I don't think that was the goal. In WEO case, I'd say goal was more to inject caution & highlight the importance of macro policy



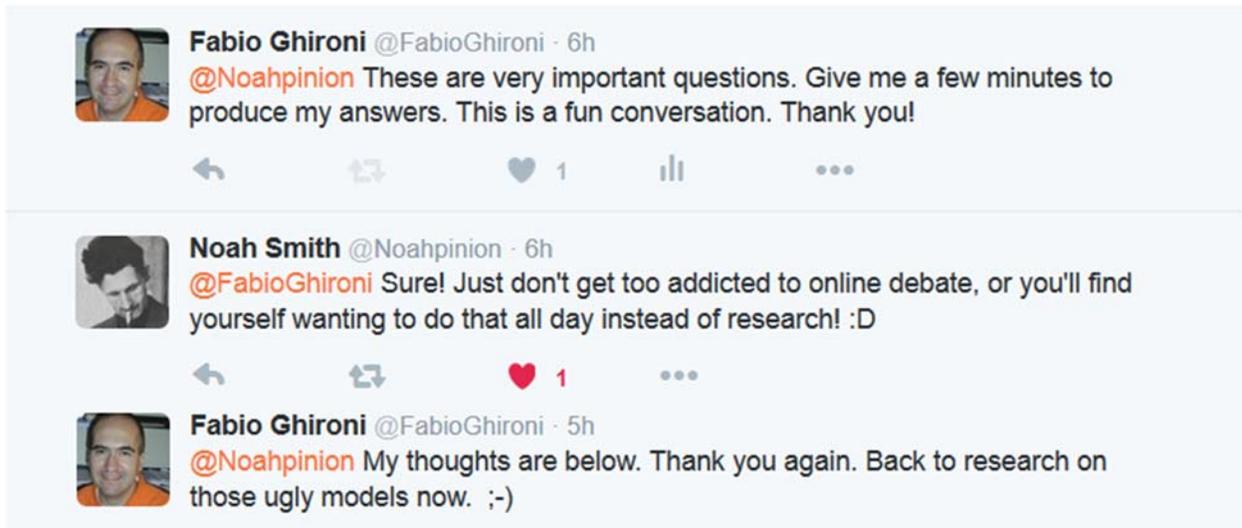
Fabio Ghironi @FabioGhironi · 6h

@Noahpinion And I keep thinking that was a useful, important thing to do—even if it used ingredients that "probably aren't true."



Noah Smith @Noahpinion · 6h

@FabioGhironi Well, my two questions are A) How much did it really need those ingredients, and B) Will it benefit research in the long term?



[Note: I added the following material as a picture under this tweet. I enter it as text here to enlarge font size and facilitate reading.]

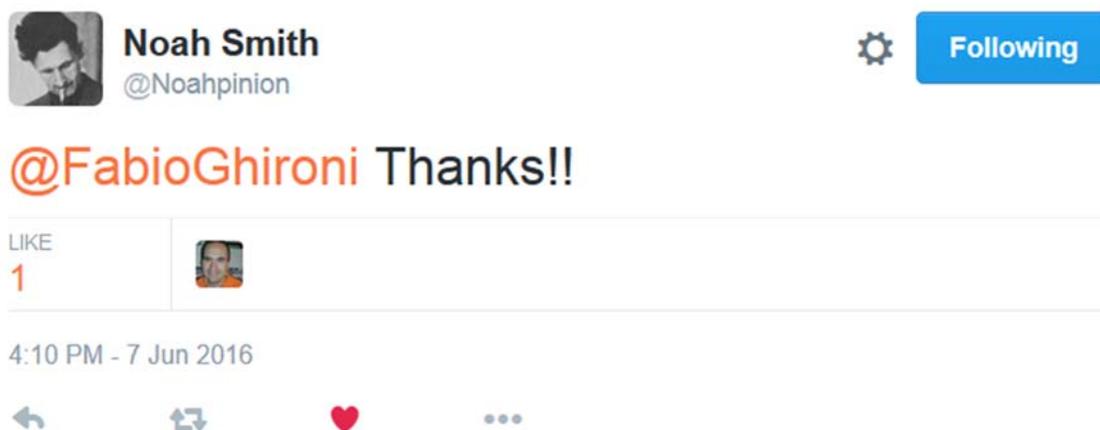
I will give my answers to your questions by continuing to use the IMF WEO model as example.

A) The model assumes rationality, intertemporally optimizing behavior, dynamic general equilibrium in a stochastic environment, and it uses Rotemberg for nominal rigidity (which implies a New Keynesian Phillips curve if you log-linearize the model, similarly to Calvo). The exact form of Euler equations and the New Keynesian Phillips curve is not as in the simplest, plain vanilla models because the model used in the WEO chapter includes more ingredients. The model *does not* imply that monetary policy is neutral in the long run. (Work related to that in the WEO uses that type of framework to show that imperfections in product and labor markets make it optimal to pursue positive inflation targets that are higher the more pervasive the frictions.)

