

Keeping up with the Joneses

Evidence from Local Spending Patterns

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Warning!

This presentation does not contain maps!



Question

Are local spending patterns consistent with **overspending** of the less affluent to impress richer neighbors?

Importance

- For Marketers: whom to target where
- For Banks: whom to deny credit where

Jones-Effect: Geographic Interpretations

1. Lower income earners “overspend” on highly visible goods to catch up with higher income neighbors
2. Similar income neighbors try to outspend each other on those goods.

Problem: People do not like to reveal Joneses behavior directly

- Surveys:
 - § what questions to ask so that people reveal their behavior?
 - § Percentage of people answering truthfully?
- Laboratory:
 - § How to set up experiment?

Our approach

- Large geographically diverse data-set that contains both spending and income information
- Derive statistical moment conditions from two types of interpretations of Joneses effect
- Test whether moment conditions hold
- Focus on “hood-rich”

Caveats

- Contribution is more methodological than empirical because:
- Spatial data-set is based on estimates itself, without provision of standard errors, so test-statistics of our estimates are too small.
- Actual distribution of spending and income unknown
- Nonetheless, shows power of spatial data analysis

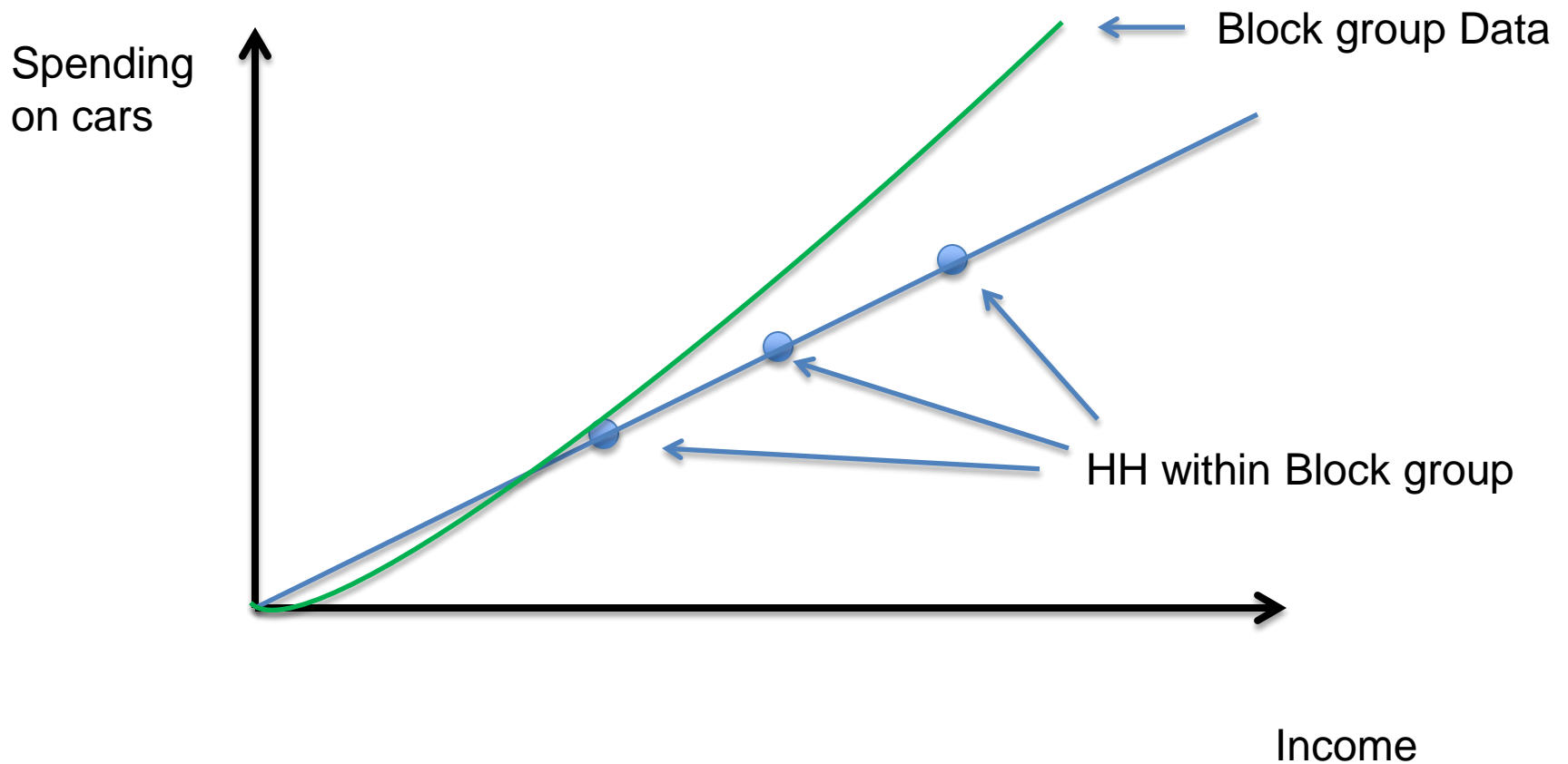
Measurement Issues

- Interpretation (1): otherwise similar neighborhoods with higher income variability should spend more on visible goods than those with lower income variability.
- Interpretation (2): : low income variability implies higher spending on visible goods.

