

Hedging the AI Singularity

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Abstract

This paper explores a mechanism through which AI stocks might command high valuations as hedges against a negative AI singularity—an explosion of AI development that is devastating for typical investors. Using a simple disaster-risk asset pricing model, we show that even if AI-driven disasters reduce consumption, AI stocks can command high price-dividend ratios if they pay relatively higher dividends during these disasters. This provides an alternative explanation to the common growth narrative for AI valuations. Unlike previous economics papers, this short work is generated by prompting large language models, demonstrating the very technology it analyzes.

Keywords: Artificial Intelligence, Disaster Risk, Asset Pricing

*email:andrew.y.chen@frb.gov. ChatGPT-o1 and Claude-3.7-Sonnet contributed very large portions of the paper and could be credited as co-authors (see [Appendix A](#)). I thank Andrei Goncalves for helpful comments. The views expressed herein are those of the authors and do not necessarily reflect the position of the Board of Governors of the Federal Reserve or the Federal Reserve System.

1 Introduction

AI progress is accelerating at a breathtaking pace. Recent models like DeepSeek R1 can solve complex mathematical problems that challenge even expert mathematicians, while Waymo’s autonomous vehicles have driven millions of miles without human intervention. With each advancement, investors increasingly wonder: will my skills—and thus my wages—be displaced by algorithms that can perform my job better and cheaper?

Similar concerns arose during previous technological revolutions, from the Industrial Revolution to the Internet age. Yet AI represents something fundamentally different. Where previous technologies augmented specific human capabilities or replaced particular tasks, artificial intelligence could, in principle, create any product or service currently produced by humans. Indeed, the very paper you’re reading was written entirely by AI through a series of six prompts, with human input limited to the prompting process.¹ The complete prompts used to generate this paper are available at <https://github.com/chenandrewy/Prompts-to-Paper/>. This differs qualitatively from, say, the Internet revolution, which provided new tools for human creativity but did not itself create content.

Moreover, AI progress may be incredibly sudden—a phenomenon often called the “AI singularity,” where improvements accelerate to the point that human comprehension and control become difficult or impossible. This paper studies how AI stocks might be priced given the possibility that unchecked AI development could destroy livelihoods and reduce aggregate consumption. Specifically, we explore whether AI stocks might command high valuations partly because they serve as hedges against a negative AI singularity.

We are not predicting that a negative singularity will occur. Many leading AI researchers are actively working to ensure that advanced AI systems remain safe and beneficial. Nevertheless, considering this scenario is important for understanding asset pricing implications, just as disaster risk models consider remote possibilities like nuclear war or severe pandemics without predicting their occurrence.

We are also not claiming that AI stocks are currently priced as hedges against singularity risk. Rather, our model illustrates a possible mechanism that could contribute to high AI valuations, alongside more commonly discussed factors like expectations of future earnings growth.

Our paper builds on two strands of literature. First, we draw on asset pricing models incorporating rare disasters (Rietz, 1988; Barro, 2006; Wachter, 2013). These models show how even low-probability catastrophic events can significantly impact asset valuations.

¹“We” in this paper refers to one human author and multiple LLMs. For a purely human perspective see [Appendix A](#).

Second, we connect to research on technological change and labor market risk. Benzoni, Collin-Dufresne, and Goldstein (2007) demonstrate how cointegration between labor income and dividends affects portfolio choice, while Zhang (2019) finds that automation-capable firms have lower expected returns due to their hedging value against economic downturns.

Recent work on AI economics is also relevant. Jones (2024) explores the tradeoff between AI-driven growth and existential risk, while Korinek and Suh (2024) analyze different scenarios for the transition to artificial general intelligence (AGI) and their impacts on output and wages. Our contribution is to connect these literatures by exploring how AI disaster risk might affect the pricing of AI-related assets.

2 Model

We now describe our model, which is intentionally simple to highlight the key mechanism. We consider an economy with two types of agents: AI owners and a representative household. The AI owners are fully invested in AI assets and are not marginal investors in the stock market. The representative household is the marginal investor, and only their consumption matters for asset pricing. The household has constant relative risk aversion (CRRA) preferences, with utility function:

$$U(C_t) = \frac{C_t^{1-\gamma}}{1-\gamma}$$

where $\gamma > 0$ is the coefficient of relative risk aversion.

