



Campaign for AI Safety submission to AI Foundation Models: Initial Review May 2023

This submission is made by the Campaign for AI Safety to inform the Competition and Markets Authority's (CMA) initial review into the competition and consumer protection impacts of foundation models. As requested, we have focussed our submission on providing information. For our policy recommendations, please visit <https://www.campaignforaisafety.org/policy-recommendations/>. We trust that this submission is of assistance to the CMA. Please do not hesitate to contact us to discuss this submission.

1. How the competitive markets for foundation models and their use could evolve

The UK¹, US², China³, EU⁴ and other jurisdictions are starting to take action in different ways to mitigate AI's potential for massive and hard-to-reverse externalities (information asymmetry, preferences revealed by consumers, discrimination, copyright infringement, environmental impact of training foundation models).

How the market for foundation models evolves will depend on the regulatory approach. If the EU's risk-based approach is adopted, it may encourage innovation towards AI systems that pose little risk of harm, similar to how product safety legislation has increased innovation in safer products⁵. A self-regulation/voluntary approach may lead to "periods of dynamism and of 'a thousand flowers blooming' [which] can be followed by increased concentration of market power and consumer dissatisfaction or harm"⁶. This has been the case for digital markets which are characterised by vertical integration and durable market power⁷.

Foundation models' generative capabilities have the potential to be broadly applied throughout the economy⁸. This could lead to economies of scope in multiple markets which will give rise to competition concerns. There is empirical evidence that AI investment is associated with increased industry concentration, and higher AI adoption and larger gains

¹ <https://www.gov.uk/government/news/pm-meeting-with-leading-ceos-in-ai-24-may-2023>

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<https://www.whitehouse.gov/ostp/news-updates/2023/05/23/fact-sheet-biden-harris-administration-takes-new-steps-to-advance-responsible-artificial-intelligence-research-development-and-deployment/>

³ http://www.cac.gov.cn/2023-04/11/c_1682854275475410.htm

⁴ <https://artificialintelligenceact.eu/>

⁵ https://media.nesta.org.uk/documents/the_impact_of_regulation_on_innovation.pdf

⁶ AI Foundation Models: Initial review page 2

⁷ <https://www.accc.gov.au/system/files/Digital%20platforms%20inquiry%20-%20final%20report.pdf>

⁸ [https://www.europarl.europa.eu/RegData/etudes/ATAG/2023/745708/EPRS_ATA\(2023\)745708_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/ATAG/2023/745708/EPRS_ATA(2023)745708_EN.pdf)

from AI investments for larger businesses⁹. Competition regulators may need to step in to control pricing (similar to electricity and gas transmission).

2. What opportunities and risks these scenarios could bring for competition and consumer protection

2.1 There is little private incentive to prioritise responsible development and safety testing which could lead to very harmful outcomes for consumer protection

Data quality assurance is a significant issue for AI software¹⁰. If the market for foundation models evolves to become intensely competitive, there may be even less incentive to develop responsibly. Businesses may prioritise ‘first mover’ advantages with rushed releases that harm consumers. Speed of release could come at the expense of rigorous testing, resolving safety defects, and ensuring data accuracy and quality. Safety issues with AI foundation models could also cause physical harm. For example, serious risks are posed to customers and third-parties if models are used in hospitals, air traffic control, driverless passenger vehicles, or defence.

The ‘black box’¹¹ problem of foundation models is very concerning for consumer protection because it is not clear to users, regulators or suppliers how AI systems actually work. Furthermore, users do not know the methodology or reasons behind AI systems’ decision-making and actions. The risks are overconsumption of harmful products and businesses not knowing when they are not complying with regulation and laws, and infringing on consumer rights.

The industry has indicated it is unable to adequately ensure it can innovate while minimising the harms. OpenAI has called for government intervention in the form of safety standards, testing and independent auditing of models pre-deployment¹². Geoffrey Hinton, a computer scientist whose pioneering research has led to the rapid development of foundation models, quit Google and now advocates for government regulation and industry to develop AI responsibly¹³. Google similarly supports intervention to mitigate harms¹⁴.

