



Using Scanner Data To Answer Food Policy Questions

Conference

**Wednesday, June 1 -
Thursday, June 2, 2011**

**Economic Research Service
1800 M Street, NW
Waugh Auditorium
Washington, DC**

Food and Soda Logits with Walmart Data

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Outline

Soda

Background

Soda by Clothing Size

Food by Clothing Size

Food Categories

Diet Coke and Satiation

Our data

- ▶ 2008-2010
- ▶ 77 stores along the border of Mexico
- ▶ Baskets linked by credit cards, although we haven't taken advantage in these estimates
- ▶ Must have bought one of 1,000+ diabetes-related items in at least one of the baskets linked by a given credit card number.

Binary Approach

- ▶ We do not know the size of family, so continuous measures of soda consumption amounts might be misleading
 - ▶ Out of five two-liter bottles, could be one person drinking a lot, or several family members drinking a little

Clothing Size, Diabetes

- ▶ XXXXXL is the reference group in all logits
- ▶ Diabetes means bought a non-prescription diabetes-related item
 - ▶ Broken down by nutritional or other (devices) in some logits
 - ▶ Could mean only one family member has diabetes.

Any Sugared Soda (Could also buy diet)

Variable:	Odds Ratio	LCL	UCL
S	0.683	0.612	0.764
M	0.692	0.619	0.772
L	0.741	0.664	0.828
XL	0.788	0.705	0.880
XXL	0.866	0.775	0.968
XXXL	0.906	0.810	1.013
XXXXL	0.958	0.853	1.076
Diabetic (1=yes, 0=no)	1.058	1.033	1.082

Any Diet Soda (Could also buy sugared)

Variable:	Odds Ratio	LCL	UCL
S	0.574	0.498	0.661
M	0.615	0.534	0.708
L	0.710	0.617	0.817
XL	0.782	0.680	0.900
XXL	0.903	0.784	1.040
XXXL	0.985	0.854	1.136
XXXXL	1.004	0.866	1.163
Diabetic (1=yes, 0=no)	1.292	1.255	1.331

Both Sugared And Diet Soda

Variable:	Odds Ratio	LCL	UCL
S	0.930	0.716	1.210
M	0.925	0.712	1.200
L	0.959	0.739	1.246
XL	0.967	0.745	1.256
XXL	1.044	0.803	1.357
XXXL	1.092	0.838	1.423
XXXXL	1.152	0.877	1.514
Diabetic (1=yes, 0=no)	1.210	1.152	1.270

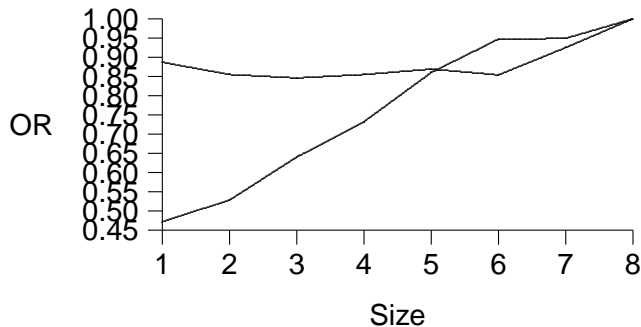
Diet Soda Only

Variable:	Odds Ratio	LCL	UCL
S	0.472	0.402	0.554
M	0.528	0.451	0.620
L	0.640	0.546	0.750
XL	0.732	0.624	0.858
XXL	0.860	0.733	1.009
XXXL	0.947	0.806	1.114
XXXXL	0.949	0.802	1.122
Diabetic (1=yes, 0=no)	1.307	1.262	1.353

Sugared Soda Only

Variable:	Odds Ratio	LCL	UCL
S	0.887	0.767	1.025
M	0.855	0.740	0.988
L	0.846	0.732	0.978
XL	0.855	0.740	0.988
XXL	0.869	0.751	1.005
XXXL	0.854	0.737	0.989
XXXXL	0.925	0.794	1.077
Diabetic (1=yes, 0=no)	0.843	0.816	0.871

