The Budget Contraction Effect: Cutting Categories to Cope With Shrinking Budgets

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Economic theory dictates that allocation of a given budget does not depend on whether the budget is higher or lower than a previous budget. We consistently find an asymmetry in budget expansion and contraction paths. For a given budget, consumers purchase fewer different products if their prior budget was higher than if their prior budget was lower. Data from the studies reveals this asymmetry in allocations is driven by the decreasing budget, not the increasing budget—a budget contraction effect.

[to cite]:
Kurt Carlson, Jared Wolfe, Dan Ariely, and Joel Huber (2010), "The Budget Contraction Effect: Cutting Categories to Cope With Shrinking Budgets", in NA - Advances in Consumer Research Volume 37, eds. Margaret C. Campbell, Jeff Inman, and Rik Pieters, Duluth, MN : Association for Consumer Research, Pages: 720-720.

[url]:
http://www.acrwebsite.org/volumes/15131/volumes/v37/NA-37

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EXTENDED ABSTRACT

Economics provides a clear prediction for how consumers adjust spending when income declines. Consumers will move down the utility surface to an allocation that represents the highest utility for the new income level. Ceteris paribus, this allocation should be the same as the allocation when they were previously at this budget level. Put differently, the income contraction and the income expansion paths should be equivalent. As such, a consumer should arrive at the same allocation whether approached from a prior budget that was smaller or larger than the current budget. This paper presents evidence that budget contraction and expansion paths are not equivalent. Rather, consumers who arrive at a budget from a higher initial budget purchase fewer different types of products or services than consumers who arrive at the same budget from an initially lower one.

Participants in Study 1 (N=398) made nine budget allocations—three allocations for three different domains (groceries to buy with $40, $80, or $120; cities to visit in Europe in 7 days, 14 days, or 21 days; lottery tickets to buy with $5, $10, or $20). For each domain, participants made the three sequential budget allocations with the budget either expanding (e.g., $40, $80, $120) or contracting (e.g., $120, $80, $40).

Results reveal that participants in the expanding grocery budget condition spent their $80 budget across more different products ($M=4.69) than did participants in the contracting budget condition ($M=4.27; t(396)=2.76, p<.01). Additionally, the difference in number of items purchased (expanding budget minus contracting budget) decreased as the size of the budget increased from $40 ($D=.59) to $120 ($D=.38). Though each of these differences is statistically significant (all p<.05), the pattern is important because it suggests that the contracting budget is the main driver of the effect. To see why, consider that the comparison between $40 budget allocations involves a comparison of participants who faced two budget contractions to those making their first budget allocation without a prior budget change. If the effect is due to contraction of budgets, the difference should be largest here (i.e., larger than the differences between $120 budget allocations), as it is.

Allocations in the travel and lottery ticket domains mirror these findings. Participants with 14 days to travel planned to visit more cities when the travel budget increased to 14 days ($M=6.47) than when it contracted to 14 days ($M=5.64; t(396)=2.71, p<.01). And the difference in number of cities visited (increasing budget minus decreasing budget) decreased from 1.34 (p<.001) at the smallest budget (7 days) to .32 (p=.33) at the largest budget (21 days). Likewise, participants in the expanding lottery budget condition selected more different types of lottery tickets ($M=3.07) with the $10 budget than participants whose budget contracted ($M=2.81). And the difference in allocations is largest and significant for the smallest budget level (mean difference=.31; t(396)=2.32, p<.05), and not significant (mean difference=.27; t(396)=1.24, p>.20) for the largest budget level.

Study 2 used an investment domain to test whether the budget contraction effect would extend to situations in which there was carryover from one budget allocation to the next. Participants (N=189) made investment allocation decisions for three different budgets under conditions of an expanding budget ($500, $1000, $1500) or a contracting budget ($1500, $1000, $500). The second and third allocations presumed that the results of the prior allocations were still relevant (i.e. participants still had the allocations from those budgets as part of their retirement portfolio).

When allocating $500 to the four investments, participants in the contracting condition invested in fewer different investments than those in the expanding condition (2.55 versus 3.03; t(187)=2.79, p<.01). Allocations for the $1000 and $1500 budgets did not differ significantly for budget contraction versus budget expansion ($1000 budget: 3.08 versus 2.95; t(187)=.83, p=.41; $1500 budget: 3.21 versus 3.17; t(187)=.27, p=.79, respectively). These data strongly support the two-path model and confirm that the driver of the effect is the contracting budget.

Study 3 tested whether the effect extends to real choices consisting of a large number of options. Participants (N=129) selected three assortments of mp3s (4 songs, 8 songs, 12 songs) to purchase from over a million songs available at amazon.com. Participants were told that one participant would be selected at random to actually receive one of their selected assortments. Assortments were made under conditions of an expanding budget (4 songs, 8 songs, 12 songs) or a contracting budget (12 songs, 8 songs, 4 songs). Breadth of each assortment was assessed by coding the number of different artists/bands present in each assortment.

For the 4-song budget, participants in the contracting budget condition chose songs by a significantly smaller number of artists/bands ($M=3.40) than those in the expanding budget condition ($M=3.76; t(122)=2.603, p<.01). However, there were no significant differences in the number of different artists/bands selected between the two groups in either the 8-song budget (Contracting $M=6.21, Expanding $M=6.61, t(122)=1.099, p=0.27) or the 12-song budget (Contracting $M=9.18, Expanding $M=9.11, t(121)=.129, p=.90).

These studies have demonstrated an asymmetry in budget expansion and contraction paths such that for a given budget, consumers who arrive at a particular budget from a higher initial budget purchase fewer different products or services than a consumer who arrives at that same budget from an initially lower budget. This asymmetry in budget expansion and contraction paths stems mainly from a decrease in variety of the selected assortment under budget contraction rather than from an increase in variety selected under budget expansion.