

# The Business Trends & Outlook Survey: Tracking Firm AI use in Real Time

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# BTOS Methodology, Collection and Publication

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- Target population: nonfarm employer businesses in US with receipts >\$1,000
- Annual sample of ~1.2M businesses
  - Proportional sample allocation
  - Six bi-weekly representative panels (~200K each)
  - Companies are surveyed once every 12 weeks
  - Weights are adjusted for survey non-response
  - Responses are not edited, imputed
  - Estimates representative of the number of businesses in the target population
- Response rate overall ~14% with email response rate ~30%
- Data collection is open for 2 weeks; publication occurs on the fourth business date after collection closes
- Detailed publication levels
  - National, sector, state, MSA, subsector, employment size class
  - Inclusion of multi-unit firms in survey year 2023 led to multi-state and multi-sector categories

# BTOS AI Content

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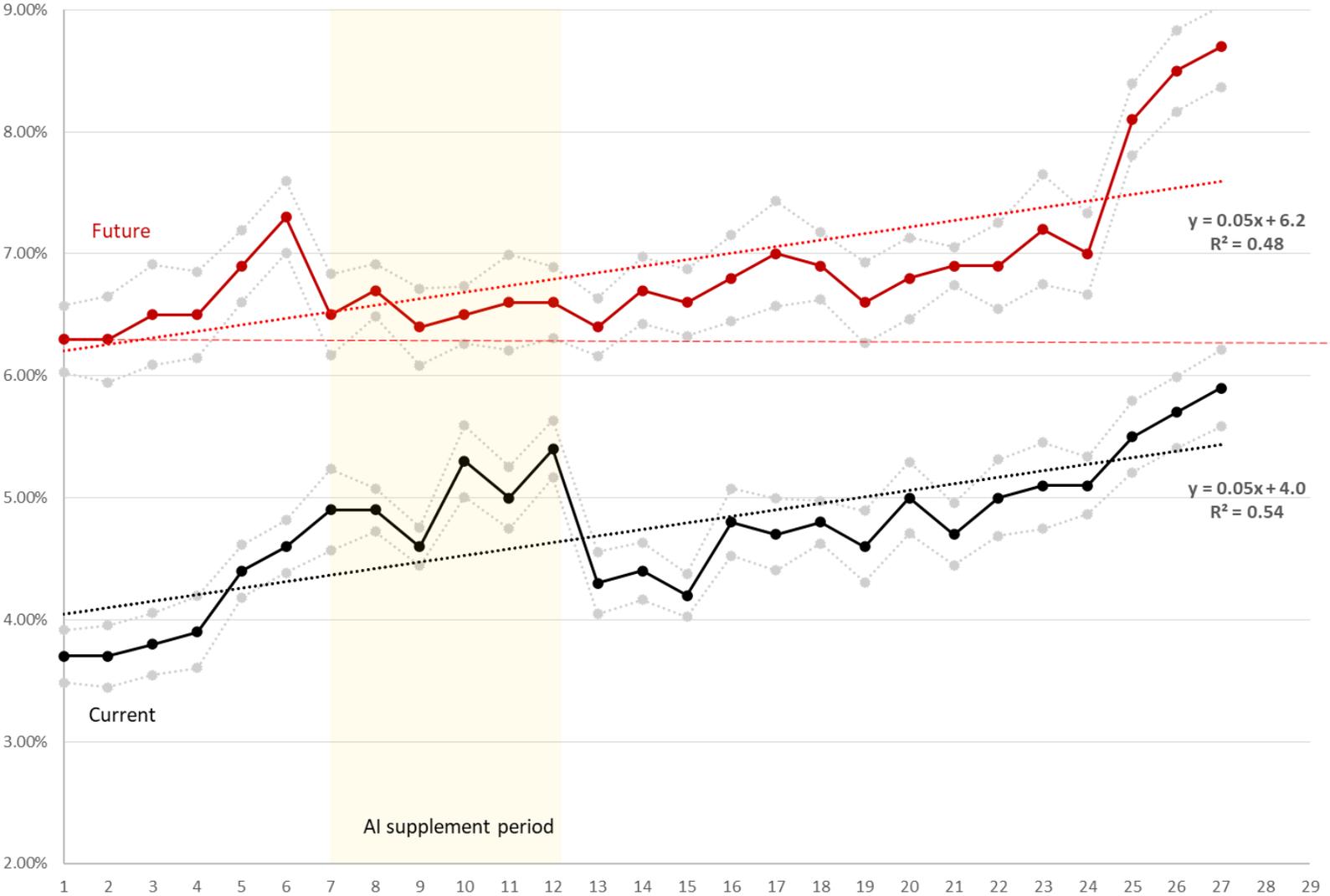
## Core (Sept '23 – ongoing):

- Use AI in producing goods/services in the last two weeks
- Use AI in producing goods/services in the next six months

## Supplement (Dec '23 – Jan '24):

- Last six months and next six months:
  - Type of AI in use (ML, NLP, LLM, etc.)
  - AI replace tasks previously done by workers
  - AI replace tasks previously done by existing software/equipment
  - Number of tasks previously done by workers
  - Impact on total employment
  - Changes in hiring, training, purchases, workflows, etc.
- For future non-adopters - factors that impact decision to use AI

