How does the PFD affect employment in Alaska?

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Abstract

Every year since 1982, the Permanent Fund Dividend (PFD) deposits cash into the bank accounts of Alaskan residents, with an average annual per-person payment size of $1,620 (2016 USD). Yet there is little understanding of how such a large economy-wide cash injection influences Alaska’s labor market in the months after the PFD is distributed. In fact, there is considerable disagreement on how much of this injection actually enters the Alaska economy and if such a shock results in employment changes. Our paper titled “Short-term Labor Responses to Unconditional Cash Transfers” sets out to answer exactly this question. Rather than make assumptions about how households spend their PFDs, we estimate how the variation in the size of the PFD affect both hours worked and the share of people employed after accounting for confounding factors at both the individual and aggregate levels.
Research summary

We use the timing of the Alaska Permanent Fund Dividend (PFD) disbursements and annual fluctuations in the size of the disbursement to isolate the effect of the PFD on labor-market outcomes. Over our sample period, all PFD disbursements were made over a short period of time in the fall of the calendar year with an average per-person PFD of $1,730 (2016 USD). We use the Current Population Survey (CPS) basic monthly survey supplemented with information on the annual PFD size and disbursement date to estimate the short-run impact of the PFD disbursement on labor market outcomes. Finding an adequate sample size for the Alaskan labor market is often challenging; however, the CPS is well suited to measure short-run fluctuations in the Alaska labor market since the survey is given each month to a large number of Alaska residents. We focus on two measures of the labor market: the number of hours worked in the reference week and an indicator variable of whether the respondent was employed in the reference week. We use these two measures to estimate responses along the intensive and extensive margins, respectively.

Main findings

• The PFD has a very modest effect on the average number of hours worked per week.
  
  – An additional 1,000 dollars in the size of the PFD reduces the number of hours worked per week by 0.21 hours, on average, which amounts to a 0.7% contraction of the labor market in the three months following the PFD disbursement, or a 0.2% contraction on an annual basis.

• The PFD affects men and women differently.

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1 This is the per-person transfer amount; thus, a family of four was eligible for $6,920, on average.
2 Extensive margin refers to whether an individual is employed or not and intensive margin refers to the number hours worked among people who are employed.
– **For women**: An additional 1,000 dollars in the size of the PFD does not affect the share of women employed. However, it reduces the number of hours worked among those who are already employed. Specifically, the number of hours worked in the three months following the PFD distribution decreases by approximately an hour a week, which amounts to nearly a four percent reduction. This effect is particularly pronounced among women who have young children.

– **For men**: An additional 1,000 dollars in the size of the PFD does not affect the number of hours worked by men who are already employed. It does, however, increase the share of men who are employed in the three months following the PFD distribution. The share of men employed increases by 1.8%, which amounts to a creation of approximately 475 jobs in the months between October and December for every 100 million dollars in the total size of the PFD distribution.\(^3\)

**How does the PFD affect employment?**

We estimate that an increase of $1,000 in the per person PFD increases the probability of employment in the male subsample by 1.6 percentage points (Table 1), which is a 1.8 percent increase over the baseline employment for men of 87% (Table A2). The increase in male employment is consistent with a demand shock stemming from the large amount of cash disbursed over a relatively short period of time. It suggests that the positive demand shock outweighs any negative supply response to receiving the PFD for the sample of men. According to data from the Quarterly Worforce Indicators (QWI), there are 51.6% men and 48.3% women in the labor force. Using these estimates, we would conclude that an additional 1,000 dollar in the size of the PFD results in about 2,921 additional jobs in the three months following the distribution. Therefore for every 100 million dollar increase in the overall distribution, we

\(^3\)The number of jobs created is calculated by applying our estimates to the overall Alaska labor market.
observe 475 additional short term jobs.

The Effect of a $1,000 Increase in the PFD

<table>
<thead>
<tr>
<th></th>
<th>Prob(Employed)</th>
<th>Hours (Employed Only)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All (1)</td>
<td>Men (2)</td>
</tr>
<tr>
<td>Post X PFD(1000s)</td>
<td>0.006</td>
<td>0.016**</td>
</tr>
<tr>
<td></td>
<td>(0.006)</td>
<td>(0.007)</td>
</tr>
<tr>
<td>Observations</td>
<td>173,060</td>
<td>81,490</td>
</tr>
</tbody>
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*** p<0.01, ** p<0.05, * p<0.10.

