Overview of our research on the socioeconomic effects of the PFD

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Outline

1. Crime
   - Data and estimation
   - Findings

2. Childhood obesity
   - Data and estimation
   - Findings

3. Employment
   - Data and estimation
   - Findings

4. Ongoing work

5. Final thoughts
What is the effect of the PFD on crime?

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5. Final thoughts
We rely on daily policing incidents for the city of Anchorage between 2000 and 2016 to assess both the effect of the distribution on crime in the days that follow but also the role of the variation in the amount on crime.
1) The immediate effect of the PFD on crime

\[ y_t = \beta_0 + \beta_1 PFD_t + \gamma W_t + M_t + \tau_t + \epsilon_t \]  

(1)

2) Persistence of the effect

\[ y_t = \beta_0 + \sum_{i=-4}^{4} \beta_i PFD_{it} + \gamma W_t + M_t + \tau_t + \epsilon_t \]  

(2)

3) Variation of the amount

\[ y_t = \beta_0 + \beta_1 PFD_t + \beta_2 PFD_t \times Amount_t + \beta_3 PFD_t \times Amount_t^2 + \beta_4 Mil_t + \gamma W_t + M_t + \tau_t + \epsilon_t \]  

(3)
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Table 1: Change in reported incidents, first day after PFD distribution, 2000-2016

<table>
<thead>
<tr>
<th></th>
<th>Violence (Part)</th>
<th>Substance (Full)</th>
<th>Property (Full)</th>
<th>Party (Full)</th>
<th>Medical (Full)</th>
<th>Traffic &amp; Parking (Full)</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Full Day After PFD Deposit</td>
<td>-0.004</td>
<td>6.105***</td>
<td>6.288***</td>
<td>-0.515</td>
<td>-0.972</td>
<td>0.945</td>
</tr>
<tr>
<td></td>
<td>(0.940)</td>
<td>(1.941)</td>
<td>(1.953)</td>
<td>(1.491)</td>
<td>(0.597)</td>
<td>(0.884)</td>
</tr>
<tr>
<td>P-val</td>
<td>0.997</td>
<td>0.002</td>
<td>0.003</td>
<td>0.761</td>
<td>0.292</td>
<td>0.338</td>
</tr>
<tr>
<td>Bonferroni P-val</td>
<td>1.000</td>
<td>0.015</td>
<td>0.020</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Mean Daily Incident Count</td>
<td>13.63</td>
<td>36.35</td>
<td>43.59</td>
<td>33.70</td>
<td>10.08</td>
<td>14.38</td>
</tr>
<tr>
<td>St. dev Incident Count</td>
<td>4.46</td>
<td>12.68</td>
<td>13.45</td>
<td>9.46</td>
<td>6.68</td>
<td>5.70</td>
</tr>
<tr>
<td>Weather</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Holiday Effects</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Day of Week Fixed Effects</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Day-of-Month 5th Order Spline</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Month x Year Effects</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Observations</td>
<td>6,210</td>
<td>6,210</td>
<td>6,210</td>
<td>6,210</td>
<td>6,210</td>
<td>6,210</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.092</td>
<td>0.603</td>
<td>0.601</td>
<td>0.482</td>
<td>0.693</td>
<td>0.516</td>
</tr>
</tbody>
</table>

Change in incident count by category:
Basics

Crime

Findings

- p = 0.825
- p = 0.895
- p = 0.088
- p = 0.193
- p = 0.035

Placebo and True Treatment Effect Magnitude

Violence

SubstanceFull

Property

Party

MedicalAssist

Count

0 2 4 6
0 2 4 6
0 2 4 6
0 2 4 6
We show that the recipient population is responsive to an unconditional and anticipated income receipt across several dimensions of interest.

Over the four week period after the PFD distribution, we find an average daily reduction in property crime of 8%, an average daily increase in substance abuse crime of 10%, and an average daily increase in medical assistance calls of 9%.

Additionally, we find substance abuse and medical calls for assistance are responsive to the total size of the payment program (in terms of dollars) but property crimes are not.

The observed changes we describe above are, however, modest as the increase in substance-abuse crime is 1.05% of the annual level, while the declines in property crime are -0.61%.
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Does the PFD influence children’s health?