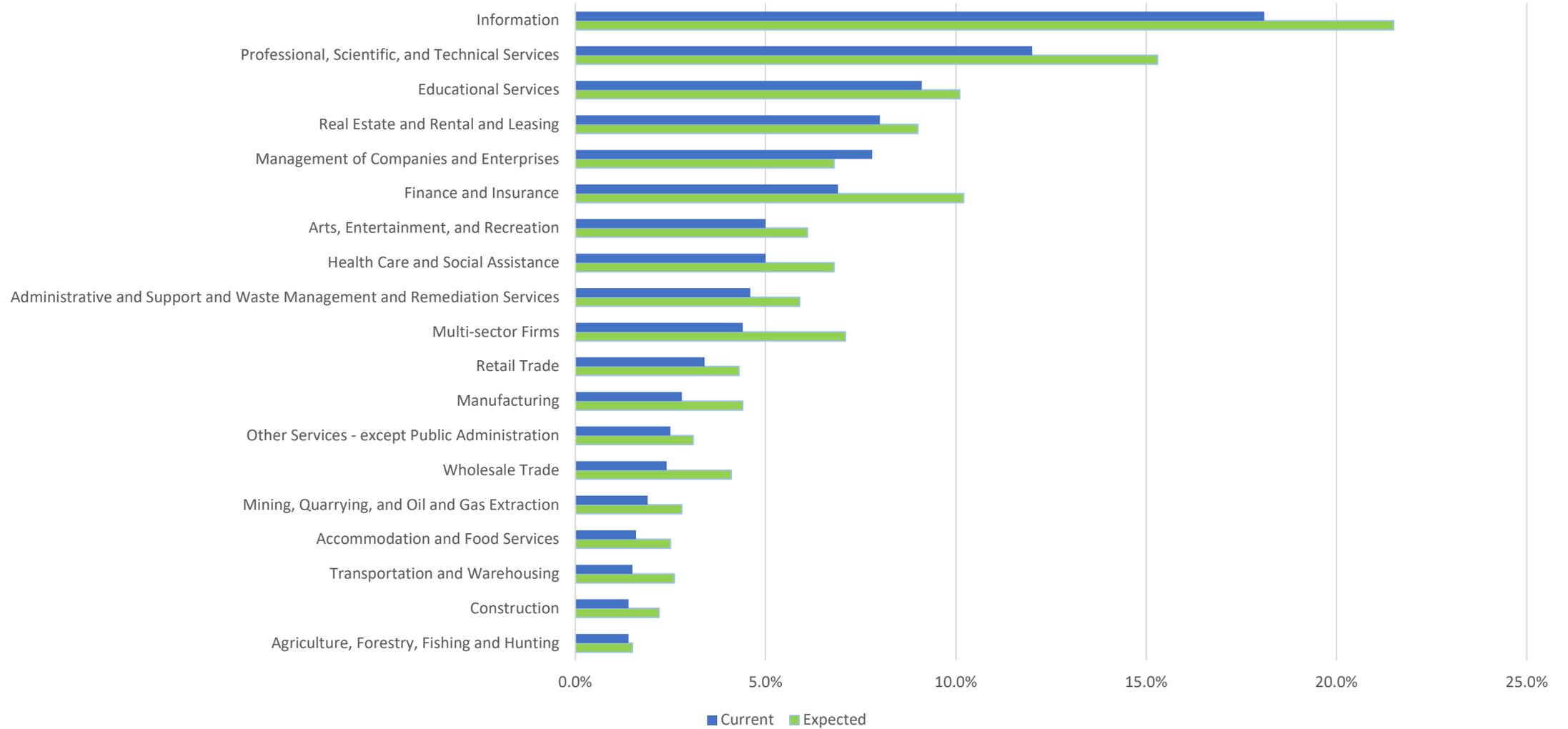
# National AI Use



sept '23

sept '24

# AI Use by Sector

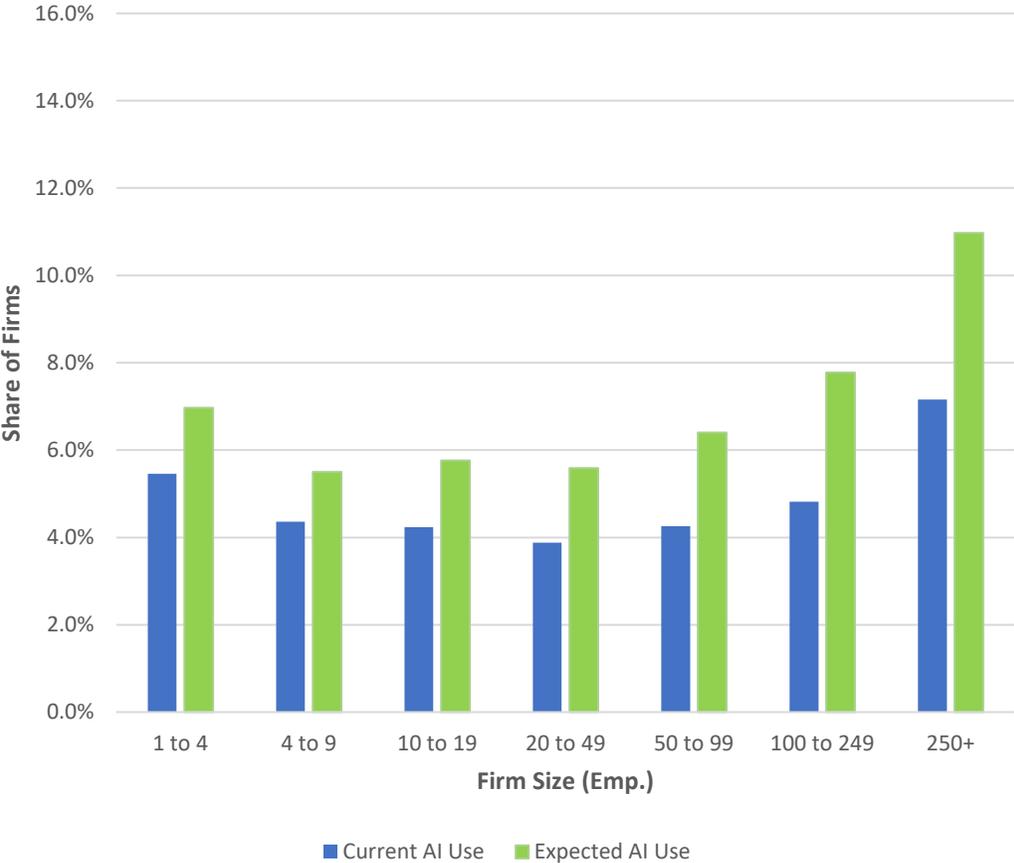


