

Real Pay by Occupation across the United States: A Measure on Workers' Own Spending, with Two Applications to Interstate Moves

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First draft September 2026, this version October 2026.

Working paper, not peer reviewed. The author works in workforce analytics in the private sector. The paper uses only public data and received no funding.

Abstract

Pay by occupation and price levels are both published for every state, but they have not been combined into an annual measure of what each job actually pays once the cost of living is allowed for, and I build one here for about 800 detailed occupations in every state from 2008 to 2024. Occupational pay is divided by an index of the Bureau of Economic Analysis's price parities for goods, rents, utilities and other services, weighted by what households spend out of pocket in the Consumer Expenditure Survey at the household incomes of each occupation's workers in the American Community Survey. On this spending, prices differ across states 1.4 to 1.8 times as much as on the consumption the all-items parity is built for, because rents take about twice the weight in household budgets. Weighting by the household incomes of each occupation's workers, by contrast, changes the deflator of the lowest-paid fifth of occupations against the highest-paid by at most 1.2 per cent within a state. Once pay is put in real terms, the state that pays an occupation best changes for 64 per cent of occupations. In the first application, a map of real pay across states, the real premium runs from 12 log points above the national level in North Dakota to 12 below in Florida, with a correlation of only 0.10 with the nominal premium. In the second, states whose rents rose faster drew an increasingly high-paid mix of interstate arrivals, a pattern that follows each state's slow rent trend. In the third, an occupation's own pay gap between two states went with few additional movers: a gap 10 per cent wider went with about 2 per cent more, while a destination 10 per cent further away went with 7 per cent fewer.

1. Introduction

An employer deciding where to recruit, a worker weighing an offer in another state and a state agency comparing its wages with its neighbours' all need to know what a job pays once the cost of living is allowed for, as that is what a household's livelihood rests on. The Occupational Employment and Wage Statistics of the Bureau of Labor Statistics give pay for every detailed occupation in every state each year, and the Bureau of Economic Analysis gives the price level of every state, yet no public series combines the two for every occupation, state and year.

In this paper I build that series, with real pay defined as an occupation's mean annual pay in a state divided

by a price index for the households its workers live in, and then put it to use. For the index I take the Bureau of Economic Analysis's regional price parities for four components, goods, housing services, utilities and other services, and weight them by what households at each level of income spend out of pocket, from the published tables of the Consumer Expenditure Survey. An occupation's weights in a state then follow the household incomes of its workers in the American Community Survey, which also records where those workers live, so a job is priced where its holders pay rent. The series runs from 2008, the first year of the parities, to 2024, and every figure carries the sampling error of pay.

Measured on workers' own spending, prices differ across states considerably more than on the wider consumption the all-items parity covers, as rent, the most dispersed component, takes a larger share of household budgets. But, weighting by occupation adds little to this: within a state, the deflator of the lowest-paid fifth of occupations differs from that of the highest-paid by about one per cent at most, in a direction set by the state's price level. Thus the reordering of states by real pay, which comes from the spending basket, is large, as for 64 per cent of occupations the state that pays most in dollars is not the state that pays most in what the dollars buy.

I then put the measure to three uses, the first a map of where each occupation's real pay is highest, in other words where a given job buys the most, and of how that map changed from 2008 to 2024. The other two concern moves between states: one asks whether faster rent growth in a state went with fewer low-paid newcomers, and the other how strongly people move towards higher pay in their own occupation, set against the decline of moves with distance. After a review of existing measures in Section 2, Sections 3 and 4 build the measure and describe what it shows, Sections 5 to 7 take the applications in turn, and Section 8 discusses the limits.

2. Existing measures

The precedent for this paper is Cover (2016), who, in the Bureau of Labor Statistics's *Monthly Labor Review*, divided the mean wages of the May 2014 Occupational Employment Statistics by the all-items parity for about 300 metropolitan areas. He showed that low-paid occupations are re-ranked most by prices, with cashiers and food-service workers in San Francisco and San Jose falling into the bottom quarter of areas. That calculation, however, covers one year and metropolitan areas, uses one index for every occupation and reports no sampling error.

