SUPPLEMENTARY MATERIALS

Modernization of African Food Retailing and (Un)healthy Food Consumption
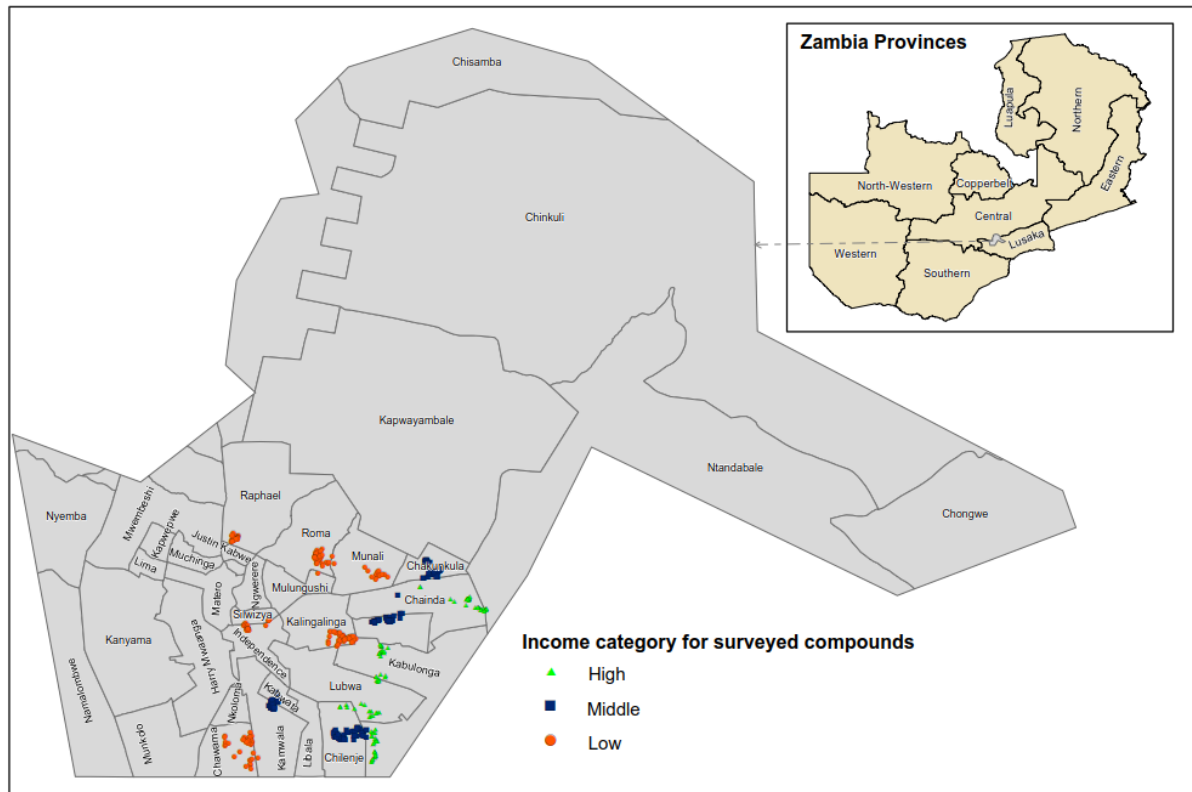

Figure S1. Map of Lusaka City with sampled compounds and households.

Table S1. List of main shopping malls with modern food retailers in Lusaka City.

