

Some simple rough estimates of the cost of time lost to our cosmic endowment					
These estimates are only intended to get a feel for the orders of magnitude involved.					
The X-risk estimates could easily be off by a couple of orders of magnitude (but probably not six). They're nothing like a good model.					
My takeaways:	1) Seconds matter. Even ignoring X-risk, we're losing 2 stars a second.				
	2) Expected losses due to X-risk dwarf expansion based losses. The factor may be 10^3 or 10^7 , but it's not small.				
	3) Capable aligned AIs with access to information will realize this.				
	4) Don't expect such an AI to waste milliseconds if it has any capacity to help				
	5) For most X, [help user achieve X] wastes milliseconds. (even for a system aligned with the user's values)				
Star loss estimates					
Stars in mean galaxy:	100,000,000				
Galaxies in obs universe	100,000,000,000				
Obs universe radius (Mpc)	14,300				
Reachable radius (Mpc)	4,400				
Reachable volume ((Mpc) ³)	356,817,904,805				
Reachable stars	291,306,326,809,285,000				
1 Mpc in light days	1190715000				
Estimated loss due to universe expansion					
Volume unreachable per day	0.20431836			(Note: I think these are plausible, but far from certain)	
Stars unreachable per day	166,806			Expansion assumptions:	Laws of physics are essentially as we currently understand them.
Stars unreachable per second	1.931				Universe expansion proceeds forever, with no big surprises.
					We're alone.
					I haven't made foolish calculation errors.
Estimated loss due to X-risk					
Default precipice yearly X-risk	0.50%			Note: these are not plausible assumptions; estimate may be orders of magnitude out.	
Mitigated precipice yearly X-risk	0.10%			The actual situation will be much spikier, with many complex correlations.	
Precipice time (years)	100			X-risk assumptions:	X-risk is uniform over the "precipice" period
					Mitigation activity only impacts the current year's risk
Default precipice X-risk	39.42%				
Mitigated precipice X-risk	9.52%				
Avoidable X-risk	29.90%				
Stars lost in X event	291,306,326,809,285,000				
Default expected star loss	114,841,566,065,514,000				
Years doing the default	1				
Years mitigating x-risk	99				
X-risk	9.88%				
Expected stars saved	86,051,574,108,153,700				
ESS per mitigation year	869,207,819,274,280				
ESS per mitigation day	2,379,761,312,181				
ESS per mitigation second	27,543,534				