Price indices that vary with income also exist, and they bear directly on whose prices a wage should be deflated by. Moretti (2013) built local price indices for college and high-school graduates from 1980 to 2000 and found that the cost of living accounts for 22 to 30 per cent of the rise in the college premium, while letting housing weights vary by skill barely changed the figure. Diamond and Moretti (NBER Working Paper 29533, revised 2026, not peer reviewed) built indices for commuting zones and three income groups from the spending of three million households in 2014, and found the spread of prices across places almost twice as large for low-income households as for high-income ones. For groceries, wealthy cities are relatively expensive for low-income households and relatively cheap for high-income ones (Handbury, 2021). On rents, Molloy (2024) found that median rents grew slightly more slowly for the lowest income quintile than for the highest from 1985 to 2021, 1.70 against 1.96 per cent a year, while housing took 34 per cent of spending in the lowest quintile and 25 per cent in the highest in 2010 to 2021.

None of these, however, provides an annual panel of real pay by detailed occupation and state, built from the official price components and carrying the sampling error of pay, and that panel, together with its use to study moves between states, is the contribution of this paper. For the moves I draw on the gravity model of an empirical paper I have written as a companion to this one, on interstate migration (Conway, 2026).

3. Data and measure

3.1 Pay

Pay is the mean annual wage of each detailed occupation in each state from the Occupational Employment and Wage Statistics, May 2008 to May 2025, with its published relative standard error, although the measure uses only 2008 to 2024, the years with price parities. The files cover 51 jurisdictions and about 790 to 830 detailed occupations a year, with mean pay published for 99.7 per cent of employment. In a state and occupation, the median relative standard error of mean pay is 3.0 per cent in 2008 and 2.4 per cent in 2024.

Occupation codes changed twice, to the 2010 Standard Occupational Classification around 2012 and to the 2018 classification from 2019 to 2021, and the files carry aggregates of their own that no crosswalk lists. I link codes through the official crosswalks and join each aggregate to the codes that share its leading digits, following the logic of the consistent occupation schemes built for the Census (Autor and Dorn, 2013). But following every link chains unrelated occupations together through the residual “all other” codes, which the 2018 classification split many ways. As such, comparisons across states within a year use each year’s own codes, while comparisons over time use only the 649 occupations that are a single code in every vintage, which hold 72.7 per cent of 2024 employment.

3.2 Prices

Regional price parities are published by the Bureau of Economic Analysis for each state, for all items and for goods, housing services, utilities and other services, each with a national level of 100, and I use the release of February 2026, which covers 2008 to 2024. Housing is the most dispersed component, from 155.0 in the District of Columbia to 54.2 in West Virginia in 2024, and across states its standard deviation in logs is 0.271, with 0.240 for utilities, against 0.043 for goods and 0.034 for other services. The parities are aggregated with weights from personal consumption expenditures by state, and housing rents are estimated from the American Community Survey (U.S. Bureau of Economic Analysis, n.d.-a).

3.3 Spending by income

For the weights I use the published tables of the Consumer Expenditure Survey by quintile of income before taxes, 2008 to 2024, assigning each row of consumption spending to one of the four components. Owners’ housing is valued at its rental equivalent, twelve times the reported monthly rental value of the home, as in the Consumer Price Index, so housing services are rented dwellings plus owners’ rental equivalent. Cash contributions and personal insurance and pensions are not consumption and are left out. Together, the assigned rows, owned-dwelling outlays, cash contributions and insurance and pensions add up to reported spending within five dollars in every quintile and year. Three suppressed cells in 2022 and one in 2023 are set from the published totals, and the suppressed cash contributions of the second quintile in 2022 are filled from the neighbouring quintiles, which forces the check in that one cell.

In 2024, housing takes 37.5 per cent of the basket in the lowest quintile and 28.9 per cent in the highest, against 32.3 and 26.4 per cent in 2008, so the gradient by income steepened over the period. This direction agrees with Molloy (2024) and with Ganong and Shoag (2017), who report housing shares of 32 per cent of income for the lowest-income households in a typical city and under 15 per cent for the highest.

