Consensus Economic Forecasting Commission

March 31, 2025

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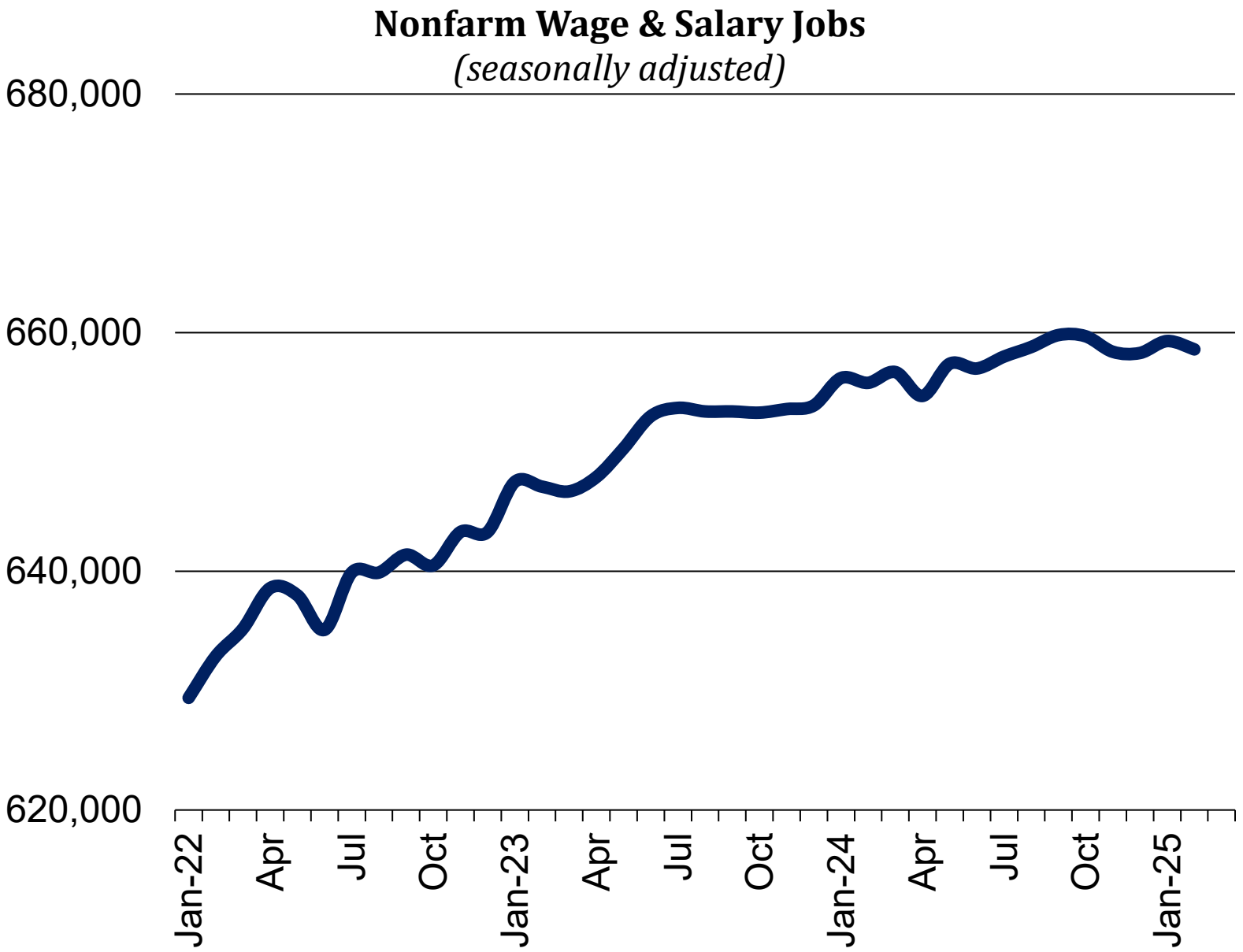
Current Conditions and Workforce Data Revisions

Labor market conditions are stable in the last six months

Both the number of nonfarm jobs and unemployment have not changed significantly through February.

In the four quarters through 2024 Q3:

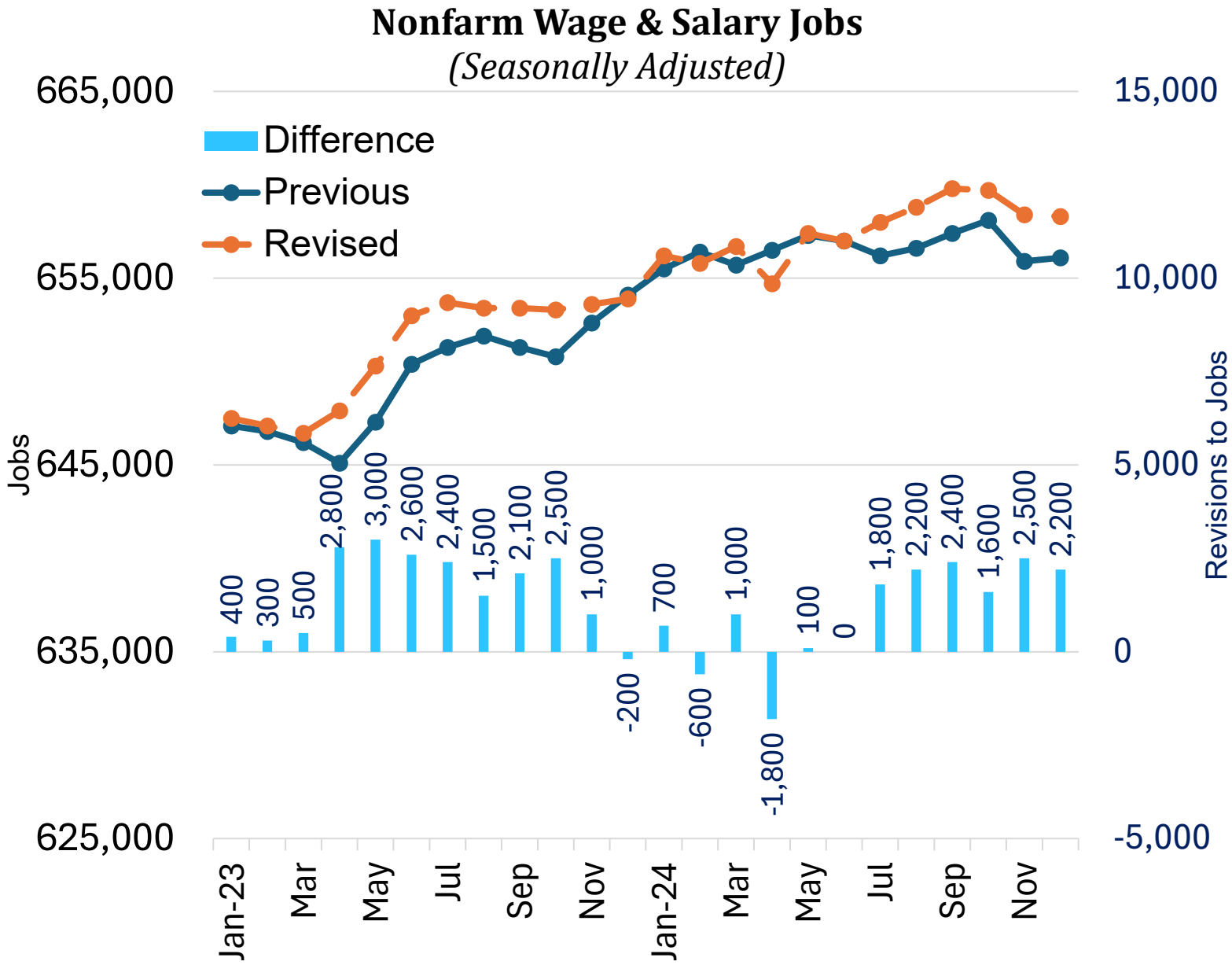
- The average wage per job increased by 4.2 percent over the year (in nominal terms).
- Total wages and salaries increased by 5.7 percent to $40.25 billion



The number of nonfarm jobs was higher throughout 2023 and in the second half of 2024

Revised data indicates there was an average of:

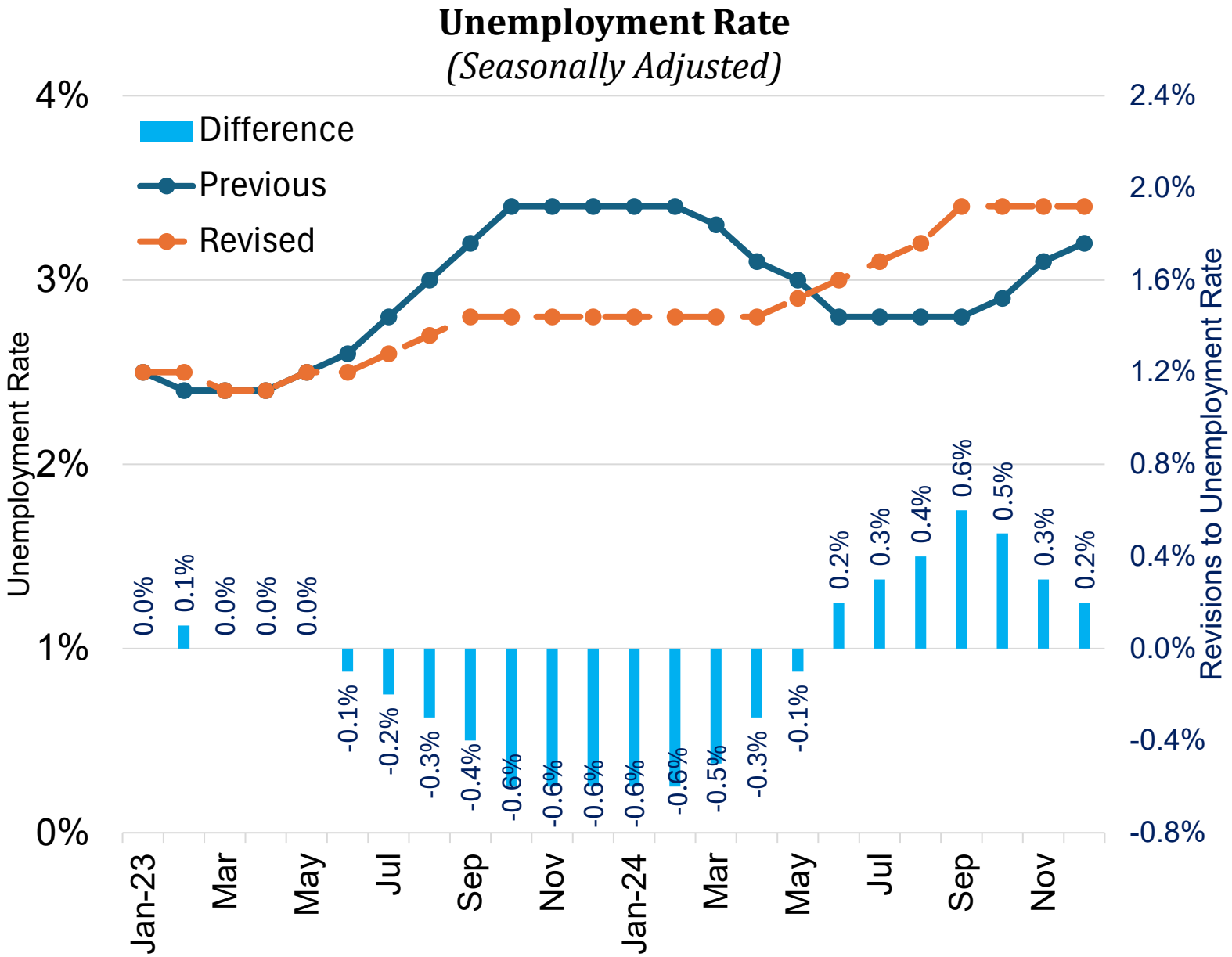
- 1,600 more jobs in 2023 (especially in the middle of the year)
- 1,000 more jobs in 2024 (especially in the second half)



Unemployment was lower through most of 2023 and early 2024; it was higher thereafter

Revised rates indicate unemployment changed little in 2023 and the first four months of 2024 before gradually increasing.

Subsequent rounds of workforce data revisions are likely to result in downward revisions of unemployment rates at the end of 2024, unless there is a deterioration of labor market conditions in the months ahead.



The pace of hiring is an important factor in determining net job changes

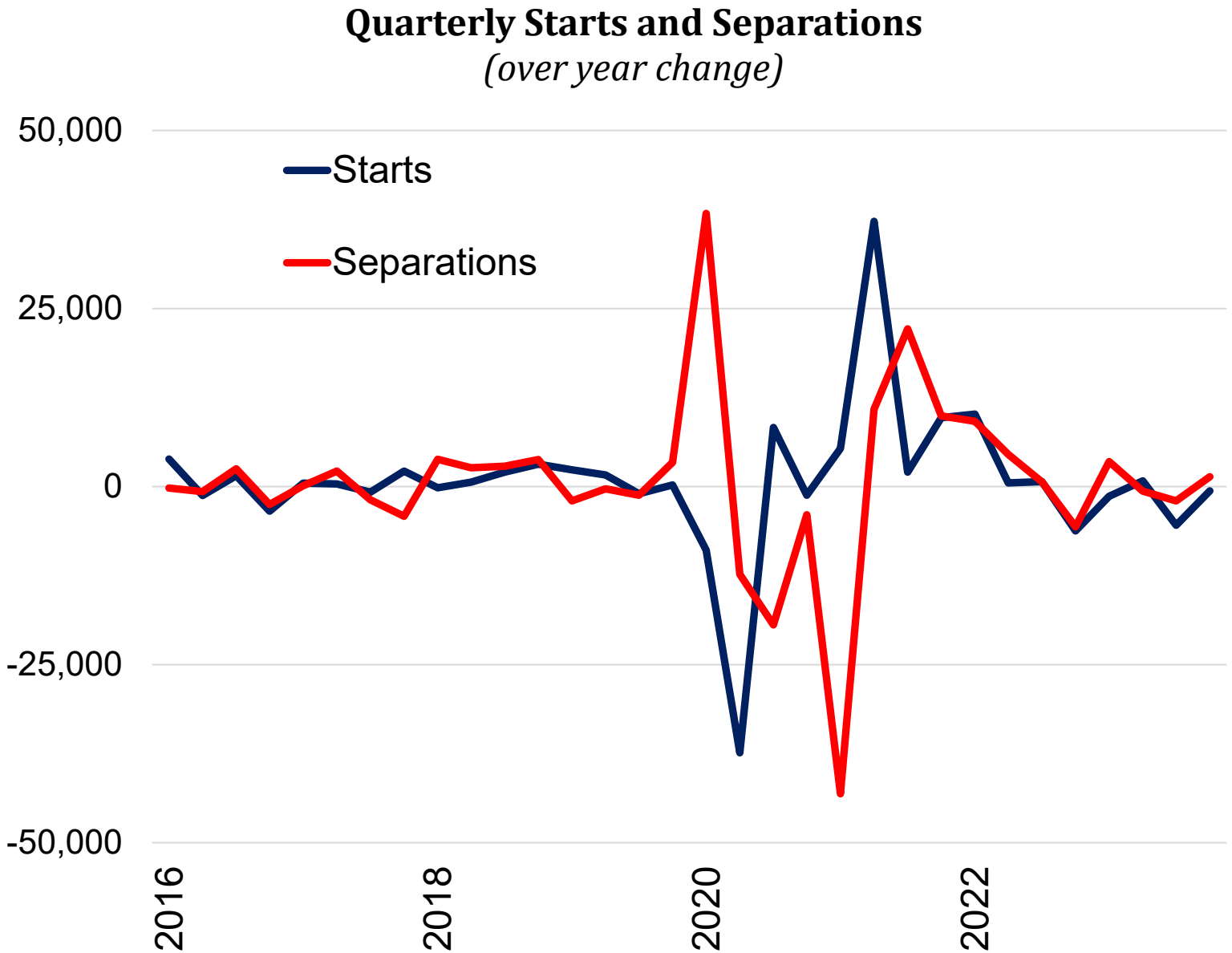
The pandemic illustrates this point (though it is atypical of economic slowdowns in many ways)

A large share of the job impact occurred from a slow down of hiring that would have occurred if not for the public health emergency.

Adoption of AI is likely to impact demand for labor and can lead to significant changes over time in ways other than sudden, large layoff events.

For example, employers may integrate AI into their organization and change their recruiting strategies and job responsibilities as a result: hiring fewer workers in some occupations and/or more in others.

Changes in skill demand can occur through both layoff of incumbent workers and through changes in the pace and types of recruiting.



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Assessing AI potential and Maine's workforce data

Preview

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There are two primary channels through which generative Artificial Intelligence (AI) could impact labor demand:

1) ***Productivity enhancement*** – AI used by workers or teams to increase output, automating/assisting with lower value tasks and enabling workers to spend more time on higher value tasks

2) ***Task displacement*** – AI used to automate tasks that previously had been labor intensive, therefore reducing demand for workers in specific occupations

Predicted impacts of AI on jobs and the economy (growth rates, job displacement / increases, inequality) vary widely. Compared to past waves of automation that:

- Were concentrated in specific industries and geographic areas (plant/mill closure)
- Largely affected manual production tasks, displaced middle income jobs (typically not requiring college education)

Generative AI's impact could be much more diffuse:

- Across industries, areas and jobs of varying skill and educational requirements

Measuring Occupational AI Potential

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Several studies have considered the impact of generative Artificial Intelligence (AI) on labor markets by assessing which tasks AI can perform/facilitate and which occupations involve responsibilities including those tasks.

Eloundou, Manning, Mishkin, and Rock (2023), *GPTs are GPTs: An early look at the labor market impact potential of large language models*, uses the O*Net database of occupational task composition and defines exposure to/potential use of AI as follows:

"…we define exposure as a measure of whether access to an LLM [Large Language Model] or LLM-powered system would ***reduce the time required for a human to perform a specific DWA*** [Detailed Worker Activity] or ***complete a task by at least 50 percent***….***while maintaining consistent quality***. We anticipate that adoption will be highest and most immediate for applications that realize a considerable increase in productivity."