Data Collected 12/4/23-2/25/24 (6 collection periods pooled)

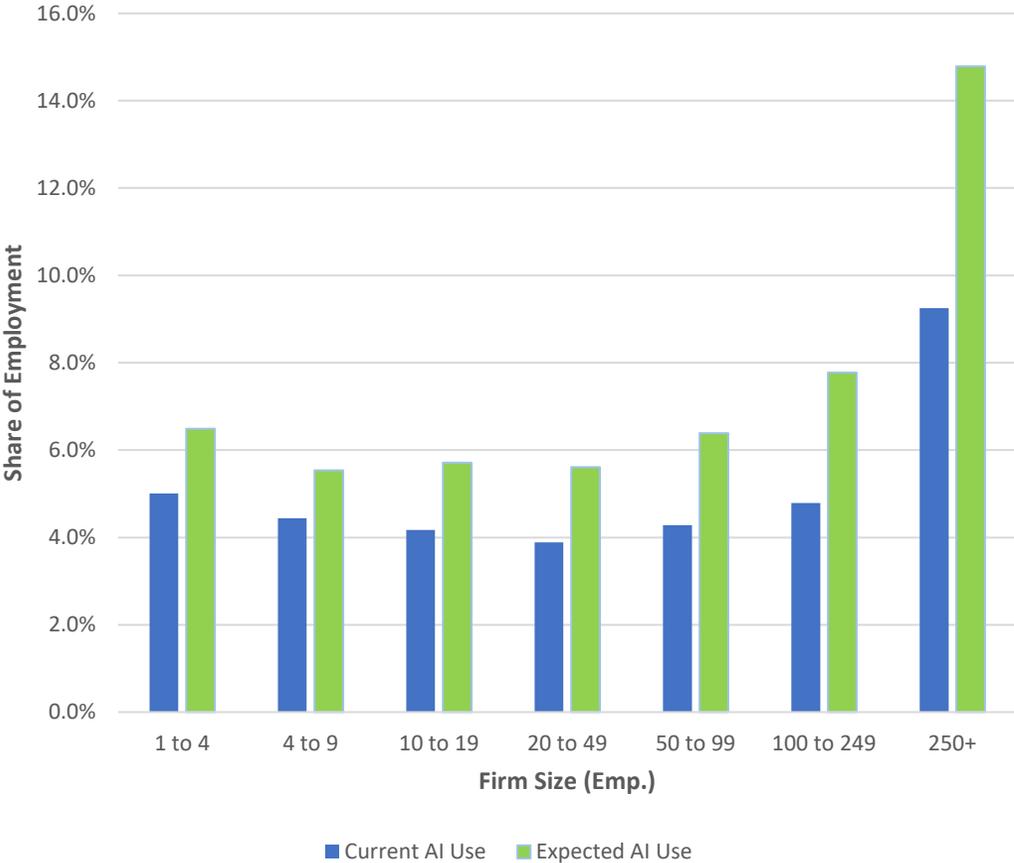
Source: Bonney, et al. (2024)

