Employment Research, Vol. 28, No. 1, January 2021

W.E. UPJOHN INSTITUTE

EMPLOYMENT RESEARCH

Job Creation Policies Can Raise Local Employment Rates, Especially for Distressed Communities

Timothy J. Bartik

ARTICLE HIGHLIGHTS

■ *Local job creation has greater benefits when it increases local employment rates. Higher employment rates increase job skills, boost mental health, and reduce substance abuse.*

■ *Local employment rates are affected more by overall job creation in the local labor market, typically a multicounty area, and not by which county or neighborhood gets the jobs.*

■ *Local employment rates increase three times as much if jobs are targeted at local labor markets that were initially more distressed.*

Many places in the United States lack enough jobs: the share of their working-age population with jobs—their employment rate—is low. These distressed areas are sometimes small neighborhoods, sometimes a county, and sometimes a multicounty area tied together by commuting that constitutes a local labor market.

Low employment rates impose costs not just for individuals who lack jobs but for all residents of these places. For jobless individuals, lack of employment can lead to loss of job skills, family stress, and substance abuse. These problems spill over to others in the community, for example by harming child development, depressing local tax bases, and increasing crime.

Communities with low employment rates would benefit from job creation policies. But what kinds of places should these policies target: neighborhoods or broader labor markets? And even if an area is selected for job creation assistance, what determines the extent to which this area's job creation translates into increased employment rates? Local job creation could increase the share of the population with jobs, but it could also increase the local population if new workers move in. The social benefits of job creation are much higher if job creation policies boost local employment rates more and in-migration less.

In two recent working papers, I argue that job creation policies should target multicounty areas that are local labor markets, encompassing most local commuting flows. Creating jobs in these local labor market areas can raise employment rates, but which specific neighborhood gets the jobs is less important. Furthermore, the local labor markets targeted for job creation should be distressed, with low preexisting employment rates. Effective job creation policies can raise employment rates three times as much in more-distressed labor markets as in less-distressed labor markets. This

> **A job creation program in a distressed commuting zone has three times the benefits of a similar policy in a booming commuting zone.**

contrast occurs because, in more distressed areas, job creation benefits flow more to existing jobless residents than to workers migrating in.

For federal and state policymakers the lessons are twofold:

1) Job creation efforts, such as economic development incentives and services, should be targeted at the most distressed local labor market areas.

2) Although disadvantaged neighborhoods also deserve help, they are not best helped by creating jobs in these neighborhoods, as neighborhoods are not local labor markets. Rather, policymakers should explore how these neighborhoods' residents can be linked to jobs throughout the local labor market, for example via job information, job training, and transportation.

Job Creation Policies Can Raise Local Employment Rates, Especially for Distressed Communities

Employment Rate Effects Key for Place-Based Policy

Many areas throughout the country suffer from low employment rates. Joblessness reduces earnings not only in the present but also in the future, because reduced work experience erodes skills. Low employment rates also lead to increased substance abuse, crime, and family dissolution, and they reduce tax revenues, diminishing the quality of local public services. These problems persist: low employment rates today lead to low employment rates a decade later.

Can local job creation policies overcome these problems and boost long-run employment rates? The theory is that by jump-starting employment rates in the short run, local job creation may increase skills and reduce social problems, leading to higher employment rates and lower social problems in the long run. But how large are such employment rate impacts? Are they the same everywhere, and do they last into the future?

Local Labor Markets Are Multicounty Areas, Not Neighborhoods

What is a local labor market? If we're targeting jobs at "places" where employment rates are low, do we need to target neighborhoods, counties, or larger multicounty areas such as metropolitan areas or rural "commuting zones"?

Much of the immediate effect of job creation is quite localized. If a job is created, about 50 percent of the effect on unemployment exits occurs within nine miles. A nine-mile radius encompasses an area less than half the geographic size of a median U.S. county. But local job creation has multiplier and job chain effects that are geographically broader. Newly created jobs, for example, can induce additional upstream and downstream jobs at local suppliers and retailers, who may be further away. Geographic spreading of effects also occurs due to job vacancy chains: If a new job is filled by an employed worker nine miles away, this leads to a job vacancy at the worker's old job, which may be filled by an individual who lives another nine miles further away, and so on. Are the overall impacts from job creation dominated by the more nearby immediate effects, or by the more geographically broad effects due to multipliers and job chains?