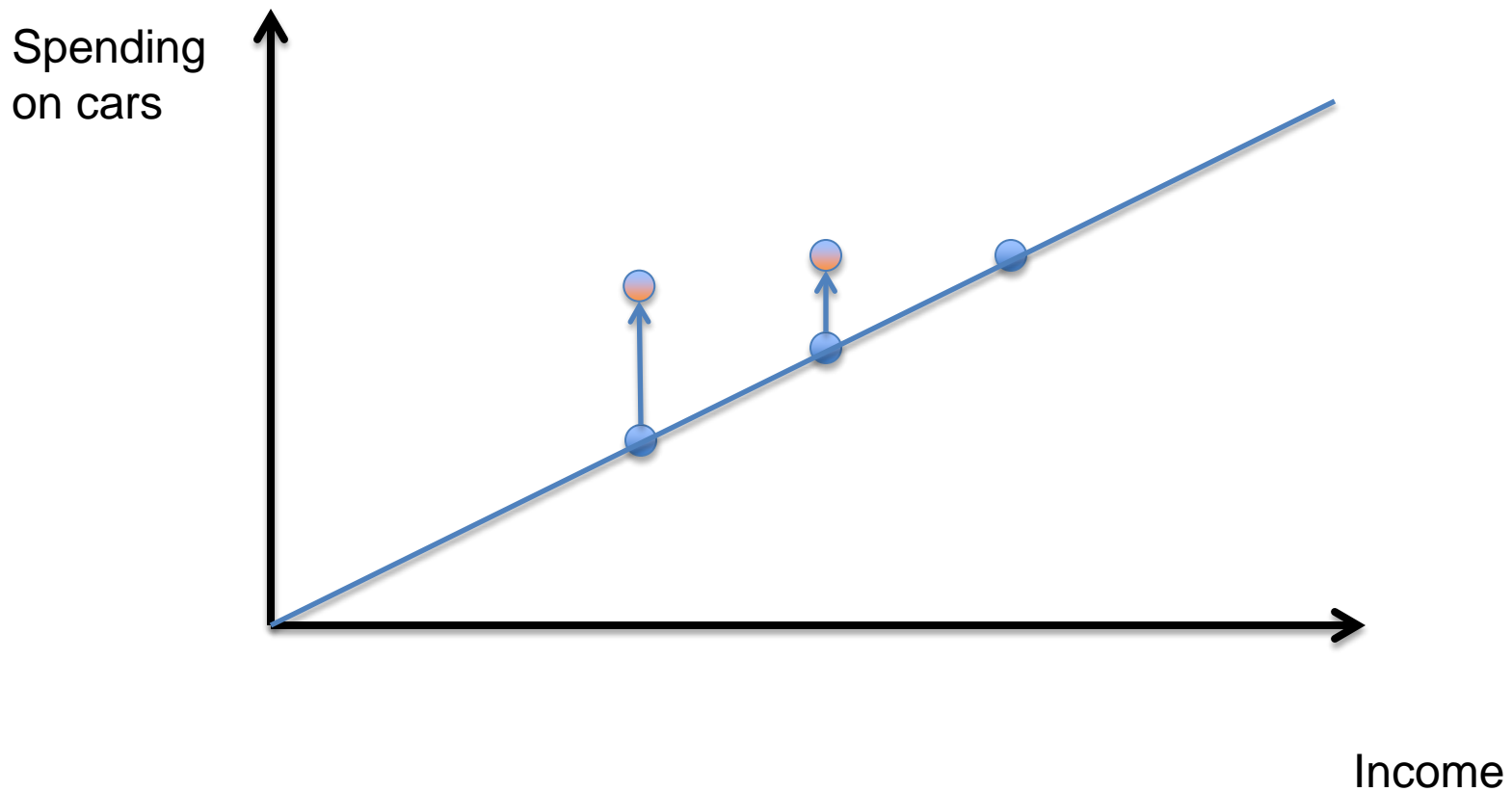
The Joneses Effect Matrix

		Spending on Cars	
		<i>Low</i>	<i>High</i>
Income Variability	<i>High</i>	Millionaire next door	Average Jones Effect
	<i>Low</i>	Frugal Neighbor- hood	Excess Jones Effect

