Hook Document

Introduction:

Greetings, UVA Class of 2026,
In the realm where finance, technology, and economic metrics converge, a compelling exploration awaits. As a 2nd-year UVA student, envision yourself as an explorer, unraveling the complexities of inflation measurement in our dynamic, tech-driven world.

Context and Motivation:

In the context of real-world economic dynamics, let's transport ourselves to a scenario where you, as a first-year economist at the Federal Reserve, find your skills urgently enlisted. Your manager, recognizing the transformative impact of technology on the economic landscape, tasks you with a critical examination of the Consumer Price Index (CPI) – a cornerstone metric in inflation measurement. Armed with statistical and machine learning methods, your mission is to dissect the relationships between an economy-wide stock index, a tech index, and the CPI. The motivation is clear – to determine whether the CPI, a common measure of inflation, is equipped to effectively capture the intricate influence of technological advancements on pricing dynamics. This is a practical and immediate examination of how these economic indices interact in the face of technological disruption. Your insights will not only shape the discourse within the Federal Reserve but also contribute to the broader economic conversation on measuring inflation in an era characterized by rapid technological leaps. Your role as an investigator holds pivotal importance in guiding economic policy decisions in a landscape defined by innovation and dynamic change.

Deliverable:

Your mission is to produce a nuanced and comprehensive analysis. Your task is to quantify the relationships between the economy-wide stock index, the tech index, and the CPI. Create a document that provides a roadmap for your analysis plan. Secondly, create a slide deck presentation that can be used to present your findings to your manager. Thirdly, ensure all your code for the analysis is well documented in a python notebook or R Markdown file. Put all of these materials into a GitHub repository and submit the link. The specific details of the project will be found in the rubric.