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5. Final thoughts
We rely on PRAMS, CUBS, and administrative data. Our analysis relies on linked survey and administrative data called the Alaska Longitudinal Child Abuse and Neglect Linkage Project (or ALCANLink), an ongoing project which combines two surveys conducted by the Alaska Department of Health and Social Services—the Pregnancy Risk Assessment Monitoring System (PRAMS) survey and the Childhood Understanding Behaviors Survey (CUBS)—with administrative data from vital records and the Alaska Permanent Fund Dividend Division.
The PRAMS survey samples one-sixth of all mothers delivering live births in Alaska and collects information on pre- and post-natal behaviors and outcomes of mothers and their newborn children. The survey is administered by mail two to six months after birth (with follow-up by phone) and has historically had a \( \sim 65\% \) response rate.

CUBS is an Alaska-specific program developed as a three-year follow-up survey to the PRAMS survey to understand the behavior and outcomes of toddlers. It is administered two months after their child’s third birthday to all PRAMS survey respondents who remain in-state.
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These data cover children born between January 2009 and December 2011, and have mothers who responded to CUBS between 2012 and 2015.
We estimate the probability of being obese at age three \((t = 3)\) using the following model:

\[
P(Ob_{i,t=3} = 1) = \Lambda(\beta TotalPFD_i + \gamma X_i),
\]

where \(Ob_i\) is a binary variable equal to one if a child is obese (i.e., BMI is \(\geq 95\)th percentile cutoff) and zero otherwise; \(TotalPFD_i\) is the total amount of PFDs (in 1,000 dollars) the child received on or before a mother completes CUBS; \(X_i\) is a vector of control variables: demographics and child, mother, and early nutrition characteristics, and nutrition controls); \(\Lambda(\cdot)\) denotes the logit function; and the parameter \(\beta\) is the coefficient of interest.
To explore whether the effect of the PFD on childhood obesity varies across income groups, we also interact the total amount of the PFD received by a child with a categorical variable indicating household income (less than $25,000; between $25,000 and $75,000; and above $75,000).
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**Table: Un-weighted Estimated Effect of Total PFD ($1,000s) on the Probability of Being Obese and Overweight as a Three-year-old Child**

<table>
<thead>
<tr>
<th>Risk of being:</th>
<th>≥95th</th>
<th>≥95th</th>
<th>≥85th</th>
<th>≥85th</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compared to:</td>
<td>&lt;85th</td>
<td>5th-85th</td>
<td>&lt;85th</td>
<td>5th-85th</td>
</tr>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>Logit coefficient</td>
<td>−0.370***</td>
<td>−0.380**</td>
<td>−0.360***</td>
<td>−0.349***</td>
</tr>
<tr>
<td></td>
<td>(0.140)</td>
<td>(0.152)</td>
<td>(0.117)</td>
<td>(0.120)</td>
</tr>
<tr>
<td>Odds ratio</td>
<td>0.691***</td>
<td>0.684**</td>
<td>0.697***</td>
<td>0.705***</td>
</tr>
<tr>
<td></td>
<td>(0.096)</td>
<td>(0.104)</td>
<td>(0.082)</td>
<td>(0.085)</td>
</tr>
<tr>
<td>Marginal effect</td>
<td>-0.052</td>
<td>-0.058</td>
<td>-0.065</td>
<td>-0.064</td>
</tr>
<tr>
<td>Observations</td>
<td>885</td>
<td>698</td>
<td>885</td>
<td>830</td>
</tr>
</tbody>
</table>
In the figure above, we compare our estimates to a reference distribution of placebo effects, where the amount of PFD accumulated by a child at the age of three is artificially reassigned across all subjects in the sample. Obtaining similar or larger estimates when the accumulated PFD is artificially reassigned across subjects would be evidence that we have found our effect by chance.
We find that a one-thousand dollar unconditional and universal income payment decreases the probability of being obese as a child by 4.5 percentage points, which equates to a 22.4% reduction in the number of obese 3-year-old Alaskans.

The averted obesity cases result in average medical-cost savings between 20 and 92 cents per PFD dollar by the age of 17, depending on how the effect of the cash transfer is assumed to persist over time.