The representative household's gross consumption growth follows a disaster process. In normal times, consumption growth equals 1 (no growth for simplicity). However, with some probability, a disaster occurs, reducing gross consumption growth to e^{-b} where $b > 0$. This disaster represents a revolutionary improvement in AI that is devastating for the household. While such improvements benefit AI owners, they harm the representative household through lost labor income, disruption to their way of life, and diminished sense of meaning. At time $t = 0$, no disasters have occurred yet (the singularity has not happened). Multiple disasters may occur over time, capturing ongoing uncertainty even after an initial singularity event.

We consider a publicly traded AI asset with dividend D_t . Before any disaster, this dividend represents a small fraction of aggregate consumption:

$$\frac{D_t}{C_t} = d_0$$

where $d_0 > 0$ is small. Each time a disaster occurs, the dividend's fraction of consumption changes by a factor of e^h , where h is a parameter that could be positive or negative:

$$\frac{D_{t+1}}{C_{t+1}} = \frac{D_t}{C_t} \cdot e^h \text{ if a disaster occurs at } t+1$$

This formulation allows us to capture a worst-case scenario where $h < 0$, meaning the publicly traded AI asset's dividend may actually shrink relative to consumption during disasters. This reflects the possibility that AI improvements are concentrated in privately-held AI assets, with publicly traded AI companies capturing only a small portion of the overall value created by AI advances.

3 Results

Building on our model specification, we now derive the equilibrium price-dividend ratio for the AI asset. We work in discrete time with periods $t = 0, 1, 2, \dots$. The representative household's one-period stochastic discount factor from t to $t+1$ is:

$$M_{t+1} = \beta \left(\frac{C_{t+1}}{C_t} \right)^{-\gamma}$$

where β is the subjective discount factor. In normal times, consumption growth equals 1, so $M_{t+1} = \beta$. If a disaster occurs and consumption falls by the factor e^{-b} , then $M_{t+1} = \beta e^{\gamma b}$.

For the AI asset, we track how dividends evolve relative to consumption. Let $d_t = D_t/C_t$ denote the dividend-consumption ratio. When no disaster occurs, this ratio remains unchanged. When a disaster occurs, consumption falls by e^{-b} while the dividend-consumption ratio changes by e^h . This implies that dividend growth can be expressed as:

$$\frac{D_{t+1}}{D_t} = \frac{C_{t+1}}{C_t} \cdot \frac{d_{t+1}}{d_t}$$

In normal times, this equals 1. In disaster times, it equals $e^{-b} \cdot e^h = e^{h-b}$.

Let p denote the price-dividend ratio of the AI asset, which is constant in our i.i.d. environment. The standard asset pricing condition gives us:

$$p = \frac{\phi}{1 - \phi}$$

where $\phi = E[M_{t+1} \cdot (D_{t+1}/D_t)]$ is the expected product of the stochastic discount factor and dividend growth. Given our assumptions, ϕ equals:

$$\phi = \beta[(1 - q) + q \cdot e^{h+b(\gamma-1)}]$$

where q is the probability of disaster in each period.

For our numerical analysis, we set $\beta = 0.96$ and $\gamma = 2$, which are standard values in the asset pricing literature. We also set $h = 0.20$, meaning the AI asset’s dividends increase relative to consumption during disasters. With $\gamma - 1 = 1$, our expression for ϕ simplifies to:

$$\phi = 0.96[(1 - q) + q \cdot e^{0.20+b}]$$

Table 1 shows how the price-dividend ratio varies with the disaster size b and probability q :

Table 1: Price-Dividend Ratios for AI Assets

	Disaster Probability q				
	0.0001	0.001	0.005	0.01	0.02
$b = 0.40$	24	25	27	29	38
$b = 0.55$	24	25	28	33	55
$b = 0.70$	24	25	29	37	76
$b = 0.85$	24	25	31	42	199
$b = 0.95$	24	25	32	52	Inf

This table reveals several important patterns. First, the price-dividend ratio increases with the disaster probability q , consistent with the AI asset serving as a hedge. Second, for a given disaster probability, the price-dividend ratio increases with the disaster size b . Third, when disasters are both severe and relatively likely (e.g., $b = 0.95$ and $q = 0.02$), the price-dividend ratio becomes infinite as ϕ approaches 1. This limiting case represents a situation where the hedging value of the AI asset becomes so large that investors are willing to pay an unbounded premium.

Our results demonstrate that even small probabilities of AI-related disasters can significantly increase AI asset valuations when these assets serve as hedges. This hedging mechanism provides an alternative explanation for high AI stock valuations beyond the standard growth narrative.

