



The Future of AI and California's Economy

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This paper explores current and anticipated future labor and workforce trends economic trends related to the implementation of artificial intelligence in the economy. Historically, occupations displaced by emerging technology have been concentrated among traditionally less-educated positions. The emergence of AI in the workforce has disrupted this trend; indeed AI may impact jobs in the professional and managerial sectors more than those requiring manual labor. However, it is important to note that at present, AI integration in the workforce has augmented human worker performance, rather than supplanting it.

Recent Economic Trends

The latter half of the 20th and early 21st centuries saw growing inequalities in labor market outcomes, leading to a 'polarization' in wages. This was in large part due to the **college wage premium**, where college-educated workers generally had greater earnings than those without a college degree. **Wage polarization** is correlated with reported levels of **task displacement**; workers whose tasks have been displaced by technological advances, are generally less educated. The effects of task displacement are also concentrated among the middle class, and are correlated with significantly lower (sometimes negative) wage gains ([Acemoglu and Restrepo 2022](#)). However, **these trends have alleviated in the aftermath of the COVID-19 pandemic**. This is likely due to several factors, including increased transition rates toward higher paying jobs, increased wages for non-college educated workers, and labor market tightness ([Autor et al. 2023](#)).

AI and the Economy Today

Even though we are seeing the beginnings of artificial intelligence integration into the economy today, **AI is currently augmenting human worker performance, rather than replacing it**. This is primarily because AI systems are currently restricted a **'jagged' technological frontier** ([Dell'Acqua et al. 2023](#)), meaning it is easier for them to perform to certain tasks, such as image generation, compared to others that are still easier for humans to do, such as logical reasoning. As **Figure 1** illustrates, this means that it is possible for humans in the workforce to use AI systems as tools to improve their performance and productivity. Consequently, **AI implementation may reduce the advantages of skill and tenure in certain professions**. Although there is causal evidence for AI improving worker efficiency in customer service fields, **customer satisfaction remains largely unchanged** ([Dell'Acqua et al. 2023](#)). AI integration also currently remains concentrated among large firms. However, it is still important to consider future scenarios where the expansion of AI technology may result in replacing human contributions, or where AI growth is limited by human constraints.

Anticipating AI's Role in the Workforce Going Forward

We can disaggregate AI's potential impacts in the workforce by occupation and industry sector. **Occupations and industries less exposed to AI tend to require less education and more manual labor**, such as those in the construction, transportation, and agricultural industries. These are highlighted in green in **Figure 2**. **Jobs requiring more education and less manual labor, such as managerial and administrative positions in the business, finance, information, and government sectors may be more exposed to the impacts of AI in the future** (highlighted in red in **Figure 2**).

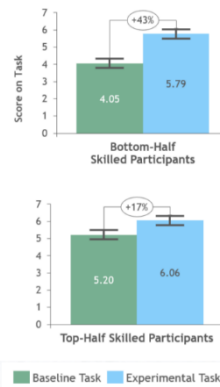


Figure 1: AI Augmentation of High and Low Skilled Workers ([Dell'Acqua et al. 2023](#))

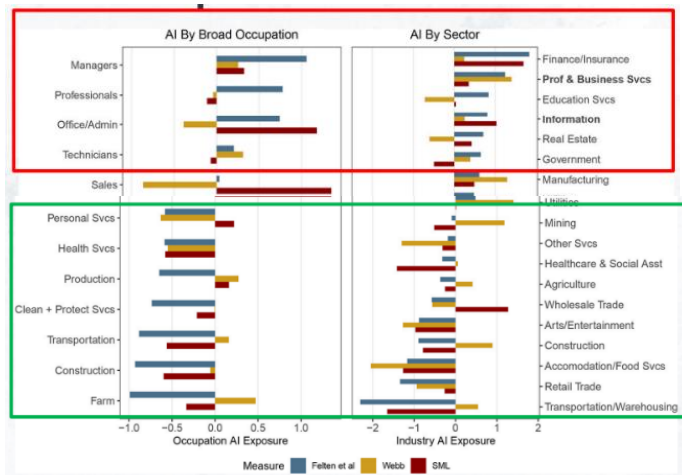


Figure 2: Exposure to AI by Occupation and Industry ([Acemoglu et al. 2023](#))