Calender Year Effect - Output

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The document presents the findings of the impact of stochastic inflation on the ultimo ultimate claims and the one-year ultimate claims. First, we compare the distribution of the ultimo ultimate against the one-year ultimate (this is done just as a check to make sure that the code is running fine). As expected, the ultimo distribution has a bigger spread compared to the one-year distribution. This is because for the one-year ultimate, the only source of randomness is the first year of development. In contrast, for the ultimo ultimate, we carry several years of stochastic projections.

Note that the graphs have been produced using the constant ODP method and claims are developed over 10 years. The results are based on 1,000 simulations

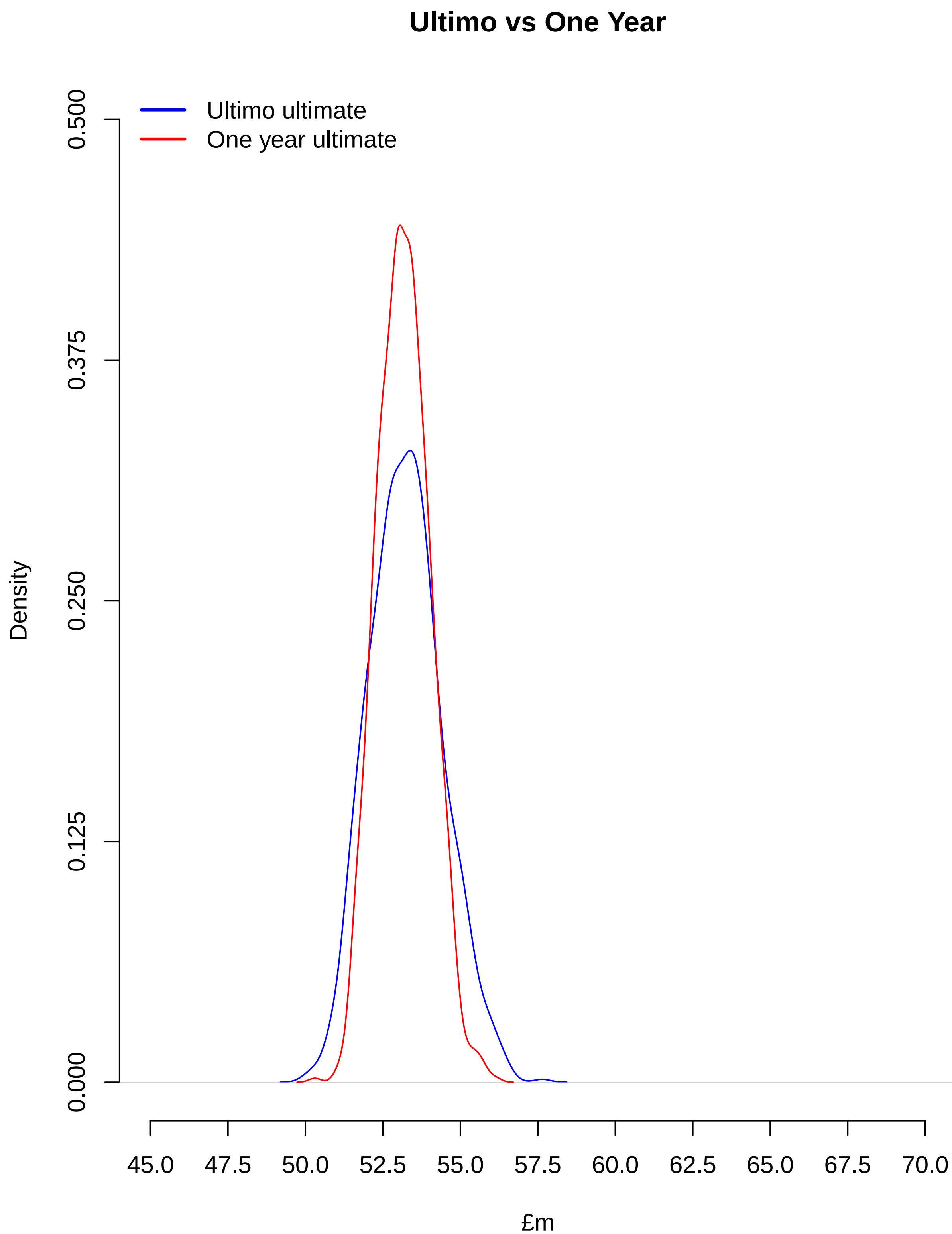

Figure 1: Comparison of Ultimo ultimate claims and the one-year ultimate claims.

