Correction to: Robust Solutions to the Life-Cycle Consumption Problem

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Correction to: Computational Economics

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In the original publication of the article, there were several errors in the text and equations. The corrections are given below:

In Abstract, the sentence beginning “We generalize the methodology...” should read as “We generalize the methodology and illustrate how it can be used to solve other types of problems.”

In section “1.2 Literature Review”, the sentence beginning “Due the complexity of...” should read as “Due to the complexity of the LCP, however, the application of these approaches can result in what is referred to as the curse of dimensionality.”

In section “1.2 Literature Review”, the sentence beginning “They do this by approximating the value...” should read as “They do this by approximating the value function of the Bellman equation instead of computing and saving the exact value for every possible state.”⁴

In section “2 Change of Variables for the RC”, the sentence beginning “We now explain how to change...” should read as “We now explain how to change the original problem $\mathcal{P}$ before applying the RC for certain types of problems, which includes the LCP.”

In section “2.2 Closed Solutions for Inner Problem”, below Eq. (4), the sentence beginning “These type of uncertainty...” should read as “These types of uncertainty sets includes the box ($p=1$), the ellipsoid ($p=2$) and other polyhedrons.”

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In section “3 RC for the LCP”, sentence beginning “An individual must decide...” should read as “An individual must decide his or her consumption pattern for the following N periods.”

In section “3 RC for the LCP”, sentence beginning “The uncertain parameter are the returns...” should read as “The uncertain parameter is the returns r_{jt} of each asset j at each time t and represents parameter a in model (1).”

Below Eq. (9), the sentence should read as “Following Eq. (8), $w_1 = M_1(w_0 + i_0 - c_0)$ and Eq. (9)”.

Below Eq. (10), the sentence should read as “where L is a triangular matrix with $LL^T = C$ and z a standard normal independent and identical distributed (i.i.d.) vector. We consider log returns to follow an AR1 process of coefficient ρ , hence $C_{t,t+k} = \sigma^2 \rho^k$.⁹ Under this framework, the parameter defining the uncertainty set is¹⁰”.

Below Eq. (11), the sentence should read as “where $A(t, s) := \sum_{k=1}^t \sum_{l=1}^s C_{k,l}$ ”.

Below Eq. (13), the sentences should read as “Figure 2 shows the mean and the CVaR (at a 5% level) of U_N .¹² The CVaR results show that the consumption pattern provided by the *LCP* presents a utility distribution with a smaller left-tail than its benchmark, except for close-to-neutral agents with high confidence about future returns. We can expect results to have worst outcomes in these situations, because we have implicitly assumed uncertainty in the returns by using the model given by Eq. (10).”

In “Appendix: Proof of Eq. (11)”, the sentence beginning “Denoting $A(t, s)$...” should read as “Denoting $A(t, s) := \sum_{k=1}^t \sum_{l=1}^s C_{k,l}$, we have shown that $E(e^{\gamma \sum_{k=1}^t L_k z}) = e^{\frac{\gamma^2}{2} A(t,t)}$. z is a standard normal i.i.d. vector and $LL^T = C$, thus”.

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