2.2 Businesses can limit access to foundation models to restrict competition in other markets

Incumbents currently commercialise foundation models by selling access through API but not all are granted access. For example, there is a waitlist for GPT-4 which asks for specific information about intended use. If a player like OpenAI were to retain significant market power, it would be in a position to greatly influence competition in downstream or related markets. Even more concerning is that AI can exhibit significant economies of scope and be

⁹ https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3651052

¹⁰ https://fra.europa.eu/sites/default/files/fra_uploads/fra-2019-data-quality-and-ai_en.pdf

¹¹ [Ada Lovelace Institute - Examining the Black Box Report 2020](https://www.ada-lovelace-institute.org.uk/examining-the-black-box-report-2020)

¹² <https://www.theguardian.com/technology/2023/may/16/ceo-openai-chatgpt-ai-tech-regulations>

¹³ <https://womenlovetech.com/the-godfather-of-ai-quits-google-to-express-concerns-about-ai-risks/>

¹⁴ <https://www.theguardian.com/technology/2023/apr/17/google-chief-ai-harmful-sundar-pichai>

used across multiple markets, this could lead to foundation model businesses becoming de facto conglomerates. This could result in high prices, lower quality goods or services, consumer detriment and make entry by new businesses very difficult, greatly reducing competition in the UK. We have seen this played out in digital markets whereby online platform businesses leverage market power into downstream markets using their platform and giving preferential treatment to third party suppliers¹⁵.

2.3 Businesses can engage in unfair trading practices such as collusion and personalised social manipulation which reduces competition and diminishes consumer welfare

We refer to the CMA's 2021 analysis¹⁶ on how algorithms can facilitate tacit collusion and shape consumer behaviour towards outcomes that favour businesses at the expense of consumer welfare.

On collusion, there is a 2015 case involving the pricing of posters in Amazon Marketplace by UK and US sellers promising not to undercut each other¹⁷. The automated software used in this case may seem simple now but it demonstrates the potential for more powerful AI to engage in sophisticated collusion. It may be challenging for regulators to detect and collect evidence to prove AI-generated collusion.

On consumer protection, the Australian Consumer and Competition Commission's investigation into digital platforms¹⁸ has uncovered disturbing examples of altering "choice architecture" to take advantage of consumers. As foundation models become more sophisticated and readily available, there is great potential for consumers to suffer even greater information failures and erode confidence and trust in the economy.

2.4 Intensive competition for talent is diminishing shared knowledge and education as public goods

While scientific knowledge is a public good, the very high wages offered by AI labs to attract talent to privately develop foundation models is depriving the public sector and society of new knowledge.¹⁹ These models are developed without the vital insights being made public, even as patents. We suggest addressing this problem by increasing remuneration to retain talent in the public sector and academia, without having to match the extremely high salaries offered by the big tech businesses. This will allow small players and new entrants access to fundamental knowledge that would otherwise be locked away by the biggest players, a vital precondition for healthy competition. It will also help ease the 'brain drain' from universities and the public sector.

¹⁵ https://ec.europa.eu/commission/presscorner/detail/en/ip_19_4291

¹⁶ [Algorithms: how they can reduce competition and harm consumers](#)

¹⁷ [United States, 'Plea Agreement', filed in United States of America v David Topkins, CR 15-00201 WHO, 30 April 2015 \(https://www.justice.gov/atr/case-document/file/628891/download\)](https://www.justice.gov/atr/case-document/file/628891/download)

¹⁸ <https://www.accc.gov.au/system/files/Digital%20platforms%20inquiry%20-%20final%20report.pdf>

¹⁹ Samuelson, P.A., 1954. The pure theory of public expenditure. Rev. Econ. Stat. 36 (4), 387–389.

3. Which principles can best guide the ongoing development of these markets so that the vibrant innovation that has characterised the current emerging phase is sustained, and the resulting benefits continue to flow for people, businesses and the economy

The potential for massive and hard-to-reverse externalities from reckless model releases (such as misinformation, environmental impacts and disclosure of vulnerabilities of key infrastructure) suggests the need for regulatory changes to resolve this potential market failure while maintaining an open and competitive market. Perverse incentives should not be allowed to distort this valuable emerging market away from its current positive role in the economy.

We support the five principles set out in the UK Government's AI White Paper but we especially urge the CMA to remain cognisant of its impacts on safety, security and robustness principle. Many leading AI researchers and AI lab co-founders have made public their concerns about AI's most severe risks and want regulation to make this technology safer for consumers.

About the Campaign for AI Safety

The Campaign for AI Safety is a not-for-profit association with members from around the world. We are an association of people who are concerned about the dangers AI poses to humanity and advocate for a stop on the advancement of AI capabilities and stronger regulation that prioritises safe and responsible AI. We are not affiliated with any political or commercial group. For more information, and to read our policy recommendations, please visit www.campaignforaisafety.org.