3.4 The households of each occupation's workers

A weight read off the worker's own pay would overstate the difference between occupations, as workers with very different wages share household incomes (Darougheh, Hochmuth, Pettersson and Silva-Pereira, 2025, a draft that is not peer reviewed). From the American Community Survey one-year samples for 2008 to 2024, I place the household of each of 24.2 million employed people in a Consumer Expenditure Survey quintile of the same year. I then compute, for each occupation and state, the share of its workers in each quintile, pooled over the year and its neighbours. Employed people sit high in the distribution of all households: in 2024, 5.6 per cent were in the lowest quintile and 33.0 per cent in the highest. Renting, pooled over all years, falls from 69 per cent of workers in the lowest quintile to 15 per cent in the highest.

Occupations differ in their household incomes, but less than in their pay. In 2024, 32 per cent of the workers of the lowest-paid fifth of occupations lived in the two lowest quintiles, against 6 per cent for the highest-paid fifth. A household's livelihood usually rests on more than one wage, and in both groups most workers lived with at least one other employed person, 73 per cent in the lowest-paid fifth and 68 per cent in the highest-paid.

For 97.9 per cent of workers the state is the state of work, as in the Occupational Employment and Wage Statistics. Survey occupations are matched to the pay codes on the full code for 74.8 per cent of employment, on the first five digits for 23.1 per cent, and on four or three digits for the rest. Where the mix of a state and occupation rests on at least 50 records, which covers 90.8 per cent of employment, it is used as it stands, and otherwise the national mix of the occupation takes its place.

3.5 Real pay

For quintile q in state s and year t , the price index is the sum over components of the quintile's share times the component's parity, divided by 100. For occupation k , the deflator is the sum over quintiles of the share of its workers in each times that index, and real pay is mean pay divided by the deflator. As prices are paid where people live, the index of a state of work averages the indices of the states its workers live in. This matters most for the District of Columbia, where 35 per cent of workers live, and lowers its index for the lowest quintile by 8.4 per cent, while other states move by 1.3 per cent or less. Finally, the deflator is normalised to an employment-weighted mean of one in each year, so real pay is in dollars at the national price level.

As a check, the index of all consumer units correlates 0.988 with the all-items parity across 51 states and 17 years, with a mean absolute difference of 3.2 points. Two variants leave the index almost unchanged, one splitting the rows that mix goods and services half and half between the two components and the other computing a geometric index, and each keeps the standard deviation of the log index within 0.003 of the baseline, with rank correlations of 0.998 to 1.000 across states. The standard error of real pay carries the sampling error of pay only, as the parities and the spending tables come without errors that can be attached to them here.

4. What the measure shows

4.1 Prices on workers' spending

Table 1 sets the index of the lowest and highest quintiles beside the all-items parity for selected states in 2024. Across all states the standard deviation of the log index is 0.123 for the lowest quintile and 0.101 for the highest, against 0.070 for the all-items parity, and 0.127, 0.108 and 0.077 in 2008. In other words, on

workers' out-of-pocket spending prices differ across states 1.4 to 1.8 times as much as on the consumption the parity is built for.

Table 1. Price index by state, 2024, national level 1

State	Lowest quintile	Highest quintile	All consumer units	All-items parity
California	1.260	1.206	1.228	1.107
District of Columbia	1.240	1.195	1.212	1.099
Hawaii	1.185	1.152	1.166	1.100
New York	1.134	1.114	1.122	1.079
Massachusetts	1.137	1.105	1.118	1.058
Washington	1.117	1.100	1.106	1.070
Texas	0.967	0.969	0.968	0.971
Ohio	0.875	0.896	0.888	0.928
West Virginia	0.814	0.854	0.839	0.895
Mississippi	0.803	0.841	0.826	0.870
Arkansas	0.798	0.833	0.820	0.869

Indices for the state itself, before weighting by where a state's workers live. The all-items parity is the Bureau of Economic Analysis's, divided by 100.