# AI Use by Employment Size Class

### Firm Weighted



### Employment Weighted

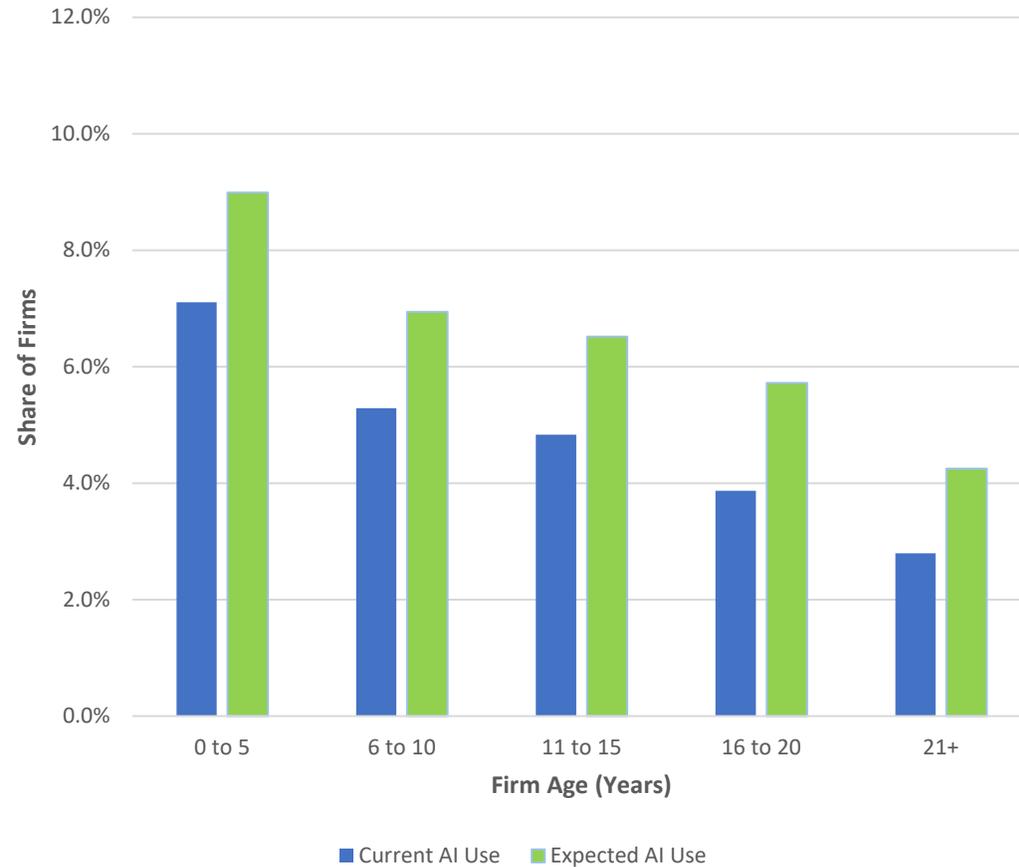


Data Collected 12/4/23-2/25/24 (6 collection periods pooled)

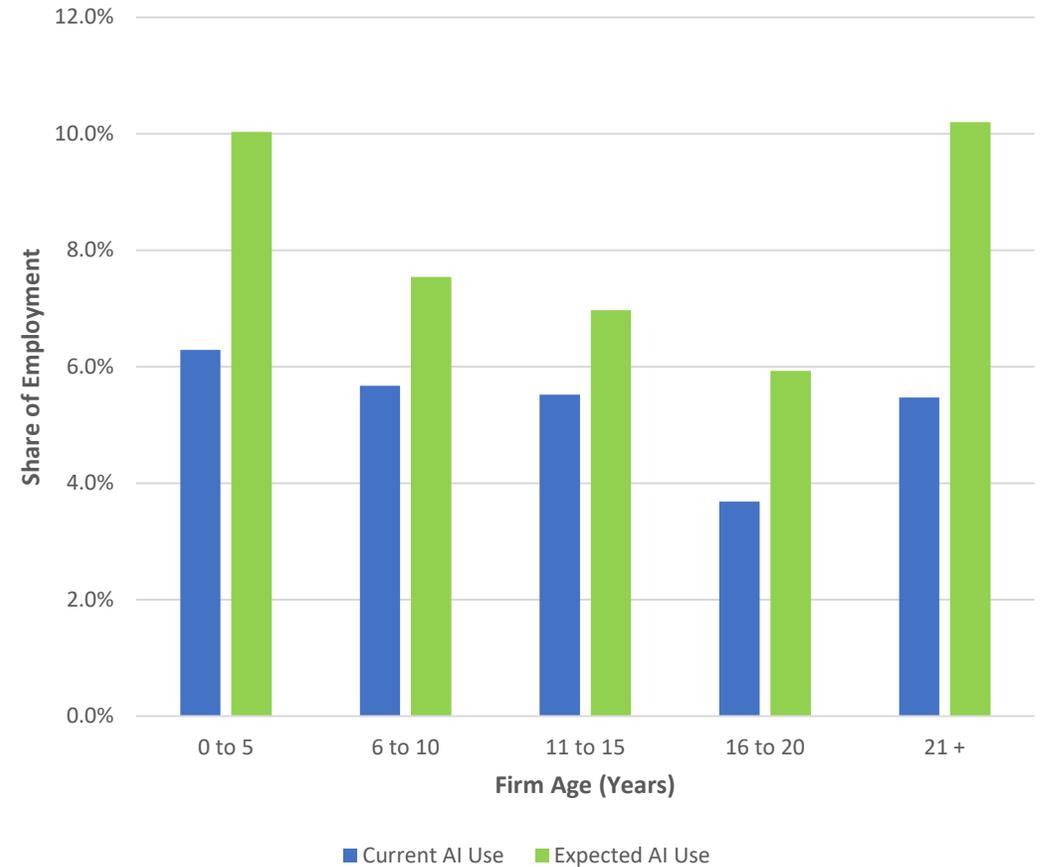
Source: Bonney, et al. (2024)

