Problem Set #8

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Capital and debt path

Using the initial values and equations from Guimaraes (2007), I got the following figures. The results are different from that paper! It seems that for this economy (with the calibrated initial values), the debt should decrease to an stationary value which is about 51% debt to GDP ratio (close to what Guimaraes (2007) suggests); Calculated by a ratio of debt (d) (77%) in figure 2 to the GDP value (1.5) in figure 3. I say almost and cannot express the exact amount because in my graphs, value function and policy function do not seem to be reached to a stationary state which can be due to the iteration numbers (I chose 10000). I could not solve for the stationary initial values by hand to improve it and I require higher number of iterations which I could not get the solution in time.

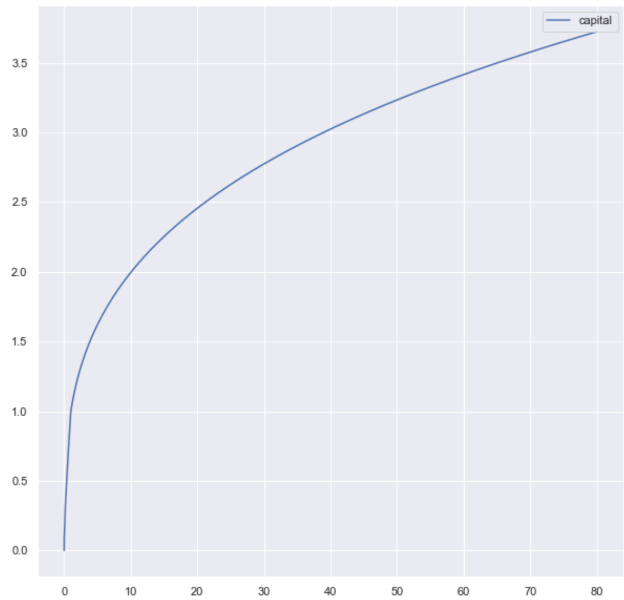

Figure 1: Capital path

References

Guimaraes, Bernardo. "Optimal external debt and default." (2007)

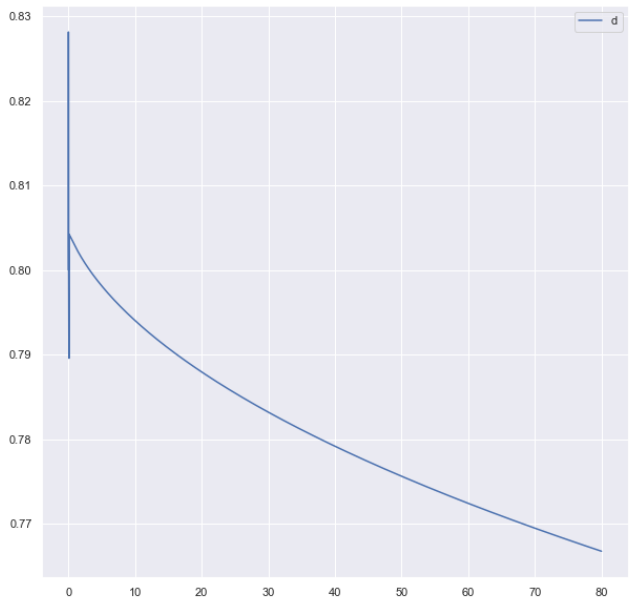

Figure 2: Debt path

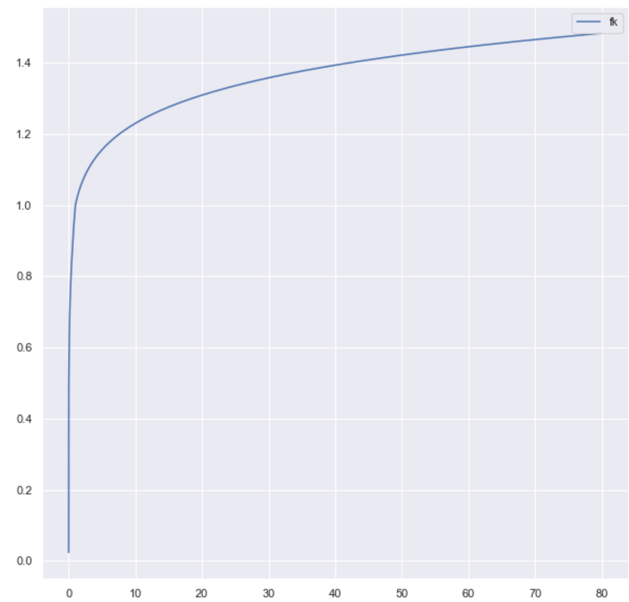

Figure 3: Growth