

Money

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Today's Questions

- How is \$0 different from other monetary amounts (besides being smaller)?
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- What descriptive theories of \$0 can explain these violations?

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Zero as a Special Price: The True Value of Free Products

Kristina Shampanier
Massachusetts Institute of Technology, 38 Memorial Drive, E56-311, Cambridge, Massachusetts 02142, kshampan@mit.edu
Nina Mazar
Joseph L. Rotman School of Management, University of Toronto, 105 St. George Street, Toronto, Ontario M5S 3E6, Canada, nina.mazar@utoronto.ca
Dan Ariely
Duke University, One Towerview Road, Durham, North Carolina 27708, dandan@duke.edu

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• 3 options:

- Buy X for price P_X
- Buy Y for price P_Y
- Buy nothing



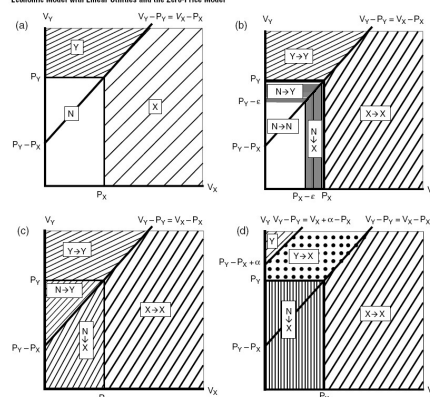
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What to choose?

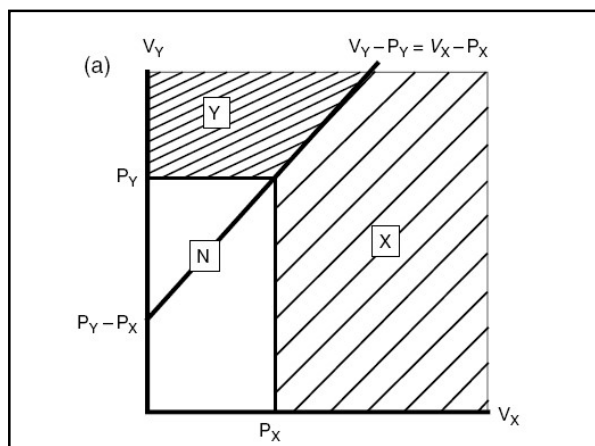
- Choose X if and only if
 - $V_X > P_X$ and $V_X - P_X > V_Y - P_Y$
- Choose Y if and only if
 - $V_Y > P_Y$ and $V_Y - P_Y > V_X - P_X$
- Buy nothing if and only if
 - $V_X < P_X$ and $V_Y < P_Y$

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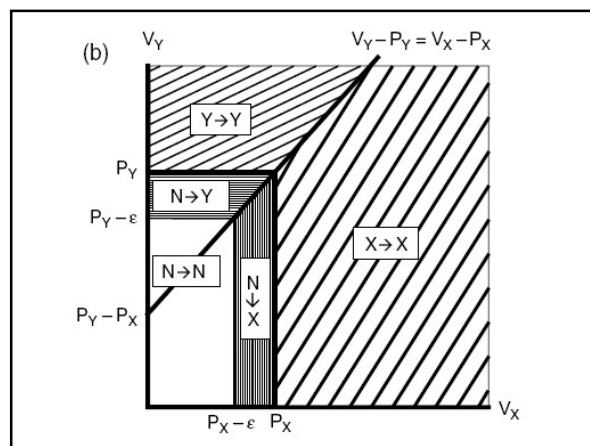
Figure 1 Segments of Customers Who Choose Options X, Y, and N as Prices Go Down from (P_X, P_Y) to $(P_X - \epsilon, P_Y - \epsilon)$, as Predicted by the St Economic Model with Linear Utilities and the Zero-Price Model



