

Response to Referee Report 2

The referee has read the paper carefully, and I have found his or her comments extremely useful while working on a new draft of the paper with substantial changes. In many cases I have adopted the referee's recommendations. In a few instances I give a response to the referee's comments.

Comment 1: *Should the credit constraint be different for each agent?*

I have reformulated the relevant section of the paper to derive different credit constraints for each agent. I am still able to show that for some parameter values a uniform credit contract is sufficient to implement a Pareto optimal allocation.

Comment 2: *Why are you suddenly on page 12 assuming that the discount factors are different?*

There appeared to be a misunderstanding here. I was not assuming that the discount factors were different, I was showing that the threshold level of β at which an agent will choose not to default is different for each type. I have reformulated the proof and believe that there is no longer any confusion over this issue.

Comment 3: *β is a deep parameter. You should use it to derive credit constraints for each agent.*

I now treat β as a deep parameter and derive credit constraints for each type of agent.

Comment 4: *Can $u(0)$ be negative infinity?*

Thank you for this correction. I have added the assumption that $u(0)$ is a finite number.

Comment 5: *Do not change the environment when you introduce money.*

I have reformulated the set up of the model so that I do not change the environment when I introduce money.

Comment 6: *If goods are durable across sub-periods, why is money necessary?*

Thank you for this critique. I have reformulated the model so that instead of having an exogenous trading constraint, (i) goods perish in each sub-period and (ii) with probability one-half agents receive endowments in sub-period one and value consumption in sub-period two and with probability one-half they receive endowments in sub-period two and value consumption in sub-period one. I hope the referee will find this framework more convincing.

Comment 7: *You have record-keeping technologies, not inside money. This means that agents' outside options are more restricted than in a more typical inside money environment.*

I agree that I am extending the meaning of inside money beyond what is common in much of the existing literature. I would like to defend my use of the term, however: In most models with inside money, the issuers are held to be banks. But banks don't just issue inside money, they issue inside money in exchange for the liabilities of borrowers. I think it is misleading to study banks as issuers of inside money while ignoring the credit aspects of their activities.

Combining the "record-keeping" money of the model with either fiat money or a bank note version of money would give my agents an outside option of trading with a medium of exchange even if they default. This would definitely be a valuable extension of the model, but (as I observe at the end of section 3 of the paper) is unlikely to change the result that when β is sufficiently high, "record-keeping" money allows a first-best to be sustained by a uniform policy, whereas fiat money alone (or bank notes issued by a subset of agents alone) does not.

Comment 8: Credit card companies are not default free here – if all borrowers failed to repay their loans, a company would have to default.

In the equilibrium I construct the credit card companies (now called banks) are indeed default-free. You are correct, however, that the equilibrium is only an equilibrium because the beliefs that agents have about the credit card companies lead to a self-confirming equilibrium. I am working on exploring the issue of confidence (i.e. beliefs about the default of financial intermediaries) in another paper.

Notice that the statement "if all borrowers failed to repay their loans, the credit card company would default with probability one" is probably also true of many of the financial intermediaries in a modern financial system – and yet we still have faith in the system – perhaps because it is a self-confirming equilibrium. I have added a comment on this to the discussion of intermediaries in the paper.

Comment 9: The first best allocation would redistribute resources away from the high endowment types to the low endowment types.

I am somewhat confused by this comment. I probably created some of the confusion by talking about "the first best," when there is in fact a continuum of first best allocations.

The current draft of the paper explicitly addresses the full set of first best allocations and makes it clear that the first best allocation in which every agent has the same marginal utility (and consumption) for every good cannot be obtained by a uniform policy in either a fiat money or an intermediated equilibrium.

I have found these comments extremely helpful and I hope that the referee will find the revision of the paper more convincing.