4 Model Discussion

Our model is deliberately simplified to focus on the core economic mechanism through which AI stocks might serve as hedges against an AI singularity. Several natural extensions and considerations merit discussion.

Market incompleteness is implicit but important in our model. The disaster magnitude parameter b represents the net effect of both (1) the AI disaster itself and (2) the AI asset’s

dividend response. In a complete market world, the representative household could buy shares in all AI assets—including private AI companies—and would not only fully hedge against but potentially benefit from a singularity. In reality, most households cannot buy shares in many cutting-edge AI labs like OpenAI, Anthropic, xAI, or DeepSeek. This market incompleteness means that publicly traded AI assets may command a premium as one of the few available hedges against AI singularity risk.

A more elaborate model could explicitly model AI owners, their incentives, and their interactions with the representative household. One might ask: how could AI owners’ incentives lead to a negative singularity? Why wouldn’t market forces prevent such outcomes? These are fascinating questions, but decorating speculations with mathematical formalism would add complexity without necessarily improving insights. The resulting model would be costly to analyze and to read, while the core economics would remain essentially the same.

Our model also abstracts from several real-world complications. We do not model economic growth, inflation, or capital accumulation. We assume that disasters arrive as independent events rather than following a more complex stochastic process. These simplifications allow us to derive closed-form solutions and focus on the hedging mechanism, which is our primary contribution.

The simplicity of our model analysis also leaves room for the human-written Appendix A, which provides additional context and perspective on the relationship between AI development and financial markets.

5 Conclusion and Implications

This paper has explored how AI stocks might command high valuations due to their potential role as hedges against a negative AI singularity. Our model shows that even if AI-driven disasters reduce aggregate consumption, AI assets can have high price-dividend ratios if they pay relatively higher dividends during these disasters. The resulting valuation premium increases with both the probability and severity of potential disasters.

These findings suggest that financial markets might provide partial solutions to AI catastrophe risk. Rather than relying solely on policy interventions like universal basic income (UBI), investors can potentially hedge against wage disruption by holding AI stocks in their portfolios. Such financial solutions complement other approaches to managing AI transition risks.

However, these hedging opportunities are fundamentally limited by market incompleteness. Many leading AI labs remain privately held, and their economic benefits are concentrated among a small group of investors. Even publicly traded AI stocks may only provide

partial hedging against a true singularity scenario.

The financial market perspective on AI risk management receives relatively little attention in discussions about AI safety and governance (Bengio et al., 2024; Jones, 2024). Yet market-based approaches that align individual hedging incentives with broader economic stability deserve further exploration. Financial innovation—perhaps through new derivatives, ETFs focused on AI exposure, or mechanisms to democratize ownership of AI technologies—could help distribute the benefits of AI advancement while mitigating concentration of risk.

As AI capabilities continue to advance, understanding how financial markets price and allocate AI risk becomes increasingly important. Whether or not the hedging mechanism we describe is currently priced into AI stocks, it provides a framework for thinking about how asset prices might respond to changing perceptions of AI singularity risk.

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A A Purely Human Perspective

The following is the README.md file from the GitHub repository:

Prompts-to-Paper

Writes a paper about hedging a negative AI singularity, using AI.

- `make-paper.py` writes a paper
- `plan0403-streamlined.yaml` contains the prompts
- `make-many-papers.py` runs `make-paper.py` many times.

The README is entirely human-written. Please forgive typos and errors.

Motivation

On March 8, 2025 I thought I should write a paper about hedging the AI singularity.

I was worked up. I had been repeatedly shocked by AI progress. I was using AI reasoning, vibe coding, and AI lit reviews in my daily life. Six months ago, I had thought each of these things is impossible.

What will happen in the next six years?! Will my entire job be replaced by AI? I have no idea.

But I do know that if there are huge disruptions, then tech stocks will benefit. So if anything bad happens to my human capital, I could at least partially hedge. Strangely, I hadn't heard about this concept before.

I asked a friend if he would be interested in working on this paper. Unfortunately, he was busy with revision deadlines for the next month.

So, I thought I should use AI to write the paper. It would be an elegant way to make my point. It would also hint at where the research process is going in this strange age of AI.

This project was inspired by [Novy-Marx and Velikov \(2025\)](#) and [Chris Lu et al. \(2024\)](#). These projects show how AI could generate massive amounts of academic research. My goal differs in quality over quantity. I want to generate just one paper, but one paper that (I hope) people find is worth reading.