The two indices answer different questions. For the all-items parity, the components are weighted by personal consumption expenditures, which also cover spending made on households' behalf by third parties, such as employer-paid health insurance and medical care financed by government programmes (U.S. Bureau of Economic Analysis, n.d.-b). Regressed across states on its components, the parity puts an implicit weight of 0.166 on housing and 0.017 on utilities in 2024, against 0.321 and 0.043 in the household basket, and these are precisely the two most dispersed components. For deflating what a job pays, however, the relevant basket is what wages actually buy. Diamond and Moretti report a difference in the same direction with their own prices, a standard deviation of 0.101 for their index of all incomes against 0.073 for the parity, in levels and across a narrower set of commuting zones (their Table A5).

4.2 Weights by occupation

Letting the weights follow the household incomes of each occupation's workers changes little, because the quintile indices of a state are close together. The largest possible difference between occupations in a state is the gap between its lowest and highest quintiles, which in 2024 runs from 4.8 per cent in favour of the lowest quintile in West Virginia to 4.4 per cent against it in California. With the mixes of Section 3.4, the deflator of the lowest-paid fifth of occupations is at most 1.2 per cent below that of the highest-paid (Mississippi) and at most 1.1 per cent above it (California), and the mean absolute difference across states is 0.5 per cent. Its direction follows the state's price level, with a correlation of 0.97 across the 51 states: where prices are high the low-paid face higher prices than the high-paid, and where prices are low they face lower ones. Across states, real pay on the occupation's deflator and on the same basket at a single mix have a median rank correlation of 0.999, and this extends to occupations the finding of Moretti (2013) for two skill groups.

4.3 Where each occupation pays most

Prices reorder states for most occupations. Among the 587 occupations published in at least 40 states in 2024, the state of highest real pay differs from the state of highest nominal pay for 64 per cent, against 42 per cent with the all-items parity, and the median rank correlation of nominal and real pay across states is 0.63. Real pay on the household basket and real pay on the all-items parity sit much closer together, with a median rank correlation of 0.94, with a fifth percentile of 0.82.

Table 2. The three states of highest nominal and real pay, selected occupations, 2024

Occupation	Highest nominal pay	Highest real pay	Highest real pay, dollars (s.e.)	Its rank in nominal pay	Range of real pay, dollars
Cashiers	DC, WA, CA	ND, WA, VT	37,093 (223)	20	29,084 to 37,093
Nursing assistants	OR, WA, CA	ND, IA, AK	49,959 (600)	21	36,299 to 49,959
Heavy and tractor-trailer truck drivers	NJ, WA, AK	WY, KY, NE	72,099 (1,226)	7	49,819 to 72,099
Electricians	WA, OR, DC	IL, OR, MN	91,469 (1,372)	4	52,643 to 91,469
Registered nurses	CA, HI, OR	CA, OR, AK	123,509 (371)	1	83,884 to 123,509
Software developers	CA, WA, NY	WA, CA, NY	161,315 (4,678)	2	107,001 to 161,315
General and operations managers	NJ, DC, NY	SD, DE, NJ	177,664 (2,843)	10	98,321 to 177,664

Real pay is mean annual pay divided by the occupation's deflator, in dollars at the national price level. The standard error carries the sampling error of pay only.

The states that pay registered nurses and software developers most in dollars remain at or near the top in real terms, but lower down the pay scale prices reshuffle the order, as for cashiers and nursing assistants the state of highest real pay is North Dakota, ranked only 20th and 21st for them in dollars, and truck drivers are best paid in real terms in Wyoming, seventh in dollars.

5. Where real pay is highest

The first use of the measure is a map of where a given job's pay goes furthest. In 2024, among the 557 occupations published with both pay and employment in at least 40 states, North Dakota is among the five states of highest real pay for 37 per cent of the occupations it publishes, the District of Columbia for 33 per cent, Iowa for 27 per cent and Alaska for 26 per cent. At random a state would be among the five for about 10 per cent. In nominal pay, by contrast, the leaders are the District of Columbia with 63 per cent, California with 60 per cent, Washington with 53 per cent and New York with 41 per cent, and California falls to 9 per cent in real pay.