No.	Name of Shopping Mall	Location and Surrounding *Compounds*	Modern Food Retailers: Hypermarkets, Supermarkets (Fast-Food Restaurants in Parentheses)
1	Arcades	Roma, University of Zambia (UNZA)	Spurs
2	Cairo	Central Lusaka	Shoprite (Food Fayre, Hungry Lion, Machachos)
3	Chawama	Chawama, John Haward, Kuku	Spur
4	Chazanga Shoprite	Chazanga, SOS	Shoprite
5	Chilenje Shoprite	Chalala, Chilenje, Woodlands	Choppies, Shoprite (Debonairs Pizza, MM Chickens, Naaz)
6	Choppies Complex	Kabulonga, Sundel, Zamtel Flats	Choppies
7	Cosmopolitan	Chawama, John Howard, Jon-Lengi, Makeni, Misisi	Game Stores, Shoprite (Chicken Inn, Galito's, Hungry Lion, Mochachos, Pizza Hut)
8	Cross Roads	Cross Road, Kabulonga, Nyumba Yanga, Sundel	Spurs (Gigibonta, Major Meat)
9	Down Town	Chibolya, Jon-Lengi, Kabwata, Kamwala, Misisi	Spurs (Big Bite, Debonairs Pizza, Down Town Foods)
10	East Park	Childley, Kalingalinga, Kalundu, Ng'ombe, Roma, UNZA	Food Lover's, PicknPay (Fishaways, Gigibonta, GoatnChips, Hungry Lion, KEG, Pizza Hut)
11	Embassy	Chawama, Jon-Lengi, Makeni, Misisi	Embassy, Spurs (Papas, Piatto, Zorbas)
12	Garden City	Avondole, Chelston	Food Lover's, PicknPay (Bushman, Foodano)
13	Kabulonga and Melissa	Kabulonga	Melissa, PicknPay (Debonairs Pizza, KFC, Nando's, Subway)

14	Levy Junction	Central Lusaka, Chilulu, Evelyn Home College, Gardens, Nippa, North Mead, Roads Park, Thorn Park	Food Lover's, PicknPay (Chicken Inn, Hungry Lion, KFC, Pizza Inn, Wimpy)
15	Makeni	Chawama, Jon-Lengi, Makeni, Misisi	Food Lover's, PicknPay (Debonairs Pizza, KFC, Nando's)
16	Mama Betty Foxydale	Ngo'mbe, Roma	Spur (Debonairs Pizza, Gigibonta)
17	Manda Hill	Central Lusaka, Chilulu, Gardens, Longacres, Olympia, Roads Park	Shoprite, Game Stores (Bread Café, Debonairs Pizza, Galito's, Hungry Lion, Mugg and Bean, My Asia, Nando's, Pizza Inn, Steers, Subway, Vasila)
18	Matero	Matero	Shoprite (Hungry Lion)
19	Novara Great North	Chazanga, SOS	PicknPay (GoatnChips, Hungry Lion)
20	PHI	Kaunda Square, PHI, Mtendere	PicknPay (Debonairs Pizza, King-Pie)
21	SOS Spurs	Chazanga, SOS	Spur
22	Twin Palm	Avondole, Chelston, Ibex, Salama Park	Shoprite (Chicken Inn, Debonairs Pizza, Hungry Lion)
23	Waterfalls	Avondole, Chelston	Shoprite (Gigibonta, Hungry Lion)
24	Woodlands	Chilenje, Kabulonga, Woodlands	PicknPay (Creamy, Debonairs Pizza, Galito's, Nachies, O. Hagans, Pizza Inn)
25	Zappa	Chawama	(Debonairs Pizza)

Notes: The main shopping malls that were operating in 2018 are included. Very small shopping malls are not included. Likewise, malls that were still under construction in 2018 are not included. The list was compiled by the authors based on internet search, personal visits, and key informant interviews.

Table S2. Food processing levels by food groups and items.

Processing Level	Food Group	Food Items (Examples)
Unprocessed foods	Cereals and tubers	Maize (dry/green), cassava, Irish potato, sweet potato, yams
	Eggs and milk	Eggs, fresh whole milk
	Fruits	Apples, avocado, banana (ripe/boiled), guava, mango, pawpaw, pineapple, pumpkin, orange/tangerine, sugar plum, watermelon
	Legumes	Bean (fresh/dry), cowpea (fresh/dry), groundnut (fresh/dry), pigeonpea (fresh/dry), soybean, velvet bean
	Vegetables	Bean leaves, blackjack, cabbage, carrot, cassava leaves, cowpea leaves, cucumber, eggplant, garlic, greengram, lettuce, mushroom (cultivated/wild), okra, onion, pepper, pumpkin leaves, rape/mustard/chinese, tomato
Primary processed foods	Drinks and snacks	Bottled/clear beer, bottled water, roasted cashew/macadamia nuts
	Meat and fish	Beef, bush/game meat, chicken, duck, turkey, goat meat, sheep meat, pork, fish (fresh/frozen/dried)
	Cereals	Rice, millet, oats, sorghum
Ultra-processed foods	Bread and pasta	Bread, buns, pasta, instant noodles
	Cereals and tubers	Maize flour, cornflakes, porridge mix, wheat flour, cassava flour
	Dairy products	Cheese, milk, yoghurt
	Oils and fats	Butter/margarine, coconut oil, cooking oil/fat

