The 2023 American Opportunity Index: Methodology

Our Approach

To create the 2023 American Opportunity Index, we drew from the career histories and compensation experiences of 4.72 million U.S. workers at 396 Fortune 500 companies, explicitly focusing on those in jobs which are open to those without college degrees. All Fortune 500 companies for whom we have a statistically valid set of career history data are included in the Index. Companies cannot opt in or opt out, nor do companies pay to be part of it.

We have worked carefully to compare similar occupations across companies and industries to account for quite different organizational structures. We don't compare network administrators to factory line production workers: Instead, we compare customer service agents at Verizon to customer service agents at American Airlines, controlling for the two companies' distinct workforce compositions. Each firm's scores are weighted to account for variations in occupation mix within the company so that the overall core reflects the experience of all of their workers in jobs typically open to those without a college degree.

While we have taken significant efforts to make this analysis as extensive and comprehensive as possible, this is a complex exercise and not all circumstances can be accounted for. We present our methodology with humility, aware of certain limitations yet certain that the analysis can be a powerful force empowering mobility for both employees and employers.

Which Companies Does the Index Include?

We began by analyzing the performance of each 2023 Fortune 500 company. We eliminated two companies which have since ceased operations (SVB Financial and Bed Bath & Beyond). We then evaluated the sufficiency of data presence in each company. We excluded any company for which more than a single metric in each of the five categories did not meet the statistical threshold for inclusion. This resulted in removing a further 102 firms from the Index.

Which Workers Does the Index Include?

The Index tracks the experience of 4.72 million US workers at the firms we measured in roles open to candidates without a college degree. Specifically, occupations for which 70% or more of workers nationally hold a Bachelor's degree or higher, based on data from the Bureau of Labor Statistics (Employment Projections Table 5.3 Educational Attainment for Workers by Detailed Occupation) are excluded from our calculations.

We focus on those jobs — everything from production line supervisors to customer service representatives to personal financial advisors — because they are where overall worker mobility hangs most in the balance. Most U.S. workers don't have four-year degrees; their upward mobility hinges far more on corporate practice than on academic attainment.

Initial Calculations and Normalization

The American Opportunity Index aggregates 12 metrics across five categories of measurement. For each metric, we start by calculating a score for each occupation-company pair, such as the retention rate for customer service representatives for each company in the Index. These scores are then converted to

quintiles. This allows us to directly compare equivalent (or closely related) roles across various companies, ensuring a standardized benchmark.

Combining Scores for Each Occupation-Company Pair into an Overall Score for Each Metric

To capture the experience of each work group at a firm into a single score, we assign a weight to the quintile scores for each occupation. To account for differing workforce compositions across companies, we use occupational representation data within companies as weights, derived from job advertisements. This method assigns weights to each occupation based on its prevalence within a company: roles with higher representation command greater weights.

Combining Each Metric Score to a Single Overall Company Score

As a final step, we calculate a weighted average at the company level. Our weighting for assigning relative importance to each metric is based on our survey of 500 workers at large firms and in our interviews with a panel of 12 economists. Both the worker survey and expert panel assigned significant priority to metrics of worker promotion and pay. As such, for simplicity, we have assigned double weight to metrics in the promotion and pay categories and single weight to metrics in all other categories. The outcome is a consolidated score on the relative performance of a company for a given metric, taking into account their workforce composition.

How are Wages Attributed to Work Histories?

For this research, we merged Glassdoor wage data with the career history data, assigning a probabilistic wage for each company-job title pair in a worker's career history based on values reported by Glassdoor. To increase match rates, we performed the data merge multiple times at varying levels of field granularity. Starting at the most granular levels that were matched on job title, employer, year, and location, we then progressively increased abstraction levels in subsequent merges. Through this process, we were able to include wage estimates for the significant majority of recorded work experiences within the sample.

How are a Worker's Race, Ethnicity, and Gender Determined?

We determined race, ethnicity, and gender probabilistically based on a combination of factors, including names, addresses, and educational institutions, using a version of the BISG inference algorithm originally developed by RAND economists for the Consumer Financial Protection Bureau and as modified by Institute researchers. We assigned each worker's history a probability score associated with each potential racial classification. Those scores are then aggregated to the level of each occupation-company pair. Because location is a significant factor in the algorithm, career histories were matched with the L2 voter database to determine a likely street address, which is typically missing from online career profiles. For certain states where public voter registration rosters include self-reported race, we substitute L2's own racial determinations based on these disclosures.

What's different from last year's Index?

