THE PROBLEM

- Great Recession: Severity both long and deep
- Food Insecurity
  - Conceptual Problems (Program Participation)
  - Data Limitations (CPS)

- Question: Can we develop rigorous local estimates of changing unmet food need (or “missing meals”) in the context of the Great Recession?
OUR APPROACH: A “MISSING MEALS” ANALYSIS

5 Key Parameters to Estimate:
- Number of “Needed Meals”
- Number of “Affordable Meals”
- Number of “Government-Provided Meals”
- Number of “Nonprofit-Provided Meals”
- Number of “Missing Meals”
KEY INNOVATIONS

- Refine Estimates by Utilizing Full Microdata from the American Community Survey
- Apply Logic of “SPM-style” poverty measurement to key components of missing meals analysis
- Combine administrative data on all major public and private food provision programs
- Take into account unique features of the Bay Area food landscape
MEALS “NEEDED”

- Straightforward: $\# < (185\% \text{ of poverty}) \times 3 \times 365$
- $33,873.50$ in 2009 (3), $40,792.50$ in 2009 (4)
- Potentially conservative (Food Security data)
- Need does appear to be rising:
  - 184K/202M in 2007 to 195.4K/214M in 2009 in SF
  - 2010: 216.5K (11% increase); 237M
  - 32K/35M in 2007 to 38K/42M in 2009 in Marin
  - 2010: 44.5K (16% increase); 48.5M
MEALS “AFFORDED”

- Traditional Approach: Consumer Expenditure Data
- Problems: Actual vs. Reasonable – Percentage of Income and Expenditures vs. Income
- Our Approach: Logic of SPM
- Adjustments:
  - High Cost of Living
  - Taxes
  - Healthy San Francisco
  - Child Care

Reduces “Reasonable” share from about 25% to 20%, and from 07-09, share of meals afforded drops slightly, from ~45% to ~44% of needed meals.
ADJUSTMENTS: CEX

- $5-10K: Average income, $8,214
- $5-10K: Average expenditures, $19,125
- $5-10K: % of income spent on food: 39%

- Savings/assets
- Underreporting
- Business losses
- Students/loans

- “Reasonable” standard? Ultimately normative
SPM: OUR APPROACH

- Official Poverty Measure
- Problem 1: Changing Living Standards
- Problem 2: Definition of Income
- Problem 3: Geographic Adjustment
- Problem 4 (shhh): Timing
- Problems 5, 6, 7, 8, ...

- “FCSU+”: CEX v. CPI, MIT v. MSI, MOOP/Child care
ADJUSTMENTS: HOUSING COSTS

- SF/Marin
- CA (Property Taxes)
- Our approach: FMR (40th percentile, ~1.87)
- Caveats: Short/Renwick
- Alternative: ACS, largely consistent (1.76, 1.26, 2.45)
ADJUSTMENTS: CHILD CARE

- No child care cost data in ACS
- No Nonworking Adults
- Children under 15 present
- Census estimates of child care prevalence
- Random assignment
- Limited by lowest-earning parent
ADJUSTMENTS: TAXES

- NBER’s Taxsim
- Filing-type
- Primary and secondary earner wages
- Number of dependents
- Welfare transfers
- Social security income
- Child care costs
- Number of elderly filers
- 5-6% reduction in afforded meals
ADJUSTMENTS: MEDICAL

- FCSUM v. FCSU
- Healthy San Francisco
- 500% of poverty, ~111K family of 4
- $0-$600/year
- ~55K (2010)
ADJUSTMENTS: FOOD COSTS

- CPI v. ACCRA
- Market Baskets
- RPPs (Bettina Aten, BEA)
- Hedonic Regression
GOVERNMENT MEALS

- Conversions ($ to Meals): USDA guidelines, weighted average in ACS microdata
- SNAP (SF: 17M->30M; 75%); (Marin: 2.5M->5.5M; 122%)
- School Meals (incl. summer): (SF: 4.75M->5M; 5%); (Marin: 1.1M->1.5M; 32%)
- WIC: (SF: 6.5M->6.47M; -1%); (Marin: 1.25M-1.28M; 2%)
- CACFP (SF: -1.7%; Marin: 16.8%)
- Senior Meals (SF: 3.7%; Marin: 21%)
- FFVP (don’t worry about it)
NON-PROFIT MEALS

- SFFB & MFB
- Partner Agencies
- Merger
- Problem: Marin
- 22.5M to 28.5M in SF; 1.2M to 3.8M in Marin
- 27% v. 211%
THE BIG PICTURE

Number of Low Income Individuals

Year / Location

<table>
<thead>
<tr>
<th>Year</th>
<th>Marin</th>
<th>SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>32,212</td>
<td>184,215</td>
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<tr>
<td>2008</td>
<td>33,410</td>
<td>187,602</td>
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<tr>
<td>2009</td>
<td>38,173</td>
<td>195,128</td>
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<td>2010</td>
<td>44,445</td>
<td>216,494</td>
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</table>
“MISSING MEALS”

Meals Summary for San Francisco and Marin

Source
- Government
- Nonprofit
- Purchased
- Missing

Year
- 2007
- 2008
- 2009
- 2010

Number of Meals
- 300M
- 250M
- 200M
- 150M
- 100M
- 50M
- 0M

% of Meals
- 16.2%
- 16.5%
- 19.2%
- 19.2%
- 12.1%
- 12.8%
- 14.2%
- 13.6%
- 45.1%
- 41.5%
- 40.7%
- 38.9%
- 26.7%
- 29.2%
- 25.9%
- 28.3%
FOOD ASSISTANCE PROGRAMS

Government Food Assistance Programs’ Response in SF and Marin

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Meals</th>
<th>Other</th>
<th>School Meals</th>
<th>WIC</th>
<th>SNAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>30M</td>
<td>14%</td>
<td>16%</td>
<td>20%</td>
<td>52%</td>
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<tr>
<td>2008</td>
<td>35M</td>
<td>13%</td>
<td>15%</td>
<td>21%</td>
<td>61%</td>
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<td>2009</td>
<td>40M</td>
<td>11%</td>
<td>12%</td>
<td>17%</td>
<td>60%</td>
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<td>2010</td>
<td>45M</td>
<td>10%</td>
<td>11%</td>
<td>14%</td>
<td>65%</td>
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Source:
- Other
- School Meals
- WIC
- SNAP
UNTAPPED POTENTIAL

Meals Gained With 10% Increase in Govt. Programs Utilization

<table>
<thead>
<tr>
<th>Program</th>
<th>SF</th>
<th>Marin</th>
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<tbody>
<tr>
<td>SNAP</td>
<td>7,951,849</td>
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<tr>
<td>WIC</td>
<td>878,523</td>
<td>173,948</td>
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<tr>
<td>School Meals</td>
<td>1,054,633</td>
<td>198,639</td>
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CONCLUSIONS

- Need is Rising in SF and Marin as More fall under 185% of poverty
- Govt. and Non-Profit providers both stepped up substantially in 2009 to beat back this need, but couldn’t keep up in 2010
- Cal-Fresh and SF Food Bank especially important
- Still much room for increased reductions
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<tr>
<th>Food Pantry Food Stamps</th>
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<tr>
<td>For. Born N-Cit</td>
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