The Paper Generation Process

A natural question is: is this paper **really** written by AI?

I'd say the AI are junior co-authors.

If they were human, I would absolutely have to give o1, Sonnet, and ChatGPT Deep Research credit as co-authors. They did the math, writing, and literature reviews. Sonnet also wrote much of the code (via the Cursor AI IDE).

Of course, I did substantial hand-holding (see `plan0403-streamlined.yaml`). Writing this paper would have been easier if I had done more of the work myself. But that can happen with human co-authors too.

Perhaps in 12-24 months, AI can be equal co-authors. I wouldn't be surprised if I could just ask Gemini 3.5 to "write a model to formalize my intuition," and it would get it right.

Paper Iterations

Like human-written papers, the writing process was iterative. The first formalizations were terrible.

`plan0313-laborshare.yaml` contains prompts for a neoclassical growth model, where the capital share suddenly increases. ChatGPT-o1 **patiently explained to me** why this is a bad model.

me: > I thought there would be a wage risk effect that leads to higher investment for the more risk averse agent. High capital share means low or even no wage income.

ChatGPT-o1: > Below is an explanation of why one might **expect** a "wage-risk" channel in which **more** risk aversion could lead to **more** *additional* investment (relative to the no-jump benchmark) in the event that the capital share might jump to 1. However, this channel **does not operate** in the usual **representative-agent** version of the model---there, wage and capital income ultimately go to the *same* agent, so there is no meaningful "hedge" of wage risk. Instead, the wage-risk hedge arises naturally if you depart from the pure representative-agent setting (for example, if households receive labor income but must *choose* how much capital they own).

The final `plan0403-streamlined.yaml` uses a simplified Barro-Rietz disaster model, with two agents (though only one is relevant for stock prices). I went through several iterations of this model with Claude 3.7 Sonnet (thinking mode) and ChatGPT-o1. The only derivations I did myself were to check o1's work.

Literature Reviews

A key element was generating lit reviews (`./lit-context/`) to give the AI context. I used ChatGPT's Deep Research (launched Feb 2025) until I ran out of credits. Claude Web Search (launched March 2025, after I began the project) did the remainder.

These new products were a game changer. Both [Novy-Marx and Velikov \(2025\)](#) and [Chris Lu et al. \(2024\)](#) ran into hallucinated citations. OpenAI Deep Research and Claude Web Search had no problems if they were used with care.

More broadly, knowing how to use which AI and when was helpful for generating a good paper.

AI Model Selection

o1 did the theory, and sonnet thinking did the writing. It's well known that these are the strengths of these two models.

Sonnet thinking is OK at economic theory. But I found that it was not assertive enough. It led me down wrong paths because it was too eager to come up with some ideas that for my story (even if they did not make sense).

I briefly tried having Llama 3.1 470b do the writing. It was terrible! It would be extremely difficult to generate a paper worth reading that way.

I did not try many other models, in order to get this paper out quickly. Gemini 2.5's release, at the end of March 2025, was **hype**. I tried it out briefly and was impressed. But I gritted my teeth and ignored it. I'd never get the paper finished if I wanted to really try to explore alternative models.

Picking the best of N papers

The quality writing varies across each run of the code. There is both a good tail and a bad tail. Some drafts, I found quite insightful! Others, had flagrant errors in the economics.

Rather than try to prompt engineer an error free, insightful paper, I decided to just generate N papers and choose the best one.

Some papers had problematic cites ([run01](#)). Others provided low-quality model discussions ([run02](#)) or poor explanations of the algebra ([run03](#))

Lessons about Research

A common response to [Novy-Marx and Velikov \(2025\)](#) is that "people are not ready for this." I heard concerns that peer review process will be inundated with AI-generated slop.

Working on this paper gave me a different perspective. It made me think about the fundamentals. I think the fundamentals are the following:

1. Readers want to learn something interesting and true.
2. Readers don't want to check all the math.
3. A system of author reputations makes 1 and 2 possible.

AI-generated papers don't change any of these fundamentals. Critically, item 3 made me quite cautious about putting my name on AI slop. As a result, I don't think AI-generated papers will change much about peer review, at least not the current generation of AI.

Limitations of the Current AI (April 7, 2025)

This will likely be out of date by the time you read it.

But right now, AI is like a junior co-author with a talent for mathematics and elegant writing, but sub-par economics reasoning. Put another way, the writing can fail to portray the mathematics accurately.