The Index has been fully reengineered for 2023. We have added two entirely new categories - Parity and Culture - to ensure the comprehensiveness with which the Index describes worker experience. We have

also added new measurements of worker advancement, including the probability of promotion, the level of continued promotion, and the size of each step.

This year's Index includes an additional 154 companies and 2.3 million workers. The Index also has more flexibility to align with public data after we moved from a proprietary occupation ontology to the O*NET occupation classifications created by the Bureau of Labor Statistics. Among other changes, we also now use sliding cohort windows vs. the single-time periods used previously, which not only narrowed the sample but also were more prone to be reactive to unusual outcomes from labor market shocks, like the COVID-19 pandemic. In addition, the methodology underlying a number of our mobility metrics has been refactored both for reliability and for improved data capture.

Our Metrics

The Index tracks 12 underlying metrics grouped into five areas of opportunity, across various years based on the availability of data for that metric.

Promotion Metrics

Metric	Timeframe	Description
Advancement Within: Are workers moving up within the firm?	2018-2022	This metric measures the experience of workers in moving up within a firm. It is a composite of three variables assessing the promotion experiences of workers within a firm: **how likely are workers to be promoted** (promotion probability), **how many further promotions can they expect over time** (continued promotion), and **how big of a salary bump they can expect to receive at each promotion** (promotion quality). For each of these metrics, a promotion is defined as a transition to a higher-paying role. The analysis only considers those with a minimum employment duration of three months. To factor in the relevancy of data, we apply annual weights based on the recency of the promotion date, with promotions in more recent years assigned greater importance. Source: Burning Glass Institute career history and Glassdoor compensation datasets.
Promotion Probability: How likely are workers to move up?	2018-2022	This variable assesses the share of employees who receive promotions from among those who began their tenure within the 2018-2022 timeframe.
Continued Promotion: Do they keep getting promoted over time?	2019-2022	This variable determines the average number of promotions employees received between 2019 and 2022.
Promotion Quality: How significant are their promotions?	2018-2022	This variable quantifies the percentage growth in wages resulting from internal promotions among employees who commenced their roles between 2018-2022. Specifically, it captures the salary percentage increase linked directly to an internal promotion.

Advancement Beyond: Do workers move to better jobs when they leave?	2018-2022	This metric evaluates how likely workers are to receive a "promotion" into a better role when they move on to a new employer. This analysis follows workers who started their roles within the 2018-2022 timeframe. An external promotion is defined as a transition to a job at another company with a salary increase of 10% or more. To ensure that these external promotions reflect the firm's contribution to the worker's employability, the assessment is limited to those with a minimum tenure of 12 months. We apply annual weights based on the recency of the promotion date, such that more recent transitions impact the firm's score more than older ones. Source: Burning Glass Institute career history and Glassdoor compensation datasets.

Pay Metrics

Metric	Timeframe	Description
Wage: How well do workers get paid?	2020-2022	This metric compares how workers in the same occupation are paid at different employers. This relies on evaluations of the median wage for each occupation spanning the years 2020 to 2022 at each firm. To facilitate direct comparisons for the same occupations across different companies, we convert these median wage scores into quintiles. At the company level, a weighted average is established by factoring the proportional representation of each occupation within the company. Source: Burning Glass Institute career history and Glassdoor compensation datasets.
Wage Growth: How much do workers' wages rise over time	2019-2022	This metric evaluates the degree of wage growth for workers who stayed at a given employer for three or more years. This analysis relies on analyzing the initial salary and occupation of all workers who started at their respective F500 companies in 2019. By limiting the analysis to employees who remained with the firm for a minimum of three years, we determine the percentage growth in their wages over that period. To produce firm-level data, these growth figures are then weighted by the occupational representation within the company. Source: Burning Glass Institute career history and Glassdoor compensation datasets.

Hiring Metrics

Metric	Timeframe	Description
Degree Barriers: How likely are people without degrees to get hired?	2020-2022	This metric evaluates the percentage of job starters within a given occupation whose educational attainment is below a bachelor's degree. Our assessment derives from three distinct cohorts of job starters: those who began in 2022, 2021, and 2020. More recent yearly cohorts are accorded higher weightage in the analysis. Source: Burning Glass Institute career history dataset.

First Jobs: How likely are people with little experience to get hired?	2020-2022	This metric determines the percentage of starting jobs with less than three years of prior experience. Our evaluation encompasses three cohorts of job starters from 2022, 2021, and 2020. More recent cohorts are assigned greater emphasis in the analysis. Source: Burning Glass Institute career history and Lightcast job postings datasets.