Figure 1 shows how employment responds to the size of the PFD after accounting for individual and economy wide characteristics. Specifically, the figure examines employment changes in high PFD years relative to low PFD years. In panel (A), we can clearly see that the employment for men increases post PFD distribution but we see no effect in panel (B) which focuses on women.
Figure 1: Conditional Monthly Differences in Probability Employed
How does the PFD affect hours worked?

The additional dollars injected into the economy may not only affect the number of employed, but also the number of hours people choose to work. To assess the effect on number of hours worked, we focus on people who are already employed. For men, we estimate that an additional $1,000 leads to a reduction of 0.24 hours per week, although this estimate is statistically insignificant at the 10% level (Table 1). For women, we estimate that an additional $1,000 in the per-person PFD leads to a decrease of about 0.91 hours per week. This estimate is statistically significant at the 1% level. Given the average of 24.7 hours per week in this sample, the estimate amounts to a reduction of almost four percent in hours worked in the months following the PFD distribution. The average per-person PFD over the sample period was $1,759 (2016 USD), so this response represents an elasticity of -0.06.

Figure 2 shows how the number of hours worked responds to the size of the PFD after accounting for individual and economy-wide characteristics. Specifically, the figure presents changes in the number of hours worked in high PFD years relative to low PFD years. It is clear that the number of hours worked does not change after the PFD distribution for men (Panel A); however, we do see a noticeable decrease in the number of hours worked for women (Panel B). This decline among women is particularly concentrated among women with children under the age of 5. The effect of the PFD on hours worked for women persists for the three months following the PFD distribution (i.e., October, November, and December); thus, the response is relatively short-lived.4

4The first PFD disbursement is in October in all but one year.
Figure 2: Conditional Monthly Differences in Hours

(A) Men

(B) Women

Coefficient
95% Confidence Interval
How do we know that we are capturing the effect of the PFD?

To ensure that our estimates are capturing the causal effect of the PFD, we evaluate how our estimated effects for Alaska compare to how other states’ employment changes in response to fluctuations in the size of the PFD. Intuitively, changes in the size of the PFD should not be drivers of employment changes in other states. If we find that employment in other states is more sensitive to these fluctuations, we may be capturing other elements and not necessarily the causal effect of the PFD.

The monthly effects for Alaska are presented in Figure 3 alongside the 5th and 95th percentile range of estimated effects from all other states (i.e., placebo estimates). These results provide further evidence that our main results are truly a reflection of the PFD disbursements. The only month-specific estimates for the effect of the PFD on hours worked among women that fall outside of the 5th - 95th percentile range of placebo estimates are in October, November, and December, which are the months of or after the first PFD distribution in every single year of our sample (Panel A). Similarly for male employment (Panel D), the estimated effects in November and December are well outside of the 5th to 95th percentile range of the placebo estimates. On the other hand, the month-specific estimates of employment for women and hours worked for men are all inside the range. We find these patterns to provide convincing evidence that are estimates can be solely attributed to the PFD.
Figure 3: Placebo Tests By Month

(A) Women, Hours

(B) Women, Employment

(C) Men, Hours

(D) Men, Employment

○ AK Estimates

--- 5th/95th Pctile, Placebos
1 Conclusion

Using the timing of PFD disbursements and annual fluctuations in PFD disbursement size, we estimate the causal effects of the PFD on labor market activity in the short-run. Understanding the short-term labor market responses to the PFD is important not only for the state of Alaska, but for other states and countries as they attempt to implement universal basic income programs. We find that the PFD leads to job creation in the months following the distribution and that the effect lasts about three months. Specifically, we conclude that for every 100 million dollars in the total PFD distribution, there are approximately 475 jobs created. On the other hand, we find that women who are already employed tend to decrease the number of hours worked in the three months following the distribution. Altogether, the total effect of an additional $1,000 in the per-person PFD is a 0.7% contraction in the average number of hours worked in the three months following the PFD disbursement, or a 0.2% contraction on an annual basis.