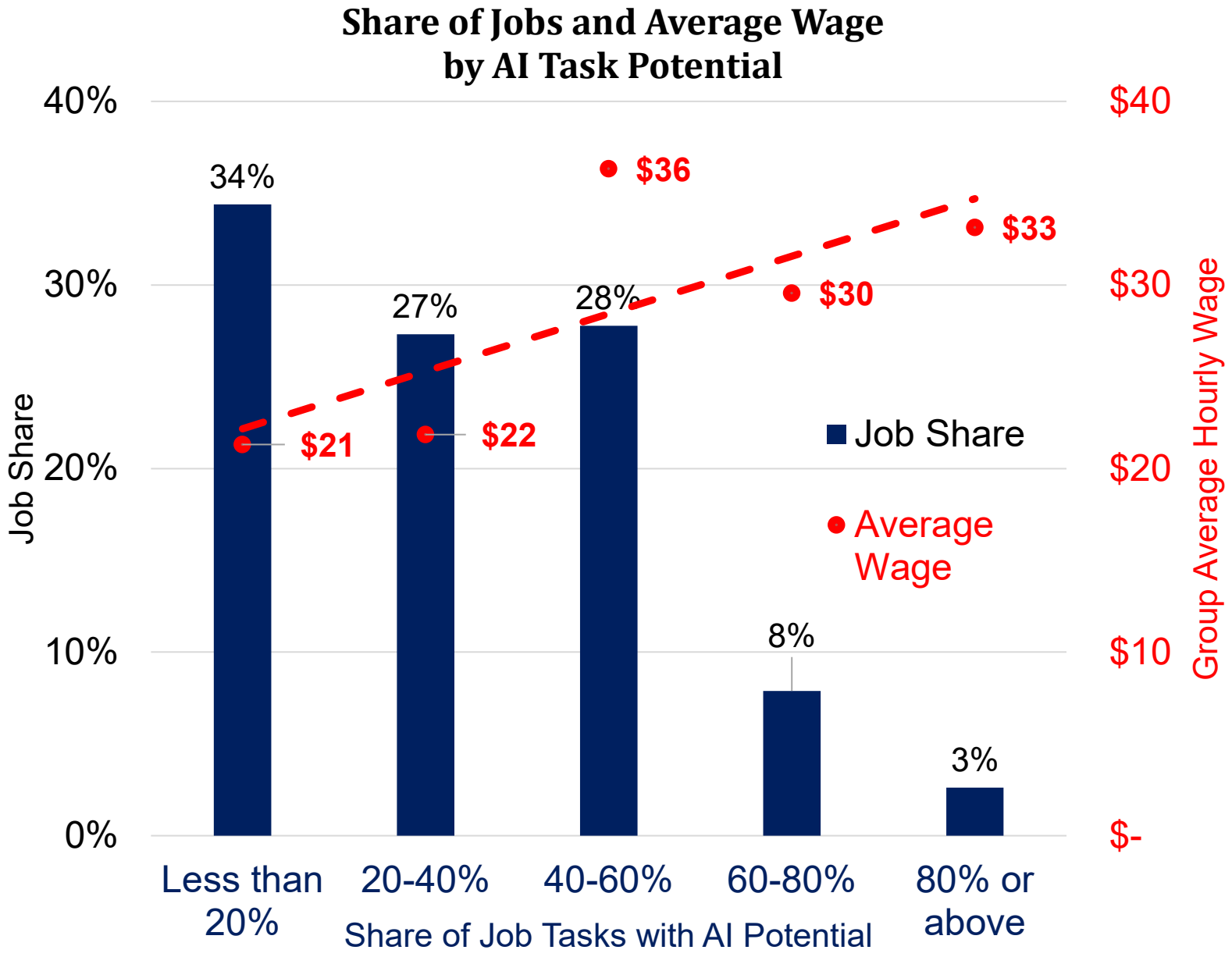
The next four slides merge Maine Occupational Employment and Wage Statistics (OEWS) to this measure of occupational task composition and the potential for AI to facilitate and/or automate those tasks (AI Potential).

Jobs with the highest potential AI impact have high average wages

About 11 percent of jobs are in occupations in which 60+ percent of tasks may be impacted by AI. These are among the highest paying jobs, averaging $30-33 per hour, many of which require a degree or other post-secondary education.

About 62 percent of jobs are in occupations in which less than 40 percent of tasks may be impacted by AI. These are among the lowest paying jobs, averaging $21-22 per hour, most of which do not require a degree or other post-secondary ed.

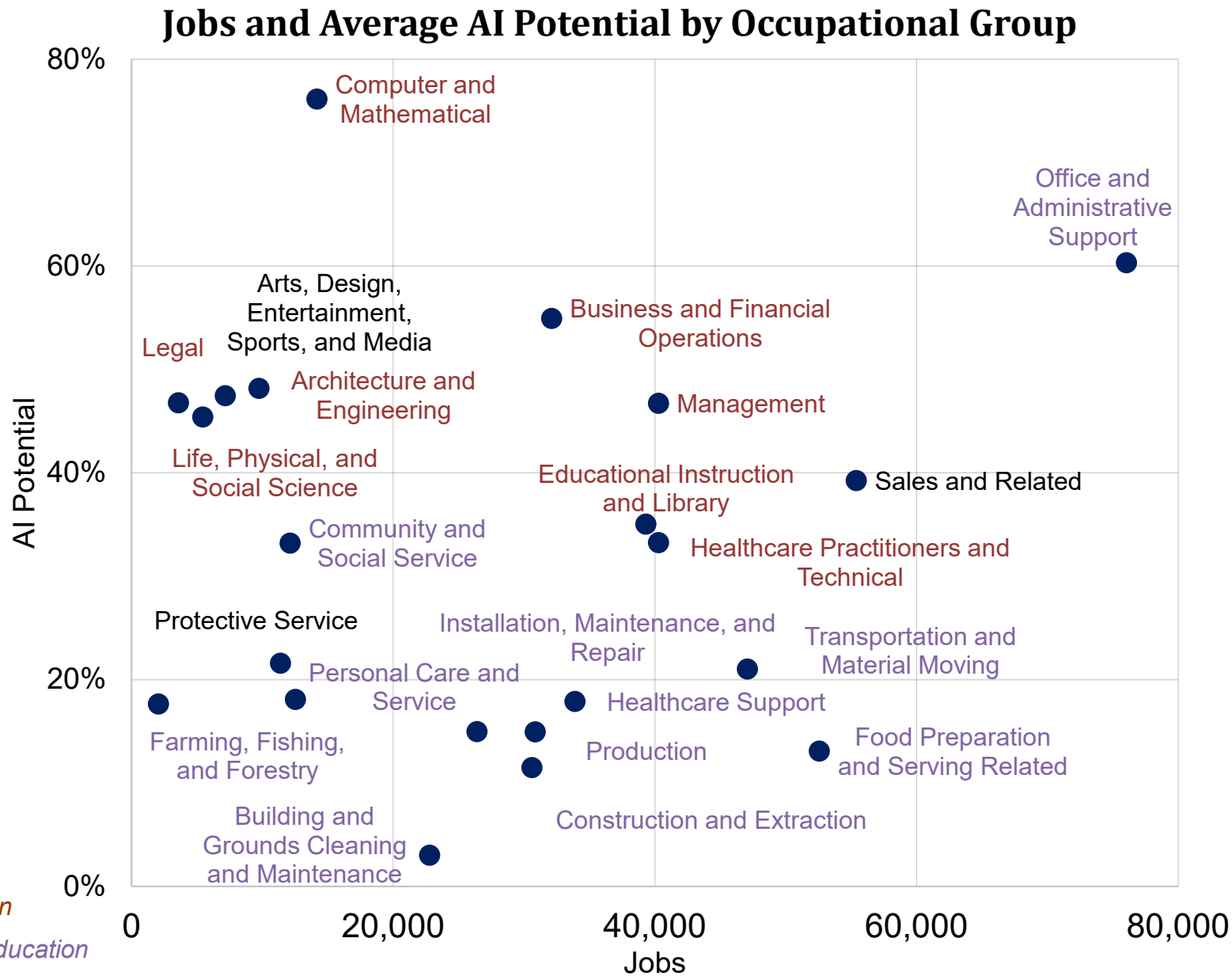
28 percent of jobs are in occupations in which close to half of tasks may be impacted by AI. These jobs average $36 per hour.



The most job impact is expected in administrative support jobs

Jobs with the highest share of AI impacted tasks generally are professional and administrative support-related. Computer and mathematical jobs have highest share of tasks; the highest number of jobs are in administrative support occupations.

Jobs in manual labor-related occupations – production, construction, maintenance, farming, and food preparation – have the lowest share of AI impacted tasks.



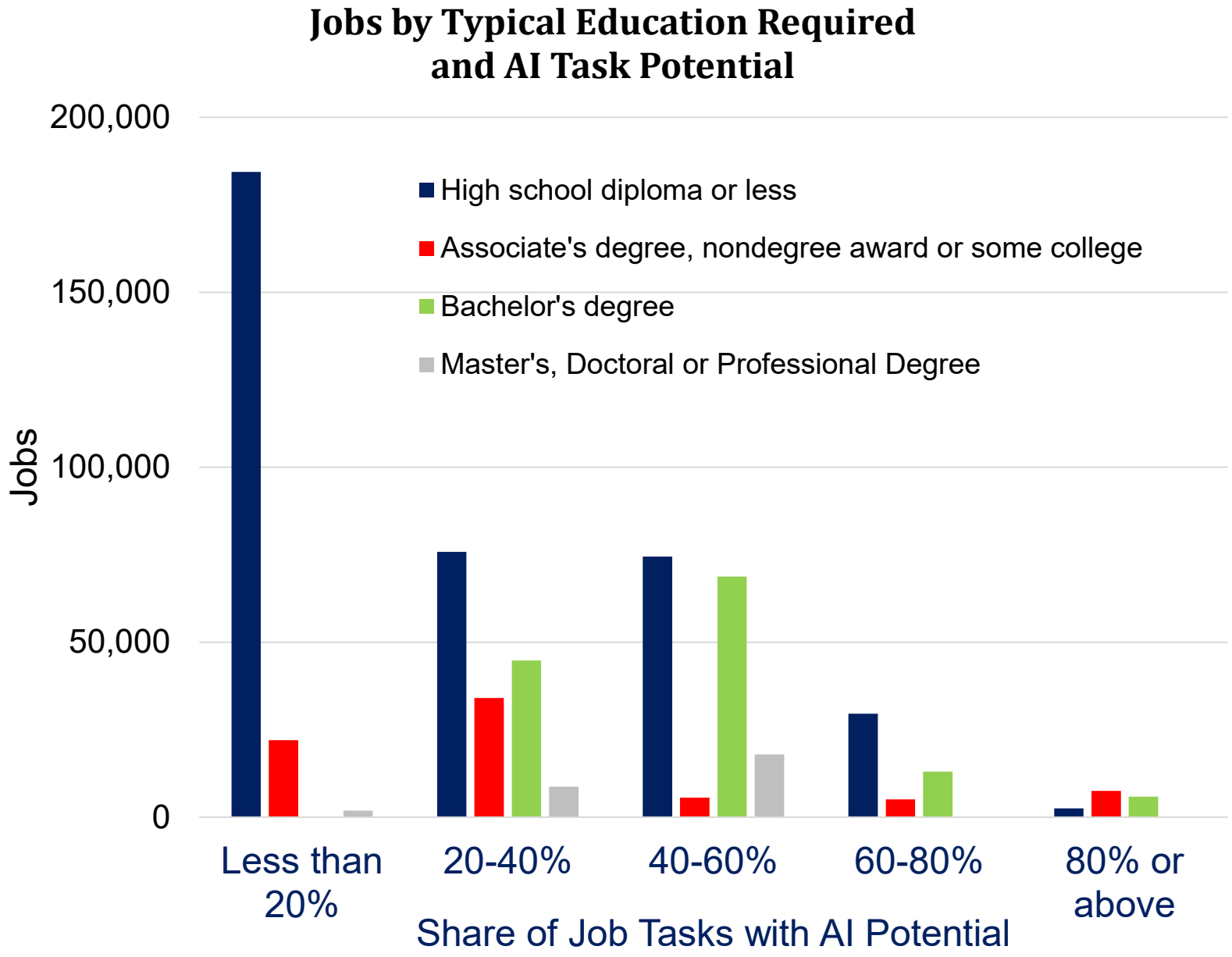
Most jobs in these occupations require post-secondary education