Getting rid of the ingredients that are “probably not true” requires replacing them with alternatives and, sure, I can think of empirically appealing alternatives: say, rational inattention instead of rationality, sparse dynamic programming for intertemporal optimization as in Gabaix’s work, more realistic menu costs for nominal rigidity, rationing unemployment in addition to standard search-and-matching—and more.

But: (1) Each one of those alternative ingredients will make solving the model much more complicated (note: it is already the case that the model is not just being log-linearized). Replacing all the current ingredients with the alternatives at the same time would result in a level of complication that may even make solution impossible with the currently available technology. (2) The additional layers of complication would make it much more complicated to interpret results and communicate messages. (3) If in the end we get the same conclusion that reforms can imply transition costs, that costs can be larger during recessions (and if countries are cut off from international borrowing), and that macro policy should help, was it really worth it to change the model so drastically?

B) Having said this, I strongly believe that the model used in the WEO is not the final word in that area. It can and should be improved, including with a much deeper analysis of interactions between different policymakers. Looking at the implications of alternative ingredients will be important. That's a long-run task for what is still an ongoing agenda for me, my coauthors, and others. I think what was done in that WEO was beneficial for policy and is beneficial for research in the long term also because it does leave questions open and it creates new ones. But I—and, I hope, others—will be in a better position to understand the next steps in the evolution of the framework because of having spent time grappling with the development and the limits of the current framework. Meanwhile, I am happy the current framework—even with those “probably not true” ingredients—had the impact it had on the policy discussion it contributed to.

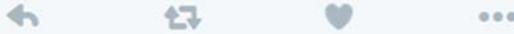


Pedro also joined the conversation while my exchange with Noah was developing:



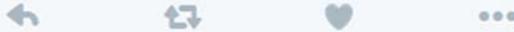
Pedro Serôdio @pdmsero · 10h

@FabioGhironi @Noahpinion A class of models (DSGE) is being assessed on the performance of a specific model (S&W). Is that informative?



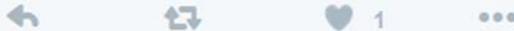
Pedro Serôdio @pdmsero · 10h

@FabioGhironi @Noahpinion Taken seriously, slides seem to imply the whole thing is a dead end and should be abandoned for something else.



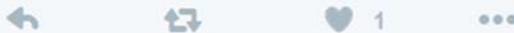
Noah Smith @Noahpinion · 10h

@pdmsero @FabioGhironi Yes. To be honest, it's looking more and more like that. To me, anyway, and to more folks I talk to.



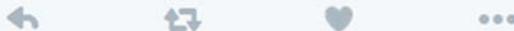
Pedro Serôdio @pdmsero · 10h

@Noahpinion @FabioGhironi So the improvement in forecasting ability documented by Del Negro, et al should be completely ignored?



Noah Smith @Noahpinion · 10h

@pdmsero @FabioGhironi I don't think we've yet seen a DSGE model that can beat an AR(1) without significant outside augmentation.



Pedro Serôdio @pdmsero · 10h

@Noahpinion @FabioGhironi Think of it as an algorithm. You can stop iterating when improvements are lower than a certain threshold.



Pedro Serôdio @pdmsero · 10h

@Noahpinion @FabioGhironi Is that happening with DSGE? I'd argue it isn't. Are there structural models accruing larger gains to change to?



Pedro Serôdio
@pdmsero



Follow

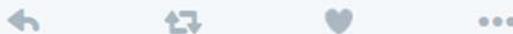
@Noahpinion I don't know of any. Until that happens, getting rid of DSGE is, as **@FabioGhironi** implies, throwing baby with bathwater.

2:27 PM - 7 Jun 2016



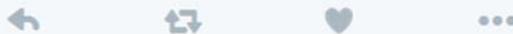
Noah Smith @Noahpinion · 10h

@FabioGhironi I think the question is, is it more useful that some guy writing a bunch of vague wordy argument and citing Hayek and Keynes?



Pedro Serôdio @pdmsero · 10h

@Noahpinion @FabioGhironi Being very precisely wrong is arguably far more useful than being generically and uninformatively right.



Noah Smith
@Noahpinion



Following

@pdmsero @FabioGhironi Hmm...now that's an interesting claim. I'd like to see that formalized more.

2:33 PM - 7 Jun 2016



Later, Guido chimed in:



Fabio Ghironi
@FabioGhironi

@Noahpinion @Keynesblog I am less optimistic than you.