# AI Use by Firm Age

## Firm Weighted



## Employment Weighted

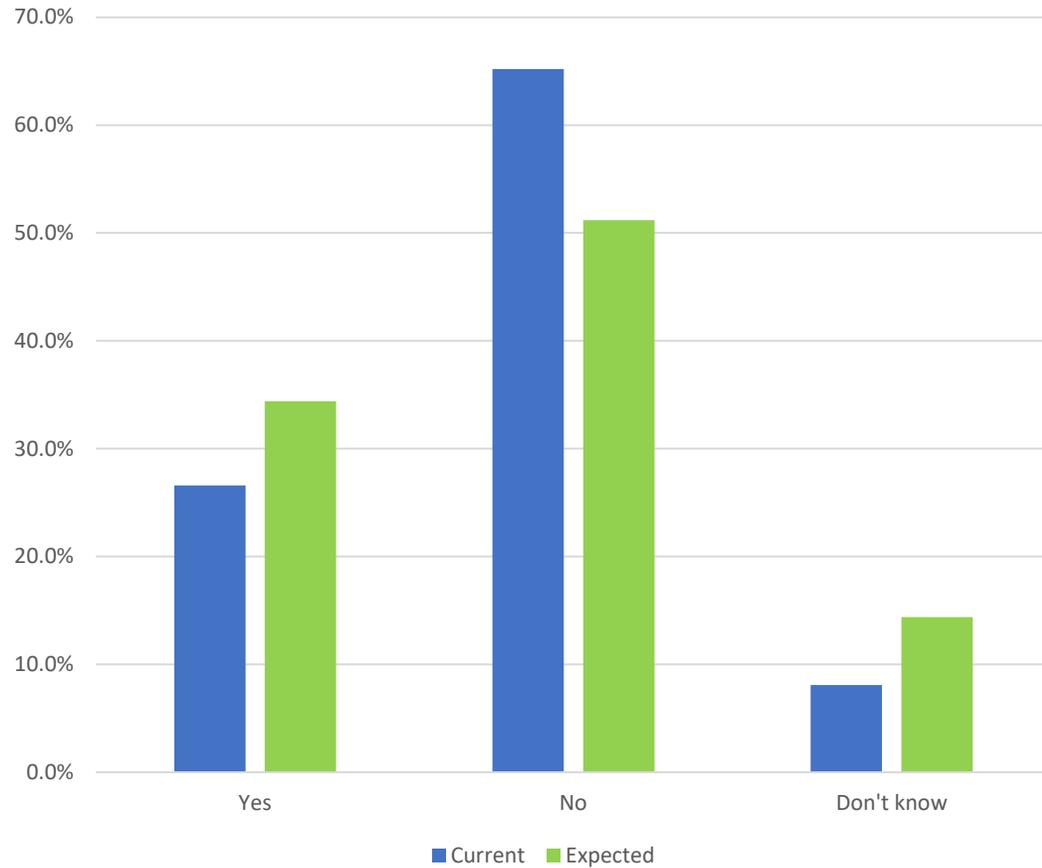


Data Collected 12/4/23-2/25/24 (6 collection periods pooled)

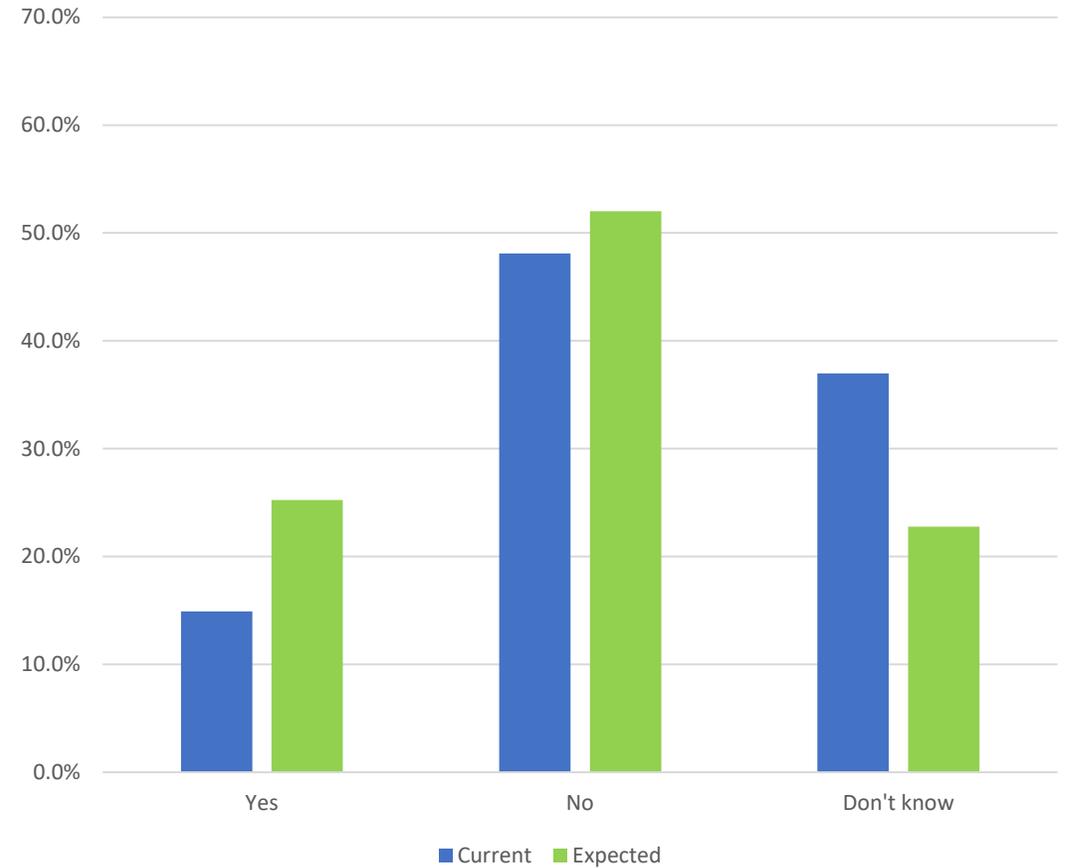
Source: Bonney, et al. (2024)

