## DISCUSSION PAPER SERIES

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# ABSTRACT

# Would Broadening the UI Tax Base Help Low-Income Workers?*

The tax base for state unemployment insurance (UI) programs varies significantly in the U.S., from a low of $7,000 annually in California to a high of $52,700 in Washington. Previous research has provided surprisingly little guidance to policy makers regarding the tradeoffs associated with this variation. In this paper, we use 37 years of data for all 50 states and Washington, D.C. to estimate the impact of the UI tax base on labor-market outcomes. We find that the low tax base that exists in California and many other states (and the necessarily higher tax rates that accompany these) negatively affects labor market outcomes for part-time and other low-earning workers.

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There is a voluminous literature investigating the impact of unemployment insurance (UI) benefits on the labor market (Schmieder, von Wachter, and Bender 2016; Johnston and Mas 2018). However, very few studies have investigated the effects of various UI financing decisions. This is surprising given the arguably larger variation across states in UI financing compared to UI benefits. For example, employers in the state of Washington pay experience-rated UI taxes on the first $52,700 in each worker's earnings. In contrast, employers in California pay UI taxes on only the first $7,000 in earnings, and the other 48 states and Washington, D.C. lie between these two extremes. Academic research has provided little guidance to policymakers regarding the tradeoffs associated with this and other financing choices. In this paper, we aim to raise awareness of and begin to fill this gap in the literature.[2]

The Social Security Act of 1935 gave states a powerful incentive to create their own UI programs. It imposed a uniform payroll tax of 1 percent in 1936, 2 percent in 1937, and 3 percent in 1938 (and thereafter) on each worker's wages up to $3,000 annually, which was substantially greater than average annual earnings at that time. Employers in states with approved UI laws could offset one-for-one up to 90 percent of their federal UI tax burden with state UI taxes. This federal mandate mitigated the concerns of many states that instituting a UI program would discourage employers from locating there. In 1938, 98 percent of all earnings were subject to UI taxes and all states had operational UI programs, which accumulated program surpluses in trust funds that could then be drawn upon in recessions.[3]

Through 1954, every state kept its annual UI taxable wage base at $3,000, consistent with the federal minimum.[4] In the subsequent six years a handful of states increased their UI tax bases to $3,600 or more, though by 1960 the UI tax base in 44 states and D.C. remained at $3,000. Ten years later in 1970, most state UI programs still had an annual tax base of only $3,000, until the federal government increased its base to $4,200 in 1972.

In the next 50 years, the federal government increased its minimum annual UI tax base just twice—to $6,000 in 1978 and then to $7,000 in 1983. But whereas in 1972 only five state UI programs exceeded the federal minimum, by 2020 only five states were still at the minimum. The

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[2] Recent literature studying UI and labor demand includes Anderson and Meyer (2000), Guo (2021), Huang (2021), and Johnston (2021).

[3] https://www.ssa.gov/policy/docs/ssb/v23n8/v23n8p50.pdf

[4] This was identical to the tax base for the Social Security program from 1937-50. This was followed by several more one-off changes before it was indexed to average earnings in the early 1980s and by 2021 it stood at $142,800.

current variation in annual UI tax bases is substantial, ranging from a low of $7,000 in California and four other states to a high of $52,700 in Washington state. This variation is the product of either "one-off" policy changes, or of tax schedules that index the growth rate of the UI tax base to average wage growth (in a third of states).

Since the tax base has grown more slowly than average earnings, the share of earnings subject to UI taxes has steadily fallen, from 98 percent in 1940 to 44 percent in 1980. This decline continued to 25 percent in 2020 (Figure 1). The magnitude of this change has varied substantially across states, with 53 percent of all workers' earnings subject to UI taxes in Washington state in 2020 versus just 13 percent in California.

*Source: Unemployment Insurance Financial Data Handbook* found at https://oui.doleta.gov/unemploy/hb394.asp.

It is important to note that this variation across states in the tax base is not the same as the variation in insured earnings. In California, a laid-off worker earning $46,800 or more annually would qualify for the maximum weekly benefit of $450, while a worker earning just $7,000 annually could end up with $67 per week. Yet the employer's UI contributions for these two workers is identical. In California and virtually every other state, earnings insured by UI are substantially greater than the UI tax base, which naturally spends down UI trust funds and leads to insolvency during economic downturns.

One would expect a smaller tax base to—all else equal—require higher tax rates to finance UI benefits. This mechanically raises employers' cost of hiring workers with low annual earnings, as any earnings beyond the tax base will reduce effective tax rates. In a world with imperfect pass-through of payroll taxes, higher tax burdens could cause labor demand to fall as a result. These effects might be especially acute for workers with low annual earnings, such as part-time workers, and workers in low-wage occupations like retail and fast food.