We now compare the impact stochastic inflation. Figure 2 shows the fan plot for the stochastic inflation.

Figure 3 compares the ultimo distribution with and wihout stochastic inflation. As expected the inflation adjusted graph has a much wider spread (given that inflation is modelled as a stochastic process). We also note that the median has shifted, this is also expected as inflation is modelled as an AR(1) process with mean 4.04%. Finally, we note that the inflation adjusted graph is not very smooth, however we would expect a smoother graph with 10,000 or 100,000 simulations.

Figure 4 shows the one-year distibution with and without stochastic inflation. We note that the shock to the distribution is far less for the one-year ultimate compared to the ultimo ultimate. This may be because a horizon of 10 years is too short for the ultimo ultimate claims to recover from a large shock in inflation. A longer time horizon might show a smaller shock on the ultimo ultimate claims.

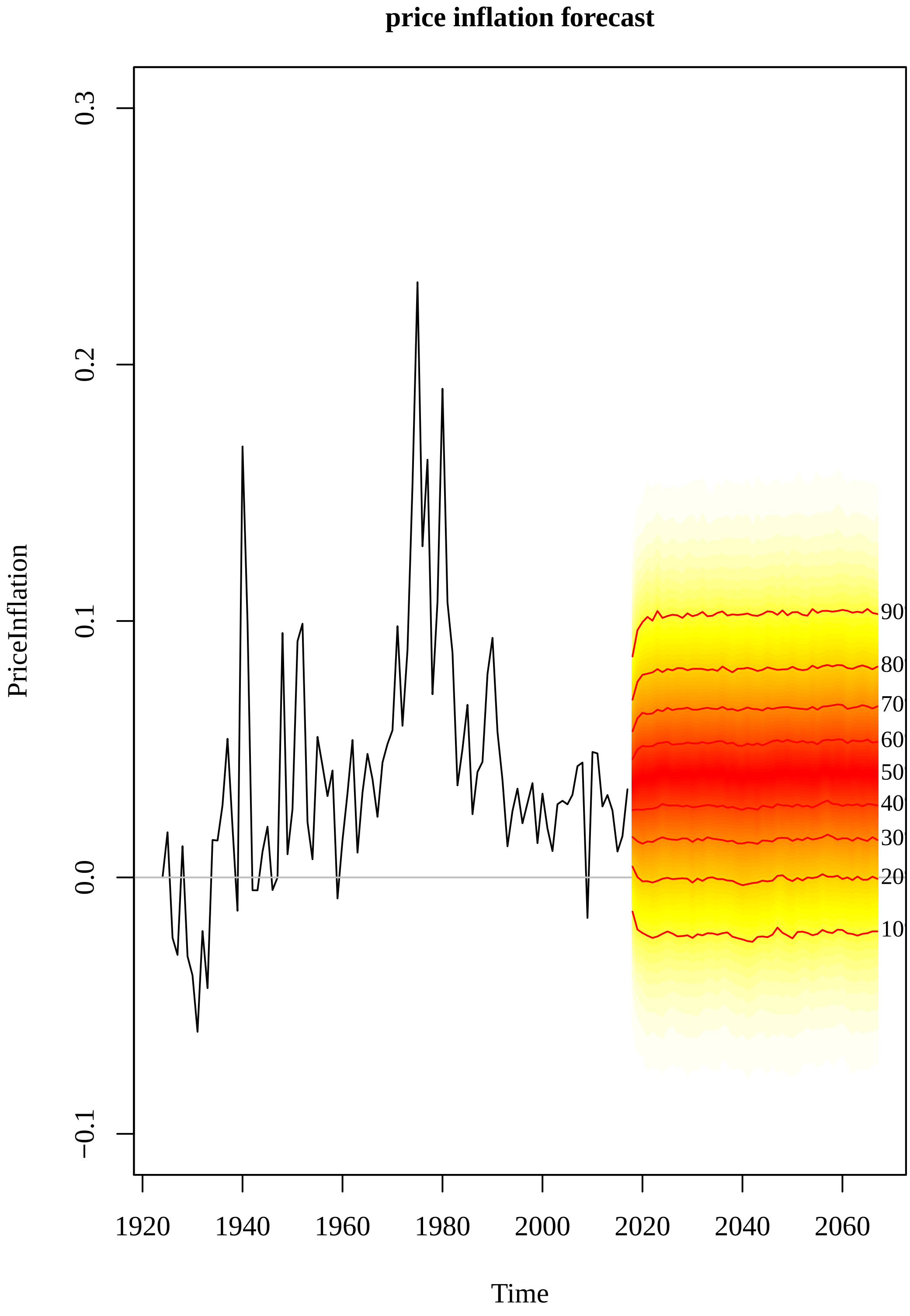

Figure 2: Stochastic paths for future inflation rates.

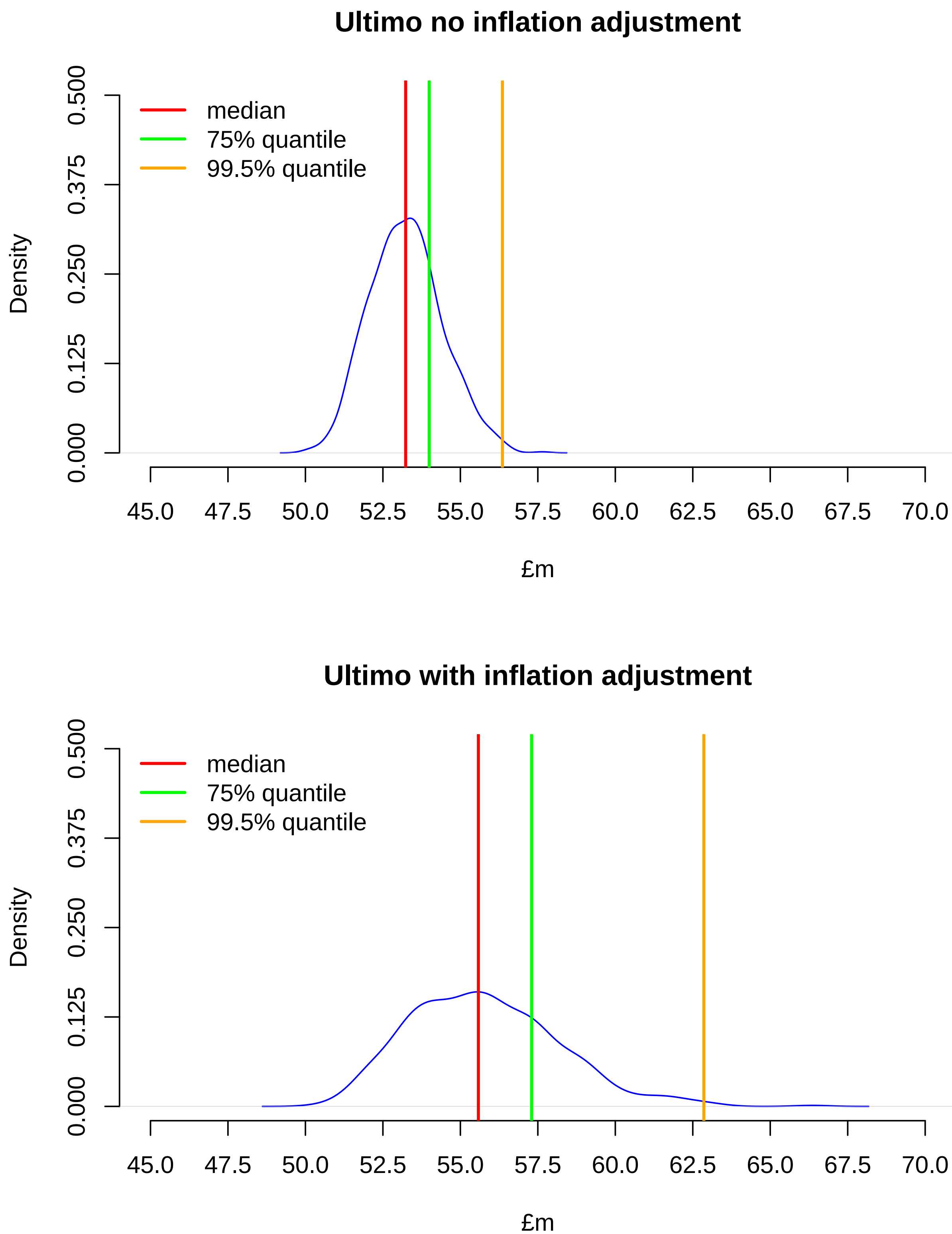

Figure 3: Comparison of Ultimo ultimate claims with and without inflation adjustment.