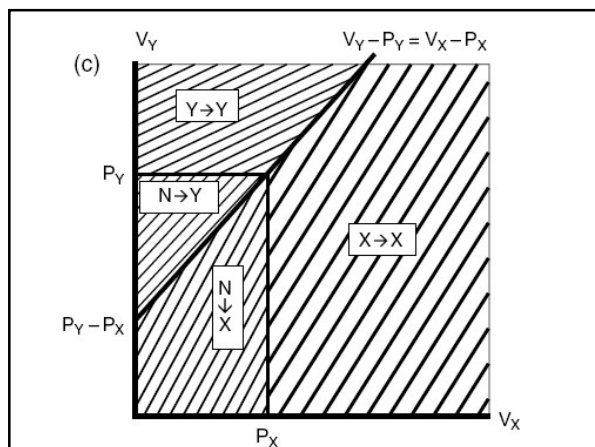
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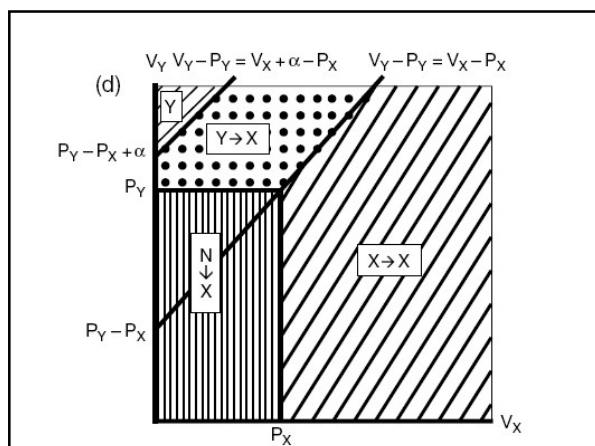


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Descriptive Theory When X becomes free

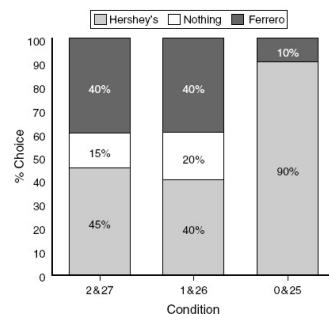
- People who previously bought Y now buy X iff
 - $V_Y > P_Y$
 - $V_Y - P_Y > V_X - P_X$
 - $V_X + \alpha > 0$, and
 - $V_X + \alpha - P_X > V_Y - P_Y$

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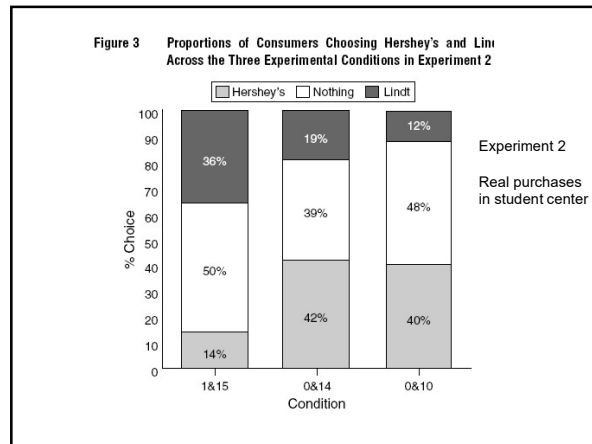
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Figure 2 Proportions of Consumers Choosing Hershey's and Ferrero Rocher Chocolate Across the Three Experimental Conditions in Experiment 1