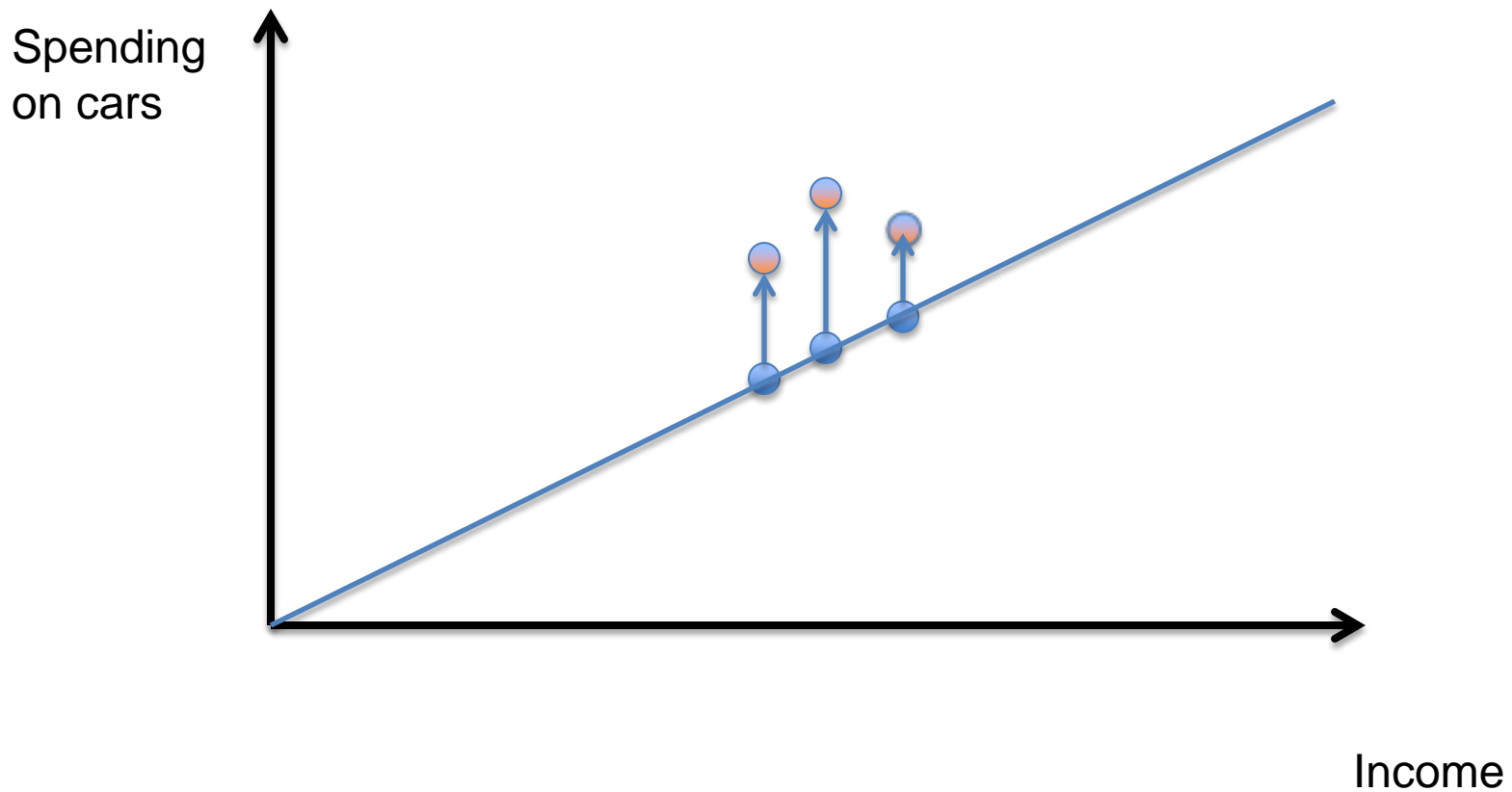
Benchmark: No Jones Effect



Average Jones Effect

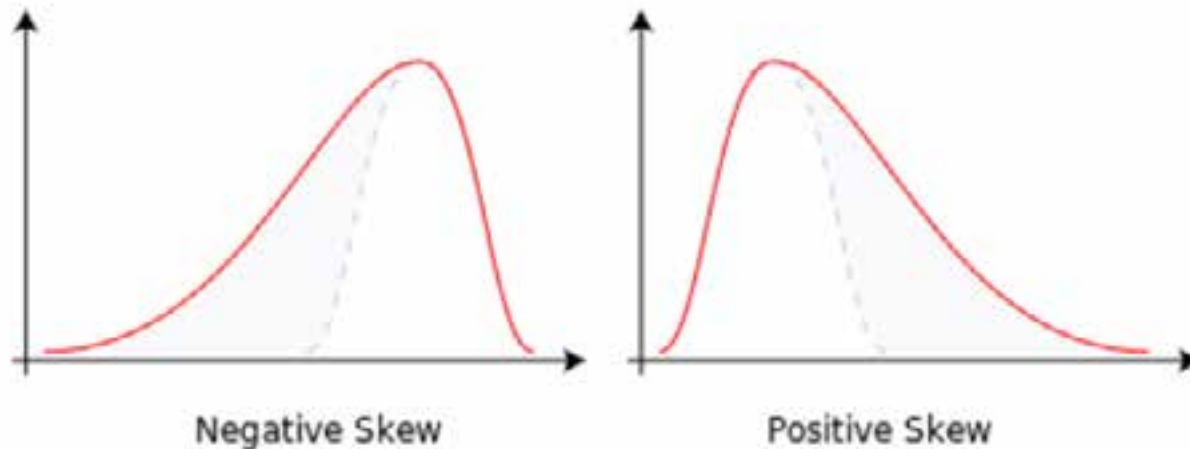


Excess Jones Effect



Translation Into Moment Conditions

- Jones Effect: Standard-Deviation positive
 - § Not sufficient, as cars could be inferior good
- Income distribution should be left-leaning (positive skew, more low income HH)



Methodology

Regression equation:

$$vp = \alpha + \beta_1 \cdot av(I) + \beta_2 \cdot sd(I) + \beta_3 \cdot sk(I) + \beta_4 \cdot kt(I) + \sum_i \gamma_i X_i + \varepsilon$$

Moment conditions:

- Catch up with the rich: $\beta_1 > 0, \beta_2 > 0, \beta_3 > 0$
- Differentiate from the poor: $\beta_1 > 0, \beta_2 > 0, \beta_3 < 0$

$\beta_1 > 0, \beta_2 > 0, \beta_3 > 0$ means ...