Parity Metrics

Metric	Timeframe	Description
Racial Parity: Do Black and Hispanic workers move up at the same rate as everyone else?	2018-2022	This metric compares the promotion rates of Black and Hispanic workers with those of workers from all other race and ethnic groups. This analysis is based on relative measurements for the metric described above of how likely workers are to get promoted. For each occupation-company pair, a score is derived by subtracting the weighted promotion rate of “Black and Hispanic” workers from that of "all other races". These differential scores are subsequently categorized into quintiles to compare across the same occupations. We then calculate company-level weighted averages, using occupational representations as the weights. Since this is a measure of parity for underrepresented groups, positive discrepancies are assumed to reflect no discrepancy. Source: Burning Glass Institute career history and Glassdoor compensation datasets.
Gender Parity: Do women move up at the same rate as men?	2018-2022	This metric compares the promotion rates of female and male workers to identify any disparity in promotion. This analysis is based on relative measurements for the metric described above of how likely workers are to get promoted. For each occupation-company combination, a score is computed by subtracting the weighted promotion rate of male employees from that of female employees. The resulting differential scores are then grouped into quintiles for standardized comparisons across identical occupations. Following this, company-level weighted averages are calculated, utilizing the proportion of each occupation within the company as the determining weights. Since this is a measure of parity for underrepresented groups, positive discrepancies are assumed to reflect no discrepancy. Source: Burning Glass Institute career history and Glassdoor compensation datasets.

Culture Metrics

Metric	Timeframe	Description
Retention: Do workers stay?	2017-2022	This metric evaluates how long employees in each occupation stay at the employer. This analysis studies the retention rates of job starters at Fortune 500 companies across three overlapping 3-

		year cohorts: 2017-20, 2018-21, and 2019-22. Assessed at the occupation level, windowed periods closer to the present are accorded greater weight in the analysis. The final company-wide retention scores are then derived by weighting each occupation's retention based on its representation within the company. Source: Burning Glass Institute career history dataset.
Leaders From Within: Are managers and executives drawn from within?	2008-2022	This metric analyzes the share of leadership-level employees who have climbed the ranks internally within the company. We begin by identifying all present-day employees and isolating those whose occupations fall within the top 20% pay bracket. From this subset, we calculate the proportion of individuals who, at some point since 2008, held a different role within the same company outside of this top 20% pay bracket. In this analysis, we consider employees across all occupational categories. Source: Burning Glass Institute career history and Glassdoor compensation dataset.

Our Data Sources

The Index draws from more than 60 million records across the Lightcast, Glassdoor, and Burning Glass Institute Career History Datasets.

Burning Glass Institute Career History Dataset

The Index is primarily built on the Burning Glass Institute's database of the career histories of over 60 million US workers gathered from an array of sources, including LinkedIn profiles and resumes and profiles posted on other sites. Key information has been extracted and classified to organize the data into structured formats. Doing so required significant enrichment of the data, such as classifying individual work experiences into standardized occupations, industries, locations, and employers. For this Index, we isolated the data of US employees at Fortune 500 companies from the broader workforce database . Since many of these employers are parent or holding companies, we accounted for major subsidiaries, where possible.

While professional and tech roles are heavily represented online, the Burning Glass Career History Database also includes millions of records for low- and middle-skill workers. For example, it includes career histories for almost 250,000 people who have worked in retail roles at Starbucks.

Online career histories are self-reported. However, our analysis suggests that any inaccuracies are likely to be shared evenly across firms: there is no reason to believe that Apple's employees are any more likely to misrepresent career progress than their counterparts at Microsoft, for example.

Lightcast Job Postings Dataset

We used the Lightcast Job Postings dataset to determine the share of occupations within an employer's organization. We are grateful to Lightcast for its generosity in providing access to this dataset. Rather than using relative shares of workers as represented within the Career History Dataset, we chose to

weight each occupation-firm pair based on the distribution of postings for a given firm as reflected in the Lightcast Job Posting dataset.

We chose to do this because, by our assessment, the occupational distributions within employers are more accurate and consistent than in the Career History database. These occupational shares within employers were used as weights in the employer-level scores for each metric. We also used the Lightcast Job Postings data for calculating the average minimum years of experience for the Entry-level metric.

Glassdoor Dataset

Our Promotion, Pay, Parity, and Culture metrics leverage self-reported wage data from Glassdoor, an anonymous employer review jobs platform. The Glassdoor Research team generously provided access to the wage component of their dataset, which we used to infer wages for each position a worker has held, as discussed above.