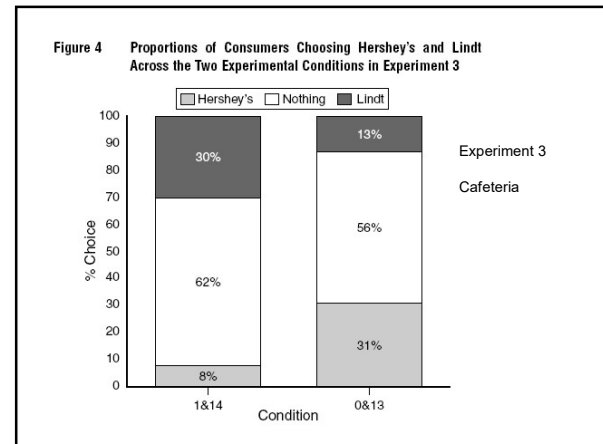


Experiment 1:
Hypothetical
Scenario

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3 Explanations

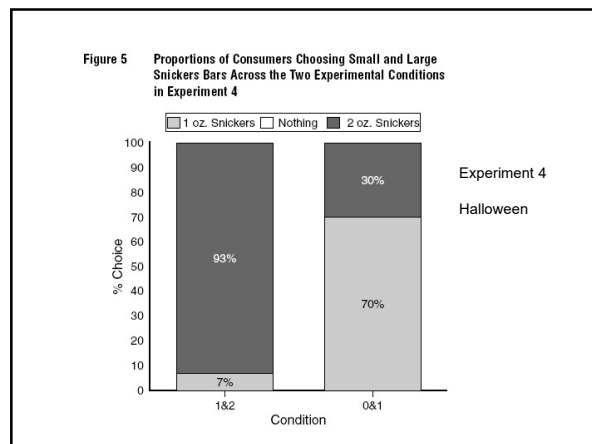
- Social norms
 - Social exchange vs. market exchange
 - Price the Hershey's kiss at -1 cent
- Mapping difficulties
 - Halloween study
- Affect
 - Smilie face study
 - Forced analysis study

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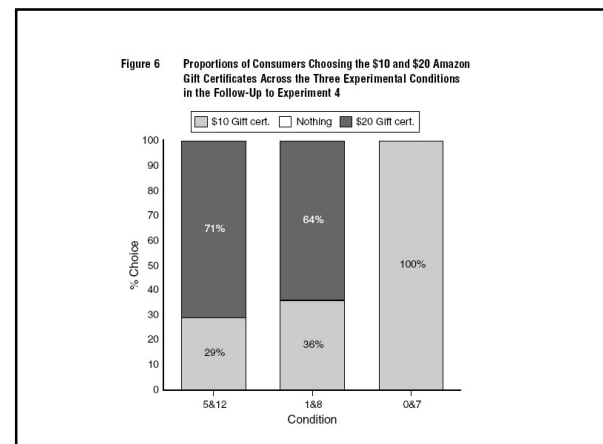
Negative Prices

	1&14	0&13	-1&12
Kiss	15%	34%	50%
Truffle	38%	16%	16%

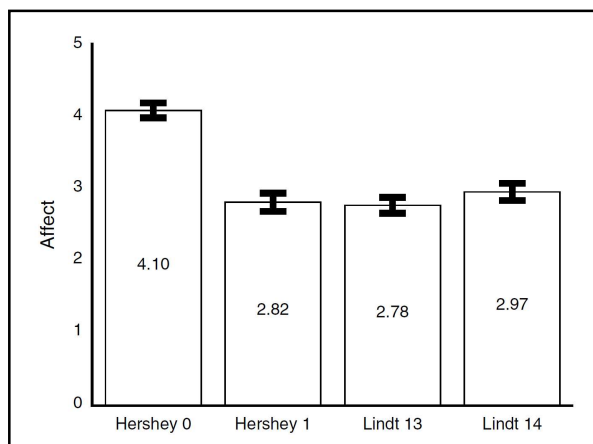
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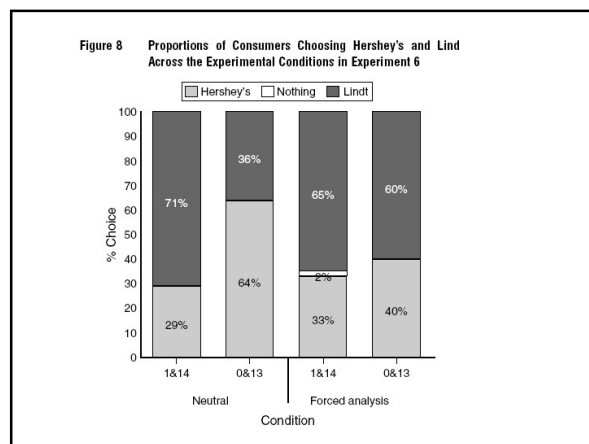
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Heyman & Ariely (2004)

