

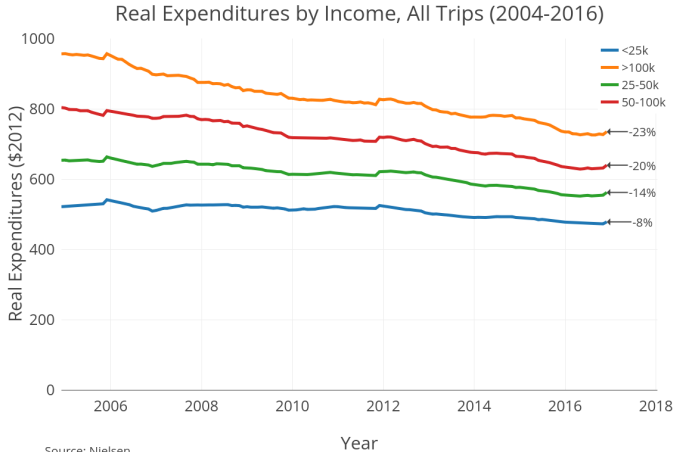
# Warehouse Clubs, Bulk Buying, and Inequality

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Mallick Hossain

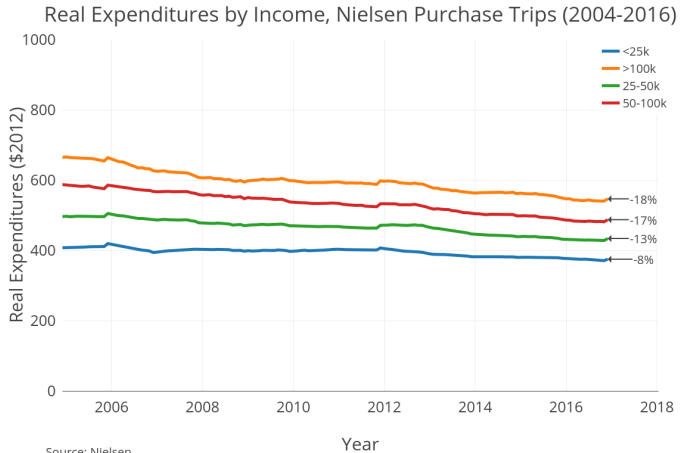
- Spending declines are not robust to analysis