A state's real premium for an occupation is the log of its real pay less the occupation's mean across states, weighted by employment, and a state's premium across occupations weights each occupation by its national employment, so the state's own mix of occupations does not enter, and Figure 1 maps it. In 2024 it runs from 11.7 log points above the national level in North Dakota and 8.7 in Iowa to 12.0 below it in Florida and 9.2 below it in Hawaii, with a standard error from the sampling of pay of 0.16 points at the median. Across states, it has a correlation of only 0.10 with the nominal premium and half its spread, a standard deviation of 4.7 points against 9.9.

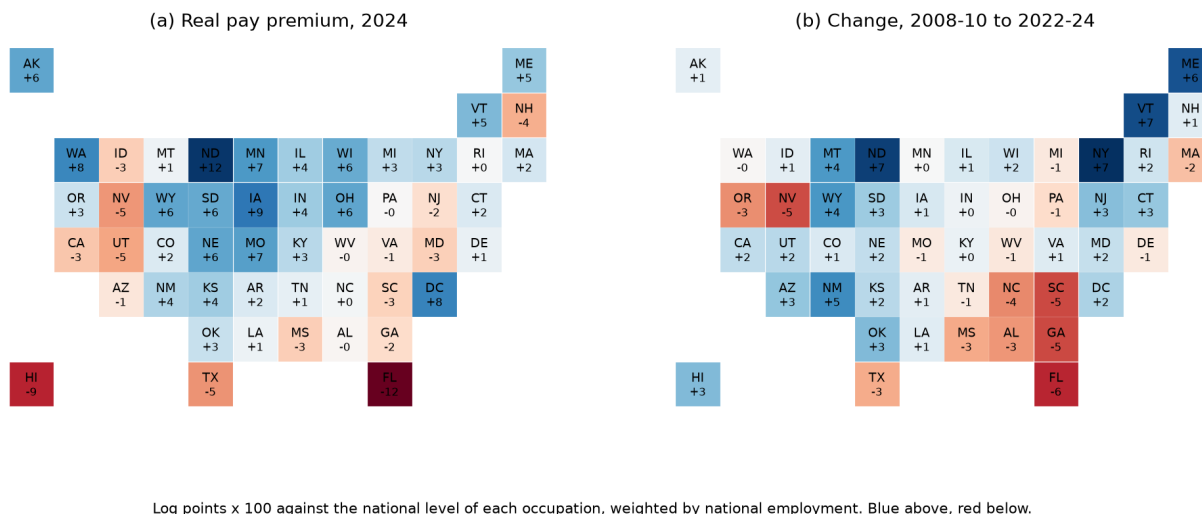


Figure 1: Real pay premium by state, 2024, and its change from 2008 to 2010 to 2022 to 2024

The map separates states that pay well from states where pay goes far. North Dakota, for instance, pays 3.2 points below the national level in dollars, but its prices for these occupations' households are 14.9 points below. California pays 16.4 points above the national level and its prices are 19.7 points above, and Florida pays 6.1 points below with prices 5.9 points above. Furthermore, the real map differs by pay level, as the premia of the lowest-paid and highest-paid fifths of occupations have a correlation of only 0.15 across states. Relative to the highest-paid, the lowest-paid fifth fares worst in Texas, Georgia, Louisiana and California, by 7 to 9 points, and best in Maine, North Dakota and Vermont, by 19 to 22 points.

Two features of the measure shape the map, and the first is the basket: with the all-items parity in place of the household basket, the premia have a correlation of 0.68 with those of Figure 1, and California has a premium of 5.8 points and remains among the five highest-paying states for 24 per cent of its occupations, so much of its fall follows the weight of rents in household budgets. The District of Columbia, for its part, ranks high because its jobs are priced at the prices of Maryland and Virginia, where most of its workers live.