In these two papers, I show that local labor markets are best defined as multicounty areas, called commuting zones (or CZs), which are groups of counties that each encompass most commuting flows in an area. (CZs divide the 3,141 U.S. counties into 625 multicounty areas.) I consider how a county is affected by its own job creation relative to job creation in its parent CZ. Specifically, I estimate how employment rates in a county are affected by simulated job growth for the overall CZ relative to simulated job growth that redistributes jobs in the CZ toward the county.[1] These simulated job growth measures represent changes in the demand for a CZ's or county's labor based on how their specific industries of employment are growing nationally. Based on these estimates, I find that a percent shock to jobs at the CZ level is 3–5 times as important in affecting a county's employment rate as a percent shock to jobs at the county level. Consequently, the overall CZ benefits of local job creation result from CZ-level job growth, not growth that reallocates jobs within the CZ.

Job Creation Has Much Larger Benefits in More-Distressed Commuting Zones

I find that local job creation increases employment rates more over the long run in CZs that initially have lower employment rates. Figure 1 estimates the sizes of these employment rate increases for CZs that started out with different prime-age employment rates (the share of residents aged 25–54 with jobs). Increasing the number of

Figure 1 Predicted Job Growth Boosts Long-Term Employment Rates Substantially More in Commuting Zones (CZs) with Initially Low Employment Rates
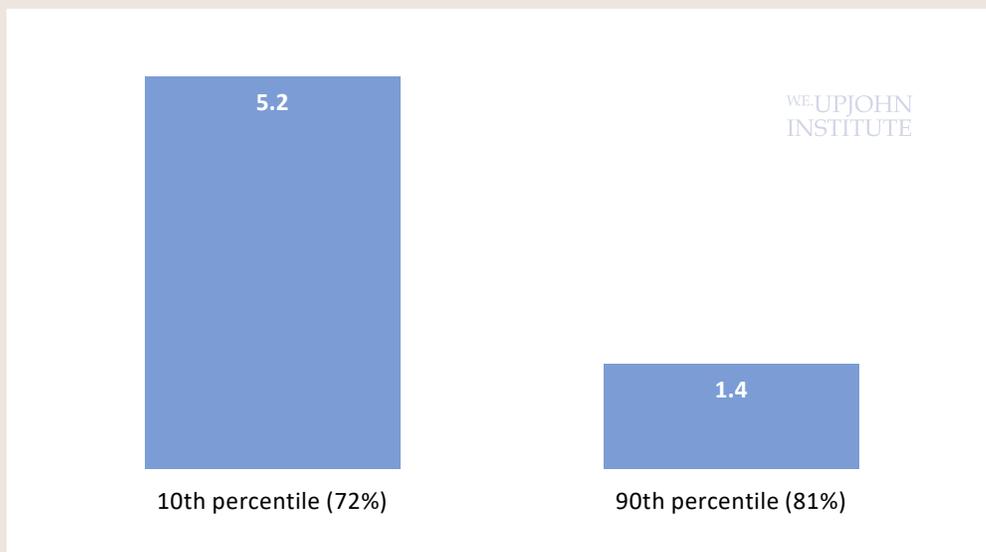
NOTE: The figure plots the estimated increase in prime-age employment rates over an approximately 15-year period from a simulated "shock" of 10% higher job growth over the same time period, allowing for interactions between commuting zones (CZs) and their constituent counties as well as interactions with initial employment rates. The left bar shows the estimated employment rate increase for a CZ at the 10th percentile of initial prime-age employment rates (72%), while the right bar shows the estimated employment rate increase for a CZ at the 90th percentile of initial prime-age employment rates (81%).
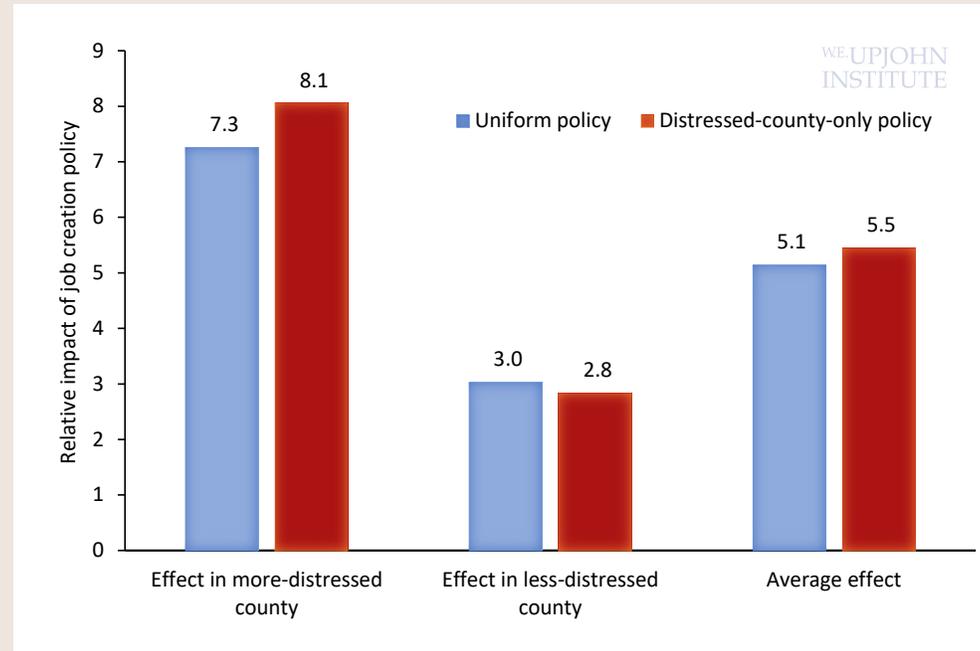
jobs by 10 percent in a CZ at the 10th percentile of the initial employment rate distribution (a starting rate of 72 percent) will increase the long-run local employment rate by 5.2 percent. In contrast, for a more prosperous CZ at the 90th percentile, where an additional 9 percent of the prime-age population is already employed, a job boost of 10 percent increases the employment rate by only 1.4 percent. This greater-than-threefold differential far exceeds estimates from prior research, which finds differences of 30–70 percent. Other things equal, a job creation program in a CZ that is highly distressed will have a benefit-cost ratio more than three times as great as a similar policy in a booming CZ.[2]