Most jobs in these occupations do not require post-secondary education

Educational requirements in these occupations vary

Jobs with low AI potential mostly do not require post-secondary education

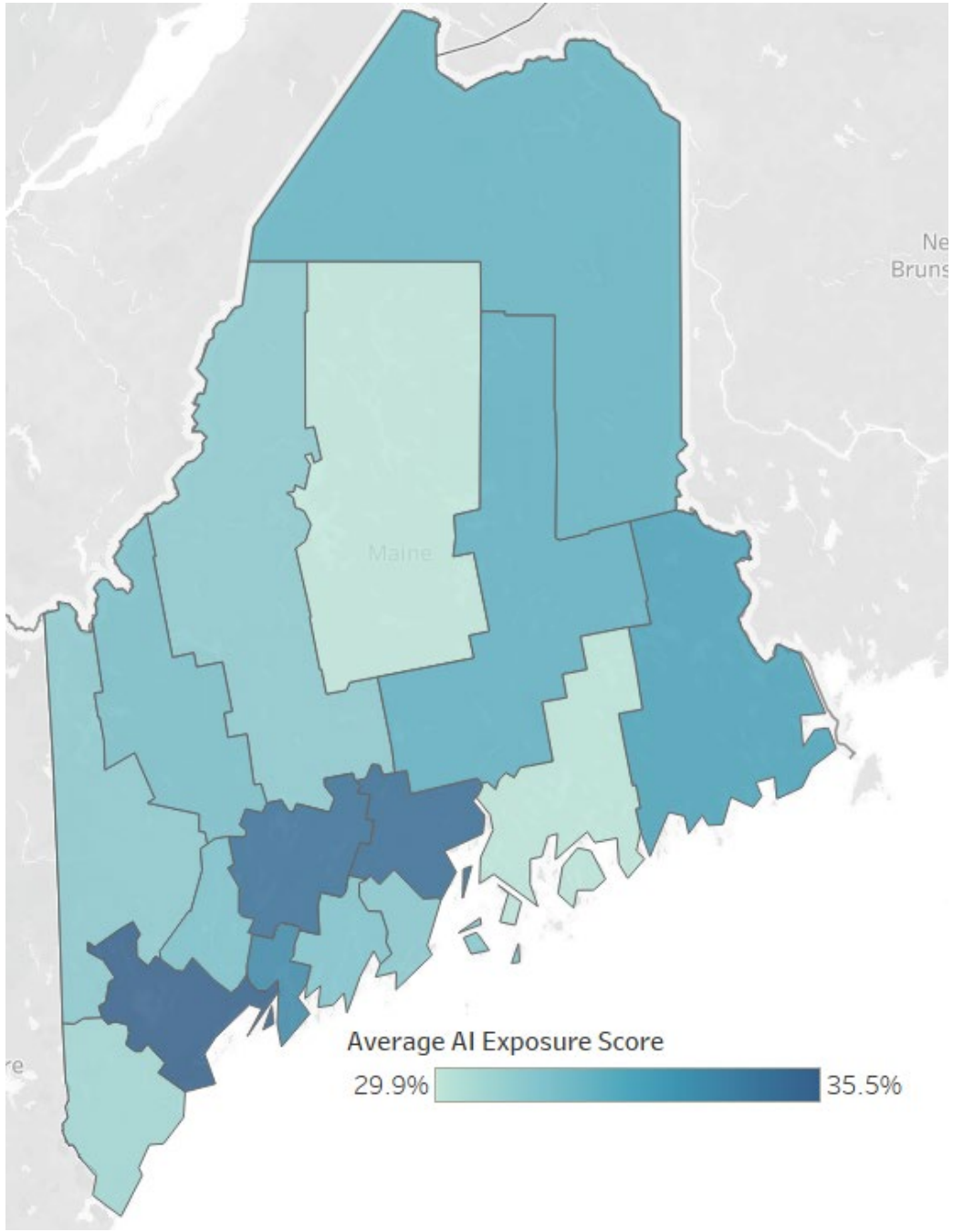
Many jobs with more tasks having AI potential impact require post-secondary education; many too are administrative or customer support related that do not require a post-secondary degree.



AI Impact is likely to be greatest in the southern coastal region

The task potential of the average job varies from 30 to 36 percent among counties.

The overall geographic variation in potential use of AI is quite small.



Skills and AI Potential

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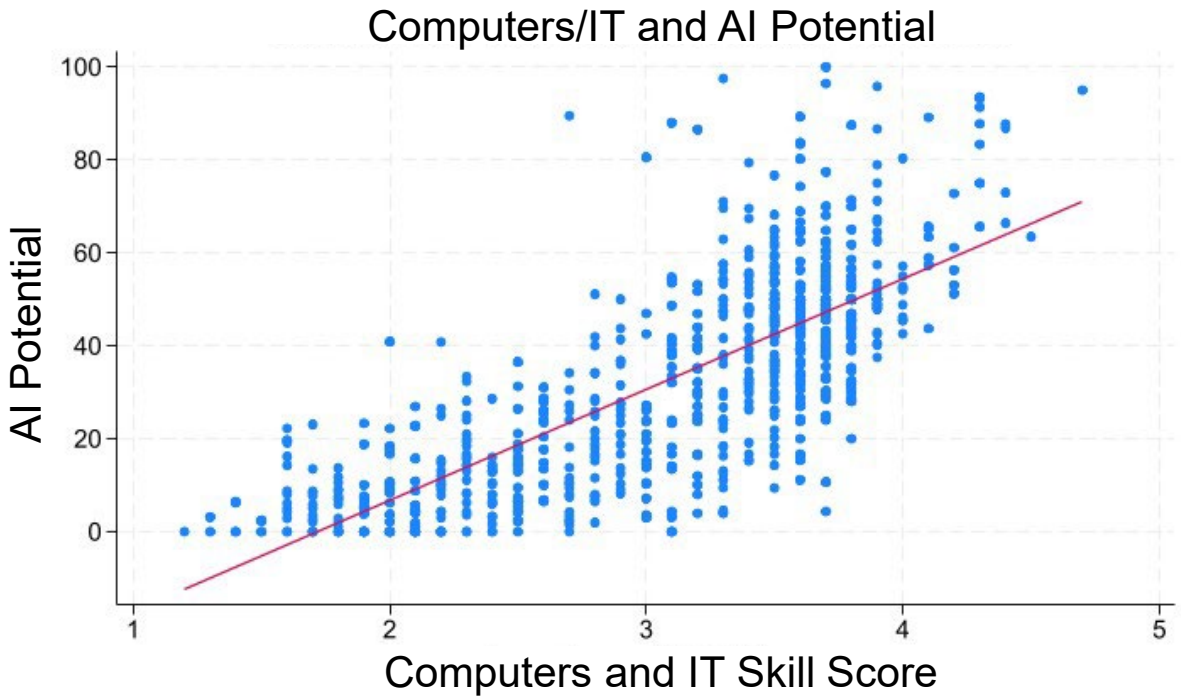
The U.S. Bureau of Labor Statistics defines skill as a capacity that is developed (through education, training, experience), general (applicable across many occupations), applied (action oriented), and work related (to performance at work)

The following three slides document the relationship between the relative importance of each skill category to each occupation and the potential use of AI in tasks typically performed in that occupation [Eloundou, Manning, Mishkin, and Rock, (2023)]

Of the 17 skill categories:

- 4 are strongly positively correlated (Computer/IT, Analysis/Critical Thinking, Problem Solving/Decision Making, Writing/Reading)
- 3 are strongly negatively correlated (Mechanical, Fine Motor, Physical)
- the relationship is less clear for the rest