	Meat and fish	Sausage (beef/chicken/pork), soya meat, canned meat and fish
	Miscellaneous	Canned foods, mandazi, mixed fruits/salads, pizza, samosa, ready-made foods/dishes
	Sugar, sweetened drinks and snacks	Soft drinks, sweetened fruit juices, wine, jam, tomato sauce, salt, sugar, biscuits/cookies, cake, chips, chocolate, crisps, puffed salted corn chips, popcorn, salted nuts

Note: The same classifications of foods were also used by [24].

Table S3. Additional descriptive statistics.

	Full Sample	By Income Tercile		
		Lowest	Middle	Highest
Socioeconomic characteristics				
Age of household head (years)	43.83	45.13	41.98	44.40
	(12.86)	(13.67)	(12.68)	(12.02)
Adolescent in household (dummy)	0.47	0.50	0.49	0.43
	(0.50)	(0.50)	(0.50)	(0.50)
Child in household (dummy)	0.59	0.71	0.53	0.54
	(0.49)	(0.45)	(0.50)	(0.50)
Bemba ethnicity (dummy)	0.29	0.28	0.24	0.36
	(0.45)	(0.45)	(0.43)	(0.48)
Tonga ethnicity (dummy)	0.19	0.15	0.21	0.21
	(0.39)	(0.36)	(0.41)	(0.41)
Protestant religion (dummy)	0.42	0.42	0.46	0.38
	(0.49)	(0.49)	(0.50)	(0.49)
Catholic religion (dummy)	0.26	0.31	0.19	0.29
	(0.44)	(0.47)	(0.39)	(0.45)
Food expenditures				
Cereals and tubers (ZMW/week)	106.41	87.37	108.25	123.94
	(57.02)	(49.60)	(55.01)	(60.40)
Legumes (ZMW/week)	30.15	30.84	32.36	27.16
	(43.99)	(43.52)	(49.17)	(38.63)
Fruits (ZMW/week)	7.88	7.23	6.75	9.70
	(20.64)	(20.94)	(17.37)	(23.25)
Vegetables (ZMW/week)	59.63	57.99	64.98	55.82
	(44.19)	(39.59)	(47.19)	(45.21)
Meat and fish (ZMW/week)	172.84	126.04	178.54	214.69
	(116.61)	(100.16)	(107.59)	(124.26)
Dairy products and eggs (ZMW/week)	23.53	14.45	18.54	37.90
	(33.24)	(18.70)	(25.32)	(45.25)
Oils and fats (ZMW/week)	9.82	9.14	10.28	10.05
	(9.47)	(8.65)	(9.09)	(10.61)
Sugar, sweetened beverages (ZMW/week)	33.86	27.55	32.23	41.96
	(50.67)	(42.59)	(43.95)	(62.54)
Observations	475	159	160	156

Notes: Mean values are shown with standard deviations in parentheses. ZMW, Zambia Kwacha (local currency). The average exchange rate was ZMW 9.87 = US$ 1 in mid-2018.

Table S4. Correlation matrix from multivariate probit model.