Why does job creation have greater employment rate effects when the initial employment rate is lower? When jobs are created in a local labor market, the jobs are immediately filled by three sources: 1) residents who were already employed, 2) residents who were not employed, and 3) in-migrants. But when jobs are filled by already-employed residents, the resulting job vacancies are filled in the same three ways. These job vacancy chains are terminated only when the local jobs created are filled by residents who were not employed or by in-migrants. If more nonemployed residents are available, due to a low employment rate, then firms will tend to hire more of the local nonemployed.

Within Commuting Zones, Job Creation Has Larger Effects in More-Distressed Subareas

Imagine a distressed CZ that is equally divided between a highly distressed county and a less distressed county. (The distressed county has an initial employment rate several percentage points lower than the less distressed county.) Based on my estimates, a policy of uniform job creation in both counties would have over two-thirds of its employment rate benefits in the distressed county

Figure 2 Job Creation Has Stronger Benefits in More-Distressed Counties within a Commuting Zone

NOTE: The figure plots estimated employment rate increases of a simulated 10% job creation policy in a commuting zone at the 10th percentile of the initial prime-age employment rate distribution. Impacts are allowed to vary by relative distress of counties within the CZ and are shown separately for a uniform job creation policy across all counties in the CZ (blue) as well as a job creation policy targeting only the more distressed county (orange). The more distressed county in this example has an employment rate 3.3 percentage points lower than the CZ average, which is the 10th percentile of county-CZ employment rate differentials in the data.

(Figure 2). With a 10 percent job increase in each of the two counties, for example, the employment rate would rise by 7.3 percent in the more distressed county and 3.0 percent in the less distressed county.

If the job creation policy wholly targets the more-distressed county (that is, 20 percent job growth in that county, and no job growth in the other county), employment rate benefits are slightly higher than before in the more distressed county (8.1 percent versus 7.3 percent) and slightly less in the less distressed county (2.8 percent versus 3.0 percent). This county-level targeting slightly increases average benefits over the entire CZ: the average employment rate in the CZ goes up by 5.5 percent rather than 5.1 percent. Thus, once job creation policies focus on distressed CZs, additional benefits of targeting areas within a CZ are modest.