In this paper, we investigate this issue with data for all 50 state UI programs and D.C. from 1983 to 2019.[5] We estimate the impact of the (logged) state taxable wage base and focus our attention on part-time employment as a proxy for low-income workers. Estimating a causal effect in this setting is inherently challenging. First, a state's UI tax base is not randomly assigned and may be influenced by current or projected labor market conditions. Second, there are other features of UI financing that vary across and within states including the formula for employer tax rates. Third, the state's UI tax base may affect (or be affected by) UI benefit generosity, which may also affect

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[5]We end our sample in 2019 to exclude the Covid-19 pandemic which began in early 2020.

labor market outcomes. To the extent that any such bundled changes influence labor market outcomes, this could bias our estimates.

We take multiple steps to address these possible sources of bias. Since our goal is to estimate the impact of the UI tax bases on low-income workers, we estimate differential treatment effects for workers by occupation group, and use high-income occupations as a within-state control group. Additionally, we control for the generosity of a state's UI benefits in each year given the correlation between UI generosity and tax base (since higher benefits generally require greater tax revenues to finance them). Our findings suggest that from 1983-2019, an increase in a state's taxable wage base is associated with an increase in the share of part-time employment among low-wage occupations.

## I. Data and Empirical Framework

UI taxes are assessed for earnings up to the state's taxable wage base, and in most states this tax base is well below the annual earnings of most workers. To examine the impact of taxable wage bases on workers at the lower end of the earnings distribution, we focus on part-time work as representative of low-income workers. To observe part-time status and occupation data at the state level over a long period of time, we use the IPUMS-harmonized monthly Current Population Survey (Flood et al., 2020). In the CPS, part-time employment is currently defined as fewer than 35 hours worked per week, although an hours-based definition was not specified prior to 1994.

Our analysis sample consists of individuals in the labor force who are between the ages of 25 and 64. To allow for differential impacts across the occupational earnings distribution, we create a stable classification of occupational earnings by matching CPS occupations to earnings data from the 2000 Occupational Employment and Wage Statistics (OEWS), which falls in the middle of our sample period. We divide occupations into terciles by median annual earnings (for reference, the bottom third had median annual earnings of $25,310 or less in 2000, and the top third had earnings of $37,220 or more), aggregate the monthly person-level observations up to state-tercile-year-quarter cells.

Table 1 reports summary statistics for our analytic sample in the beginning, middle, and end of our sample period (1983, 2000, and 2019). Each column compares average measures for full-time versus part-time workers who were currently employed as of the March CPS survey. Part-time workers are more likely to be female and less likely to have a high school or college education,

although these gaps have decreased over time. The part-time workforce has also aged faster than the full-time workforce, with a quarter of part-time workers in 2019 being in the 55-64 age range. Additionally, part-time workers are more likely to be below the poverty line; while absolute poverty rates have dropped over time, the share of part-time workers in poverty has increased relative to full-time workers. Finally, if we impute the share of weekly earnings that would face UI taxation, part-time workers consistently face a larger relative UI tax burden.

[Insert Table 1 Here]

In our baseline specification, we restrict to the lowest and highest occupation groups, and estimate the main effect of the logged state taxable wage base, plus an additive interaction term for the lowest occupation tercile.

$$(1)\ PT_{sjt} = \alpha_s + \delta_{jt} + \beta_0 Base_{st} + \beta_1 Low * Base_{st} + \beta_3 Benefit_{st} + \varepsilon_{sjt}$$

Here s indexes state, j indexes occupational earnings tercile, and t indexes year-quarter. We include state and tercile-by-year-quarter fixed effects. The highest tercile acts as a within-state control group to help account for potentially confounding state-year variation. The outcome variables of interest are defined as either the share of the labor force reporting part-time work status, or the share of those currently employed. $\beta_1$ is the coefficient of interest, and the identifying assumption is that absent differential changes to the UI taxable wage base, the share of part-time workers in low-wage occupations would have evolved similarly across states over time.

## II. Results

Our baseline results are reported in Table 2, with the estimates in Column 1 showing that tax base increases appear to have a negative effect on employment, but with the lowest-earning occupations impacted by less than the highest. Turning to part-time shares, Column 2 estimates that a 10 percent increase in the taxable wage base increases the labor force share of PT employment by 0.066 percentage points for the lowest-earning occupations (or 0.4% relative to the sample mean). The estimates are very similar across the two part-time outcomes, with slightly larger effects conditional on employment; a 10 percent increase in the taxable wage base increases the employed share who are part-time by 0.074 percentage points or 0.4% relative to the mean. In

contrast, the main effect is insignificant and close to zero; this suggest the impact on part-time work is largely limited to low-earning occupations where tax base increases are the most binding.