Computers/IT and AI Potential
AI Potential
Computers and IT Skill Score
0
20
40
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80
100
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4
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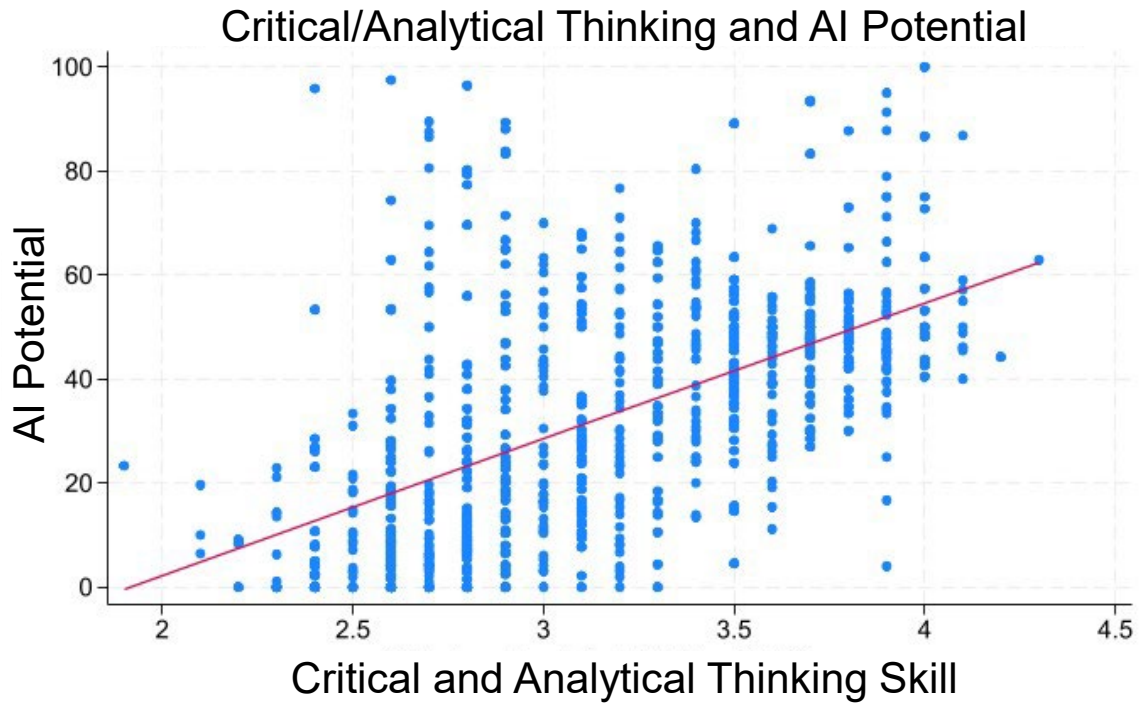
Critical/Analytical Thinking and AI Potential
AI Potential
Critical and Analytical Thinking Skill
0
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2.5
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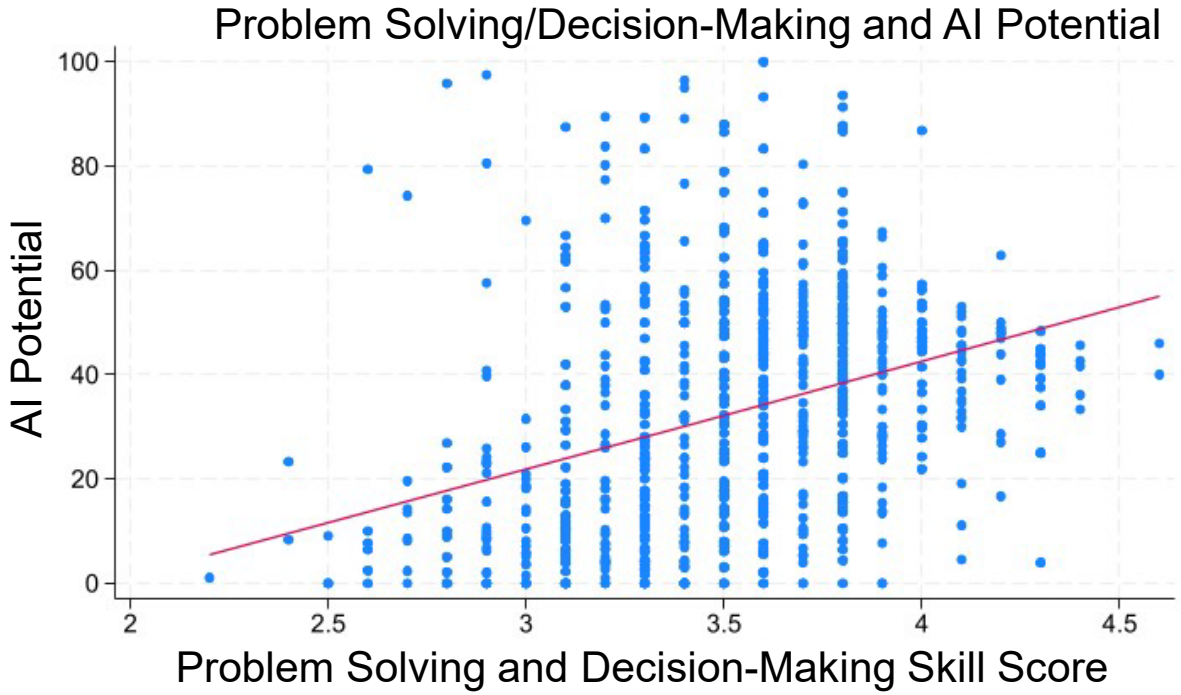
4.5


Problem Solving/Decision-Making and AI Potential
AI Potential
Problem Solving and Decision-Making Skill Score
0
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40
60
80
100
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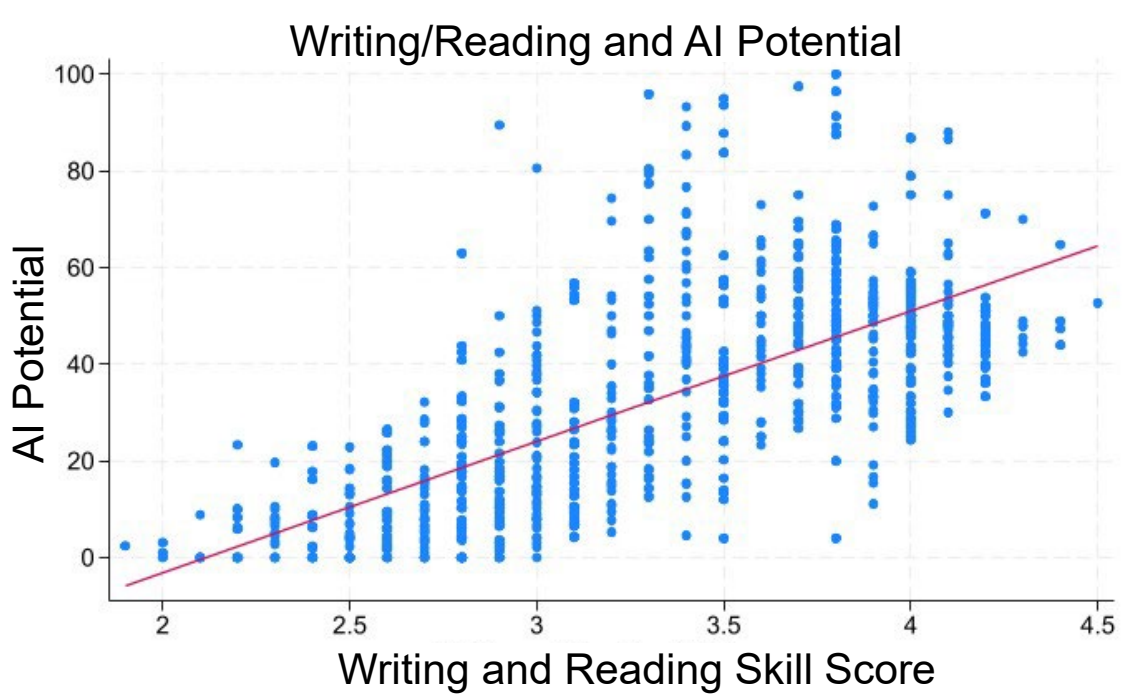
2.5
3
3.5
4
4.5


Writing/Reading and AI Potential
AI Potential
Writing and Reading Skill Score
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100
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2.5
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3.5
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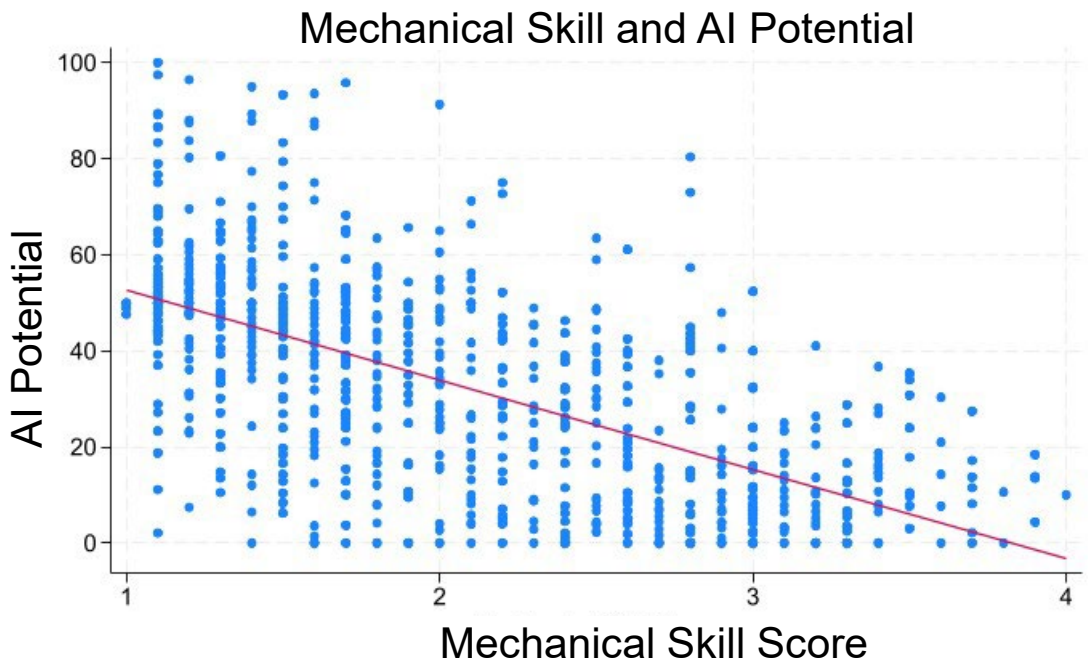
4.5