# AI Use to Replace Worker Tasks

## Firm Weighted



## Employment Weighted

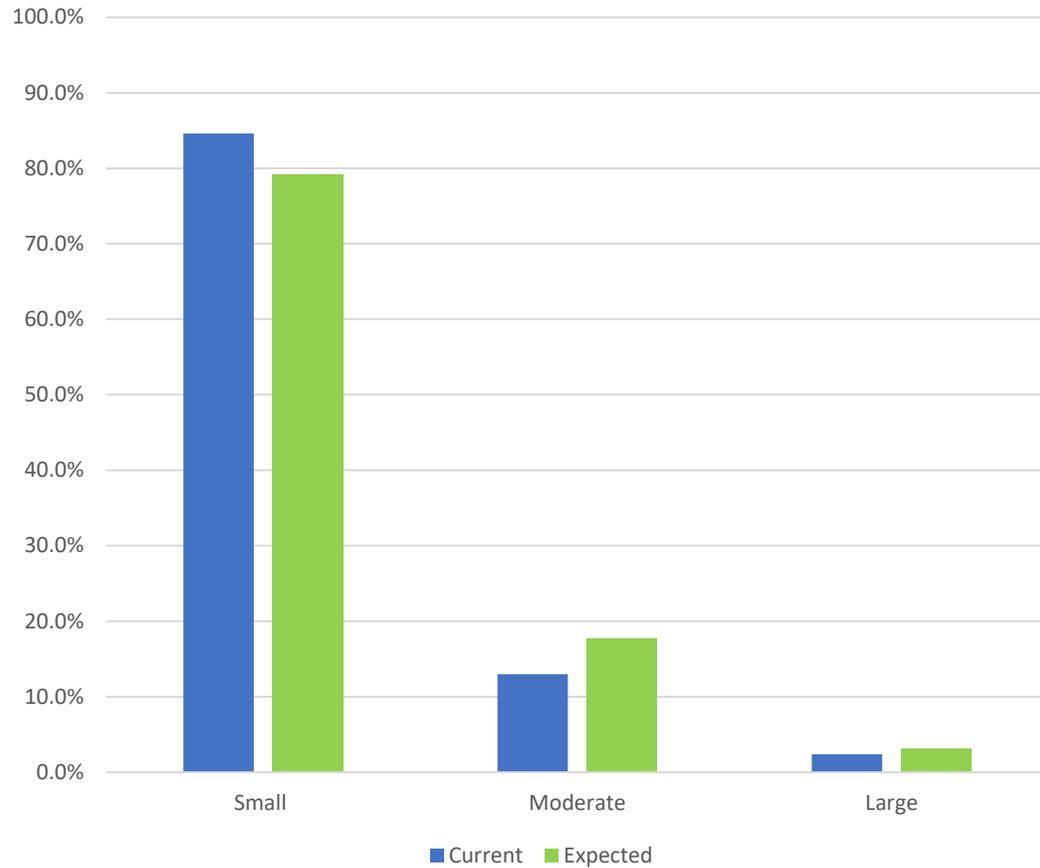


Data Collected 12/4/23-2/25/24 (6 collection periods pooled)