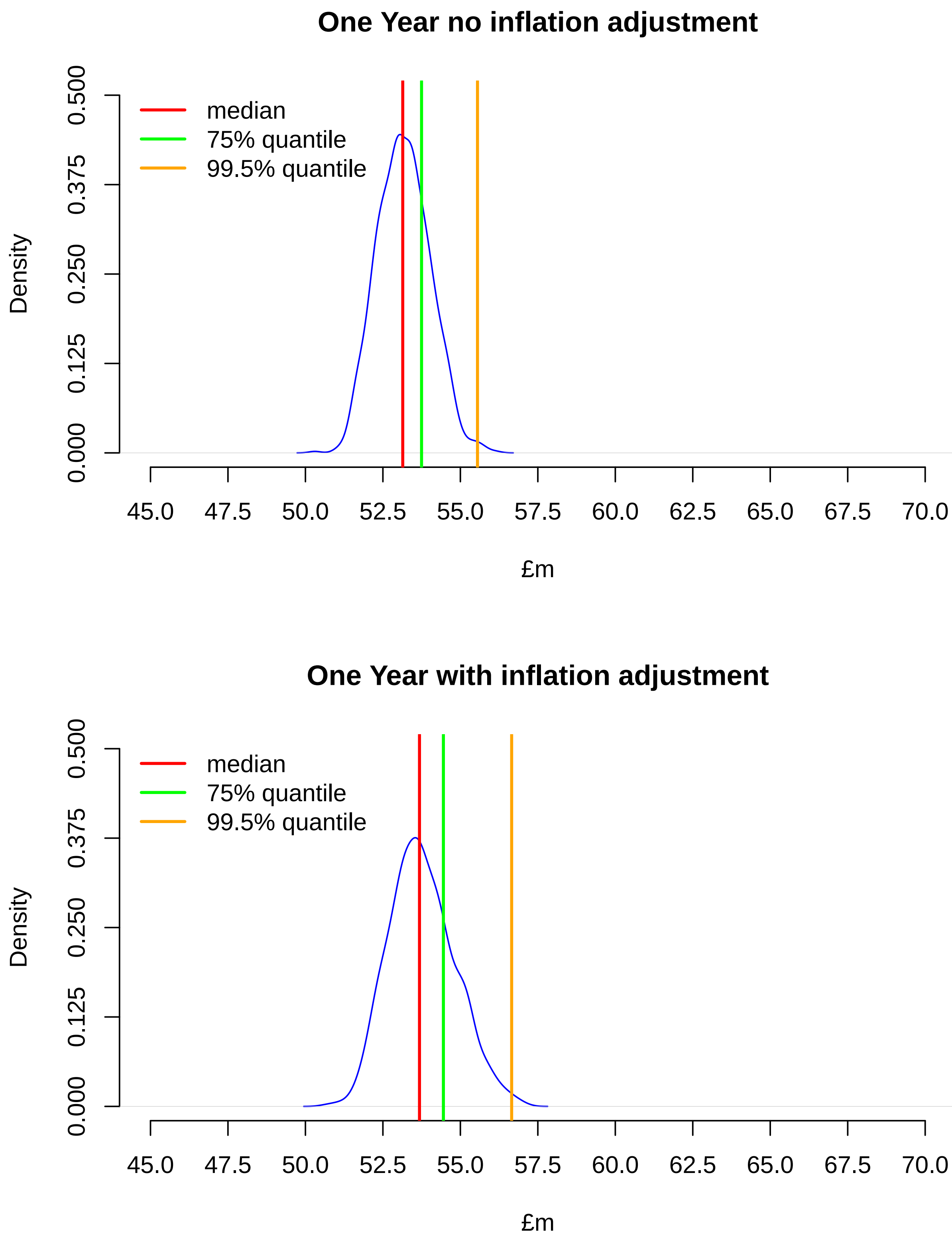

Figure 4: Comparison of One Year ultimate claims with and without inflation adjustment.