- $\beta_1 > 0$: Expenditure on cars increases with income
- $\beta_2 > 0$: The higher the income dispersion within a geographic area (block group), the higher spending on cars
- $\beta_3 > 0$: The more lower income HH within the geographic area, the higher spending on cars

ESRI Data by Block-group

- Net vehicle outlays
- Income by category → calculate statistical moments
- Controls
 - § Race
 - § Marital status
 - § Age
 - § Education
 - § Rent / Own
 - § Industry and occupation (blue / white-collar)
 - § Home value
 - § Net worth

Results

Regression Results

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	phhvnoutlay	phhvnoutlay	phhvnoutlay	phhvnoutlay	phhvnoutlay	phhvnoutlay	phhvnoutlay	phhvnoutlay	phhvnoutlay	phhvnoutlay	phhvnoutlay
hinc_mean	67.3*** (226)	66.6*** (204)	66.2*** (159)	64.4*** (143)	64.2*** (142)	63.7*** (136)	65.2*** (115)	65.4*** (114)	65.4*** (115)	66.8*** (198)	69.9*** (281)
hinc_sd	2.56*** (8.01)	3.18*** (9.56)	3.39*** (8.49)	4.80*** (11.4)	5.30*** (12.5)	6.01*** (14.0)	5.65*** (13.1)	5.42*** (12.4)	5.37*** (12.3)	3.88*** (16.9)	7.41*** (42.5)
hinc_skew	18.8*** (9.81)	13.3*** (6.63)	11.2*** (4.93)	2.61 (1.09)	0.27 (0.11)	-3.15 (-1.29)	-1.71 (-0.71)	-2.21 (-0.92)	-2.08 (-0.86)	2.96** (2.39)	12.6*** (15.4)
hinc_kurt	0.0020*** (9.82)	0.0014*** (6.65)	0.0012*** (4.94)	0.00028 (1.12)	0.000034 (0.14)	-0.00032 (-1.27)	-0.00017 (-0.69)	-0.00022 (-0.90)	-0.00021 (-0.85)	0.00031** (2.41)	0.0013*** (15.4)
race_black_sha		-276*** (-44.2)	-253*** (-60.9)	-148*** (-28.6)	-179*** (-29.5)	-186*** (-25.6)	-171*** (-22.5)	-105*** (-12.8)	-103*** (-12.5)	-64.3*** (-11.3)	-70.8*** (-12.7)
race_ameind_sha		291*** (15.2)	141*** (7.78)	163*** (8.85)	28.8 (1.53)	19.5 (1.03)	72.0*** (3.60)	133*** (6.23)	123*** (5.78)	127*** (7.22)	52.5*** (3.00)
race_asian_sha		-226*** (-10.2)	83.6*** (3.43)	107*** (4.38)	136*** (5.76)	196*** (7.84)	268*** (12.4)	248*** (11.6)	260*** (11.9)	242*** (12.8)	188*** (10.1)
race_pacific_sha		2,924*** (10.5)	1,887*** (8.76)	1,969*** (9.22)	974*** (5.49)	1,222*** (6.53)	1,102*** (6.00)	1,204*** (6.66)	1,167*** (6.40)	1,129*** (6.62)	1,387*** (7.49)
race_othrace_sha		753*** (17.4)	1,020*** (23.9)	791*** (18.2)	607*** (13.7)	544*** (12.3)	445*** (10.2)	243*** (5.67)	204*** (4.71)	183*** (4.95)	239*** (6.56)
race_race2up_sha		-1,907*** (-24.7)	-1,090*** (-14.8)	-1,140*** (-16.3)	-919*** (-13.5)	-1,049*** (-15.3)	-771*** (-11.0)	-539*** (-7.95)	-519*** (-7.58)	-623*** (-10.7)	-634*** (-12.1)
race_hisppop_sha		-329*** (-15.2)	-220*** (-10.4)	-188*** (-8.96)	-270*** (-12.7)	-211*** (-9.91)	-181*** (-8.26)	-26.4 (-1.16)	-17.9 (-0.78)	24.8 (1.29)	-64.0*** (-3.36)
hu_renter_sha			-359*** (-25.2)	-201*** (-12.6)	-7.14 (-0.45)	-129*** (-8.35)	-131*** (-7.99)	-90.7*** (-5.59)	-93.5*** (-5.74)	-79.6*** (-8.90)	-351*** (-41.6)
hu_vacant_sha			791*** (29.7)	821*** (31.0)	894*** (34.9)	830*** (31.2)	765*** (30.1)	761*** (31.1)	750*** (29.8)	727*** (49.8)	565*** (47.8)
mar_married_sha			539*** (26.8)	456*** (22.5)	545*** (22.0)	508*** (21.6)	380*** (16.5)	359*** (15.1)	392*** (15.1)	394*** (21.6)	394*** (22.5)
mar_widowed_sha				-1,382*** (-25.7)	-1,157*** (-21.8)	-215*** (-2.63)	-487*** (-6.51)	-364*** (-5.50)	-366*** (-5.48)	-289*** (-4.57)	-644*** (-10.3)
mar_divorced_sha				74.6 (1.61)	89.3* (1.83)	72.9 (1.29)	14.1 (0.24)	-27.8 (-0.47)	-47.4 (-0.80)	95.7*** (4.09)	-46.0** (-2.07)
popdens_cy					-0.0049*** (-42.0)	-0.0046*** (-39.3)	-0.0047*** (-40.9)	-0.0042*** (-37.2)	-0.0040*** (-35.1)	-0.0043*** (-36.8)	-0.0041*** (-36.2)
unempt_cy					-2.55*** (-10.8)	-2.34*** (-9.52)	-3.92*** (-17.1)	-3.50*** (-15.0)	-3.54*** (-15.0)	-3.31*** (-16.2)	-3.41*** (-16.8)
avghhsz_cy					105*** (28.8)	33.2*** (6.70)	-16.6** (-2.57)	-14.9** (-2.30)	-17.1*** (-2.67)	-29.2*** (-7.26)	22.8*** (5.70)
pop_mean						-16.7*** (-16.0)	-15.4*** (-13.9)	-12.7*** (-11.2)	-12.2*** (-10.7)	-10.8*** (-9.69)	-3.61*** (-3.67)
pop_sd						-15.5*** (-9.87)	-19.5*** (-11.4)	-19.3*** (-11.2)	-19.6*** (-11.2)	-22.4*** (-11.5)	-17.3*** (-8.99)
pop_skew							-156*** (-142)	-123*** (-123)	-116*** (-116)	-79.8*** (-79.8)	-102*** (-102)

