

Reply to Erich Pinzon-Fuchs: Comments on “The Lucas critique: A Lucas critique”

First off, I would like to thank the reviewer, Erich Pinzon-Fuchs, for his careful reading of the article draft and for taking his time to comment. Erich Pinzon-Fuchs raises several interesting issues and offers suggestions for amending the paper as well as valuable additional input.

The overall assessment of the reviewer is somewhat critical, however, which is why I would like to take this opportunity to respond in detail.

According to the reviewer, the key deficit of the paper is a lack of sufficient discussion of its main proposition. This main proposition is, in the opinion of the reviewer, that “the concept of (fundamental) uncertainty [...] is potentially able to reconcile rationality, model consistent expectations and the Lucas Critique” (quoted from the paper). Mr. Pinzon-Fuchs writes: “the author does not discuss [his proposition] sufficiently, nor does he provide a clear alternative on how to put in place a research agenda based on his idea of [deep rational expectations]”, and further explains “Given that the paper has important normative elements, there is a need for both a more thorough and detailed discussion of the actual use of DRE in macroeconomic modelling, and for a concrete illustration of its use.”

Second to this main objection, Mr. Pinzon-Fuchs points out that the “author’s over-optimistic and uncritical interpretation of the Lucas Critique makes more harm to the author’s arguments than it helps him in making his point.” and hence recommends “most of the ideas expressed in this paper could benefit from a reflexive examination of the history of the Lucas Critique that does not stem from the ‘standard narrative’ of the

history of macroeconomics built by Robert Lucas himself and by other practitioners of macroeconomics.”

I will first address these major two points before turning to the reviewer’s specific comments.

There is no way of not agreeing with the referee that the main proposition of my paper is indeed that fundamental uncertainty holds the key for reconciling rationality, model consistent expectations and the Lucas Critique. In contrast to what Mr. Pinzon-Fuchs suggests, however, I do not start with this proposition nor do I aim at proving it. My objective, rather, is, to apply the Lucas critique (its analytical, or positive and also less original element) to the solution of the Lucas critique (its normative, very original and highly influential part). The novel feature, therefore, is to apply the Lucas critique to itself. In order to meaningfully do so, I recur to what I call deep rational expectations (or DRE when using the referee’s abbreviation).

In other words, my paper is at the same time less ambitious than the referee thinks (proving a proposition) but also more ambitious in that it turns Lucas’ criticism against his solution.

When studying the history of the Lucas critique, it becomes almost immediately apparent that its positivist part, which is concerned with highlighting the inconsistency of “naive” macromodelling of economic policy conduct, cannot be considered really original because very similar arguments had already been around for quite some time (Goutsmedt, Pinzon-Fuchs, Renault and Sergi, 2016, p.6). Instead, the normative part, which is about offering a solution to the known issues, really made all the difference.

This observation indicates that “market” success of economic arguments is more likely when a solution to a known problem can be offered. It does not follow, however, that the

discovery and the description of the problem itself is unimportant. Quite to the contrary, it is Lucas' and his followers' – not mine – main selling proposition that hardly any other solution but his offers mathematical elegance, flexibility and overall appeal. I rather think that we should not err again in hastily ranking a solution higher than a proper analysis of the problem just because it seems to be a solution.

We should not do so even though the history of the Lucas critique has shown that the “solution” seems to be more important than the critique. Rather, rushing in another answer bears the risk of getting it wrong again and wasting (again) countless resources on a flawed approach.

My arguments clearly address Lucas' solution, the normative part, which I show to be invalid by the standards of the Lucas critique's positivist part. Therefore, what is considered a solution to the inconsistency problem of economic policy modelling is, in fact, not a solution. This is the key insight that I humbly ask to be accepted. I am sorry to say that I cannot – as yet – offer a solution to the modelling inconsistency arising from DRE. (In fact, I sense an impossibility theorem there but, regrettably, I am not (yet) able to prove any.) Therefore, I conclude my abstract “Lucas' call for rational expectations models that provide useful economic policy advice has yet to be heeded.”

To sum up my answer to the first main criticism, I certainly agree with the referee that the implications of DRE for macromodelling needs to be thoroughly discussed. However, before doing so we first have to understand the effect DRE has on the available solutions to the Lucas critique (positivist part). Enhancing this understanding is the main purpose of the paper.

When studying the impact of DRE, I consider it most efficient to first focus on the mainstream solutions because, whether we like it or not, these are defining the scientific

and public economic discussions at large. Therefore, although I very much endorse the idea of a holistic approach to the history of the Lucas critique, I think it justified to start with “the ‘standard narrative’ of the history of macroeconomics built by Robert Lucas himself and by other practitioners of macroeconomics” (Mr. Pinzon-Fuchs). My choice of starting with the standard interpretation should not, however, be mistaken for a wholehearted support. I simply state the facts without taking sides.

