This article examines how consumers forecast their future spare money, or "financial slack." Although consumers generally think that both their income and expenses will rise in the future, they underweight the extent to which their expected expenses will cut into their spare money, a phenomenon the authors term "expense neglect." The authors test and rule out several possible explanations for this phenomenon and conclude that expense neglect is due in part to insufficient attention toward expectations about future expenses relative to future income. "Tightwad" consumers, who are chronically attuned to costs, show less severe expense neglect than "spendthrifts," who are less attuned to costs. The authors further find that expectations regarding changes in income (and not changes in expenses) predict responses to the Michigan Index of Consumer Sentiment, a leading macroeconomic indicator. Finally, the authors conduct a meta-analysis of their entire file drawer (27 studies, 8,418 participants) and find that (1) across studies, participants place 2.9 times greater weight on income change than they do on expense change when forecasting changes in their financial slack, and (2) expense neglect is stronger for distant than for near-future forecasts.

Keywords: forecasting, financial slack, consumer finance, expense neglect, Michigan Index of Consumer Sentiment

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Expense Neglect in Forecasting Personal Finances

Successfully managing one’s personal finances is rarely straightforward. It is a complex problem to balance how much to spend and save each month in order to put one’s hard-earned money to its best use. Consumers often need to assess the overall state of their finances in order to make long-term financial decisions. These subjective assessments depend not just on consumers’ perceptions of their current bank account balances but also on how their finances will change over time. Students with credit card debt must determine whether they will be able to repay their next purchase plus interest once they graduate and—hopefully—get jobs. Then, when they start new jobs, they might wonder whether they should save money for retirement immediately or whether they can afford to put it off until their next raise. Similarly, young couples looking to purchase a new home might ask whether they will be able to afford mortgage payments in their desired part of town if and when they have children.

Mispredicting the state of one’s future finances can be highly consequential. People who overestimate the amount of spare money they will have in the future may choose to take out loans they will later not be able to repay or may put
off saving for retirement until it is too late (Lynch and Zauberman 2006; Thaler and Benartzi 2004). Those who underestimate their future financial resources may under-spend in the present and later regret having missed out on life experiences (Kivetz and Keinan 2006).

Perceived resource availability significantly affects consumers’ thoughts, preferences, and actions. The more of an available resource consumers expect to have in the future, the more likely they are to discount delayed expenditure of that resource (Zauberman and Lynch 2005). Those who feel financially constrained are more likely to focus attention on solving financial problems in the present at the cost of the future (Shah, Mullainathan, and Shafir 2012) and are more likely to prefer scarce over abundant products (Sharma and Alter 2012).

Expectations about future finances also have significant macroeconomic consequences. Indices such as the Conference Board’s Consumer Confidence Index and the University of Michigan Index of Consumer Sentiment (ICS) attempt to measure consumers’ feelings about the state of their finances, in order to provide meaningful inputs to help manufacturers, retailers, and governments manage their output. Greater consumer confidence significantly predicts future household expenditures and signals that businesses should adjust their production in order to respond to stronger future demand (Carroll, Fuhrer, and Wilcox 1994).

These considerations led us to study how consumers form subjective assessments of future finances. Although consumers often feel financially constrained in the present moment, they often view the future more favorably. We examined the ICS data set at the time of our study, covering 456 months of data from 1978 to 2015, and found that Americans consistently anticipated that their finances would improve in the future. When asked to estimate their family’s finances in a year’s time, more respondents expected their future finances to be better off than worse off in 1978 out of 456 months. In the period from 2010 to 2013—the time period covering 24 of our 27 studies—more consumers expected their future financial situation to be better off than worse off in 47 out of 48 months. In contrast, the most recent Federal Reserve Board Survey of Consumer Finances shows that during the same period, the median net worth of U.S. families fell by 2% (Bricker et al. 2014). In other words, despite households being on average worse off in 2013 than they were in 2010, people had consistently predicted improvements in their finances over this period.

In the present research, we consider one reason why consumers view their future finances favorably, by examining subjective feelings of financial slack. We define financial slack as the perceived surplus (or deficit) of spare money an individual has at a given point in time (Zauberman and Lynch 2005). Fundamentally, the amount of financial slack consumers have at a given point in time is a function of their income inflows and expense outflows. If all else is held equal, increasing income contributes to higher financial slack, whereas increasing expenses reduces financial slack.

The ICS analysis referenced earlier may lead readers to infer that consumers are on average optimistic about their future finances, holding overly positive beliefs that their finances will improve with time. However, we explore a different explanation for these mistaken beliefs, namely, that consumers underweight expected growth in expenses when forecasting their future finances. Our studies examine how consumers utilize their own stated assessments of their income and expenses to determine how much financial slack they will have in the future.

Our main interest is in evaluating the weights that consumers place on their anticipated income and expenses in predicting their future financial slack. By “weight,” we mean the extent to which consumers consider their own stated income and expense expectations to determine how much financial slack they will have in the future. This research question differs from work examining how accurate consumers are in their predictions about future income or expenses (Peetz and Buehler 2009, 2012; Sussman and Alter 2012; Ulkün, Thomas, and Morwitz 2008). Rather, we examine how consumers form subjective estimates of how their financial slack will change with time, on the basis of their own stated assessment of how their income and expenses change with time.