Mechanical Skill and AI Potential
AI Potential
Mechanical Skill Score
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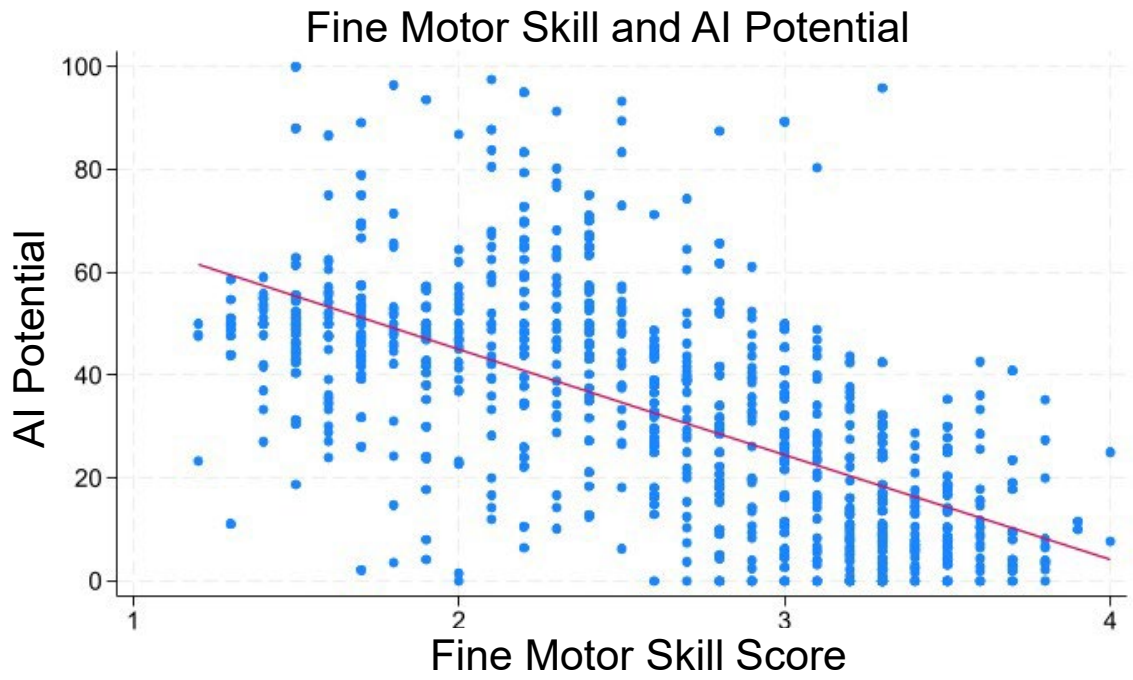
Fine Motor Skill and AI Potential
AI Potential
Fine Motor Skill Score
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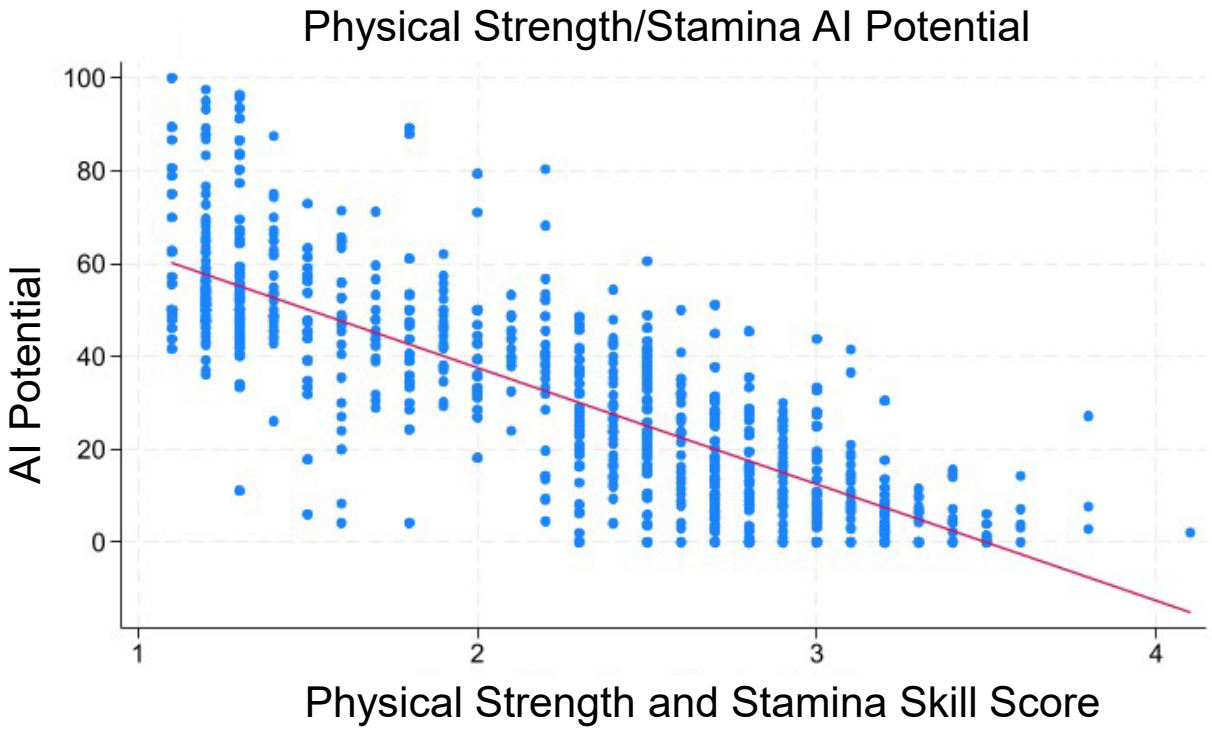
Physical Strength/Stamina AI Potential
AI Potential
Physical Strength and Stamina Skill Score
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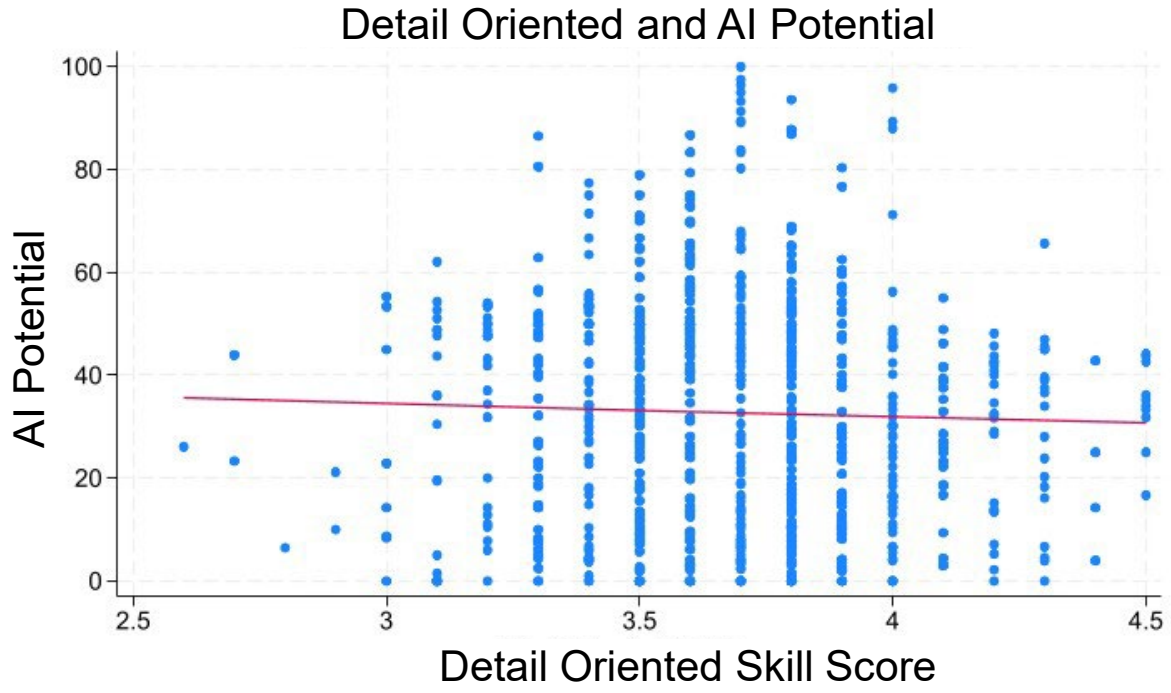
Detail Oriented and AI Potential
AI Potential
Detail Oriented Skill Score
0
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3.5
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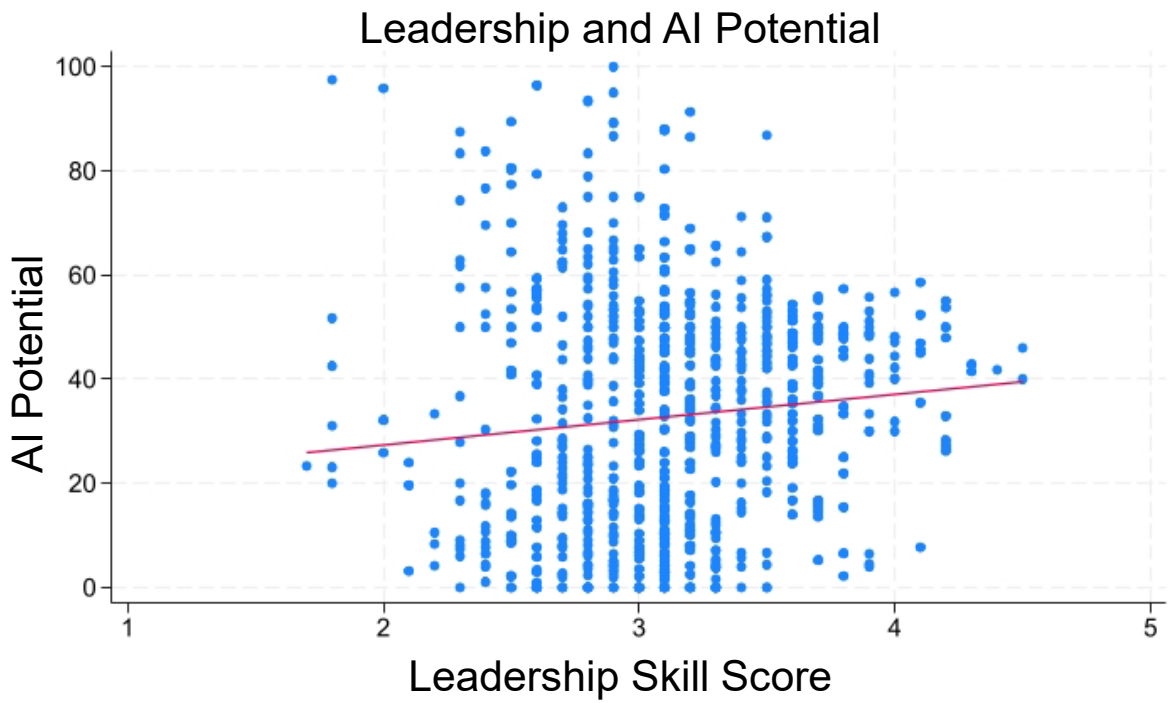
4.5