These estimates represent a lower bound since they do not account for lifetime medical-cost savings, they do not include additional medical-cost savings that might be realized from receiving PFD payments beyond the age of three, and they ignore the indirect effects of obesity, which tend to be larger than the direct ones that we estimate.
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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 disbursement on the labor market.

We focus on two measures of the labor market: the number of hours worked in the reference week and a dummy variable indicating whether the respondent was employed in the reference week.
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We focus on two measures of the labor market: the number of hours worked in the reference week and a dummy variable indicating whether the respondent was employed in the reference week.
Estimation methodology

\[ L_{imy} = \alpha + \beta \cdot P_{imy} \cdot PFD_y + \gamma \cdot P_{imy} + \Gamma \cdot X_{imy} + Y_y + M_m + \epsilon_{imy}, \quad (5) \]
Basics

Employment Data and estimation

(A) Men

(B) Women

(C) Employment, All Workers

Empl. (Pct. change from Jan.)

Month 1 2 3 4 5 6 7 8 9 10 11 12

Avg. Hours Per Week 39 40 41 42 43 44 45

Month 1 2 3 4 5 6 7 8 9 10 11 12

Avg. Hours Per Week 32 33 34 35 36 37 38

Alaska  All Other States
(A) Women, Hours

(B) Women, Employment

(C) Men, Hours

(D) Men, Employment

○ AK Estimates

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5th/95th Pctile, Placebos
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Takeaways

- We estimate that a $1,000 increase in the size of the per person PFD increases the probability of employment among men by 1.8 percent over the months following the disbursement, which we interpret as direct empirical evidence that universal transfers can induce demand shocks that increase the demand for labor.

- On the other hand, we estimate that a $1,000 increase in the size of the per person PFD leads to a reduction of 0.9 hours per week (a four-percent decrease) among employed women in the months following the disbursement, with no corresponding extensive-margin response. However, we find that decreases in hours of work among women are concentrated among those who are younger, lower wage earners, and those with young children in the household.
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We find evidence of both a positive labor demand response and a negative labor supply response to universal cash transfers in the short-run.

Altogether, our estimates suggest that a $1,000 increase in the size of the per person PFD induces a contraction in the amount of labor that is 0.7% of the size of the labor market in the months that follow, which is driven by transitory reductions in hours rather than labor force exits.

We take this as evidence that labor market contractions induced by modest basic income distributions are small and fears surrounding the decline in labor supply induced by these distributions are likely overstated.
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What is the effect of the PFD on hospital usage?
Guettabi (2019): Financial constraints and healthcare usage
I use The Alaska Health Facilities Data Reporting Program (HFDR) which collects inpatient and outpatient discharge data from Alaska health care facilities. This program became mandatory in December 2014 and collects individual visit level records. They include detailed diagnostic and procedure codes, length of stay, billed charges, expected source of payment, and patient characteristics (age, and sex) for each hospital discharge.

I estimate the short-run effects of the PFD distribution on daily hospital visits by visit setting (Emergency room, outpatient observation, other outpatient, and outpatient surgery), main payer (Commercial insurance, Medicaid, Medicare, Self-pay), and severity of visit (Emergency, Urgent, Elective).
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I estimate the short-run effects of the PFD distribution on daily hospital visits by visit setting (Emergency room, outpatient observation, other outpatient, and outpatient surgery), main payer (Commercial insurance, Medicaid, Medicare, Self-pay), and severity of visit (Emergency, Urgent, Elective).
Preliminary results indicate that hospital visits increase in the weeks preceding the PFD distribution week potentially indicating anticipatory behavior.

These results vary by primary payer and geography.
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These results vary by primary payer and geography.
Medicare as the main payer

The effect of the PFD on White individuals using Elective services in Other Outpatient setting with Medicare as primary payer
The effect of the PFD on White individuals using Elective services in Other Outpatient setting with Self-Pay as primary payer
Works in progress

- Using claims data to understand how households use their PFDs to pay for their health needs.
- Investigate the effect of the PFD on financial vulnerability.
There is significant room for improving our understanding of the PFD’s effect on education, health-care usage, migration, financial health, and general welfare.

To evaluate these questions adequately, there should be an attempt to use detailed health, financial, and expenditure datasets.
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Thank You

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