Toward More-Effective Place-Based Jobs Policies

The attractiveness of local job creation policies depends on costs as well as benefits. As argued in Bartik (2020), policymakers should focus on local job creation policies that are more cost-effective. Business tax incentives tend to be more costly per job created, whereas services to improve inputs to business, such as manufacturing extension services, have lower costs per job created.

But as my research shows, better targeting of distressed areas matters a great deal. This targeting matters most at the local labor market, or commuting zone, level. Targeting the most distressed CZs can have over three times the employment rate benefits of trying to subsidize job creation everywhere. State economic development policies, or any federal

Job Creation Policies Can Raise Local Employment Rates

interventions, should strongly encourage such job creation targeting.

Research should also consider how to better link the nonemployed, particularly those in distressed neighborhoods, with job creation throughout the local labor market. Job creation policies might boost employment rates even further if residents of distressed neighborhoods had greater job access, such as through neighborhood-targeted programs to improve transportation, job information, and job training. A focus on neighborhoods for job-linking makes sense, but focusing on neighborhoods for job creation makes less sense, as neighborhoods are not local labor markets.

Notes

1. Because of measurement problems with data for smaller counties or CZs, I focus on a sample of 609 counties that each have a population of at least 65,000 and are located in one of 205 CZs of population 200,000 or greater. These counties and CZs respectively cover 79 percent and 88 percent of the U.S. population. I calculate local employment rates using data from the 2000 census and several waves of the American Community Survey, covering years 2000–2018. I construct simulated job growth measures using industry employment data at the county level from the Upjohn Institute's WholeData, which is derived from the Census Bureau's County Business Patterns.

2. As shown in the two papers, it is the percentage effect of job shocks that will drive the benefit-cost ratio.

Reference

Bartik, Timothy J. 2020. "Using Place-Based Jobs Policies to Help Distressed Communities." *Journal of Economic Perspectives* 34(3): 99–127.

This article draws on research from two Upjohn Institute Working Papers: https://research.upjohn .org/up_workingpapers/335/ and https://research .upjohn.org/up_workingpapers/339/.

Timothy J. Bartik is a senior economist at the W.E. Upjohn Institute for Employment Research.

Income in the Off-Season

Household Adaptation to Yearly Work Interruptions

By John Coglianese and Brendan M. Price

Many workers experience seasonal jobless spells. Each winter, for instance, many construction and agricultural laborers are laid off as adverse weather impedes outdoor activity. Similarly, retail workers are often let go after Christmas, while school employees are commonly furloughed during summer recess. If not offset elsewhere, earnings losses from seasonal layoffs can lead to sharp reductions in household income.

But the prevalence of seasonal work interruptions is often obscured in official statistics, for two reasons. First, economic data are typically reported on a seasonally adjusted basis to smooth out any predictable fluctuations that occur at the same time each year. Seasonal adjustment makes it easier to detect long-term trends or changes in the business cycle, but it can also lull us into viewing seasonality as little more than a statistical nuisance. Second, the "off-season" occurs at different times for different workers, which leads aggregate statistics to understate the pervasiveness of seasonality even when they haven't been seasonally adjusted. For example, construction workers and school bus drivers both undergo seasonal layoffs, but their combined employment is comparatively stable throughout the year because one group is usually working when the other is not. Thus, aggregation tends to mask the share of households subject to seasonal swings in employment and earnings.

How do households adapt to seasonal work interruptions? To answer this question, we first devise a new method for identifying seasonal workers in labor market data. As detailed below, we take advantage of the fact that seasonal employment leaves a tell-tale data signature: a tendency for certain workers to experience recurrent job losses spaced exactly 12 months apart. Building on that observation, we develop a data-driven procedure for classifying job separations as seasonal or nonseasonal in nature.

With this method in hand, we trace the evolution of both *individual earnings* and *household incomes* as seasonal workers pass through their particular off-seasons. In the aftermath of job loss, seasonal separators exhibit an initial period of rapid earnings recovery punctuated by a second drop in earnings one year later. These

ARTICLE HIGHLIGHTS

■ *Seasonal work interruptions lead to sharp (if short-lived) reductions in income for many U.S. households.*

■ *We identify seasonal workers based on their tendency to undergo repeated job losses spaced exactly 12 months apart.*

■ *For every $1.00 a household loses due to a seasonal reduction in earnings, its over-all income falls by about $0.81.*

■ *Seasonal losses in earnings are mitigated by unemployment benefits but amplified by concurrent reductions in spousal earnings.*

■ *Our findings raise important questions about the design of government transfer programs, which often do not account for the episodic nature of seasonal work.*

recurrent earnings losses are echoed in household income, a broader concept that encompasses government transfers and other nonlabor income as well as the earnings of all household residents. For each $1.00 a worker loses due to a seasonal work interruption, household income falls by $0.81 on average.