But let us return to the main thread, which is about to be joined by Steve:

-  **Keynes blog** @Keynesblog · 5h
@FabioGhironi @Noahpinion sorry but it seems to me "model says what I like, so it's good"
-  **Fabio Ghironi** @FabioGhironi · 5h
@Keynesblog @Noahpinion If you believe that's what I think, you are seriously misinterpreting me. But you are entitled to your opinion.
-  **Steve Randy Waldman** @interfluidity · 4h
@FabioGhironi @Keynesblog @Noahpinion a q is, you ask is it worth it if the "truer" model wld yield same conclusions. but why think it wld?
-  **Fabio Ghironi** @FabioGhironi · 4h
@interfluidity @Keynesblog @Noahpinion What makes you think that I think it would? I'm asking: "'If it does*', was it worth it?"
-  **Steve Randy Waldman** @interfluidity · 4h
@FabioGhironi @Keynesblog @Noahpinion but if you can't know ex ante, the conditional is no case for sticking with the simpler model.
-  **Fabio Ghironi** @FabioGhironi · 4h
@interfluidity @Keynesblog @Noahpinion Did you read part B?
-  **Steve Randy Waldman** @interfluidity · 4h
@FabioGhironi @Keynesblog @Noahpinion sure! and it was admirably tentative! i'm not trying to attack you.

-  **Steve Randy Waldman** @interfluidity · 4h
@FabioGhironi @Keynesblog @Noahpinion but part a is, tentatively, a defense of models that became conventional by dint of claims of...
-  **Steve Randy Waldman** @interfluidity · 4h
@FabioGhironi @Keynesblog @Noahpinion internal validity that are in fact quite difficult to defend. i'm not sure it's very persuasive.
-  **Fabio Ghironi** @FabioGhironi · 4h
@interfluidity @Keynesblog @Noahpinion I am not interested in "defending." I accept that many model assumptions are "probably not true"...
-  **Fabio Ghironi** @FabioGhironi · 4h
@interfluidity @Keynesblog @Noahpinion but existing model-work based on alternative assumptions compromises on "truth" in many other ways.
-  **Fabio Ghironi** @FabioGhironi · 4h
@interfluidity @Keynesblog @Noahpinion There is never going to be a fully "true" model. That's called reality.
-  **Keynes blog** @Keynesblog · 4h
@FabioGhironi sure but Galilei's model is "far far far truer" than Ptolemaeus' one.
@interfluidity @Noahpinion
-  **Fabio Ghironi** @FabioGhironi · 4h
@Keynesblog @interfluidity @Noahpinion I think we are talking econ here.



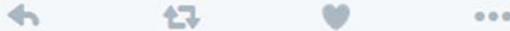
Fabio Ghironi @FabioGhironi · 4h

@Keynesblog @interfluidity @Noahpinion But, hey, you are entitled to view that WEO chapter as rubbish b/c it uses "probably not true" stuff.



Keynes blog @Keynesblog · 3h

@FabioGhironi usually I like WEO chapters :) but yes, if stuff is "probably not true" that's a problem @interfluidity @Noahpinion



Fabio Ghironi @FabioGhironi · 3h

@Keynesblog @interfluidity @Noahpinion Silly me for thinking you'd appreciate the Keynesian push in that chapter.



Fabio Ghironi @FabioGhironi · 3h

@Keynesblog @interfluidity @Noahpinion Let me know when someone has produced the "true" model of everything in economics...



Keynes blog @Keynesblog · 3h

@FabioGhironi don't take it personally, if only you were less hostile we might agree in substance @interfluidity @Noahpinion



Fabio Ghironi @FabioGhironi · 3h

@Keynesblog @interfluidity @Noahpinion I might be so predisposed by having seen too many tweets of yours where all you do is insult.



Keynes blog @Keynesblog · 3h

@FabioGhironi I never insulted you nor others. I argue. @interfluidity @Noahpinion



Fabio Ghironi
@FabioGhironi

@Keynesblog @interfluidity @Noahpinion I did. I don't think I've anything to add to that & what I said in exchange w/ Noah, Steve, & Pedro.

This tweet refers to the tweet that concludes this document. On the way to this tweet, Guido and I had a couple other exchanges that I consider worth recalling:



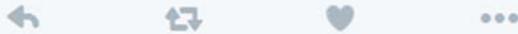
Fabio Ghironi @FabioGhironi · 7h

@Keynesblog @interfluidity @Noahpinion Let me know when someone has produced the "true" model of everything in economics...



Keynes blog @Keynesblog · 7h

@FabioGhironi if no one has a "true" model that doesnt make true your model @interfluidity @Noahpinion



Fabio Ghironi

@FabioGhironi

@Keynesblog @interfluidity @Noahpinion And remind me where I claimed that my model is "true"?