To explore the mechanism behind increases in part-time work, in Column 4 we measure the share of part-time workers who report working part-time due to economic reasons (such as a cut in hours necessitated by economic conditions). The negative magnitude on the interaction term suggests that the main channel through which part-time work increases is through increased availability of part-time positions, rather than through cutting hours for full-time workers.

[Insert Table 2 Here]

### III. Indexing versus Other Base Increases

The variation in state taxable wage base increases over time can be broken down into two types of policy changes: those from automatic indexing and those from one-off increases. The majority of states legislate taxable wage base increases in response to inflation and trust fund finances in a relatively *ad hoc* way. On the other hand, a subset of states have indexed their taxable wage base to automatically increase with average annual wages. A total of 17 states adopted an indexing policy, mostly in the 1970s and 80s.

While these two categories of base increases were similar in magnitude at the start of our sample period, over time the effect of automatic indexing has dwarfed base increases in states that periodically update their base. States that index their taxable wage bases collect significantly higher average UI tax contributions per worker. Since the purpose of indexing is to maintain tax bases as a constant share of earnings, forward-looking employers may be less likely to respond to these automatic base increases, or more able to pass tax increases onto workers. In line with this expectation, dropping indexed states from our analysis strengthens the effects on part-time shares. As shown in Table 3 Column 3, a 10 percent increase in the state tax base is associated with a 0.23 percentage point increase in part-time work as a share of employment (1.2% relative to the mean).

[Insert Table 3 Here]

## IV. Conclusion

In recent years, the gap between states with the highest and lowest UI tax bases has steadily grown. At the two extremes are California (and four other states at $7,000 annually) and Washington ($52,700 annually).  Surprisingly little is known about the consequences of these differences for workers or employers. The low tax bases in California and many other states likely raise the cost of hiring part-time and lower-paid workers due to necessarily higher tax rates. The results in this paper suggest this largely unexplored variation in UI financing may have important consequences for low-income workers.

The shrinking of the UI tax base has also contributed to shortages in UI financing in many states. Just prior to the pandemic, the three states with the least solvent UI trust funds (California, Texas, and New York) had tax bases of just $7000, $9000, and $11,400 respectively. Meanwhile, all 17 states with indexed tax regimes ranked within the top half of trust fund solvency. Improving the current state of UI financing in the U.S. will require a better understanding of the tradeoffs associated with policy choices. (Guo and Johnston (2021) reviews the existing literature and highlights open questions.) In the meantime, it seems likely that a significant increase in the federal UI tax base of $7,000 is warranted, since this has been unchanged in 39 years.

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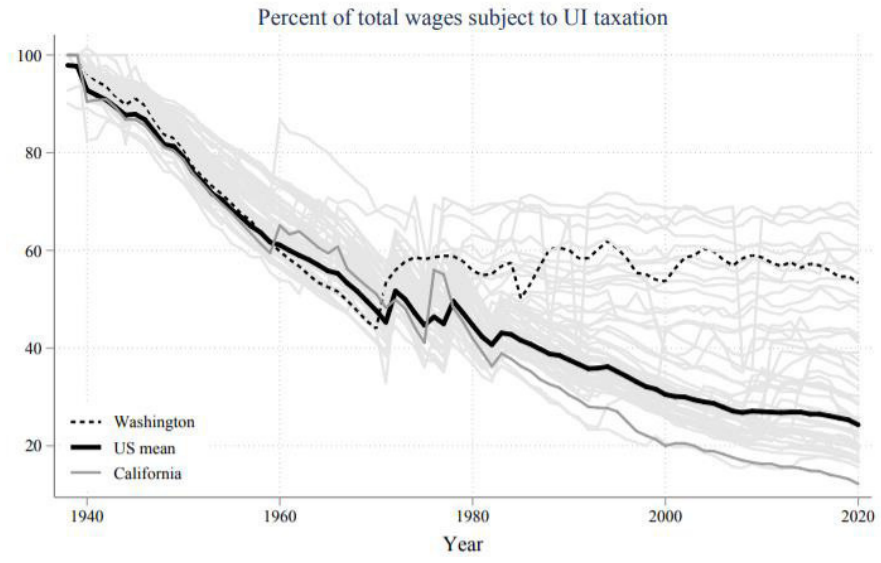
FIGURE 1. PERCENT OF TOTAL WAGES SUBJECT TO UI TAXATION