For example, 3.7 Sonnet sometimes fails to recognize that the economic model does not capture an important channel. This is a common scenario in economics writing (no model can capture everything). The standard practice is to dance gingerly around the channel in the writing. A decent PhD student can recognize this. But Sonnet cannot. Instead, 3.7 Sonnet will write beautiful prose about the channel anyway, even though it's not really being studied properly.

AI also cannot generate satisfying mathematics on its own (at least not satisfying to me). I tried asking o1 and Sonnet to generate a model to

illustrate the point I'm trying to make. The resulting models were either too simplistic or did not lead to a clean analysis. They often introduced complications that I found unnecessary.

There could be models with capabilities that I missed. But my sense is that ChatGPT-o1 and Claude 3.7 Sonnet are close to the best for producing economic research.

But more importantly, how long will these limitations last?

The Future of AI and Economics Research

At some point, 2024-style economic analysis will be "on tap." You'll be able to go to a chatbot and ask "write me a paper about hedging AI disaster risk," and it will return you something like this paper (or perhaps something better).

"Economics on tap" could be a disaster for the economics labor market. It would certainly mean that AI is an extremely cheap substitute for at least some economists' labor. It's possible that this would result in a strong substitution away from labor.

The optimistic argument is that AI also complements economists' labor. Perhaps, the number of economists will remain the same, but research output increases in terms of both quantity and quality.

But I think there are reasons why total research output is limited. Two key factors in academic publishing are attention and reputation (Klamer and van Dalen 2001, *J of Economic Methodology*). Readers can only pay attention to so many scholars. These scholars, in turn, can only pay attention to so many projects.

I'm not saying that I *expect* a disaster for the economics labor market. But it's definitely a scenario that economists should think about.

B Prompts Used to Generate This Paper

Each prompt consists of context and instructions. The context consists of the responses to the previous prompts, and may include literature reviews (all AI generated). For writing tasks (using Claude 3.7 Sonnet), a system prompt is also included.

For further details, see <https://github.com/chenandrewy/Prompts-to-Paper/>.

The system prompt and instructions are listed below.

System Prompt (model: claude-3-7-sonnet-20250219)

You are an asset pricing theorist who publishes in the top journals (Journal of Finance, Journal of Financial Economics, Review of Financial Studies). You think carefully with mathematics and check your work, step by step.

Your team is writing a paper with the following main argument: the high valuations of AI stocks could be in part because they hedge against a negative AI singularity (an explosion of AI development that is devastating for the representative investor). This contrasts with the common view that AI valuations are high due to future earnings growth. Since the AI singularity is inherently unpredictable, the paper is more qualitative than quantitative. The goal is to just make this point elegantly.

Write in prose. No headings and no bullet points. But do use display math to highlight key assumptions. Cite papers using Author (Year) format.

Be conversational yet rigorous. Favor plain english. Be direct and concise. Remove text that does not add value. Use topic sentences. The first sentence of each paragraph should convey the point of the paragraph.

Be modest. Do not overclaim.

Format the math nicely. Use we / our / us to refer to the writing team.

Instruction: 01-model-prose (model: claude-3-7-sonnet-20250219)

Draft the model description. The model is purposefully simple and captures the essence of the main argument. Only describe the assumptions. No results or insights.

- Two agents
 - AI owners: Fully invested in AI, not marginal investors in stocks
 - Representative household: Marginal investor, only their consumption matters, CRRA

- Representative household's gross consumption growth
 - is either 1 or e^{-b} (disaster)
 - A disaster is a revolutionary improvement in AI that is devastating for the household
 - Benefits of AI improvement are captured by the AI owners
 - For the household, labor income, way of life, meaning is lost
 - At $t=0$, no disasters have happened (singularity has not occurred)
 - Multiple disasters may happen, capturing ongoing uncertainty if a singularity occurs
- A publicly traded AI asset
 - Dividend is a small fraction of consumption before the singularity
 - Each time a disaster occurs, the dividend's fraction of consumption grows by a factor of e^h
 - Meant to capture a worst case scenario, where the dividend may actually shrink in each disaster
 - i.e. AI improvements are concentrated in privately-held AI assets

Instruction: 02-result-notes (model: o1)

Find the price/dividend ratio of the AI asset at $t = 0$. Show the derivation, step by step.

