

approach zero, implying $\Pi(\delta) \rightarrow +\infty$. At the other extreme of δ , it is apparent that $\Pi(+\infty) = 0^+$, because there is no equity premium when there is no uncertainty.

The function $\Pi(\delta)$ defined by (36) is continuous in δ . Since

$$\Pi(+\infty) < E[r_e] - r_f < \Pi(0) , \quad (41)$$

the result (37) follows. \square

The essence of the Bayesian statistical mechanism driving the theorem can be intuited by examining what happens in the limiting case. As $\delta \rightarrow 0^+$, the limit of (33) is a t distribution of the form (35) – except that $m+n$ replaces n . With the presumed case of large $m+n$ and small δ , the central part of the t -like distribution (33) is approximated well by a normal in its middle range. However, for applications involving the implications of risk aversion, such as calculating the equity premium, to ignore what is happening away from the middle of the distribution has the potential of wreaking havoc on the calculations. For these applications, the normal distribution may be a very bad approximation indeed, because the relatively fatter tail of the dampened- t distribution (33) is capable of producing an explosion in formulas like (13) or (14), implying in the limit as $\delta \rightarrow 0^+$ an unboundedly large equity premium. Properly construed, such kinds of explosions are essentially giving an economic interpretation (in terms of pervasive structural background uncertainty about the possibility of taking a serious hit in equities just when consumption is abnormally low) to the statistical fact that the moment generating function of a t -distribution is infinite.

An explosion of the equity premium does not happen in the real world, of course, but a tamed near-explosive outcome remains the mathematical driving force behind the scene, which imparts the statistical illusion of an enormous equity premium incompatible with the standard neoclassical paradigm. When people are peering into the future they are also peering into the past, and they are intuitively sensing there the spooky background presence of a low- δ prior volatility that could leave them holding the bag by wiping out their stock-market investments. This eerie sensation of low- δ background structural shadow-risk cannot easily be articulated, yet it frightens investors away from taking a more aggressive stance in equities and scares them into a position of wanting to hold instead some safer stores of value such as gold, cash, inventories of real goods, or