The map changed slowly: between 2008 to 2010 and 2022 to 2024, for the 620 occupations that are the same code throughout, the state premia have a correlation of 0.78 across the two windows. Each state's change in real premium splits exactly into the change in its pay premium less the change in its price premium, so each gain or loss can be traced to pay or to prices. New York gained 7.4 points, 3.6 from pay and 3.9 from prices that fell relative to the nation, and Maine and North Dakota gained 6.5 and 7.0 points, mostly on pay. Florida went the other way, losing 5.6 points, 3.9 of them from relative prices, and South Carolina and Georgia lost 4.9 points each, also more on prices than on pay, so for workers in these states most of the loss came through what their pay buys. To be fair, the changes depend on the end of the window, and the same comparison ending in 2017 to 2019 has a correlation of 0.67 with the one ending in 2022 to 2024, so the levels are the

firmer result.

6. Rents and the pay mix of newcomers

States whose rents rose faster than elsewhere drew an increasingly high-paid mix of interstate arrivals from 2010 to 2024. In the third of states with the fastest relative rent growth, arrivals in the three highest-paid tenths of occupations per arrival in the three lowest rose from 1.26 in 2010 to 2012 to 1.48 in 2022 to 2024. In the slowest third the ratio rose from 1.32 to 1.43, and in the middle third from 1.34 to 1.46.

Arrivals are employed people who lived in another state a year earlier, taken from the American Community Survey, with 439,817 sampled movers in the years of estimation. I count them by destination, year and tenth of national occupational pay, where pay is the occupation's mean annual earnings, including part-year work. Estimated by Poisson pseudo-maximum likelihood (Santos Silva and Tenreyro, 2006), the model has effects for each destination and year, each destination and pay band, and each band and year. It relates arrivals to the destination's log housing parity two years earlier times the band's position, which runs from -0.5 for the lowest band to 0.5 for the highest, and standard errors are clustered by destination.

A rise of 10 per cent in a destination's rents relative to other states went with arrivals in the highest band rising by 7.3 per cent relative to the lowest (coefficient 0.739, standard error 0.260), and only the highest band stands out on its own (0.59, 0.26). One standard deviation of relative rents, 0.038 in logs net of state and year effects, went with 2.9 per cent. Over the long difference between 2010 to 2012 and 2022 to 2024 the estimate is 0.945 (0.407), and notably the employed residents of these states moved up the pay scale in the same way (0.285, 0.112). Split by period, it is 0.458 (0.325) for arrivals from 2010 to 2019 and -0.088 (0.589) for 2021 to 2024.

The association follows the slow trend in each state's rents, and with a linear trend for each destination and band it falls to 0.116 (0.363). Rents two years after the arrivals show the same pattern, 0.724 (0.267) against 0.974 (0.261) for rents two years before on the same years, although relative rents four years apart are uncorrelated (0.01), and the two together give 0.770 and 0.514. Departures from states whose rents rose, for their part, show no gradient by pay (0.084, 0.270). Thus rents and the pay mix of newcomers rose together across states over the period, which fits the shift in where high-skill workers locate documented by Diamond (2016) and Ganong and Shoag (2017). Housing supply constraints, the usual source of instruments for rents, are concentrated in the same states as the high-skill booms (Ganong and Shoag, 2017), so I report the pattern as an association between rising rents and a rising pay mix of newcomers.

7. Pay gaps, distance and moves

An occupation's own pay gap between two states went with few additional movers. Over the full span from 2008 to 2011 to 2021 to 2024, a pay gap 10 per cent wider went with 2.2 per cent more movers in that occupation, while a destination 10 per cent further away went with 7.0 per cent fewer. In the flows, then, the pay gap weighs as much as a distance 2.9 per cent shorter, and 1.7 per cent over the four periods.

Flows are employed movers by origin, destination, occupation and period, for the 140 occupations of the American Community Survey whose code is the same in every year and that have at least 500 sampled movers, 60.6 per cent of movers. The four periods run from 2008 to 2011 to 2021 to 2024, and the pay gap is the difference in log mean pay of the occupation between destination and origin, averaged over each period. Effects enter for each pair of states, each origin and occupation, each destination and occupation, each origin and period, each destination and period, and each occupation and period. As such, the response comes from

changes over time in an occupation's pay in one state relative to another, net of everything about a state in a period, including its prices, so real and nominal pay give estimates identical to three decimals.

