AI Economics Institute (AIEI) – Prospectus

The AI Economics Institute (AIEI) is a joint research organisation of HM Treasury and the Department for Science, Innovation and Technology.

The Institute has published its initial prospectus outlining how the AIEI will look to structure its research, focused on two main areas. First, it will build and analyse the evidence base on AI's economic impacts, developing data infrastructure, measurement frameworks and empirical research to better understand how AI affects productivity, labour markets, and trade. Second, it will develop economic models and scenarios to assess how these impacts may evolve, supporting robust and resilient policy decisions under uncertainty.

In support of these functions, the Institute will engage closely with partners across government, industry and academia, acting as a focal point for collaboration and ensuring its analysis is timely, policy relevant and actionable.

This prospectus sets an initial research outlook. It will evolve as AI capabilities develop, evidence accumulates, and new policy questions emerge.

If you have questions about the AI Economics Institute, or are interested in working for the AIEI, please get in touch at AIEI@dsit.gov.uk.

Introduction

1.1 The AI Economics Institute (AIEI) is a joint research organisation of HM Treasury and the Department for Science, Innovation and Technology. Its purpose is to build the evidence base and analytical capability needed to understand AI's economic impacts.

1.2 The range of plausible economic outcomes from AI is wide. AI is widely expected to raise productivity, but evidence of firm-level or aggregate effects remains limited. How AI capabilities translate into economic effects depends on adoption, adjustment and reallocation processes that are not yet well understood.

1.3 Important dimensions of AI's economic impacts include:

- Productivity – AI is expected to raise productivity through a range of channels, including capital deepening, acceleration of science and innovation, and augmenting human skills. Evidence of firm-level or aggregate effects is currently limited, though, and the extent of future translation into measured productivity gains remains uncertain. Important questions include the role of complementary investments in skills, management practices and organisational change, and how gains are distributed across firms and sectors.
- Labour markets – AI can extend human judgement, accelerate skill acquisition, and free workers from repetitive tasks. AI may affect workers through multiple routes: altering demand for skills, augmenting or automating roles, and creating entirely new roles. How these effects play out across occupations, income groups, regions and demographics, and how effectively workers reallocate new opportunities, will shape whether AI delivers broad-based benefits or concentrates gains narrowly.
- Firms and market structures – AI is likely to change existing business models, disrupting existing firms and creating opportunities for new businesses in the tech sector and beyond. These include more efficient production of existing goods and services, and entirely new products – for example, arising from the use of AI to support science and innovation. These dynamics have the potential to significantly raise output, but the overall impacts will depend on a range of factors, such as the nature of new business models, the speed of transition, and competition and pricing power.
- Trade and international competitiveness – the UK economy has strengths in services and cognitive tasks that AI is likely to affect, and a strong science and technology ecosystem. It is also a net importer of AI services and infrastructure. Outcomes for the UK will depend on how value is created and captured across sectors and the AI supply chain, and how economic resilience is preserved.

Role of AIEI

1.4 The potential scale and pace of change demands a dedicated analytical capability inside government.

1.5 The AIEI will perform two core functions, prioritising its work within this scope to ensure maximum impact:

- Build and analyse the UK evidence base: developing the data

infrastructure, measurement frameworks and empirical research needed to establish an evidence-based picture of AI's economic effects as they develop;

- Develop models and scenarios: connecting potential pathways for AI's development and adoption to economy-wide outcomes, testing assumptions, and ensuring policy conclusions are robust to the uncertainty that remains.

1.6 The AIEI will focus on priorities where it has a comparative advantage, as a research institute sitting at the heart of government. It will seek to avoid duplicating work that can happen equally well (or better) elsewhere, for example, in wider academia or the private sector.

1.7 It will ensure that its research agenda is shaped by live policy questions and that its outputs inform policy development. It will also engage widely with academia, business and civil society, both to inform its work and to contribute to public understanding of AI's economic effects.

Priorities

Building and analysing the evidence base through data, measurement and empirical research

1.8 Current estimates of AI's potential economic impacts focus largely on occupational exposure, assessing which tasks AI might be able to perform. These are useful for identifying where the economy may be most affected and how skill demands may shift. A fuller picture requires evidence on the extent and nature of actual deployment, and how deeply AI is integrated into how firms operate.

1.9 The Institute will build the data infrastructure needed to track AI's economic impacts, working with stakeholders across government and the private sector, and use it to establish a clear picture.