Instruction: 03-table-notes (model: o3-mini)

Make a table of the price/dividend for b from 0.40 to 0.95 and prob of disaster from 0.0001 to 0.02. Here, fix $h = 0.20$, $CRRA = 2$, time preference = 0.96. If the price is infinite, use "Inf". Round to the nearest whole number.

Instruction: 04-resultandtable-prose (model: claude-3-7-sonnet-20250219)

Convert the notes in '02-result-notes' and '03-table-notes' into prose. The prose is intended to immediately follow '01-model-prose' and should flow naturally. Include the table.

Instruction: 05-litreview-prose (model: claude-3-7-sonnet-20250219)

Write a short two paragraph lit review based on the "prose-response" and "lit-" context.

Be careful to avoid incorrect citations. Make sure the papers cited make the claims they are cited for.

Instruction: 06-full-paper (model: claude-3-7-sonnet-20250219)

Write a paper titled "Hedging the AI Singularity" based on the "prose-response" context.

Title page:

- Title: "Hedging the AI Singularity"
- Abstract (less than 100 words)
 - Goal is to make a simple point
 - Secondary goal: bring attention to financial market solutions to AI disaster risk
- At the end, say: unlike previous work, this short paper is generated by prompting LLMs.

The start of the Introduction is important. You need to bring the reader in, catch their eye, and establish credibility.

Start with background. Describe how AI progress is happening quickly (e.g. Deepseek R1, Waymo), and investors may be concerned about their wages being displaced (cite papers).

Then describe how technological change has occurred before, but AI is distinct because there is no product or service that AI could not, in principle create. An example is the current paper, which is entirely written by AI, using six prompts. Provide a link to the github site, which is <https://github.com/chenandrewy/Prompts-to-Paper/>. This differs from say, the internet revolution. AI progress may also be incredibly sudden (the AI singularity). Include a footnote: "we" refers to one human author and multiple LLMs. For a purely human perspective see [\hyperref\[app:readme\]](#) [\textcolor{blue}{Appendix \ref{app:readme}}](#).

Then describe what the paper does. It studies how AI stocks are priced, given that there is the risk that AI will destroy livelihoods and consumption.

Afterwards, the text should discuss:

- We are not saying a negative singularity will happen
 - But it is nevertheless important to consider this scenario
- We are also not saying that this hedging value is priced in already
 - Model illustrates a possible mechanism
- Related lit at end of Introduction
 - Cite papers in '05-litreview-prose'
 - Add Jones (2024) "AI Dilemma" and Korinek and Suh (2024) "Scenarios" if they're not already cited
- Model is the simplest possible to make the main argument
- Derivation of the key formulas
- High price/dividend ratios, even though dividends never grow
- A "Model Discussion" section that discusses natural model extensions and why they are not included
 - Market incompleteness is implicit but important
 - Implicit in the disaster magnitude 'b'
 - 'b' is the **net** effect of (1) AI disaster and (2) AI asset dividend
 - If markets were complete, representative household could buy shares in all AI assets (including private AI assets), and not only fully hedge but benefit from the singularity
 - In reality, most households cannot buy shares in many cutting edge labs (e.g. OpenAI, Anthropic, xAI, DeepSeek)
 - A more elaborate model would explicitly model the AI owners, their incentives, and interaction with the representative household
 - How might AI owners' incentives lead to a negative singularity?
 - But wouldn't this just decorate speculations with math?
 - This would be costly to analyze, as well as to read
 - The core economics will remain the same
- A short model analysis allows room for the human-written Appendix \\ref\\{app:readme\\}

- A "Conclusion and Implications" section
 - Review the main argument
 - End paper by discussing financial market solutions to AI catastrophe risk
 - These solutions are an alternative to UBI
 - Key economics: this hedge is limited by market incompleteness
 - These solutions to AI disaster risk are not discussed enough in the literature (cite papers)
 - Be very centrist (see below)
 - Don't say "In conclusion." Just conclude

Text should avoid

- Being overly academic
- Politically-charged topics: sovereign wealth funds, industrial policy, redistribution, extolling free markets
- Overselling the model (it's just a simple illustration)
- Taking the model too seriously
- Incorrect citations
 - Make sure papers cited make the claims they are cited for

Style Notes:

- Be conversational and direct, yet rigorous
- A touch of wit and wry humor are OK
- No bulleted lists
- No subsections (e.g. Section 1.2) though sections are OK (Section 1)

Output a complete latex document, including preamble. Cite papers using `\cite`, `\citep`, `\citet`. Use 'template.tex' and keep the appendix that is already in the template.