	Modern Retailer				Traditional Retailer			
	HM	**SM**	**CS**	**FF**	**GS**	**TM**	**RM**	**NK**
Hypermarket (HM)	1.000							
Supermarket (SM)	0.161	1.000						
	(0.122)							
Convenience store (CS)	0.252**	0.149	1.000					
	(0.114)	(0.099)						
Fast-food restaurant (FF)	−0.088	−0.047	0.198	1.000				
	(0.236)	(0.220)	(0.205)					
Grocery store (GS)	−0.098	−0.304***	0.009	0.388***	1.000			
	(0.108)	(0.073)	(0.090)	(0.122)				
Traditional market (TM)	0.074	−0.164*	0.064	−0.046	0.022	1.000		
	(0.108)	(0.084)	(0.091)	(0.127)	(0.080)			
Roadside market (RM)	0.060	−0.040	0.163*	0.285**	0.249***	−0.282***	1.000	
	(0.105)	(0.086)	(0.091)	(0.124)	(0.076)	(0.081)		
Neighborhood kiosk (NK)	−0.003	−0.145*	−0.086	0.137	0.222***	−0.124	−0.026	1.000
	(0.117)	(0.086)	(0.096)	(0.114)	(0.081)	(0.086)	(0.083)	

Notes: Correlation coefficients are shown with standard errors in parentheses. The likelihood ratio test of zero correlation between the error terms is rejected at the 1% level; χ^2 (28) = 85. * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level.

Table S5. Associations between the use of retailers and food processing levels (full results).

	Only Supermarkets Considered			Multiple Food Retailers Considered		
	Ultra-Processed Foods	Primary Processed Foods	Unprocessed Foods	Ultra-Processed Foods	Primary Processed Foods	Unprocessed Foods
	(1)	(2)	(3)	(1)	(2)	(3)
Hypermarket				0.146*	–0.018	–0.128
				(0.071)	(0.095)	(0.091)
Supermarket	0.051**	0.043*	–0.094***	0.196***	–0.053	–0.143*
	(0.022)	(0.021)	(0.027)	(0.052)	(0.075)	(0.075)
Convenience store				0.293***	–0.267**	–0.026
				(0.091)	(0.110)	(0.097)
Fast-food restaurant				0.611***	–0.671***	0.060
				(0.109)	(0.091)	(0.168)
Grocery store				0.217***	–0.043	–0.174**
				(0.055)	(0.070)	(0.066)
Traditional market				0.063	–0.122*	0.058
				(0.044)	(0.063)	(0.070)
Roadside market				0.041	–0.164**	0.122*
				(0.054)	(0.061)	(0.063)
Neighborhood kiosk				0.274***	–0.101	–0.173*
				(0.079)	(0.093)	(0.098)
Male	–0.174	–0.374	0.548	–0.648	–0.313	0.961
	(1.404)	(1.996)	(1.911)	(1.221)	(1.939)	(1.646)
Age	0.001	–0.057	0.056	0.015	–0.071	0.056*
	(0.050)	(0.039)	(0.050)	(0.039)	(0.043)	(0.027)
Household size	0.707*	–1.254***	0.547	0.875**	–1.063**	0.188
	(0.363)	(0.404)	(0.445)	(0.333)	(0.433)	(0.304)
Education	–0.550***	0.700***	–0.150	–0.601***	0.673***	–0.072
	(0.122)	(0.214)	(0.168)	(0.126)	(0.198)	(0.182)
Income (log)	0.159	1.389*	–1.548**	–0.440	1.297*	–0.857
	(0.423)	(0.714)	(0.621)	(0.458)	(0.712)	(0.599)
Chewa	0.089	2.757	–2.846	–0.241	2.327	–2.086
	(1.643)	(2.022)	(2.565)	(1.589)	(2.188)	(2.212)
Tonga	0.544	1.406	–1.950	–0.001	1.319	–1.318
	(1.608)	(2.057)	(1.553)	(1.698)	(2.208)	(1.581)
Catholic	–0.977	–0.171	1.148	–1.150	–0.697	1.847**
	(2.111)	(1.847)	(0.963)	(2.064)	(1.968)	(0.713)
Seventh Day Adventist	–2.916	0.252	2.664*	–2.075	0.570	1.505
	(1.719)	(1.770)	(1.441)	(1.566)	(1.985)	(1.413)
Constant	35.601***	22.579***	41.820***	29.124***	33.773***	37.103***
	(5.417)	(5.688)	(5.499)	(7.932)	(8.944)	(9.491)
R-squared	0.035	0.122	0.146	0.116	0.149	0.256
Observations	475	475	475	475	475	475

Notes: Ordinary least squares estimates are shown with robust standard errors clustered at *compound* level in parentheses. All types of retailers are represented by the household expenditure share for this retailer. Bemba and Protestant are used as a reference group for ethnicity—Chewa and Tonga, and religion status—Catholic and Seventh Day Adventist, respectively. * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level.

