

Reviews of ECONJOURNAL-D-24-00160R2

Asymmetrical monetary relations and involuntary unemployment in a general equilibrium model

Round 1

Reviewer 1

The article makes a significant and valuable contribution to research on the causes of involuntary unemployment under a Keynesian scheme. The paper is generally well-written, and I see no mistakes in your model. However, there are some, mostly minor, issues with the manuscript that I would like you to address:

1. In many parts of the article, you use "we" instead of "I." You may replace it with "I."
2. Page 1: I would use "adverse selection" instead of the much less common concept of "anti-selection."
3. You argue in the paper that the "asymmetry between banks and entrepreneurs" is a reasonable assumption, which is crucial to explain the involuntary unemployment in your scheme. You motivate this assumption by arguing that the effective interest rate is lower than the equilibrium one. Given this summary, I have some questions and thoughts:
 - 3a. Is it possible to incorporate the concept of "intensity" in your modeling approach when analyzing the asymmetry between banks and entrepreneurs? To illustrate, if the Central Bank sets a very low interest rate, this intensifies the asymmetry and could impact your main results. Conversely, if the Central Bank sets a very high interest rate, the asymmetry diminishes, leading to different outcomes.
 - 3b. On pages 7 and 8, you mention that the asymmetrical status between agents is linked "to the very nature of the economic system in which they operate." Does this fact mean that structurally, the effective interest rate is lower than the equilibrium one?
 - 3c. When is your assumption of asymmetry between agents reasonable? Are there some contexts in which this assumption makes more sense than others? I am asking you these questions, contrasting your assumption with the more typical asymmetric information issues (adverse selection and moral hazard).
 - 3d. On page 2, you introduce the "asymmetry between banks and entrepreneurs" in a way that sounds like a novel contribution. It is hard to believe that no one has previously mentioned, developed, or explained this asymmetry. You may have to quote some papers that developed before this particular asymmetry.
4. I suggest improving the introduction by starting with an explanation of Keynes's analysis of involuntary unemployment. Currently, you mention "Keynes's analysis of involuntary unemployment" in the third paragraph, but the reference to Keynes comes out of the blue. For readers with little

knowledge of Keynes, the current introduction might be confusing when encountering this reference for the first time.

5. I don't think "The originality of Cartelier's model (1995, 2018)" is the most appropriate title. Given the section's content, something like "Reviewing Cartelier's model (1995, 2018)" makes more sense.

6. Throughout the text, it is possible to see some tiny paragraphs, such as "The entrepreneur formulates a demand for capital, but this does not play a part in determining the investment. The latter is constrained by banks' decisions." I think it would be better to include these small paragraphs in bigger ones.

7. In the model of Household Behavior, all variables and parameters (such as C) are introduced except for the interest rate (i). Consider defining it in the text.

8. In your model, you introduce the coefficient ω (omega). Is it necessary to have this coefficient in your model? Are there other papers that use something similar?

9. In your model, particularly in Household Behavior, you use a Cobb-Douglas-type utility function. How does the use of this particular utility function affect your main results? Perhaps a footnote discussing this is worth it.

10. I think you have some space to improve the section "Solving the model: involuntary unemployment equilibrium with flexible prices and credit rationing." First, it is possible to condense it a little bit: for example, you can go straight into equation (11). Second, using more actively the number of each equation (i.e., replacing equation (1) into (2), I get....).

11. You can consider splitting section E ("Solving the model: involuntary unemployment equilibrium with flexible prices and credit rationing") into two sections. One section focuses exclusively on solving the model, and the other focuses on discussing the results.

Reviewer 2

The paper's objective is to model Keynesian involuntary unemployment within the framework of Walrasian general equilibrium, extending the work of Cartelier (1996) by incorporating, in addition to the standard Keynesian asymmetry of wage relationships, an additional asymmetry between banks/financial intermediaries and entrepreneurs. This second asymmetry further restricts Walras law (beyond the restriction already in place because of an asymmetric labor market) via credit restrictions. The paper contribution is to investigate the consequences for the properties of involuntary unemployment within a static, deterministic, general equilibrium model. In particular, the paper clarifies the relationship between the level of real wage and employment within the context of Cartelier (1996) seminal contribution. Specifically, the author shows that the addition of credit rationing, allows to unambiguously assert a relationship between wages and unemployment, even in the absence of prices/wages rigidity. This is possible because, differently from Cartelier (1996) the equilibrium real wage is unaffected by nominal wage cuts (akin to a "quantitative theory" of nominal wages, as referred to by the

author). This is novel compared to the original model, where a nominal wage cut stimulates demand for labor, making the impact of a nominal wage cut on unemployment ambiguous. In terms of modeling the author proposes a static deterministic model with three agents: a representative household, a bank and two representative firms. The source of financial asymmetry arises because even though investment demand originates from the entrepreneurs, equilibrium investment levels are constrained by the banks's supply of funds. In the words of the author, "it is the banks' supply that determines the amount of investment that the firm will be able to make". I suggest clarifying the assumptions underlying the model and re-organizing its presentation. For instance the model could start by describing the proposed utility of the households, which deviates from previous approaches and also depends on held assets. Knowing right away how the households derive utility seems paramount, given the non-standard assumptions made by the authors; utility in fact derives not only from consumption but also from asset holdings. In 1 this context, references to the literature that can justify this uncommon specification are needed. Another example of where the paper should improve is the reference to second-tier banks, which appears in page 10. This reference seems to contrast with what is written on page 8, where it is said that the economy is populated by a single type of bank (acting as financial intermediary). The model's presentation also seems to contain typos: for example, there is a typo in the presentation of the households budget constraint: $p/1+i$, which I believe should read $p/(1+i)$, but which would then lead to an inconsistency with p/i , as presented in equation (1). Also, in equation (11), the first term β should probably be α . In light of these remarks, and given the analytical nature of the paper, I would stress the importance of providing an appendix containing the algebraic steps that are followed when deriving the main results of this work. My main doubt is tied to the assumption of a static economy; I find difficult to reconcile this specification with the introduction of a saving instrument (called B in the paper). A saving instrument acquires significance and relevance only within a dynamic setup; I would therefore suggest either a convincing clarification on how to reconcile a dynamic instrument (B), which by its very nature requires a dynamic environment, within a static setup (I understand that some comments are provided in this respect when the author refers to "we define and model the title as Cartelier (1995), presents it, namely an entitlement to a unit of good in all subsequent periods". Could the author expand on this? can we assert that not having a dynamic setup does not affect the conclusions of the analysis?), or a revision of the framework that incorporates a two periods economy. At prima facie the modeling of two periods seems essential to me and could also allow to endogeneize the interest rate (which is assumed as a parameter in the current version of the model). Other minors comments: the format of the paper would benefit from some changes; for instance the numbering of the equation sometimes appear next to the equation itself, while in other cases appear fast

left in the page (and sometimes with a symbol : next to it). Also the parenthesis in several equations could be written allowing for different sizes; for example, instead of writing $((x))$ as it currently appears in the paper, a clearer format such as (x) would greatly improve the reading experience.

References Cartelier, J. 1996. Chômage involontaire d'équilibre et asymétrie entre salariés et non-salariés: la loi de walras restreinte. *Revue économique*, 655-666

Round 2

Editor

Dear Author,

I see that you made some clarifications to the text. I would suggest two further minor modifications:

- i) please change the title (second Asymmetrical should be in lower case);
- ii) please expand a bit more in the literature review to include more recent empirical and theoretical work. The references in your current draft are quite a bit old, so it would make your article more interesting to new readers if the recent literature and empirical work is mentioned adequately.

Kind regards,