TABLE 1— SUMMARY STATISTICS – MARCH CPS

| | (1) 1983 | | (2) 2000 | | (3) 2019 | |
| --- | --- | --- | --- | --- | --- | --- |
| | Full-Time mean | Part-Time mean | Full-Time mean | Part-Time mean | Full-Time mean | Part-Time mean |
| Age 25-39 | 0.52 | 0.52 | 0.45 | 0.44 | 0.41 | 0.41 |
| Age 40-54 | 0.34 | 0.32 | 0.44 | 0.41 | 0.38 | 0.34 |
| Age 55-64 | 0.14 | 0.16 | 0.12 | 0.16 | 0.20 | 0.25 |
| Male | 0.62 | 0.27 | 0.58 | 0.32 | 0.57 | 0.37 |
| White | 0.88 | 0.89 | 0.83 | 0.85 | 0.77 | 0.79 |
| HS or less | 0.54 | 0.63 | 0.41 | 0.44 | 0.31 | 0.35 |
| Bottom tercile occ | 0.29 | 0.55 | 0.29 | 0.45 | 0.29 | 0.46 |
| Retail or Food occ | 0.12 | 0.24 | 0.13 | 0.19 | 0.13 | 0.21 |
| Below poverty | 0.05 | 0.12 | 0.04 | 0.09 | 0.03 | 0.10 |
| Usual hours | 41.65 | 23.47 | 43.51 | 28.93 | 42.62 | 28.66 |
| Weekly earnings | 380 | 146 | 730 | 426 | 1175 | 652 |
| Share taxable UI | 0.48 | 0.87 | 0.35 | 0.62 | 0.3 | 0.56 |
| N | 41,398 | 7,584 | 38,628 | 8,823 | 36,413 | 8,171 |

*Notes:* Basic monthly CPS matched to March ASEC, restricted to currently employed. Poverty status based on income last year. Weekly earnings only measured for outgoing rotation groups. Share taxable = UI taxbase divided by weekly earnings*52.

TABLE 2— OLS REGRESSIONS POOLING LOW AND HIGH OCCUPATION TERCILES, AGE 25-64 (1983-2019)

| | (1) Employed | (2) PT Share of LF | (3) PT Share of Emp | (4) PT Econ Reason |
|---|---|---|---|---|
| ln(base) | -0.506*** | -0.102 | -0.0224 | 1.337*** |
| | (0.106) | (0.130) | (0.145) | (0.356) |
| | | | | |
| ln(base)*Low | 0.247*** | 0.664*** | 0.739*** | -2.376*** |
| | (0.0681) | (0.0959) | (0.109) | (0.218) |
| | | | | |
| Max benefit (100s) | -0.165*** | 0.190*** | 0.271*** | 1.236*** |
| | (0.0365) | (0.0483) | (0.0545) | (0.117) |
| | | | | |
| $R^2$ | 0.826 | 0.925 | 0.930 | 0.807 |
| Mean of Dep Var | 90.95 | 17.78 | 19.42 | 19.47 |
| N | 15,096 | 15,096 | 15,096 | 15,096 |

*Notes:* Observations are at the wage tercile x state x year x quarter level. Regressions include state and year-quarter-tercile fixed effects, and are weighted by state population. PT Econ Reason denotes the share of PT workers reporting part-time hours for economic reasons. Robust standard errors in parentheses. *** Significant at the 1 percent level.

TABLE 3— OLS REGRESSIONS DROPPING INDEXED STATES (1983-2019)

| | (1) Employed | (2) PT Share of LF | (3) PT Share of Emp | (4) PT Econ Reason |
|---|---|---|---|---|
| ln(base) | -0.144 | -0.280 | -0.281 | 5.416*** |
| | (0.175) | (0.211) | (0.234) | (0.552) |
| ln(base)*Low | 0.143 | 1.964*** | 2.279*** | -6.373*** |
| | (0.186) | (0.255) | (0.289) | (0.574) |
| Max benefit (100s) | -0.172*** | 0.366*** | 0.468*** | 1.046*** |
| | (0.0437) | (0.0543) | (0.0617) | (0.137) |
| $R^2$ | 0.835 | 0.932 | 0.936 | 0.823 |
| Mean of Dep Var | 90.90 | 17.54 | 19.17 | 19.68 |
| $N$ | 10,064 | 10,064 | 10,064 | 10,064 |

*Notes:* Observations are at the wage tercile x state x year x quarter level. Regressions include state and year-quarter-tercile fixed effects, and are weighted by state population. PT Econ Reason denotes the share of PT workers reporting part-time hours for economic reasons. Robust standard errors in parentheses. *** Significant at the 1 percent level.