

Dear Editor,

I thank the reviewers for their comments and discuss the raised issues separately.

Review for Economics 1073 R1:

The reviewer criticized the approach to separate the time scales by different processes, without giving arguments for their velocity.

After reconsidering this point I came to the conclusion that the relative velocities of the processes are irrelevant for the derivation of the size distribution. Therefore also the separation of the time scales is not necessary and omitted in the revision. The only condition is that the time averaged deposit growth rate of a bank is small compared to growth rate fluctuations. If this constraint is not fulfilled the evolutionary model suggests that the banking sector turns after sufficient time into a monopoly market as derived in appendix A. Since a polypoly market is considered here the time averaged growth rates of the banks can be regarded as small compared to growth rate fluctuations. This statement is equivalent to the statement that Gibrat's law of proportionate effects is valid. The text is completely rewritten concerning this issue.

The reviewer was wondering why the flow due to economic activity is not size dependent.

Although Eq.(3) has no explicit relation to the bank size, in the section "Economic Activity" the flow of money due to economic activity is outlined in more detail. The key assumption is that this flow is independent of the bank and can be regarded as a random process taking place with a mean rate Ds .¹ In this case the outflow respectively the inflow of money is proportional to the size as suggested by Eq.(11) and Eq.(12). However, these flows cancel out and the growth rate due to this effect is effectively zero. The bank suffers just from short term deposit fluctuations. Note further that formally every time evolution can be approximately written as a growth process in the form Eq.(6) with an unknown time dependent growth rate $\eta(t)$. For the case for constant deposits for example is $\eta(t)=0$.

Another question concerns the size dependence of the mean fitness.

Note that the processes indicated in the text by ii),iii), iv) are exchange processes leaving the total amount of money constant². The free parameter ξ in Eq.(17) is given by the negative mean fitness which is defined as:

$$\xi = -\langle f \rangle = -\frac{1}{\tilde{S}} \sum_{i=1}^n f_i S_i$$

Of course the mean fitness depends on the size of the individual banks. For an uneven size distribution as established here the mean fitness will be dominated by large banks. The total deposits provide the normalization.

The reviewer further criticised the derivation of a deposit market.

¹ The mean rate is indicated by the capital letter D in order to avoid confusion with the differential ds.

² Except the restructuring process destroys deposits. In this case this process has to be taken into account in the money growth rate.

The derivation that $\eta(t)$ can be interpreted as a preference rate in a deposit market is not necessary for the derivation of the size distribution and is therefore omitted.

The sentence about liberalization is reformulated and also the “minor points” have been taken into account.

The paper is adjusted with respect to the issues raised by the reviewers. Best regards,

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