1.10 AIEI will prioritise:

- Data strategy and governance: (i) clearly articulating data requirements and the use-cases they serve; and (ii) establishing a coherent framework for prioritising data investments, managing data quality and ensuring robust legal, ethical and security standards across all data the institute holds or accesses.
- Data access and linking: (i) identifying and consolidating the key statistics, survey and administrative data sources needed to track AI's economic effects, and identifying where gaps remain; (ii) exploring ways to fill gaps including through access to private sector proprietary data, such as data on AI model usage and deployment patterns; and (iii) exploring opportunities for innovative linking of public and private sector data sources.
- Monitoring infrastructure: building the data assets and pipelines needed to identify emerging developments quickly, including collating regular indicators and providing cross-government dashboards on AI adoption and economic impacts. This should include distributional impacts across demographic groups, regions and sectors.

- Measurement and statistics: supporting the ONS on their work on measurement frameworks and challenges for AI's economic effects (including quality adjustment, intangible investment and services output), helping to develop and advocate for improved measurement frameworks where applicable. As part of this, AIEI will also support HMT, DSIT and other government departments to be informed customers and articulate the user-needs those statistics should serve.
- Empirical research: establishing and maintaining an evidence-based picture of AI's economic effects as they develop, and deepening the understanding of the mechanisms driving them. This will include primary evidence generation, such as studies to measure the impacts of adoption and usage, as well as analysis of existing data and research. Priority questions include:
    - How is AI being adopted across firms, sectors and regions in the UK, and what determines the pace, pattern and depth of adoption?
    - What are the effects on productivity, and through what channels do they operate?
    - What determines whether AI's productivity potential is realised at the firm and sector level, and how are productivity gains distributed?
    - How are workers affected, including through changes in task compositions, augmentation and automation, wages and the reallocation of labour, and how does this change over time?
    - How do effects on labour markets / workers vary across education/skill levels, occupations, income groups, regions and demographics, and what are the conditions for pro-worker AI?
    - How is AI affecting the distribution of returns between capital and labour, and what does this mean across the income distribution/for households?
    - How is AI affecting market structure and concentration, including firm entry and exit, and the distribution of profits across firms?
    - How does AI affect the UK's trade and international competitiveness, through firm-level productivity effects, the impact on high-value sectors, and through wider macroeconomic channels including the balance of payments?

Developing models and scenarios to connect technology paths to economic outcomes

1.11 The Institute will develop modelling approaches that can incorporate evidence as it emerges, whilst testing and improving assumptions. It will also account for uncertainty and a wide range of alternative outcomes.

1.12 Existing models have made important progress but tend to rely on untested assumptions about how AI capabilities translate into economic effects including the pace and depth of adoption, substitution elasticities, labour reallocation, and demand responses. Results can be highly sensitive to these assumptions, and the range of plausible economic outcomes from AI therefore remains wide.

1.13 AIEI will prioritise:

- Theoretical and modelling frameworks: developing modelling capability that connects assumptions about AI development and adoption to economy-wide outcomes, the key assumptions driving current estimates of AI's economic impacts, and how sensitive results are to those assumptions.
- Collaboration: bringing together economic modelling expertise with technology foresight and scenario planning capability (working with GO-Science, AISI, the Bank of England and others).
- Scenario development: producing policy-relevant scenarios across short, medium and long-term horizons. This includes exploring different ways in which the economy might adjust, not just different speeds of adoption. Priority questions include:
    - How might AI capabilities develop in the future, and how could these capabilities translate into the augmentation and automation of existing and new tasks and jobs in the economy?
    - How might firm and worker-level effects aggregate into economy-wide outcomes, and how sensitive are those conclusions to key modelling assumptions, including on substitution elasticities, market adjustment, labour reallocation and demand responses?
    - What is the plausible range of macroeconomic outcomes, including for output, productivity, labour markets, prices and public finances, under different technology and adoption paths?
    - What are the main risks the UK is exposed to, including dependencies on compute, energy, talent and global supply chains?

Engagement and policy

Engagement

1.14 The UK will take an active and strategic role in understanding and responding to AI's economic impacts. The Institute will act as the focal point for engagement with academia, frontier AI firms and wider business, employee groups, international organisations and analytical bodies.

1.15 It will commission high-quality external research in priority areas and foster deep collaboration with the research community. To ensure insights from the UK's experience inform global conversations, the AIEI will publish selected analysis externally where it supports open debate. Further details on external engagement are set out on the Introducing the AI Economics Institute.

Policy

1.16 The Institute is not a policy-setting body. UK government departments are responsible for, and already making, policy decisions in response to AI's development. The Institute's role is to improve the quality and timeliness of the evidence and analysis on which those policy decisions rest and to ensure decisions are grounded in the best available understanding of what is happening, and why. The Institute's research agenda will be shaped by the analytical and evidential questions that arise from government's policy priorities, ensuring its work remains relevant to the decisions that matter most.

HM Treasury contacts

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