Table S6. Associations between supermarket use and food processing levels (seemingly unrelated regressions).

	Ultra-Processed Foods (Expenditure Share)	Primary Processed Foods (Expenditure Share)	Unprocessed Foods (Expenditure Share)
Supermarket	0.051**	0.043	−0.094***
	(0.023)	(0.028)	(0.023)
Male	−0.174	−0.374	0.548
	(1.318)	(1.593)	(1.299)
Age	0.001	−0.057	0.056
	(0.051)	(0.061)	(0.050)
Household size	0.707*	−1.254**	0.547
	(0.412)	(0.497)	(0.406)
Education	−0.550**	0.700***	−0.150
	(0.219)	(0.264)	(0.216)
Income (log)	0.159	1.389*	−1.548**
	(0.645)	(0.780)	(0.636)
Chewa	0.089	2.757	−2.846
	(1.932)	(2.335)	(1.905)
Tonga	0.544	1.406	−1.950
	(1.756)	(2.122)	(1.731)
Catholic	−0.977	−0.171	1.148
	(1.474)	(1.781)	(1.453)
Seventh Day Adventist	−2.916	0.252	2.664
	(1.865)	(2.254)	(1.839)
Constant	35.601***	22.579***	41.820***
	(6.492)	(7.845)	(6.401)
Observations	475	475	475

Notes: Seemingly unrelated regression estimates are shown with standard errors in parentheses. Supermarkets are represented by the household expenditure share for this retailer. * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level.

Table S7. Associations between the use of different retailers and food processing levels (absolute expenditures).

	Ultra-Processed Foods (Expenditures, log)	Primary Processed Foods (Expenditures, log)	Unprocessed Foods (Expenditures, log)
Panel A: Supermarkets only			
Supermarket	0.002	0.002	−0.004*
	(0.001)	(0.001)	(0.002)
Other covariates	Yes	Yes	Yes
Panel B: Multiple food retailers considered			
Hypermarket	0.012***	0.007*	0.006
	(0.004)	(0.004)	(0.006)
Supermarket	0.009**	0.003	0.0005
	(0.003)	(0.003)	(0.006)
Convenience store	0.014***	−0.003	0.009
	(0.005)	(0.003)	(0.006)
Fast-food restaurant	0.041***	0.0005	0.029***
	(0.006)	(0.012)	(0.006)
Grocery store	0.009**	0.001	−0.002
	(0.003)	(0.003)	(0.006)
Traditional market	0.006*	0.002	0.011**
	(0.003)	(0.003)	(0.005)
Roadside market	0.003	−0.002	0.010**

	(0.003)	(0.003)	(0.004)
Neighborhood kiosk	0.010**	0.0002	−0.004
	(0.004)	(0.003)	(0.006)
Other covariates	Yes	Yes	Yes
Observations	475	469	471

Notes: Ordinary least squares estimates are shown with robust standard errors clustered at *compound* level in parentheses. All types of retailers are represented by the household expenditure share for this retailer. The same socioeconomic control variables are included as in Table S5. * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level.

Table S8. Associations between the use of different retailers and food processing levels (by poverty status).

	Poor Households		Non-Poor Households	
	Ultra-processed (Exp. Share, %)	Unprocessed (Exp. Share, %)	Ultra-Processed (Exp. share, %)	Unprocessed (Exp. Share, %)
Panel A: Only supermarkets considered				
Supermarket only	0.031	−0.058	0.057**	−0.111***
	(0.050)	(0.087)	(0.026)	(0.025)
Other covariates	Yes	Yes	Yes	Yes
Panel B: Multiple food retailers considered				
Hypermarket			0.165**	−0.118
			(0.060)	(0.087)
Supermarket	0.035	−0.165	0.231***	−0.144
	(0.128)	(0.205)	(0.047)	(0.095)
Convenience store	0.274*	0.114	0.329**	−0.076
	(0.130)	(0.187)	(0.111)	(0.125)
Fast-food restaurant	−0.627	−1.055	0.679***	0.071
	(0.853)	(1.003)	(0.081)	(0.219)
Grocery store	0.009	−0.165	0.269***	−0.225*
	(0.118)	(0.163)	(0.052)	(0.106)
Traditional market	−0.029	−0.022	0.064	0.106
	(0.098)	(0.151)	(0.048)	(0.084)
Roadside market	−0.073	0.020	0.056	0.158*
	(0.075)	(0.147)	(0.067)	(0.084)
Neighborhood kiosk	0.040	−0.375**	0.358***	−0.067
	(0.147)	(0.165)	(0.053)	(0.123)
Other covariates	Yes	Yes	Yes	Yes
Observations	126	126	349	349