Leadership and AI Potential
AI Potential
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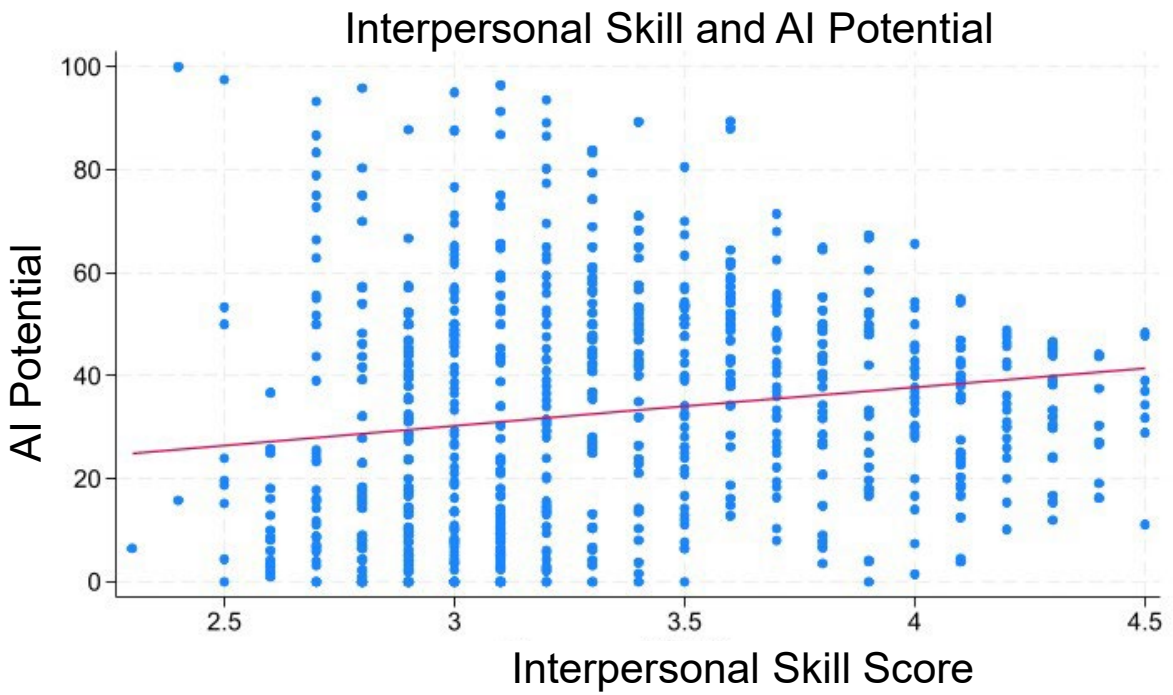
Leadership Skill Score


Interpersonal Skill and AI Potential
AI Potential
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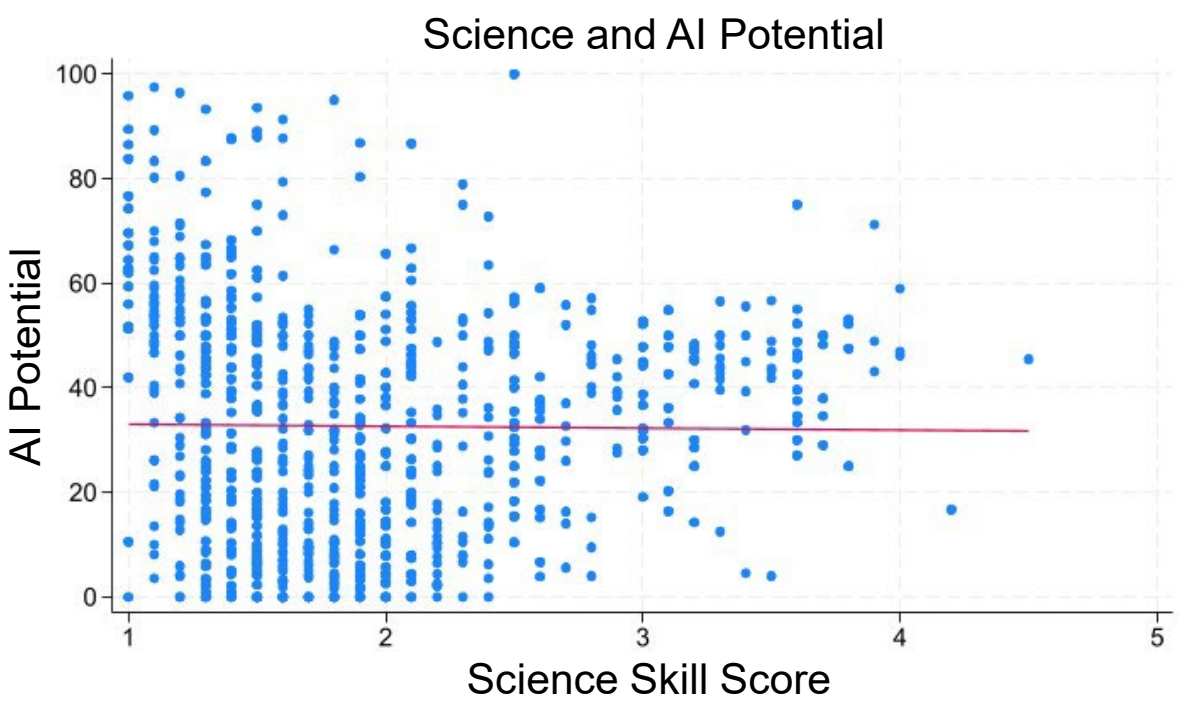
4.5
Interpersonal Skill Score


Science and AI Potential
AI Potential
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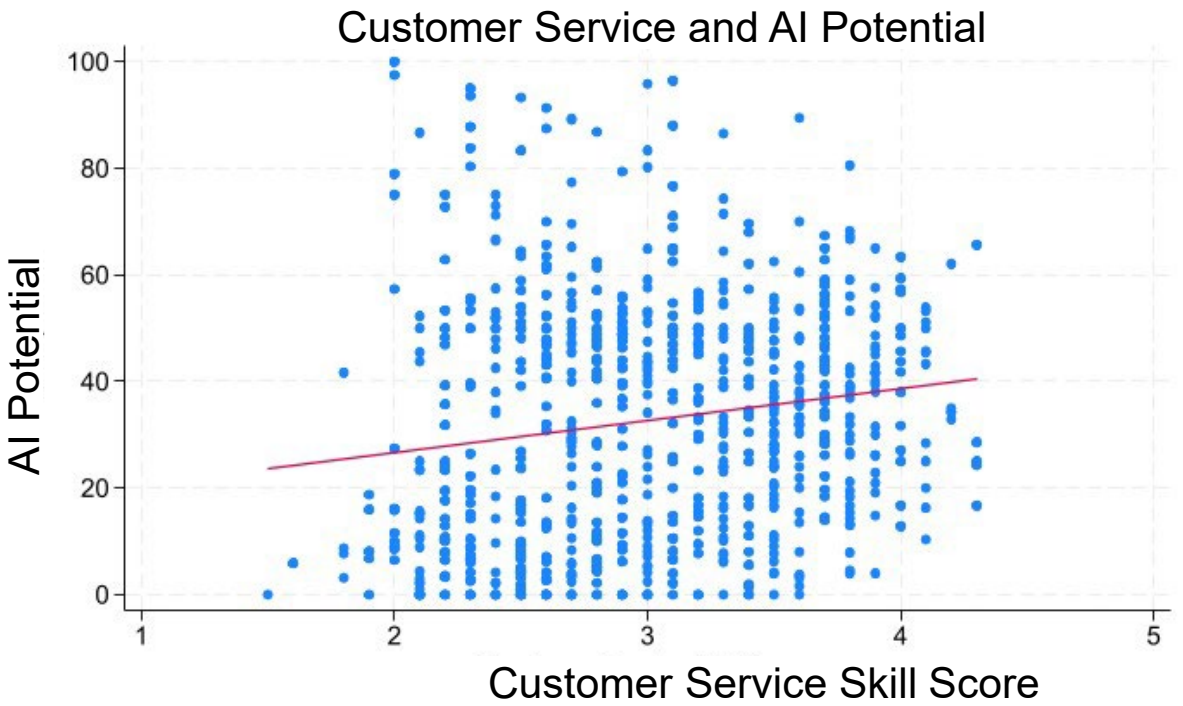
Science Skill Score


Customer Service and AI Potential
AI Potential
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Customer Service Skill Score

Takeaways

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Current conditions have changed little in the last six months, characterized by low, steady unemployment rates, moderate job change, and consistent wage and salary increases.