Gradient



Bakery

Variable:	Odds Ratio	LCL	UCL
Diabetic (1=yes, 0=no)	0.458	0.452	0.465
Diabetic (1=yes, 0=no), NUT	0.802	0.787	0.816
No Clothes Bought	1.278	1.173	1.392
S	0.682	0.622	0.747
M	0.676	0.619	0.738
L	0.709	0.650	0.773
XL	0.759	0.696	0.828
XXL	0.807	0.739	0.881
XXXL	0.855	0.782	0.934
XXXXL	0.940	0.857	1.032

Candy and Tobacco

Variable:	Odds Ratio	LCL	UCL
Diabetic (1=yes, 0=no)	1.263	1.230	1.297
Diabetic (1=yes, 0=no), NUT	3.183	3.098	3.271
No Clothes Bought	1.030	0.830	1.278
S	0.784	0.624	0.986
M	0.823	0.660	1.025
L	0.899	0.723	1.118
XL	0.931	0.748	1.157
XXL	0.965	0.775	1.202
XXXL	0.968	0.774	1.210
XXXXL	0.932	0.738	1.178

Unhealthy Candy and Tobacco

Variable:	Odds Ratio	LCL	UCL
Diabetic (1=yes, 0=no)	0.648	0.640	0.656
Diabetic (1=yes, 0=no), NUT	1.034	1.017	1.051
No Clothes Bought	0.983	0.909	1.063
S	0.842	0.775	0.915
M	0.768	0.709	0.831
L	0.770	0.712	0.834
XL	0.782	0.723	0.847
XXL	0.799	0.738	0.866
XXXL	0.840	0.775	0.911
XXXXL	0.909	0.835	0.989

Frozen Food

Variable:	Odds Ratio	LCL	UCL
Diabetic (1=yes, 0=no)	0.480	0.475	0.485
Diabetic (1=yes, 0=no), NUT	0.959	0.947	0.972
No Clothes Bought	1.718	1.599	1.845
S	0.918	0.852	0.990
M	0.869	0.808	0.935
L	0.882	0.820	0.948
XL	0.893	0.831	0.960
XXL	0.911	0.847	0.980
XXXL	0.940	0.873	1.013
XXXXL	0.980	0.907	1.058

Grocery

Variable:	Odds Ratio	LCL	UCL
Diabetic (1=yes, 0=no)	0.366	0.363	0.369
Diabetic (1=yes, 0=no), NUT	0.934	0.923	0.946
No Clothes Bought	1.990	1.882	2.105
S	0.886	0.835	0.940
M	0.853	0.806	0.903
L	0.865	0.817	0.916
XL	0.870	0.822	0.920
XXL	0.857	0.810	0.907
XXXL	0.873	0.824	0.926
XXXXL	0.929	0.874	0.987

Liquor

Variable:	Odds Ratio	LCL	UCL
Diabetic (1=yes, 0=no)	0.473	0.462	0.483
Diabetic (1=yes, 0=no), NUT	0.681	0.662	0.702
No Clothes Bought	2.323	1.959	2.755
S	1.533	1.285	1.828
M	1.671	1.407	1.984
L	1.677	1.413	1.991
XL	1.473	1.241	1.748
XXL	1.367	1.150	1.624
XXXL	1.281	1.076	1.526
XXXXL	1.079	0.899	1.296

Meat

Variable:	Odds Ratio	LCL	UCL
Diabetic (1=yes, 0=no)	0.496	0.490	0.502
Diabetic (1=yes, 0=no), NUT	0.964	0.949	0.979
No Clothes Bought	1.710	1.565	1.868
S	0.965	0.880	1.059
M	0.928	0.848	1.015
L	0.956	0.875	1.046
XL	0.974	0.891	1.065
XXL	0.975	0.891	1.066
XXXL	0.977	0.892	1.070
XXXXL	0.961	0.874	1.058

Produce

Variable:	Odds Ratio	LCL	UCL
Diabetic (1=yes, 0=no)	0.404	0.401	0.408
Diabetic (1=yes, 0=no), NUT	0.896	0.885	0.907
No Clothes Bought	2.132	2.001	2.271
S	0.945	0.884	1.009
M	0.956	0.896	1.019
L	0.975	0.914	1.039
XL	0.979	0.918	1.044
XXL	0.962	0.902	1.026
XXXL	0.983	0.921	1.049
XXXXL	0.992	0.926	1.062