Our findings suggest that seasonal work interruptions are an underrecognized source of income volatility for many households, especially those at the lower end of the income distribution, and they raise important questions about the design of social safety net programs.

Identifying Seasonal Work Interruptions

How can we identify which workers are seasonally employed? One approach would be to simply ask workers if their jobs are seasonal. In practice, however, this question is not typically asked in the main economic surveys of U.S. households. Another approach would be to classify certain industries as seasonal and others as nonseasonal, based on the typical employment patterns we see in these industries. The problem with this latter approach is that, even in industries subject to clear seasonal forces, some jobs last year-round: for example, construction employment plummets in cold northern states each winter but is fairly stable year-round in warm southern states. Whether we classify the construction sector as seasonal or as nonseasonal, we would inevitably misclassify many of its workers.

Instead, we adopt a data-driven approach rooted in the idea that seasonal workers will tend to experience recurrent job separations spaced 12 months apart. To illustrate, consider a school cafeteria worker who is laid off in June. If (as is likely) the worker resumes cafeteria work at the start of the school year, he or she is likely to be laid off again the following June. Similar reasoning applies to ski instructors laid off in April and (at least

in cold states) to construction workers laid off in December.

To test this idea, we use anonymized data from the U.S. Census Bureau's Survey of Income and Program Participation (SIPP) to track employment patterns over time for a representative sample of adults ages 25 to 54. Using this sample, Figure 1 plots the probability that a worker who experiences an initial separation from employment into nonemployment goes on to experience another such separation in each of the 18 months that follow. The spike in this probability at 12 months, relative to the probabilities at neighboring horizons, indicates that a disproportionate number of job separations are indeed spaced exactly 12 months apart. Confirming our supposition that annually recurrent job separations are a signifier of seasonal work, they are concentrated in highly seasonal sectors such as agriculture, recreation, and educational services.

Although annually recurrent jobless spells are a hallmark of seasonal employment, they do not *perfectly* distinguish seasonal

workers from nonseasonal workers. Some seasonal workers transition seamlessly to alternative employment when their seasonal jobs end, so that they are never out of work. To avoid overlooking such individuals, we classify workers as seasonal on the

Seasonal employment leaves a tell-tale data signature: certain workers experience recurrent job losses spaced exactly 12 months apart.

basis of whether they appear *likely* to experience annually recurrent separations, regardless of whether they actually do so.

Taking a sample of workers who experience an initial job separation, we use machine-learning techniques to estimate each worker's excess propensity to separate again 12 months later as a function of four inputs: their baseline industry, occupation, and state of residence, as well as the calendar month in which their original job loss occurred. The algorithm we use hunts efficiently for

Figure 1 The Probability of Job Separation Spikes 12 Months after an Original Separation
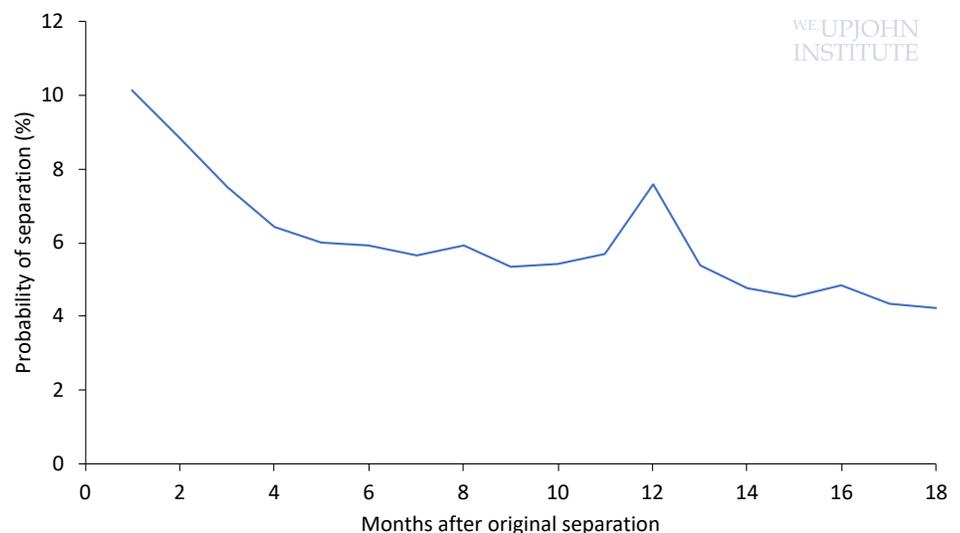
SOURCE: Survey of Income and Program Participation and authors' calculations.