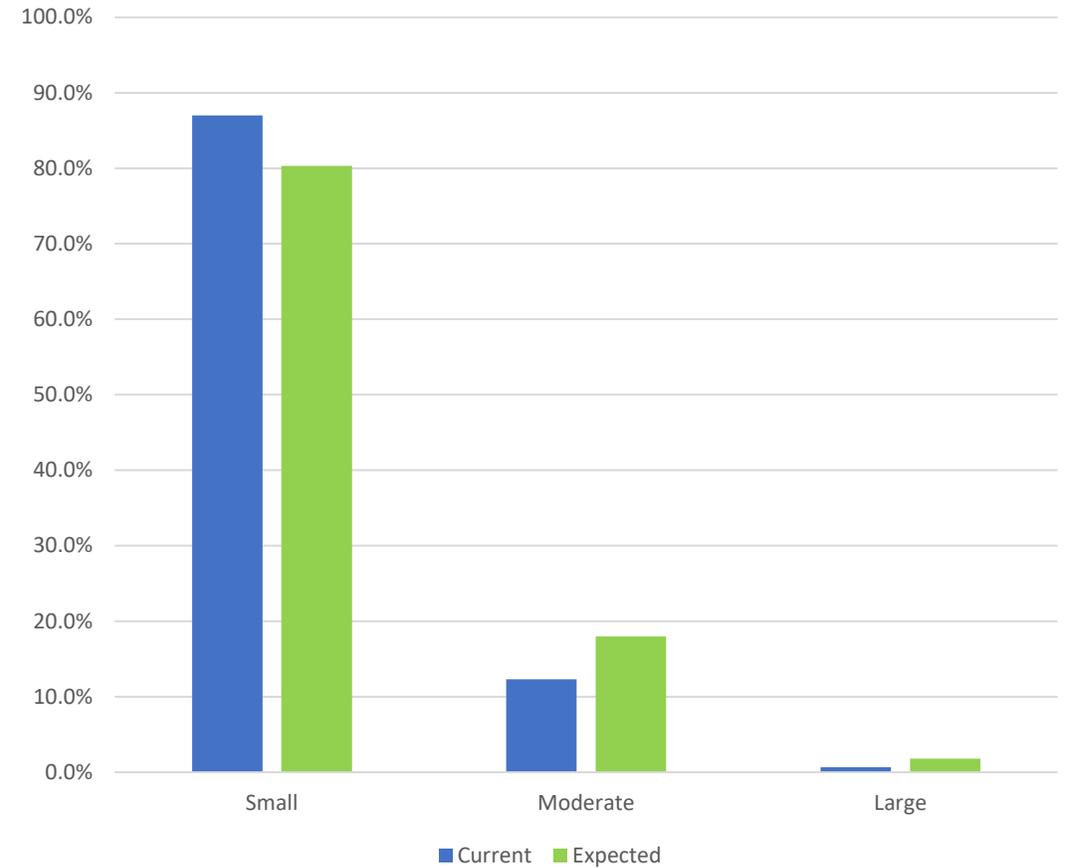
Source: Bonney, et al. (2024)