Seafood

Variable:	Odds Ratio	LCL	UCL
Diabetic (1=yes, 0=no)	0.583	0.567	0.601
Diabetic (1=yes, 0=no),NUT	1.265	1.225	1.305
No Clothes Bought	1.958	1.546	2.479
S	1.420	1.112	1.812
M	1.313	1.034	1.667
L	1.309	1.032	1.660
XL	1.201	0.947	1.524
XXL	1.202	0.947	1.527
XXXL	1.085	0.851	1.384
XXXXL	1.072	0.832	1.382

Bakery

Variable:	Odds Ratio	LCL	UCL
Diabetic (1=yes, 0=no)	0.553	0.547	0.559
DTSODA	1.221	1.212	1.230
BOTH	1.521	1.507	1.536
No Clothes Bought	1.278	1.173	1.393
S	0.692	0.631	0.758
M	0.687	0.629	0.749
L	0.718	0.658	0.783
XL	0.768	0.704	0.838
XXL	0.814	0.746	0.888
XXXL	0.859	0.786	0.939
XXXXL	0.943	0.860	1.035

Candy And Tobacco

Variable:	Odds Ratio	LCL	UCL
Diabetic (1=yes, 0=no)	1.787	1.752	1.822
DTSODA	2.060	2.029	2.093
BOTH	1.731	1.690	1.772
No Clothes Bought	1.038	0.835	1.290
S	0.830	0.659	1.045
M	0.868	0.695	1.083
L	0.941	0.755	1.172
XL	0.972	0.781	1.210
XXL	0.998	0.800	1.244
XXXL	0.985	0.787	1.233
XXXXL	0.948	0.749	1.199

Unhealthy Candy and Tobacco

Variable:	Odds Ratio	LCL	UCL
Diabetic (1=yes, 0=no)	0.750	0.742	0.757
DTSODA	1.060	1.053	1.068
BOTH	1.351	1.338	1.364
No Clothes Bought	0.984	0.910	1.064
S	0.848	0.781	0.921
M	0.774	0.714	0.838
L	0.776	0.717	0.840
XL	0.787	0.727	0.852
XXL	0.803	0.742	0.870
XXXL	0.843	0.777	0.914
XXXXL	0.910	0.836	0.991

Liquor

Variable:	Odds Ratio	LCL	UCL
Diabetic (1=yes, 0=no)	0.533	0.524	0.543
DTSODA	1.199	1.186	1.211
BOTH	1.503	1.482	1.523
No Clothes Bought	2.321	1.957	2.752
S	1.552	1.302	1.851
M	1.692	1.424	2.010
L	1.695	1.428	2.012
XL	1.487	1.253	1.765
XXL	1.376	1.158	1.635
XXXL	1.285	1.079	1.531
XXXXL	1.078	0.898	1.294

Meat

Variable:	Odds Ratio	LCL	UCL
Diabetic (1=yes, 0=no)	0.623	0.617	0.630
DTSODA	1.338	1.329	1.346
BOTH	1.981	1.964	1.997
No Clothes Bought	1.710	1.565	1.868
S	0.987	0.900	1.083
M	0.949	0.867	1.038
L	0.975	0.891	1.066
XL	0.990	0.906	1.083
XXL	0.986	0.902	1.079
XXXL	0.983	0.897	1.077
XXXXL	0.964	0.876	1.060

Produce

Variable:	Odds Ratio	LCL	UCL
Diabetic (1=yes, 0=no)	0.520	0.516	0.524
DTSODA	1.310	1.303	1.317
BOTH	1.647	1.635	1.659
No Clothes Bought	2.135	2.003	2.275
S	0.962	0.900	1.029
M	0.974	0.913	1.039
L	0.990	0.929	1.056
XL	0.993	0.931	1.058
XXL	0.971	0.910	1.036
XXXL	0.988	0.925	1.055
XXXXL	0.995	0.929	1.065