Over the full span, a pay gap one log point wider went with flows 0.226 log points larger (standard error 0.068 clustered by pair, 0.050 clustered by origin and by destination). For the 83 occupations matched exactly to one occupation code that is the same in every vintage, the estimate is 0.323 (0.093). Over the four periods it is 0.135 (0.044), and 0.096 (0.056) without the first period, and over the four periods destination pay and origin pay enter with 0.118 (0.063) and -0.152 (0.065). On the same flows, the distance elasticity is -0.760 (0.059, clustered by origin and by destination), close to the -0.77 of the companion paper, with a coefficient of 0.687 for states that share a border, in a model with effects for each origin, occupation and period and for each destination, occupation and period.

The response cannot be distinguished between thirds of occupational pay (chi-squared 0.80 with two degrees of freedom, p 0.67), although the highest-paid third has a smaller distance elasticity, -0.656 (0.065) against -0.821 (0.054) for the lowest. It is far smaller than the elasticity of 0.78 to destination wages that Olney and Thompson (2026) find between commuting zones with nominal wages and effects for each pair and year, but that elasticity includes everything that raises pay across a whole place, which the state and period effects absorb here. Kennan and Walker (2011) find that migration responds to income prospects to a substantial extent, with a labour supply elasticity above 0.5, for white men with a high-school education. In essence, the comparison here isolates a narrower margin, an occupation's pay relative to the rest of its state, and on that margin movers respond weakly.

Dropping the destination and period effects lets the measure itself enter, with effects left for each origin, occupation and period, each pair, each destination and occupation, and each occupation and period. Over the four periods, destination nominal pay enters with -0.133 (0.097) and the destination's log deflator with 1.502 (0.855), and in the long difference with -0.128 (0.138) and 2.473 (1.123). In other words, movers went towards states whose prices rose, the same joint rise of prices and arrivals as in Section 6, so in these flows a destination's prices mark its growth.

8. Limits

The four components of the parities are coarse, and national indices built on fewer categories understate how much prices differ by income (Hochmuth, Pettersson and Weissert, 2025). Moreover, the goods parity takes no account of the variety and quality of what is on sale, which favour high-income households in rich places (Handbury, 2021). As the weights are national shares by income quintile, a quintile's weights carry the geography of its members. Furthermore, a household of the American Community Survey can hold several consumer units of the Consumer Expenditure Survey, which places workers higher in the distribution than their own units would be, and 33 per cent of workers fall in the open highest quintile.

The real premia depend on the basket, and on the all-items parity they have a correlation of 0.68 with the household version. As the parities compare states within a year, the panel compares real pay across states in a year, and comparisons over time would require a national price index to chain the years. Pay in the Occupational Employment and Wage Statistics pools three years of survey panels, and the Bureau of Labor Statistics cautions against reading it as a time series, so the applications use periods of four years and a long difference, and they compare occupations over time only where the code is stable. The standard error of real pay omits the sampling error of the parities and the spending tables, so states whose premia are within one or two points of each other should not be ranked. In 2024, 616 cells of state and occupation have no published mean, most of them top-coded pay of physicians, and are left out of the map. Lastly, in both

applications occupation is recorded after the move, the American Community Survey misses some moves, and pay responds to arrivals, so both report associations.

9. Conclusion

Pay by occupation and prices by state are both published, and I have combined them into an annual measure of real pay for about 800 occupations in every state from 2008 to 2024, on the spending of the households that hold the jobs. On that spending, prices differ across states 1.4 to 1.8 times as much as on the consumption the all-items parity covers, because rent takes about twice the weight in household budgets. Once prices are allowed for, the state that pays an occupation most changes for 64 per cent of occupations, so for most jobs the state with the highest wage is not the one where that wage goes furthest. Weighting by the household incomes of each occupation's workers, however, moves the deflator by about one per cent at most within a state, so the household basket determines the measure.