Notes: Ordinary least squares estimates are shown with robust standard errors clustered at *compound* level in parentheses. Poor households are those with less than US$1.90 per capita and day in purchasing power parity terms [36]. All types of retailers are represented by the household expenditure share for this retailer. For poor households, hypermarkets were dropped due to perfect collinearity. The same socioeconomic control variables are included as in Table S5. * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level.

Table S9. Associations between the use of different retailers and the consumption of selected food groups (full results, supermarkets only).

	Household Food Consumption (kg/week)								
	Cereals and Tubers	Legumes	Fruits	Vegetables	Meat and Fish	Dairy Products	Eggs	Oils and Fats	Sugar, Beverages
Supermarket	−0.003	−0.001	−0.005	−0.001	0.015***	0.014*	−0.002	−0.003	−0.010***
	(0.006)	(0.005)	(0.004)	(0.009)	(0.006)	(0.007)	(0.001)	(0.002)	(0.004)
Male	0.281	0.646***	−0.031	0.627	0.361	−0.072	0.122	0.397***	0.150
	(0.471)	(0.160)	(0.338)	(0.483)	(0.245)	(0.552)	(0.083)	(0.085)	(0.167)
Age	0.026	0.006	0.006	−0.007	−0.003	0.011	0.002	0.008***	0.019***
	(0.021)	(0.007)	(0.012)	(0.014)	(0.008)	(0.019)	(0.004)	(0.003)	(0.006)
Household size	0.907***	0.233***	−0.074	0.384***	0.145**	0.278	−0.017	0.052*	0.121
	(0.137)	(0.078)	(0.072)	(0.112)	(0.072)	(0.211)	(0.020)	(0.029)	(0.098)
Education	0.042	0.032	0.067*	−0.038	0.150***	0.121	0.050**	−0.017*	0.103***
	(0.048)	(0.031)	(0.037)	(0.065)	(0.043)	(0.097)	(0.020)	(0.010)	(0.022)
Income (log)	0.441**	−0.203	0.142	−0.205	0.445**	0.844***	0.121***	0.083**	0.217
	(0.203)	(0.139)	(0.133)	(0.210)	(0.174)	(0.286)	(0.044)	(0.038)	(0.134)
Chewa	0.933*	0.589	0.128	−0.422	0.790**	−0.619	0.065	0.468***	0.517
	(0.555)	(0.361)	(0.328)	(0.719)	(0.309)	(0.707)	(0.126)	(0.098)	(0.360)
Tonga	0.269	0.438**	−0.402	1.042**	0.581*	0.344	0.037	0.249***	−0.095
	(0.518)	(0.197)	(0.296)	(0.497)	(0.327)	(0.513)	(0.159)	(0.067)	(0.219)
Catholic	0.107	0.172	0.309	0.545	−0.327	−0.288	0.121	−0.030	0.007
	(0.386)	(0.252)	(0.305)	(0.554)	(0.345)	(0.344)	(0.087)	(0.086)	(0.205)
Seventh Day Adventist	0.964**	0.367	0.632***	0.704	−0.465	0.363	−0.114	0.165**	−0.295
	(0.393)	(0.272)	(0.232)	(0.588)	(0.444)	(0.512)	(0.132)	(0.077)	(0.218)
Constant	−0.035	0.813	−3.536*	4.512**	−3.650**	−15.110***	−1.964***	−1.043**	−3.487**
	(2.355)	(1.145)	(2.017)	(2.238)	(1.496)	(4.112)	(0.558)	(0.428)	(1.494)
Pseudo-R-squared	0.060	0.027	0.014	0.011	0.073	0.081	0.053	0.068	0.024
Observations	475	475	475	475	475	475	475	475	475

Notes: Tobit estimates are shown with robust standard errors clustered at *compound* level in parentheses. All types of retailers are represented by the household expenditure share for this retailer. * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level.