- Participants asked to do a tedious task
- Given compensation of nothing, small prize, or large prize.
- Prize was either money or candy

PSYCHOLOGICAL SCIENCE

Research Article
Effort for Payment
 A Tale of Two Markets
 James Heyman¹ and Dan Ariely²

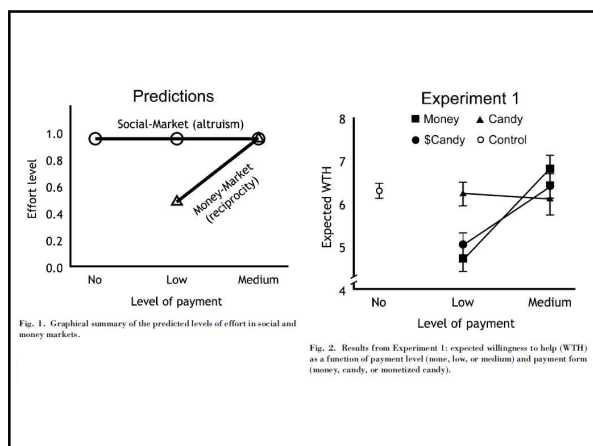
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TABLE 1
Experimental Design of the Three Experiments

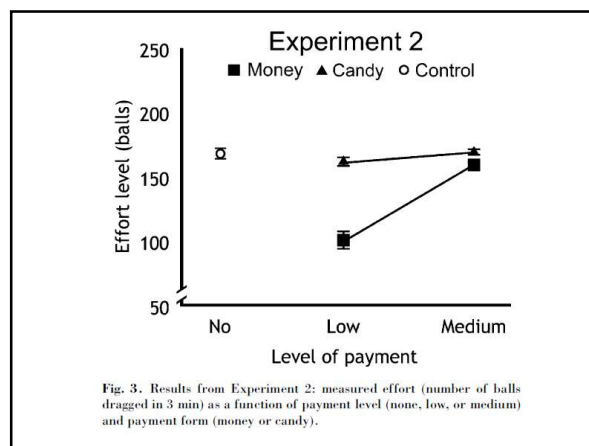
Payment form	Payment level		
	No	Low	Medium
Experiment 1: Willingness to help load a sofa into a van			
Cash	—	\$0.50	\$5.00
Monetized candy	—	\$0.50 candy bar	\$5.00 chocolate box
Candy	—	Candy bar	Chocolate box
Experiment 2: Physical effort dragging balls on a computer screen			
Cash	—	\$0.10	\$1.00
Candy	—	5 Jelly Bellies	0.5 lb Jelly Bellies
Experiment 3: Mental effort solving arithmetic puzzles			
Cash	—	\$0.50	\$5.00
Monetized candy	—	\$0.50 candy bar	\$5.00 chocolate box

Note. All experiments had three levels of payment (no, low, medium), crossed with either two or three forms of payment (cash, candy, monetized candy). Note that the no-payment control condition was the same across the different forms of payment. Bold entries represent conditions that, according to the hypotheses, are part of the money-market condition.

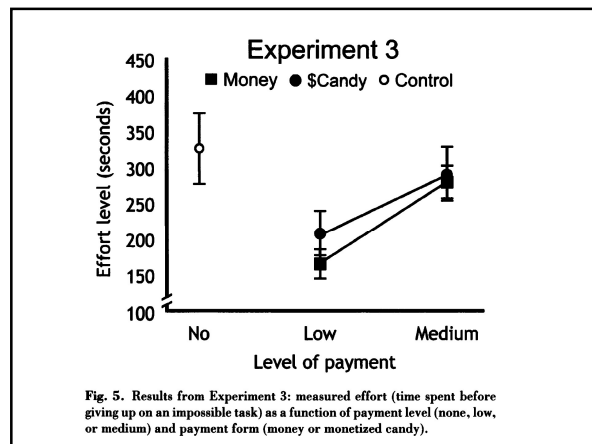
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