Mapped across states, real pay is highest in North Dakota, Iowa and Alaska and lowest in Florida and Hawaii, a map almost unrelated to that of nominal pay and stable since 2008. Applied to moves between states, the measure and its inputs show newcomers to states with rising rents becoming steadily better paid, with rents and the pay mix rising together, and an occupation's own pay advantage going with few additional movers. A pay gap of 10 per cent between two states weighs as much in the flows as a distance about two to three per cent shorter. The panel can be tabulated for any occupation and state from public files, which is how an employer, a worker or an agency comparing pay across states would use it. ## References

Autor, D. H. and Dorn, D. (2013). The growth of low-skill service jobs and the polarization of the US labor market. *American Economic Review*, 103(5), 1553–1597.

Conway, A. (2026). Distance and Occupation in Interstate Migration: A Gravity Measure for 209 Occupations in the United States, 2005 to 2024. Unpublished working paper. Not peer reviewed.

Cover, B. (2016). Purchasing power: using wage statistics with regional price parities to create a standard for comparing wages across U.S. areas. *Monthly Labor Review*, April 2016. U.S. Bureau of Labor Statistics. doi:10.21916/mlr.2016.14.

Darougheh, S., Hochmuth, P., Pettersson, M. and Silva-Pereira, M. (2025). Getting real about wages: a nonhomothetic wage deflator. Draft of 29 October 2025. Not peer reviewed.

Diamond, R. (2016). The determinants and welfare implications of US workers' diverging location choices by skill: 1980–2000. *American Economic Review*, 106(3), 479–524.

Diamond, R. and Moretti, E. (2021, revised 2026). Where is standard of living the highest? Local prices and the geography of consumption. NBER Working Paper 29533. Not peer reviewed.

Ganong, P. and Shoag, D. (2017). Why has regional income convergence in the U.S. declined? *Journal of Urban Economics*, 102, 76–90.

Handbury, J. (2021). Are poor cities cheap for everyone? Non-homotheticity and the cost of living across U.S. cities. *Econometrica*, 89(6), 2679–2715.

Hochmuth, P., Pettersson, M. and Weissert, C. J. (2025). A distributional cost-of-living index from aggregate data. *Review of Income and Wealth*, 71(4), e70034.

Kennan, J. and Walker, J. R. (2011). The effect of expected income on individual migration decisions. *Econometrica*, 79(1), 211–251.

Molloy, R. (2024). JUE insight: differences in rent growth by income from 1985 to 2021 and implications for inflation. *Journal of Urban Economics*, 142, 103669.

Moretti, E. (2013). Real wage inequality. *American Economic Journal: Applied Economics*, 5(1), 65–103.

Olney, W. W. and Thompson, O. (2026). The determinants of declining internal migration. *Journal of Urban Economics*, 153, 103856.

Ruggles, S., Flood, S., Sobek, M., Backman, D., Cooper, G., Rivera Drew, J. A., Richards, S., Rodgers, R., Schroeder, J. and Williams, K. C. W. (2025). IPUMS USA: Version 16.0 [dataset]. Minneapolis, MN: IPUMS. doi:10.18128/D010.V16.0.

Santos Silva, J. M. C. and Tenreyro, S. (2006). The log of gravity. *Review of Economics and Statistics*, 88(4), 641–658.

U.S. Bureau of Economic Analysis (n.d.-a). Methodology for regional price parities. https://www.bea.gov/sites/default/files/nfor-Regional-Price-Parities_0.pdf.

U.S. Bureau of Economic Analysis (n.d.-b). Frequently asked questions, 1009: personal consumption expenditures. <https://www.bea.gov/help/faq/1009>.

U.S. Bureau of Economic Analysis (2026). Regional price parities by state, 2008 to 2024 (SARPP). Release of 19 February 2026.

U.S. Bureau of Labor Statistics (2009–2026). Occupational Employment and Wage Statistics, state estimates, May 2008 to May 2025, and technical notes.

U.S. Bureau of Labor Statistics (2009–2025). Consumer Expenditure Surveys, quintiles of income before taxes, 2008 to 2024.

U.S. Bureau of Labor Statistics (2010, 2017). Standard Occupational Classification crosswalks, 2000 to 2010 and 2010 to 2018.

U.S. Census Bureau (2021, 2024). Centers of population by state, 2020, and county adjacency file, 2024.