Average Jones Effect

- Regressions results support “Catching up with the rich”
- Coefficient on skewness somewhat sensitive to inclusion of controls

Some Fun Results from Controls

- “Older” neighborhoods spend less on cars than younger ones
- Higher share of college graduates implies lower spending on cars
- Higher share of blue collar workers implies higher spending on cars

Some fun results from controls

- The higher the share of rentals, the lower the spending on cars
- The higher the average value of homes, the lower the spending on cars
- Cross-product Jones effect: The higher the variability in home-values, the higher the spending on cars
- The higher the average net worth, the lower the spending on cars

More Caveats

- Results are ***only consistent*** with the two interpretations of the Joneses Effects.
- Plausible, but unlikely offsets within block-group could lead to the same income-distribution – spending configurations
- Recall: these results are based on estimated (erroneous) data, not on true data

Summary

- Joneses effects empirically hard to identify
- Suggest to use statistical moments of income distribution as explanatory variables for highly visible goods expenditures within small geographic areas
- Results are consistent with poor trying to keep up with the rich

Future Research

- Analysis across neighboring block-groups – are there adjacency effects, that is, do the less affluent in a block-group spend more if there are rich people in the neighboring block-group?
- Identify neighborhood characteristics of the four types of neighborhoods according to the Joneses Matrix
- How did Joneses effects evolve over time, namely during the great recession?

Thank You!

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