# Number of Tasks Replaced by AI

## Firm Weighted

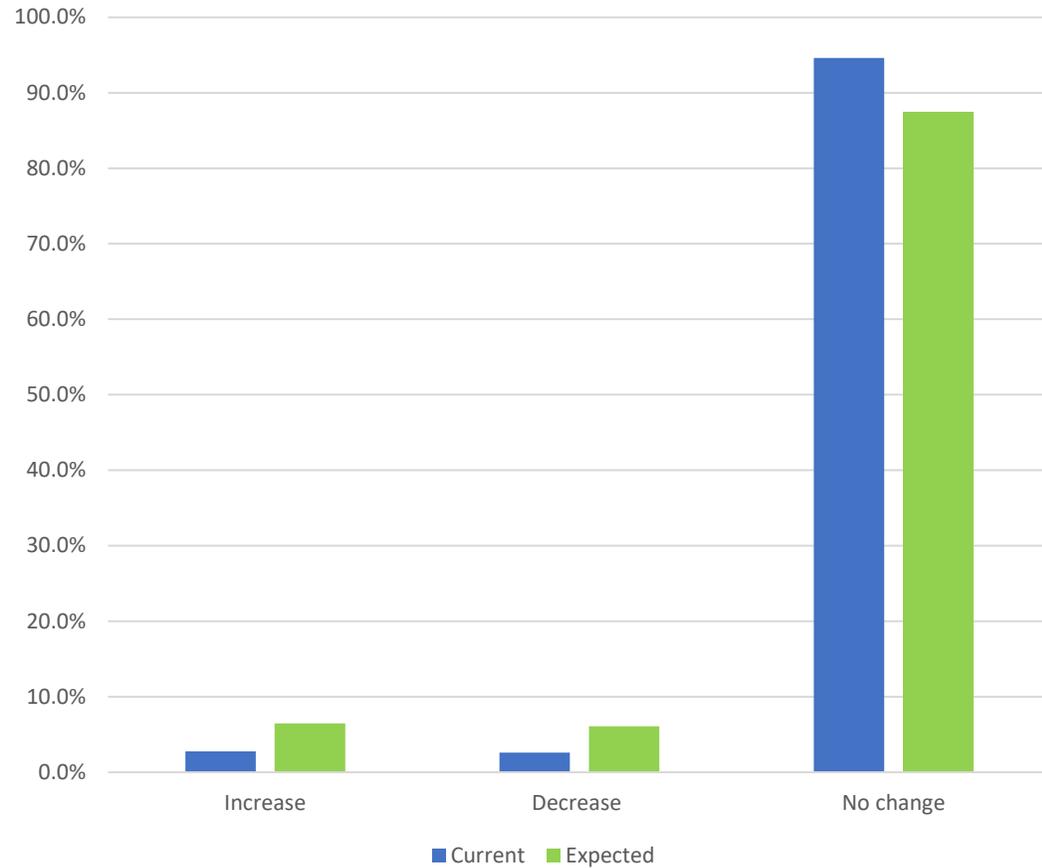


## Employment Weighted

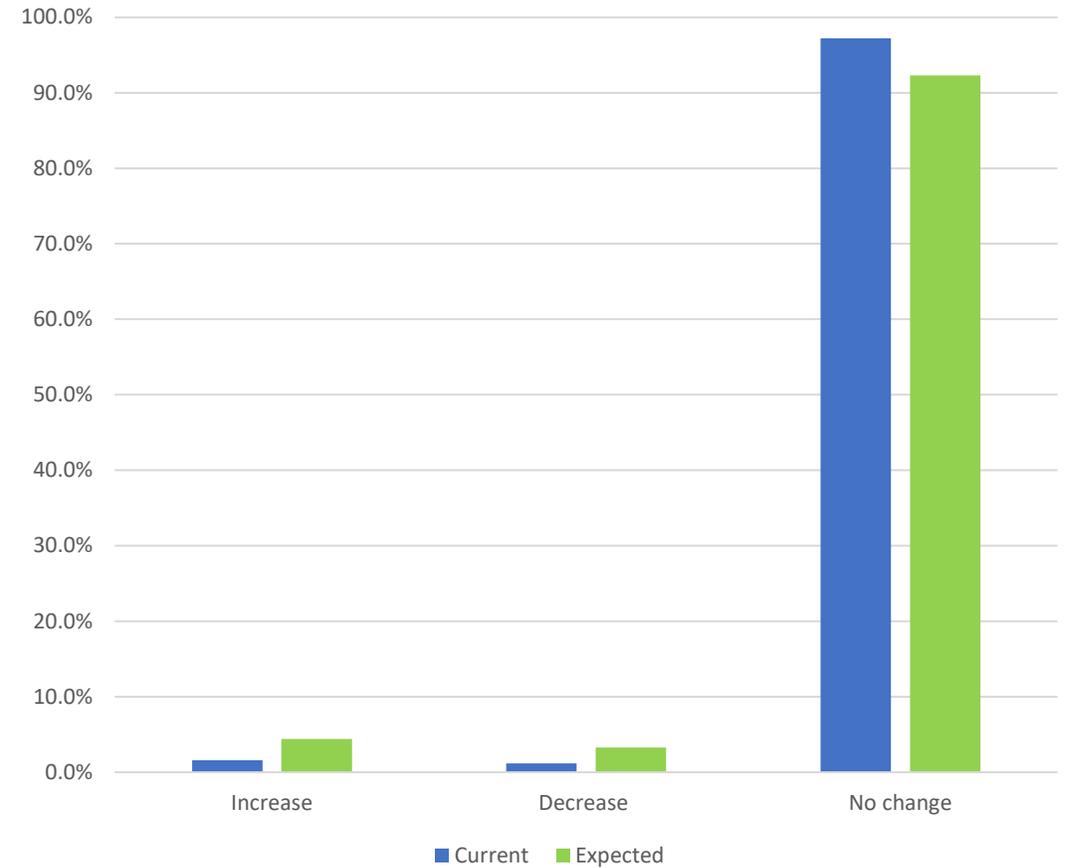


# AI Use to Replace Workers

## Firm Weighted



## Employment Weighted



Data Collected 12/4/23-2/25/24 (6 collection periods pooled)

Source: Bonney, et al. (2024)

# Reasons for Not Planning to Use AI

Reason (sorted by firm weighted responses)	Firm weighted (%)	Employment weighted (%)
AI is not applicable to this business	80.9	76.2
Lack of knowledge on the capabilities of AI	7.3	8.8
Concerns about privacy/security	6.6	8.9
AI is not a mature enough technology yet	6.1	8.1
Other	4.5	5.8
Too expensive	4.1	4.6
Lack of skilled workforce	2.9	3.6
Concerns about bias	2.8	2.6
Lack of required data	2.2	2.4
Laws and regulations prevent or restrict use of AI	1.2	2.5
Previous or current use of AI did not meet expectations	0.9	0.5

# Conclusions & Future BTOS Work

- Conclusions: AI
  - Significant AI use by businesses remains low although with possible rapid growth
  - AI is not applicable to most businesses but large sectoral variation
  - U-shaped results by business size and age suggest that some AI applications may be general purpose without large fixed costs
  - Businesses are more likely to replace tasks than workers this is (expected) to remain low
- Conclusions: Program
  - Light-touch qualitative surveys can be deployed relatively quickly
  - Partnering with subject matter experts increases value of collection
  - A lot of insight can be gained with relatively low burden collection
- BTOS Future Work:
  - Updating AI Supplement for possible collection '25
  - Work from home supplement Nov '24 / publication March '25

# Papers

Bonney, Kathryn, et al. "Tracking Firm Use of AI in Real Time: A Snapshot from the Business Trends and Outlook Survey." National Bureau of Economic Research, Working Paper No. 32319, Apr. 2024, [www.nber.org/papers/w32319](https://www.nber.org/papers/w32319)

Bonney, K., Breaux, C., Buffington, C., Dinlersoz, E., Foster, L., Goldschlag, N., Haltiwanger, J., Kroff, Z., & Savage, K. (2024). The impact of AI on the workforce: Tasks versus jobs? *Economics Letters*, 111971. North-Holland.