Table S10. Associations between the use of different retailers and the consumption of selected food groups (full results, all retailers).

	Household Food Consumption (kg/week)								
	Cereals and Tubers	Legumes	Fruits	Vegetables	Meat and Fish	Dairy Products	Eggs	Oils and Fats	Sugar, Beverages
Hypermarket	0.025	−0.009	−0.009	0.013	0.043*	0.053*	0.007	0.009	0.040***
	(0.031)	(0.019)	(0.018)	(0.020)	(0.023)	(0.029)	(0.006)	(0.005)	(0.008)
Supermarket	0.011	0.003	−0.031**	0.027	0.030*	0.055***	0.005	0.005	0.015*
	(0.018)	(0.012)	(0.015)	(0.021)	(0.016)	(0.020)	(0.003)	(0.004)	(0.008)
Convenience store	0.058**	−0.007	−0.039*	0.012	0.022	0.014	0.002	0.014**	0.020
	(0.025)	(0.011)	(0.023)	(0.019)	(0.015)	(0.050)	(0.005)	(0.006)	(0.013)
Fast-food restaurant	−0.100***				0.110*	0.132**			0.105**
	(0.037)				(0.062)	(0.055)			(0.049)
Grocery store	0.013	−0.003	−0.030*	0.016	0.026	0.063**	0.008**	0.005	0.028***
	(0.016)	(0.013)	(0.017)	(0.023)	(0.016)	(0.029)	(0.004)	(0.004)	(0.007)
Traditional market	0.011	0.016	−0.033**	0.058***	0.015	0.023	0.004	0.011***	0.024***
	(0.018)	(0.013)	(0.015)	(0.015)	(0.015)	(0.022)	(0.003)	(0.004)	(0.008)
Roadside market	0.010	0.012	−0.038**	0.038**	0.007	0.038**	0.006	0.005	0.010
	(0.019)	(0.013)	(0.018)	(0.016)	(0.016)	(0.015)	(0.004)	(0.004)	(0.007)
Neighborhood kiosk	0.030	−0.013	−0.014	−0.008	−0.010	0.057**	0.017***	0.007	0.027*
	(0.027)	(0.015)	(0.017)	(0.025)	(0.019)	(0.027)	(0.004)	(0.005)	(0.015)
Male	0.217	0.687***	−0.020	0.765	0.471*	−0.148	0.053	0.421***	0.173
	(0.478)	(0.141)	(0.308)	(0.469)	(0.249)	(0.531)	(0.085)	(0.092)	(0.193)
Age	0.025	0.007	−0.002	−0.003	−0.0003	0.015	0.003	0.009***	0.021***
	(0.021)	(0.008)	(0.011)	(0.014)	(0.007)	(0.018)	(0.004)	(0.003)	(0.006)
Household size	0.955***	0.208***	−0.034	0.342***	0.128*	0.281	−0.004	0.056**	0.139
	(0.123)	(0.073)	(0.072)	(0.088)	(0.076)	(0.208)	(0.020)	(0.028)	(0.101)
Education	0.049	0.034	0.064*	−0.045	0.121***	0.118	0.057***	−0.022*	0.086***
	(0.049)	(0.032)	(0.036)	(0.065)	(0.035)	(0.099)	(0.020)	(0.012)	(0.023)
Income (log)	0.374*	−0.098	0.016	0.032	0.462***	0.864***	0.106**	0.089*	0.195
	(0.193)	(0.127)	(0.114)	(0.197)	(0.171)	(0.263)	(0.043)	(0.047)	(0.148)
Chewa	0.953*	0.646**	0.086	−0.287	0.725**	−0.750	0.078	0.500***	0.546
	(0.537)	(0.301)	(0.389)	(0.718)	(0.292)	(0.728)	(0.109)	(0.103)	(0.332)
Tonga	0.290	0.473**	−0.409	1.040**	0.429	0.312	0.045	0.234***	−0.207
	(0.526)	(0.204)	(0.282)	(0.426)	(0.310)	(0.505)	(0.149)	(0.073)	(0.218)
Catholic	0.100	0.265	0.239	0.764	−0.297	−0.275	0.121	−0.003	0.039
	(0.424)	(0.242)	(0.304)	(0.466)	(0.340)	(0.335)	(0.094)	(0.084)	(0.167)
Seventh Day Adventist	1.025***	0.224	0.720***	0.366	−0.462	0.452	−0.078	0.129*	−0.312
	(0.384)	(0.265)	(0.219)	(0.574)	(0.434)	(0.510)	(0.119)	(0.071)	(0.211)
Constant	−0.852	−0.848	0.741	−1.149	−5.015*	−19.214***	−2.542***	−1.830***	−5.442***
	(3.222)	(1.862)	(1.744)	(2.243)	(2.774)	(5.136)	(0.711)	(0.563)	(1.490)
Pseudo-R-squared	0.065	0.045	0.044	0.028	0.086	0.101	0.074	0.085	0.034
Observations	475	475	475	475	475	475	475	475	475