combinations of these four inputs that are predictive of annually recurrent job loss. Construction provides a case in point: consistent with our intuition, our method classifies newly jobless construction workers as seasonal separators if they exited from employment in a cold state at the onset of winter, but not otherwise.

Tracking Household Earnings and Income

Having developed a method for identifying seasonal work interruptions, we next analyze the trajectory of household earnings and income as workers pass through their particular off-seasons.

To do so, we build a sample of seasonal workers who experience at least one week of joblessness upon the cessation of a seasonal job. The blue series in Figure 2 plots the evolution of these workers' average monthly earnings over the ensuing 18 months, relative to their preseparation earnings. Average earnings fall sharply in the

month of the original job loss (and further still in the subsequent month), bottoming out roughly 60 percent below preseparation earnings. In the months that follow, seasonal workers experience steady recovery in their average earnings, as some are rehired by their previous employers and others find brand-new jobs.

As they approach the anniversary of their original job losses, however, many seasonal workers see their earnings fall a second time. These recurrent earnings losses, which mirror the recurrent job separations we saw earlier, reflect the fact that seasonal workers are once again entering their off-seasons, when they are likely to face reduced hours or outright layoff. Between the 10th and 13th months after the original separation, seasonal workers' average earnings fall by an amount equal to 18.6 percent of their baseline earnings.

But a given worker's earnings are only one component of overall household income. First, many households contain additional workers,

such as a spouse or unmarried partner or a child old enough to work. Second, households also receive transfer income from unemployment insurance and other government programs. Finally, some households receive other forms of nonlabor income, such as dividends or income from rental properties. In theory, seasonal reductions in earned income could either be mitigated or exacerbated by concurrent shifts in income along any of these other margins.

To see whether households recoup the earnings lost due to seasonal work interruptions, the orange series in Figure 2 shows the evolution of average household income. To facilitate apples-to-apples comparisons between earnings and income, we express changes in household income as a percentage of baseline *earnings*, rather than baseline *income*. This way of representing the data makes it easy to gauge the degree to which seasonal earnings losses pass through to lower household income. If the blue and orange series coincide in every period, we would conclude that seasonal earnings losses translate dollar for dollar into lower income. At the other extreme, if the orange series were to equal zero in every period, it would mean that every dollar in foregone earnings is being offset by an increase in some other component of income. More generally, the closer the income series tracks the earnings series, the greater the rate at which earnings losses translate into household income losses.

Indeed, changes in seasonal workers' household incomes closely track changes in their own earnings. During the off-season period from 10 to 13 months after the original separation, household income falls on average by an amount equal to 15.1 percent of baseline earnings. Comparing the declines in earnings and income, we find that household income falls by fully $0.81 for each $1.00 seasonal reduction in earnings.

Figure 2 Seasonal Workers Experience Yearly Declines in Both Earnings and Income
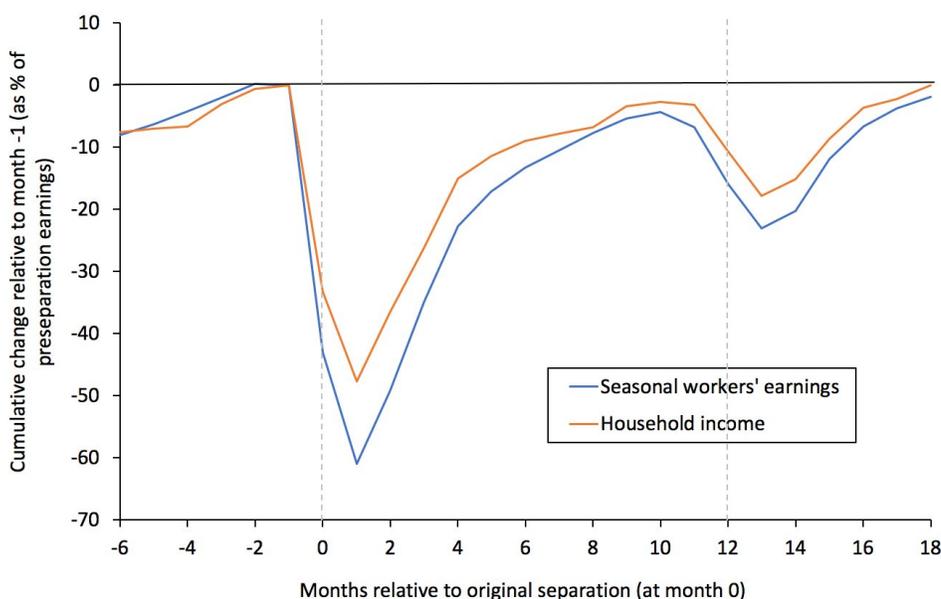
SOURCE: Survey of Income and Program Participation and authors' calculations.

