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Earth System Dynamics Discussions

Interactive comment on "No way out? The double-bind in seeking global prosperity along with mitigated climate change" *by* T. J. Garrett

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I think that it is central to do some more thorough comparisons with economics in order to reach an acceptable interpretation of the economic data in terms of physics. I agree that all economic phenomena are physical. But the question is how the symbol systems used in economic systems correspond to physical phenomena. These mainly build on monetary measures. Of course, all stocks result from flows, but only in so as there are no other flows. Within one year, the GDP includes consumption and investment. For the accumulation of stocks, consumption is irrelevant. So, only net investment should be considered in Garrett's approach. Similarly, as I understand his formalism, inflation seems to be the same as depreciation, which is wrong. In the public debates, the term is often used in a sloppy way. For example, oil prices may drive measured

inflation, but not in the long run, unless monetary policy is purely adaptive. In the long run, inflation is a monetary phenomenon. My recommendation is that Garrett should have a closer look at economic theories of long-run growth. In this context, there are interesting observations, such as the long run stability of the real interest rate or of the capital-output ratio. I understand that he wants to discuss civilization as a whole, but that is impossible to achieve with available data, it seems to me. So, those observations reach plausibility based on the extrapolation of national data, especially the US. It seems to me that the long-run stability of certain rates would match Garrett's approach pretty well, but if he applies flawed economics, he is unable to make best use of these insights.

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