

Efficiency Versus Equity in the Provision of In-Kind Benefits: Evidence from Cost Containment in the California WIC Program*

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Abstract

The government often contracts with private firms to deliver in-kind safety net benefits. These public-private partnerships generate agency problems that could increase costs, but cost-containment reforms may discourage firm participation. We study a 2012 reform of California’s Special Supplemental Nutrition Program for Women, Infants, and Children that reduced the number of small vendors. We show that within-ZIP-code access to small vendors increases take-up among first-time and foreign-born mothers, suggesting that small vendors are distinctly effective at lowering take-up barriers among women with high program learning costs. Thus, cost containment reforms may have unintended consequences of inequitably reducing program access.

Keywords: WIC program, benefit take-up, in-kind transfers, cost containment

JEL: H40, I18, I38

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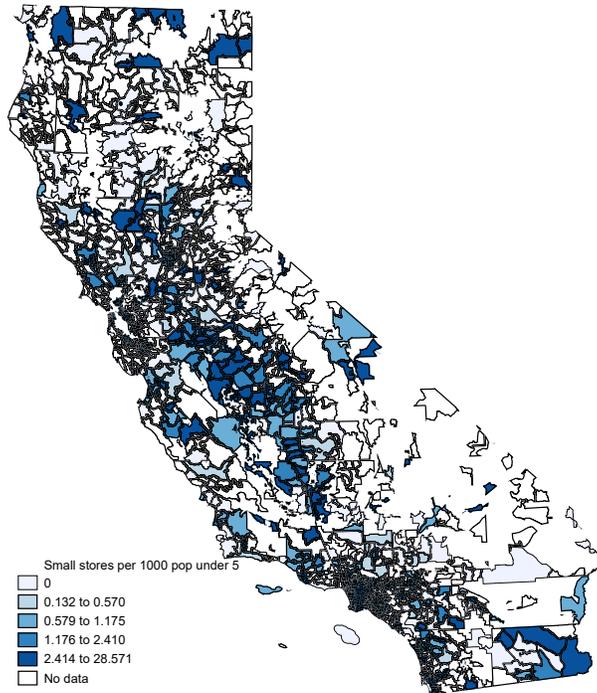
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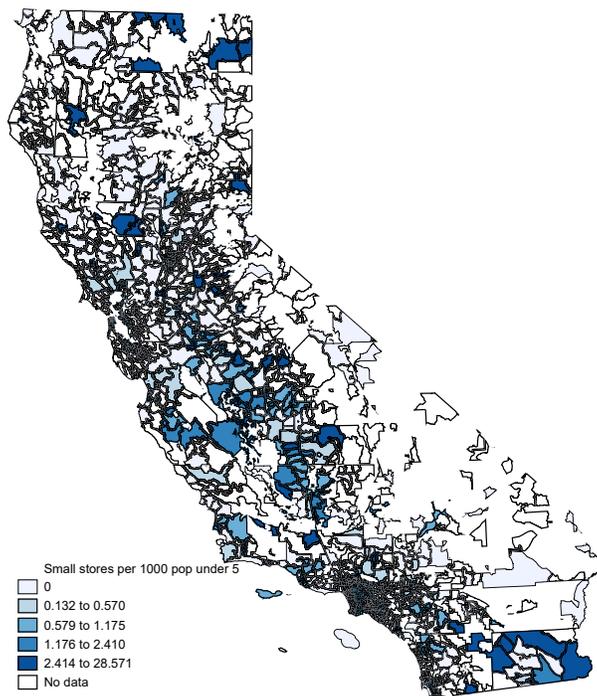
A Additional Results

Appendix Figure A.1: Geographic Distribution of Small Vendor Density: 02/2012 and 12/2015

(a) February 2012



(b) December 2015



Notes: These maps show the geographic distribution of small vendor density in February 2012 versus December 2015. For each ZCTA in each month, we calculate the ratio of the total number of small vendors over the total population under age 5 from 2010 Census data ($\times 1,000$). We trim the ratio at the 99th percentile to discard outliers in small ZCTAs.

Appendix Table A.1: Correlation Between ZCTA Characteristics and Change in Vendor Presence Over 02/2012-12/2015

	(1) All	(2) Large	(3) Small	(4) A-50
Low Percent Pop in Labor Force	0.0118 [0.00733]	0.0192*** [0.00735]	0.0328 [0.0320]	0.00743 [0.0242]
High Percent Pop in Poverty	-0.00460 [0.0121]	-0.00813 [0.0133]	0.0303 [0.0464]	0.00880 [0.0321]
High Percent Pop Foreign-born	0.00328 [0.00827]	0.0105** [0.00524]	0.0263 [0.0428]	0.0520 [0.0418]
High Percent Pop Not Citizen	0.00479 [0.0106]	0.00492 [0.0111]	-0.000685 [0.0431]	-0.0287 [0.0336]
High Percent Pop Not English-Speaking	-0.00888 [0.0124]	-0.0104 [0.0121]	-0.0219 [0.0481]	0.0234 [0.0429]
High Percent Spanish-Speaking	0.0126 [0.0181]	0.0122 [0.0139]	-0.0977 [0.0681]	-0.0275 [0.0468]
High Percent Hispanic	0.00424 [0.0166]	-0.00301 [0.0106]	0.0142 [0.0660]	-0.0239 [0.0449]
Rural	-0.110*** [0.0305]	-0.00297 [0.0367]	0.00576 [0.0529]	0.0877*** [0.0234]
Constant	-0.0228*** [0.00814]	-0.0205*** [0.00793]	-0.170*** [0.0270]	-0.0829*** [0.0199]
Dept. var mean	-0.0456	-0.0135	-0.168	-0.0592
Number ZCTAs	1183	1183	1183	1183

