Does AI Displace Work?

The Effect of ChatGPT launch on labour demand

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A stream of papers have studied the exposure of different occupations to Generative AI (e.g. Kauhanen, et al. 2023 and Elondou et al. 2023)

- General finding: about one fifth of workers in developed countries are occupations where half of the jobs could theoretically be done by GenAI
- Very few occupations are completely unaffected, and also very few occupations are such that they would be completely taken over by GenAI

These studies concentrate on the technical feasibility of using GenAI in the workplace

- They do not take into account various economic, social, political, and human capital related issues that might affect GenAI adoption

We use real labour market data to understand what happened to demand for different types of work after the launch of ChatGPT

We use data from a leading platform for online freelance labour

- Similar to [Demirci et al., 2023; Hui et al., 2023; Liu et al., 2023; Qiao ym., 2023]

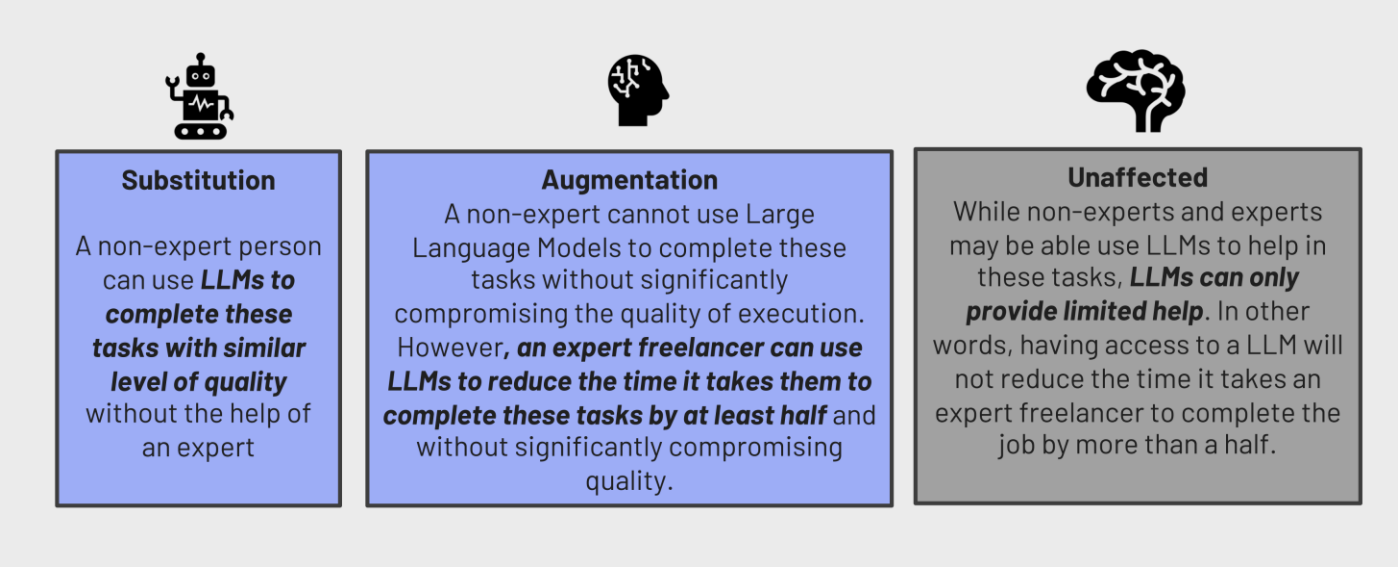
The transactions on the platform are performed on a freelance basis, and the deliverables of the work are delivered digitally

We expect that the frictions related to GenAI adoption are much smaller in platform labour compared to traditional labour markets

Classification of job postings

1) We use the metadata on jobs combined with a transformer model to group similar job postings into clusters -> 208 clusters

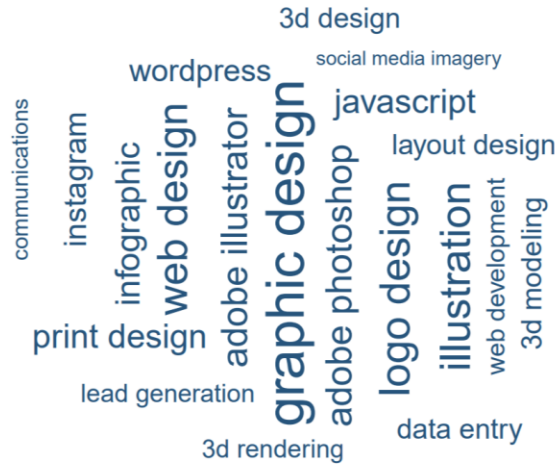
2) We then label each cluster into one of three classes based on the expected impact of GenAI (based on Elondou, et al. 2023)