The Margins of Household Adaptation

To understand why households recoup only one-fifth of seasonal earnings losses, we split household income into its constituent parts. Unemployment insurance is the main source of income recovery: seasonal workers rely heavily on unemployment benefits, which offset roughly one-third of their lower earnings. Other components of the social safety net appear to play at most a minor role in replacing earnings lost due to seasonal work interruptions.

What about income earned by other members of the household? Researchers have often found that spouses of displaced workers tend to work more to offset the earnings loss from a layoff. Surprisingly, we find that spousal earnings (or those of an unmarried partner) *decline*, on average, during a seasonal worker's off-season. Thus, in contrast to the so-called *added worker effect* observed after mass layoff events—whereby nonworking partners tend to enter the labor market to cushion the fall in income—we find a *subtracted worker effect*.

This counterintuitive finding suggests that the timing of seasonal downturns is somewhat correlated within households. For example, both partners might work in the tourism industry in the same location and thus be jointly exposed to the same seasonal cycle. Far from acting as a stabilizing influence, then, spousal earnings contribute to the high rate at which seasonal earnings losses translate into lower household income.

Policy Implications

Our research shows how seasonal fluctuations in labor demand contribute to volatility in household income. Now, it may be the case that households anticipate seasonal work interruptions and build up sufficient savings to weather seasonal reductions in income with little change in expenditures. But researchers have consistently found that consumption patterns closely track the timing of income receipt, even in cases where fluctuations in income are very predictable (as with paycheck receipt or the timing of transfer payments). If the same is true for seasonal work interruptions—as it likely is—then seasonal forces add volatility to household consumption as well as to earnings and income.

With this in mind, the episodic nature of seasonal work may have important ramifications for the design of the social safety net. First, some government programs do not readily accommodate workers who deviate from full-year employment. For instance, recently proposed new work requirements for Medicaid would limit eligibility to workers who maintain sufficient employment each month, which could result in seasonal workers losing their eligibility during the off-season. Second, some transfer policies may not be disbursing benefits during the portion of the year when seasonal workers are most in need of assistance. Tax credits like the EITC are typically rebated annually in a single lump-sum payment issued in the spring. Aligning these payments with the times when seasonal workers are typically unemployed could help replace lost income during lean periods and make it easier for households to maintain steady levels of consumption. Since seasonal jobs are largely concentrated in low-wage industries, such a policy might have particular benefits for families on the lower rungs of the economic ladder.

John Coglianese and Brendan M. Price are economists at the Board of Governors of the Federal Reserve System.

New and Recent Working Papers

- Informed Choices: Gender Gaps in Career Advice, Yana Gallen and Melanie Wasserman
- How Long-Run Effects of Local Demand Shocks on Employment Rates Vary with Local Labor Market Distress, Timothy J. Bartik
- Measuring Local Job Distress, Timothy J. Bartik
- Firms, Jobs, and Gender Disparities in Top Incomes: Evidence from Brazil, Felipe Benguria
- Nudges to Increase Completion of Welfare Applications: Experimental Evidence from Michigan, Christopher J. O'Leary, Dallas Oberlee, and Gabrielle Pepin

2021 Early Career Research Awards

The Institute is pleased to announce that this year it received a record number of applications for its ECRA grants, 84 in all. Thank you to all who sent in their proposals. Winners will be announced in early to mid-March.

Connect with us