6:07 PM - 7 Jun 2016

 **Fabio Ghironi** @FabioGhironi · 8h
@interfluidity @Keynesblog @Noahpinion There is never going to be a fully "true" model. That's called reality.

 **Keynes blog** @Keynesblog · 8h
@FabioGhironi sure but Galilei's model is "far far far truer" than Ptolemaeus' one.
@interfluidity @Noahpinion

 **Fabio Ghironi** @FabioGhironi · 7h
@Keynesblog @interfluidity @Noahpinion I think we are talking econ here.

 **Keynes blog** @Keynesblog · 7h
@FabioGhironi we are talking about economics as a science @interfluidity @Noahpinion



Fabio Ghironi
@FabioGhironi

@Keynesblog @interfluidity @Noahpinion
From many past tweets of yours, I thought you believe that econ is not a science.



Keynes blog @Keynesblog · 7h
@FabioGhironi well to be clear, I believe mainstream economics is like Ptolemaeus' science after Galileo @interfluidity @Noahpinion

Meanwhile, Noah and I:

 **Fabio Ghironi** @FabioGhironi · 6h
[@interfluidity](#) [@Keynesblog](#) [@Noahpinion](#) There is never going to be a fully "true" model. That's called reality.

 **Noah Smith** @Noahpinion · 6h
[@FabioGhironi](#) [@interfluidity](#) [@Keynesblog](#) I would settle for a model that's not known to be totally falsified! :D

 **Fabio Ghironi** @FabioGhironi · 6h
[@Noahpinion](#) [@interfluidity](#) [@Keynesblog](#) *Every* model you give me can be "totally falsified."

 **Noah Smith** @Noahpinion  [Following](#)

[@FabioGhironi](#) [@interfluidity](#) [@Keynesblog](#)
Nah.

5:46 PM - 7 Jun 2016

And let me recall part of the exchange with Steve and get to the conclusion:

-  **Fabio Ghironi** @FabioGhironi · 4h
[@interfluidity](#) [@Keynesblog](#) [@Noahpinion](#) Did you read part B?
-  **Steve Randy Waldman** @interfluidity · 4h
[@FabioGhironi](#) [@Keynesblog](#) [@Noahpinion](#) sure! and it was admirably tentative! i'm not trying to attack you.
-  **Steve Randy Waldman** @interfluidity · 4h
[@FabioGhironi](#) [@Keynesblog](#) [@Noahpinion](#) but part a is, tentatively, a defense of models that became conventional by dint of claims of...
-  **Steve Randy Waldman** @interfluidity · 4h
[@FabioGhironi](#) [@Keynesblog](#) [@Noahpinion](#) internal validity that are in fact quite difficult to defend. i'm not sure it's very persuasive.
-  **Fabio Ghironi** @FabioGhironi · 4h
[@interfluidity](#) [@Keynesblog](#) [@Noahpinion](#) I am not interested in "defending." I accept that many model assumptions are "probably not true"...
-  **Fabio Ghironi** @FabioGhironi · 4h
[@interfluidity](#) [@Keynesblog](#) [@Noahpinion](#) but existing model-work based on alternative assumptions compromises on "truth" in many other ways.
-  **Fabio Ghironi** @FabioGhironi · 4h
[@interfluidity](#) [@Keynesblog](#) [@Noahpinion](#) There is never going to be a fully "true" model. That's called reality.

-  **Fabio Ghironi** @FabioGhironi · 4h
 @interfluidity @Keynesblog @Noahpinion Meanwhile, I work in incremental steps to push the framework in directions I think are most relevant.
-  **Steve Randy Waldman** @interfluidity · 3h
 @FabioGhironi @Keynesblog @Noahpinion that's fine! to be clear, not attacking. "trueness" of a model's form is ultimately irrelevant...
-  **Steve Randy Waldman** @interfluidity · 3h
 @FabioGhironi @Keynesblog @Noahpinion if the model accurately characterizes empirical reality. but the case for rateg DSGE was made on
-  **Steve Randy Waldman** @interfluidity · 3h
 @FabioGhironi @Keynesblog @Noahpinion grounds of internal validity —microfound8ns, lucas critique immunity. live by that, die by that.
-  **Fabio Ghironi** @FabioGhironi · 3h
 @interfluidity @Keynesblog @Noahpinion Thank you! I still believe in usefulness of microfoundations and importance of the Lucas critique.
-  **Keynes blog** @Keynesblog · 3h
 @FabioGhironi microfoundations may be useful but not always necessary. No science is completely microfounded @interfluidity @Noahpinion



Fabio Ghironi
 @FabioGhironi

@Keynesblog @interfluidity @Noahpinion It may surprise you, but I agree. For the analysis in the WEO, however, microfoundation is necessary.