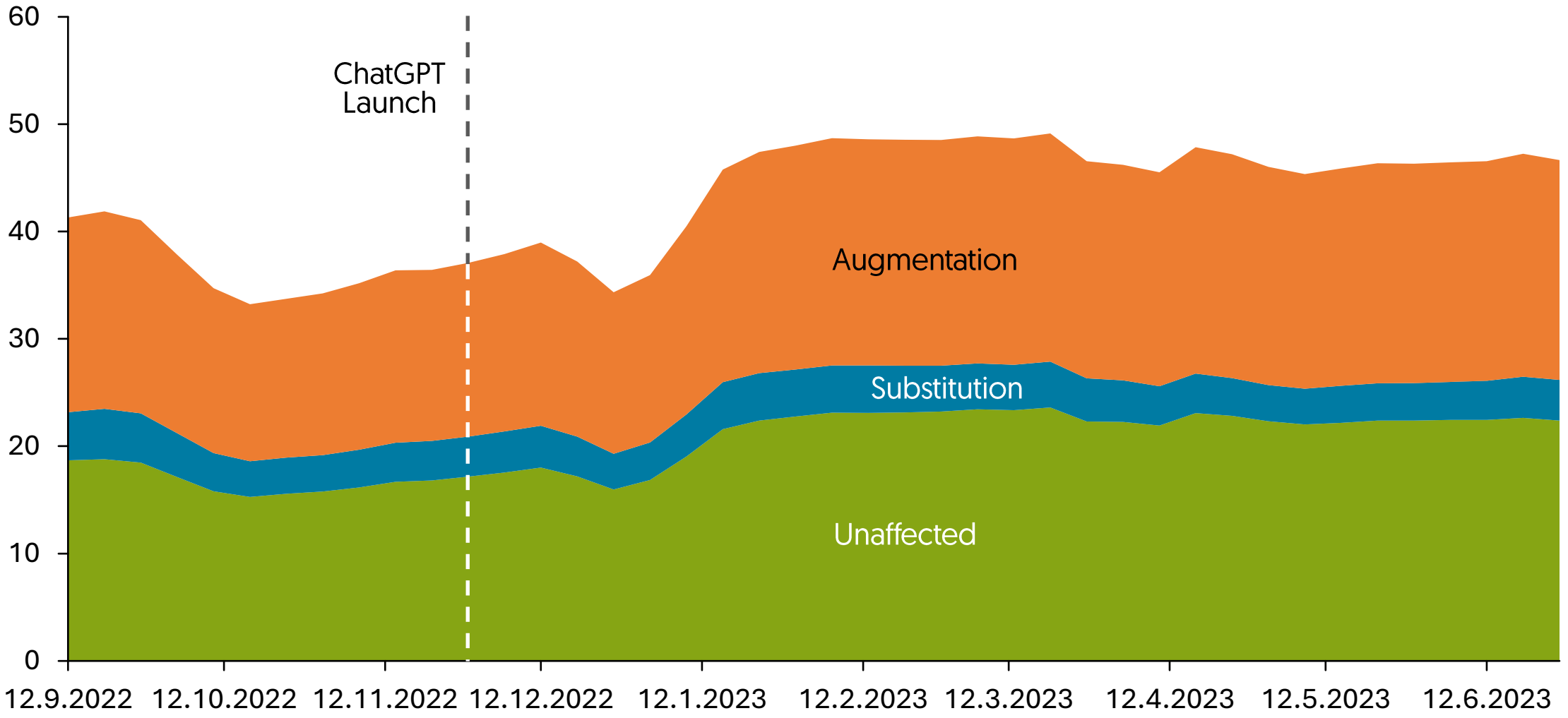


Substitution

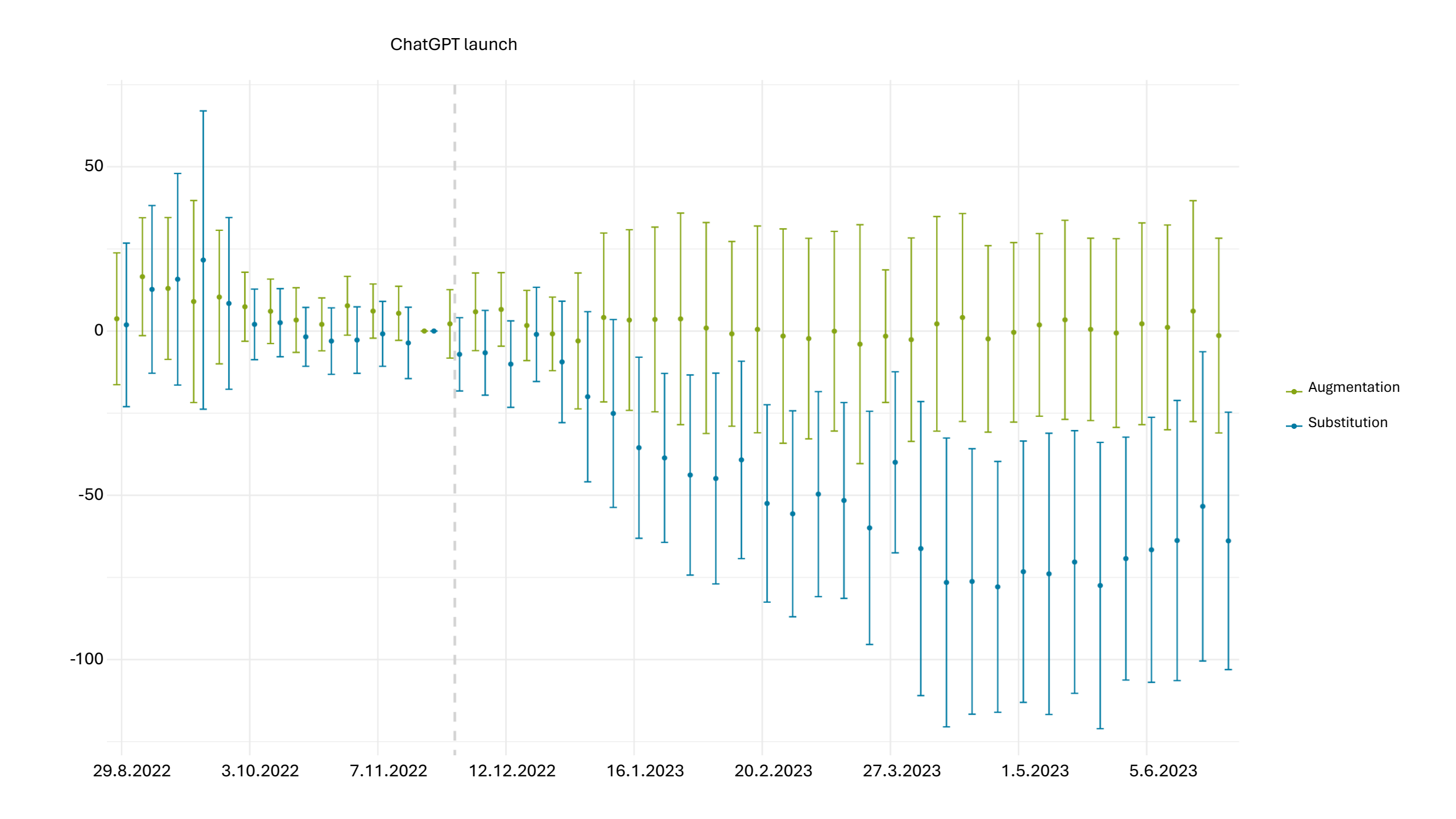
Augmentation

Unaffected





New jobs per week (1,000); 3 week moving average


ChatGPT launch
50
0
-50
-100
29.8.2022
3.10.2022
7.11.2022
12.12.2022
16.1.2023
20.2.2023
27.3.2023
1.5.2023
5.6.2023
Augmentation
Substitution

Changes by cluster (relative to unaffected)

	Change (jobs per week within cluster)	Important skills (examples)
10% with the largest reduction	-90	*translation, seo, localisation, adcopy*
. . . .	. . . .	
10% with the largest increase	+43	*artificual intelligence, chatgpt, api integrations, analytics, database develpoment, chatbot development, mobile development, project management, human resources*

Conclusions

The release of ChatGPT did not reduce overall labor demand.

- In fact, labor demand increased more in clusters that did not face direct GenAI competition and in jobs that benefited from GenAI

Largest negative effects were found for jobs related to translation and the production of simple texts

- These jobs constitute only a small fraction of the labour market as a whole

Our findings not support the narrative of widespread human job loss due to Generative AI

- Naturally, our results only apply for the current generation of artificial intelligence models – future might be different