# Previously



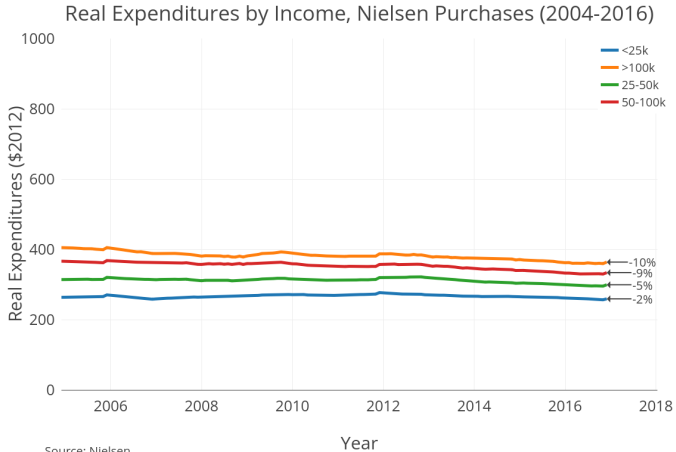
# Corrections

- Dropping non-Nielsen trips



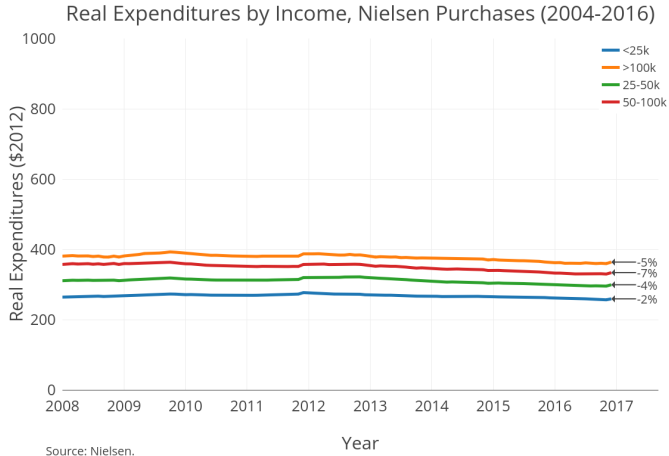
# Corrections

- Only spending on Nielsen products

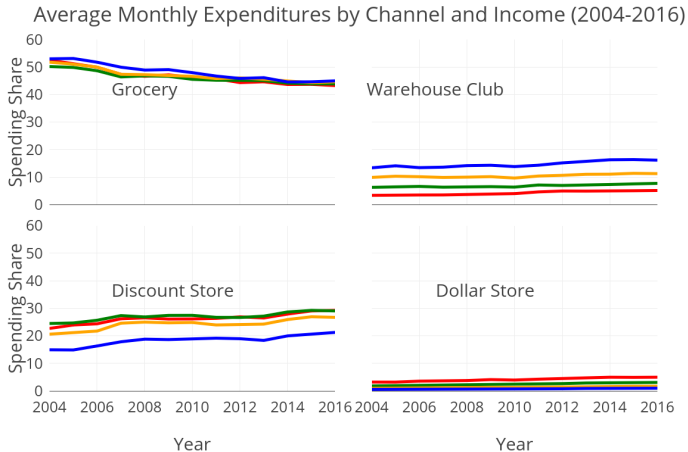


# Corrections

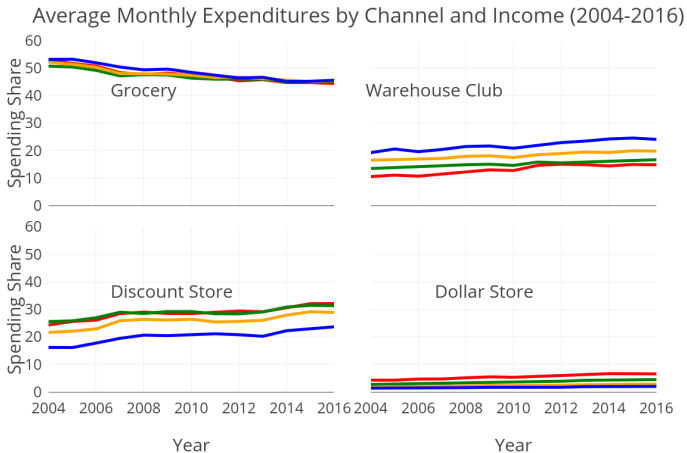
- After 2007 correction for new scanner



# Unconditional Shopping Behavior (Adjusted)



# Conditional Shopping Behavior (Adjusted)





## Price Index (Kaplan and Menzio 2014 / Aguiar and Hurst 2007)

- Different households may pay different prices for the same “good”
- **Goal:** Construct an index that enables comparison of expenditures across households
- Key choice is over the appropriate definition of “good”

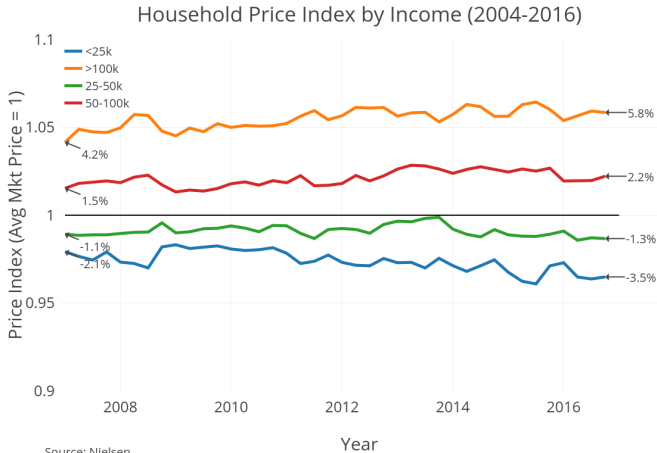
$$X_{it} = \sum_j P_{jit} q_{jit}$$

$$\bar{X}_{it} = \sum_j \bar{P}_{jmt} q_{jit}$$

$$p_{it} = \frac{X_{it}}{\bar{X}_{it}}$$

- $P$  is the price paid for good  $j$  by household  $i$  at time  $t$
- $\bar{P}$  is the average price of good  $j$  in market  $m$  at time  $t$
- $q$  is the quantity of  $j$  purchased by household  $i$  at time  $t$
- $X$  is total expenditures by household  $i$  at time  $t$
- $\bar{X}$  is household expenditures if purchased at the average market price
- $p$  is the relative price index for household  $i$  at time  $t$

# Price Index



# Price Index Takeaways

- Households making over \$50k are paying above average prices for the same good
- Households making less than \$50k are paying lower than average prices for the same good
- Gap has been increasing over time

# Relationship Between Index and Shopping Behavior

**Table 1: Effect of Shopping Behavior on Price Index**

	Household Price Index		
	(1)	(2)	(3)
Shopping Trips	-0.002*** (0.00001)		-0.001*** (0.00001)
Stores Visited		-0.009*** (0.0001)	-0.004*** (0.0001)
>50k	0.037*** (0.0004)	0.037*** (0.0005)	0.035*** (0.0005)
Trips * >50k	0.0001*** (0.00001)		0.0001*** (0.00002)
Stores * >50k		0.001*** (0.0001)	
Stores * >50k			0.0005*** (0.0001)
Observations	2,901,150	2,901,150	2,901,150
R <sup>2</sup>	0.030	0.025	0.031
Adjusted R <sup>2</sup>	0.029	0.025	0.031

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01