Compared to past waves of automation—primarily affecting manual production tasks, where impacts were concentrated in specific industries, geographic areas (plant/mill closures), and demographic groups—generative AI's impact could be much more diffuse across industries, regions and workforce demographics.

AI could reduce labor demand in some areas by automating existing job tasks while increasing it in others through productivity gains that allow workers to focus on higher-value tasks. Predictions from economists about AI's impact on jobs and the economy vary widely, including its effects on long-term growth, labor market inequality, specific demographic groups, and the speed at which AI's potential will be realized.

Occupations most likely to be impacted by AI include those in the computer and mathematical and the administrative support groups. These jobs often involve skills related to computer/IT, analysis/critical thinking, writing/reading, problem-solving and decision-making.

Jobs in these fields are somewhat divided between higher-paying roles that require advanced education/training for entry and lower-paying positions—many clerical or administrative in nature—that have already experienced declining labor demand in recent decades.

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Appendix

15 occupations among highest AI potential and 500+ jobs

A selection of occupations with high AI potential illustrates the difference in compensation and typical educational requirements.

Many occupations with high task exposure are administrative support jobs. AI can automate many typical tasks such as organization, data processing, entry or recording information. Others are higher paying, specialized computer and mathematical jobs. AI can facilitate code generation and troubleshooting.

Occupation Title	AI Task Potential	Jobs	Average Hourly Wage
Software Developers	87%	3,200	$56
Payroll and Timekeeping Clerks	84%	500	$25
Insurance Claims and Policy Processing Clerks	83%	1,400	$24
Bookkeeping, Accounting, and Auditing Clerks	80%	7,400	$23
Billing and Posting Clerks	77%	1,900	$21
Computer Systems Analysts	75%	2,400	$43
Data Scientists	75%	700	$52
Network and Computer Systems Administrators	73%	1,300	$40
Court, Municipal, and License Clerks	70%	1,000	$22
Legal Secretaries and Administrative Assistants	70%	900	$24
Compliance Officers	68%	1,500	$38
Eligibility Interviewers, Government Programs	68%	700	$22
Dispatchers, Except Police, Fire, and Ambulance	67%	900	$25
Interviewers, Except Eligibility and Loan	67%	1,200	$19
Medical Secretaries and Administrative Assistants	67%	3,400	$21

Legal Secretaries and Administrative Assistants task example

Some of the most important responsibilities of this occupation include:

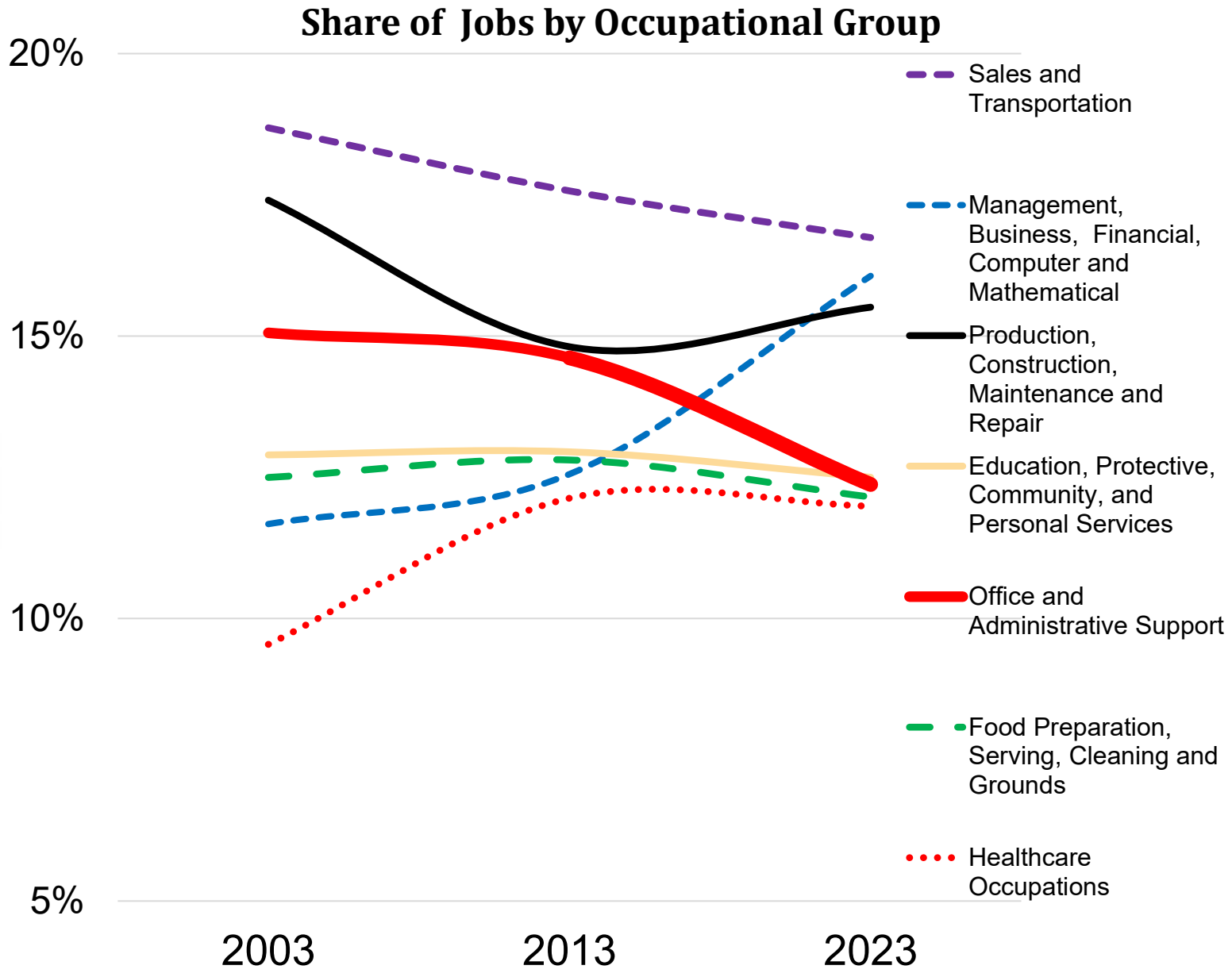
- Documenting, recording information
- Processing, providing information
- Organizing, planning

Many of these tasks are already well suited to be preformed more efficiently by or with the assistance of AI.

Legal Secretaries and Administrative Assistants (43-6012)		
Importance	**Work Activity**	**Work Activity Description**
87	Performing Administrative Activities	Performing day-to-day administrative tasks such as maintaining information files and processing paperwork.
85	Communicating with Supervisors, Peers, or Subordinates	Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.
83	Working with Computers	Using computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information.
82	Processing Information	Compiling, coding, categorizing, calculating, tabulating, auditing, or verifying information or data.
80	Organizing, Planning, and Prioritizing Work	Developing specific goals and plans to prioritize, organize, and accomplish your work.
77	Establishing and Maintaining Interpersonal Relationships	Developing constructive and cooperative working relationships with others and maintaining them over time.
75	Documenting, Recording Information	Entering, transcribing, recording, storing, or maintaining information in written or electronic/magnetic form.

Demand for administrative support jobs had been slipping prior to the rise of AI

There are 12,000 fewer administrative support jobs than two decades ago. They now comprise 12 percent of jobs. AI is likely to contribute to further decreases.



15 occupations among lowest AI potential and 1,000+ jobs

Occupations with the lowest AI potential and significant employment involve physical work activities, such as food preparation, cleaning, maintenance, construction, production, and transportation.

Occupation Title	AI Task Potential	Jobs	Average Hourly Wage
Cooks, Fast Food	0%	1,580	$17
Dining, Cafeteria Attendants and Bartender Helpers	0%	1,470	$18
Dishwashers	0%	1,790	$16
Janitors and Cleaners	0%	9,490	$19
Maids and Housekeeping Cleaners	0%	5,970	$17
Bus, Truck Mechanics and Diesel Engine Specialists	0%	1,500	$26
Packaging and Filling Machine Operators	0%	1,900	$21
Highway Maintenance Workers	2%	1,730	$22
Helpers--Electricians	2%	1,010	$21
Landscaping and Groundskeeping Workers	2%	5,270	$20
Industrial Truck and Tractor Operators	3%	2,670	$23
Food Preparation Workers	4%	6,690	$17
Laborers and Freight, Stock, and Material Movers	4%	5,280	$19
Construction Laborers	5%	3,130	$21
Operating Engineers and Equipment Operators	5%	1,960	$26