Notes: Tobit estimates are shown with robust standard errors clustered at *compound* level in parentheses. All types of retailers are represented by the household expenditure share for this retailer. * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level.

Table S11. Associations between the use of different retailers and the consumption of food groups (in value terms).

	Food Expenditure (ZMW/week)							
	Cereals and Tubers	Legumes	Fruits	Vegetables	Meat and Fish	Dairy and Eggs	Oils and Fats	Sugar, Beverages
	Panel A:Only supermarkets considered							
Supermarket	0.095	−0.015	−0.315**	−0.258***	0.445***	−0.059	−0.017	−0.086
	(0.069)	(0.134)	(0.140)	(0.081)	(0.167)	(0.053)	(0.032)	(0.054)
Other covariates	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Panel B: Multiple retailers considered							
Hypermarket	0.863**	0.025	0.248	−0.300	1.115*	0.895**	0.237***	0.109
	(0.358)	(0.422)	(0.813)	(0.267)	(0.664)	(0.366)	(0.066)	(0.133)
Supermarket	0.233	0.197	−0.866***	−0.066	1.093***	0.284*	0.159**	−0.011
	(0.177)	(0.258)	(0.330)	(0.244)	(0.381)	(0.152)	(0.069)	(0.149)
Convenience store	0.952**	0.521*	−1.084*	0.446	0.436	0.384**	0.255***	0.024
	(0.409)	(0.284)	(0.564)	(0.410)	(0.356)	(0.173)	(0.077)	(0.220)
Fast-food restaurant	0.866				4.527**	1.518		0.355
	(1.317)				(1.789)	(1.231)		(0.369)
Grocery store	0.189	−0.035	−0.740**	−0.021	0.879**	0.348*	0.140**	0.074
	(0.180)	(0.242)	(0.342)	(0.268)	(0.400)	(0.209)	(0.065)	(0.123)
Traditional market	0.008	0.546**	−0.711**	0.418**	0.722*	0.203	0.220***	0.054
	(0.141)	(0.254)	(0.294)	(0.196)	(0.379)	(0.150)	(0.062)	(0.130)
Roadside market	−0.143	0.417*	−0.878***	0.593***	0.508	0.329**	0.110*	−0.111
	(0.168)	(0.225)	(0.301)	(0.173)	(0.383)	(0.164)	(0.063)	(0.129)
Neighborhood kiosk	0.229	−0.239	−0.108	0.017	0.146	0.670***	0.219**	0.282
	(0.221)	(0.279)	(0.445)	(0.310)	(0.477)	(0.177)	(0.091)	(0.262)
Other covariates	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	475	475	475	475	475	475	475	475

Notes: Tobit estimates are shown with robust standard errors clustered at *compound* level in parentheses. All types of retailers are represented by the household expenditure share for this retailer. Socioeconomic control variables are included in all models, but are not shown here for brevity. * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level.