This pragmatic decision notwithstanding, I certainly subscribe to the view that the Lucas critique deserves a critical rather than an over-optimistic interpretation. I do so because the more widely a method is accepted the more scrutiny it should face if we want to spend scarce scientific resources wisely. In fact, applying the Lucas critique to the Lucas critique itself is, in my view, a contribution to the desired critical approach.

The reviewer also comments on some specific issues not yet mentioned such as the definition of DRE and the question of whether or not the Lucas critique yields an ontological message and what the ultimate goal of macroeconomic research is.

In the opinion of the reviewer, Keynes’ definition of fundamental uncertainty is insufficiently discussed because the paper only refers to Keynes (1937) but not to Keynes (1921), for example. Keynes’s (1937) definition of fundamental uncertainty is indeed rather colloquial and a more formal definition would probably be very useful when actually solving the problem of accounting for DRE in macroeconomic modelling. However, as I have already emphasized before, offering an according solution is not what I aspire to in this paper.

My argument is instead mainly empirical-deductive. Observing the fact that economists who allegedly follow Lucas’ prescription are contradicting their own claims of providing rational expectations solutions to their respective models leads me to the conclusion that the Lucas critique (normative part) is not immune from the Lucas critique (positivist part).

Keynes's (1937) uncertainty enters "only" as a suggestion of how to potentially reconcile the empirical observation with actual behaviour: in a world of Keynesian uncertainty (sufficiently described yet not properly "defined" in Keynes (1937)), rational expectations are just not enough to overcome the Lucas critique (positivist part). It is difficult for me to picture how this conclusion would change in any significant way upon discussing Keynes's (1937) approach more thoroughly.

Finally, the referee doubts that economists' ultimate scientific goal is to seek the truth. Therefore, the Lucas critique in conjunction with DRE, albeit fundamentally challenging the possibility to uncover truth, cannot be read as an ontological message. I totally agree with the assertion that no consensus exists as to what the ultimate goal of economic scientific endeavour actually is. The most compelling answer certainly is the notion that "economics is what economists do" that is shared by a surprisingly large number of economists and demonstrates the unwillingness of a subset of the profession to subject one's research agenda to any scientific scrutiny.

In my paper, I do not, however talk about economists and economics at large but about the specific remedy to the problem of modelling policy interventions that prevails in mainstream macroeconomics. This particular remedy is, in my view, indeed strongly associated with the search for a "truth". The truth sought after here is to make a valid statement about the economy and human behaviour by means of an economic model. This quest is, for example, evident in Lucas (1976, p. 20) when he writes "These contentions [...] will be based not on deviations between estimated and 'true' structure prior to a policy change but on the deviation between the prior 'true' structure and the 'true' structure prevailing afterwards."

In that sense, there is a clear analogy to Mill's approach who had in mind the great

advances in engineering and the (natural) sciences which all operate under the assumption that the world can be objectively described, investigated and existing relations discovered.

Finally, Lucas' prescriptive approach and that of his disciples is mainly empirical. Their empirical work about agents' behaviour and its impact on the economy does not make sense, however, if it is not assumed that there is an underlying truth to be investigated. It is thus fair to say that the discovery of some form of truth – being a valid statement about reality – is aimed at.

These latter explanations are not in the paper but it seems that it may pay to include them at least partly in order to put the main claim in the appropriate context.

The reviewer adds two minor comments which essentially propose to expand the abstract to make it properly cover the main contributions. He also suggests to refrain from citing his research as evidence for the supposed fact that the critique of the Lucas critique has become an independent research objective.

Summing up the responses to Mr. Pinzon-Fuchs' report I would like to offer once again my gratitude for the thorough review and helpful suggestions. The paper draft will be amended by adding explanation and corrections according to the above discussion. I am sure that the reviewer's input will thus significantly benefit the readers of the article.

References

- Goutsmedt, A., Pinzon-Fuchs, E., Renault, M. and Sergi, F. (2016). Criticizing the Lucas Critique: Macroeconometricians' Response to Robert Lucas, *Université Paris 1 Panthéon-Sorbonne (Post-Print and Working Papers) halshs-01364814*, HAL.
- Keynes, J. M. (1921). *A treatise on probability*, Cambridge University Press, Cambridge.

Keynes, J. M. (1937). The General Theory of Employment, *The Quarterly Journal of Economics* **51**(2): 209 – 223.

Lucas, R. J. (1976). Econometric policy evaluation: A critique, *Carnegie-Rochester Conference Series on Public Policy* **1**(1): 19–46.