Notes: Each column presents coefficients from separate regressions, using WIC vendor data. The units of observation are ZCTAs that ever have at least one vendor over the time period of analysis. In each column, the dependent variable is the difference between the any vendor indicator in February 2012 and December 2015, where a negative number corresponds to a decline in vendor presence, while a positive number corresponds to an increase. The explanatory variables are dummy variables for ZCTA characteristics from the 2010 Census and 2011 American Communities Survey (ACS) data, where “high” denotes a value that is at or above the sample median, while “low” denotes a value that is below the sample median. Rural ZCTAs are defined as those with less than 50% of the population living in urban areas according to the 2010 Census. The regressions are weighted by the 2010 ZCTA population, with robust standard errors. Significance levels: * p<0.1 ** p<0.05 *** p<0.01

Appendix Table A.2: The Effects of Distance to the Nearest Vendor on WIC Take-Up, Firstborn Sample

	Mother Received WIC During Pregnancy	
	(1) All	(2) Foreign-Born Moms
Distance to Small	-0.000321*** [0.0000937]	-0.000362** [0.000170]
Distance to A50	-0.000144 [0.000129]	-0.000510** [0.000251]
Mean, dept. var.	0.467	0.458
Observations	923399	300744

Notes: Each column presents coefficients from separate regressions, using California birth records data for all firstborn singleton births with non-missing information on gestation length and maternal zip code of residence, and with estimated conceptions between March 2010 and March 2015. We calculate the distance between each mother's ZCTA of residence centroid and the centroid of the nearest ZCTA with a WIC vendor open at any time during the 9 months post-conception (of each type). Columns (1)-(2) report results from specifications that include the distance in miles to the nearest ZCTA with at least one small and one A-50 vendor, respectively. Column (2) limits the sample to foreign-born mothers only. See notes under Table 3 for more details on the data and model specifications.

Significance levels: * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

Appendix Table A.3: The Effects of Different Types of Vendors on WIC Take-Up: Using Non-Interpolated WIC Vendor Data Only, Firstborn Sample

	Mother Received WIC During Pregnancy	
	(1) All	(2) Foreign-Born Moms
Any Small Vendor During Pregnancy	0.00978*** [0.00251]	0.0110*** [0.00401]
Any A50 Vendor During Pregnancy	0.00406 [0.00371]	0.00998* [0.00570]
Mean, dept. var.	0.465	0.456
Observations	880140	286379

Notes: Each column presents coefficients from separate regressions, using California birth records data for all firstborn singleton births with non-missing information on gestation length and maternal zip code of residence, and with estimated conceptions between March 2010 and March 2015. We further limit the sample to mothers for whom months 0 through 9 post-conception overlap with at least one month from which we have WIC vendor data (i.e., 03/2010, 01/2011, 02/2012, 06/2012, 10/2012, 11/2012, 06/2013, 04/2014, 06/2014, 11/2014, 12/2014, and every month in 2015). This means that we do not rely on any interpolated WIC vendor data. Column (2) limits the sample to foreign-born mothers only. See notes under Table 3 for more details on the data and model specifications.

Significance levels: * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

B Classifying WIC Vendors

As we write in Section 3, information on WIC vendor peer groups cannot be released from the program according to federal law. We took the following steps to classify the vendors in our data into three groups: large stores that likely have 5 or more cash registers, small non-A-50 stores with fewer than 5 registers, and A-50 stores.

First, we identified WIC vendors that are chain stores. We identified all large chain stores that operate in California (e.g., Wal-Mart, Target, Safeway, Lucky’s, Smart & Final). We also flagged stores that have the same name but operate in multiple locations, and used any information available online (store websites, Facebook pages, Yelp pages, and Google Maps images) to determine if they were affiliated as a chain or if they were independent. If there was no information online suggesting common ownership or affiliation, we assumed they were independent stores.

Second, to determine which vendors are A-50 stores, we used any information available online to gauge whether a store specializes in WIC provisions. There are several known A-50 chains (e.g., Quickeroo, Prime Time Nutrition). Other stores have websites, Facebook pages, or Yelp pages, which indicate they primarily cater to WIC participants. For some stores, we relied on images from Google Maps: if a store had prominently displayed WIC posters or advertisements of WIC voucher receipt, we classified it as A-50. In some instances we classified stores as A-50 based on Yelp, Google, or Facebook reviews indicating that customers go to those stores primarily to redeem their WIC benefits. Lastly, we consulted with Michael Amiri and Clyde Steele to classify the remaining stores with names suggesting they specialize in WIC provisions (e.g., including the words “baby,” “mother,” “nutrition,” etc.) but for which we could not find any information online as either A-50 vendors or not.

Third, we identified 28 commissary stores that operate as WIC vendors on military bases. These stores either have “commissary” in the name or are located on a military base. As it is unclear how these stores would have been affected by the MADR reform, we do not use them in our analysis.

Any vendors which did not fit the above three categories, as well as a few farms and farmers’ markets, were classified as independent stores.

As our chain versus independent store distinction does not map perfectly to the large versus small distinction based on the number of cash registers, we next proceeded to classify the chain and independent stores as either small or large. We classified most chain stores as large, with a few exceptions: convenience store chains (e.g., EZ Mart, Value+Express, Short Stop) and small specialty store chains (e.g., 4 Way Meat Market, Doc’s Meat Market) were classified as small stores.

Finally, we conducted Google searches for each independent vendor, and we classified as large any vendor which had images on its website, Yelp or Facebook page, or Google Maps indicating at least 5 cash registers. Also, independent stores which appeared to be major anchor stores in strip malls were classified as large. However, most independent stores were classified as small.