**SUBJECTIVE AND OBJECTIVE DETERMINANTS OF AVAILABLE FINANCIAL RESOURCES**

Financial slack reflects consumers’ perceptions of whether they are in a surplus or deficit state with respect to their available spare money. When future financial slack is assessed, income and expenses are equally relevant. The amount of available slack that a consumer expects to have in a given period should be related to the stock of that slack account in the prior period plus inflows of income, minus outflows of expenditures in the most recent period. Inflows include salaries, bonuses, investment returns, Social Security checks, interest, and so on, whereas outflows include money spent on rent, bills, travel expenses, and entertainment, as well as savings commitments, debt payments, donations to charity, and so on. Thus, if consumers generate more income than they spend in a given period, their stock of slack will increase, and if they spend more money than they generate in a given period, their stock of slack will decrease.

If consumers’ mental models of financial slack match the accounting rules of bank balances, as they should, then the weights of inflows (income) and expenses (outflows) in affecting slack should be equal and opposite in sign. A waitress who needs an extra $80 per month in spare money can achieve her goal either by raising her income (e.g., working an extra shift that will garner her $80 in after-tax cash) or by cutting her expenses (e.g., suspending her $80/month cable package). However, we find that when forecasting their financial resources, people underweight their own stated expenses relative to income, and therefore they rely too heavily on forecasts of income (and not enough on expenses) when predicting their future finances.

Because income and expenses are weighed equally in actual bank balances, it may not seem difficult to forecast changes in spare money. However, research demonstrates that it is surprisingly difficult to estimate dynamic systems with inflows and outflows, suggesting that forecasting future spare money may not be so simple. Most people are flummoxed by even the simplest “stock-flow” problems, such as predicting the number of people in a department store with people entering and exiting at different rates (Booth, Sweeney, and Sterman 2000; Cronin and Gonzalez...
that their expenses will rise slightly in the future, but they do not properly adjust their estimates of their future financial slack to capture these expectations.

**EXPENSE NEGLECT IS NEITHER A FORM OF THE PLANNING FALLACY NOR AN OPTIMISM BIAS**

Before reporting our studies in detail, we next articulate what we are not studying, because on first glance a reader might expect our findings to connect to literature streams that are different from our focus. We are not studying some form of a planning or budget fallacy (Buehler, Griffin, and Ross 1994; Kahneman and Tversky 1979; Peetz and Buehler 2009). Underestimating changes in expenses could lead consumers to falsely expect that spare money will increase in the future. However, our focus in this research is not on whether consumers are accurate in their predictions of future income, expenses, or financial slack (see Peetz and Buehler 2009, 2012; Sussman and Alter 2012; Ülküm, Thomas, and Morwitz 2008). Rather, we are interested in the weighting of consumers’ own stated income and expenses in their predictions of financial slack.

Similarly, the effects we show are unrelated to any form of generalized optimism bias (Puri and Robinson 2007). If consumers are generally optimistic, they may anticipate having greater income and fewer expenses than they will in reality. However, regardless of how accurate consumers are in their predictions, we can still evaluate how their income and expense estimates feed into their slack estimates. Expense neglect predicts that consumers will base their estimates about their future financial slack primarily on their own income estimates and will not sufficiently account for their own expense estimates. One might nonetheless argue that the relative weights of income and expenses in predicting future spare money are a function of optimism. We examine this directly by measuring individual differences in optimism in Study 8 and find that optimism does not affect the relative weighting of income or expenses.

**OVERVIEW OF STUDIES**

Ten studies show that consumers exhibit expense neglect when forecasting their future financial slack. Study 1 shows evidence for expense neglect in forecasting future slack across a range of samples taken from participants with varying financial conditions. Studies 2–5 show that these results hold across multiple ways of measuring slack, income, and expenses. Studies 6–9 examine possible causes of expense neglect. We find that this effect cannot be explained by greater confidence in predictions of future income than future expenses (Study 6), by beliefs about increasing flexibility of future expenses (Study 7), or by optimism (Study 8). We then test an attention account and find that those who are chronically attuned to expenses are more likely to account for expenses in their forecasts of spare money (Study 9). In Study 10, we show that expectations regarding income change (but not expense change) predict how consumers respond to the ICS. Finally, we also present a meta-analysis of our entire file drawer. Across 27 studies, we find that consumers place about 2.9 times the weight on income change as they do on expense change in predicting future slack, and that expense neglect is more prominent for forecasting the distant versus the near future.
STUDY 1: EXPENSE NEGLECT ACROSS VARYING POPULATIONS

Study 1 examines how consumers attend to their expected income change and expense change when estimating how their financial slack will change with time. We followed Cook and Campbell’s (1979) research strategy of “deliberate sampling for heterogeneity” by examining four different groups with varying financial circumstances and different realistic prospects for improvement in the near future (employed, unemployed, executives, and students).

Method

We conducted three initial surveys in October and November of 2011 across different populations. Survey 1 was administered to 300 participants (51.7% female; mean age = 47.5 years) through a national online panel. This survey sampled equal numbers of people who were employed full time, employed part time, unemployed, and out of the labor force. We combined the first two groups to create a sample of 150 employed participants (53.3% female; mean age = 46.4), and we combined the latter two to create a sample of 150 unemployed participants (50.0% female; mean age = 48.6). Survey 2 was administered to 216 students (52.2% female; mean age = 20.4) at the University of Pennsylvania. Survey 3 was administered to 64 business executives from an online panel of business executives (15.6% female; mean age = 48.7).

Participants first estimated how much spare money they had during the current week, during a week three months in the future, and during a week twelve months in the future. Amount of spare money was rated on an 11-point scale (1 = “very little spare money,” and 11 = “a lot of spare money.”) Next, participants estimated their expected change in income and expenses in three and twelve months on an 11-point scale (-5 = “I expect my income [expenses] to greatly decrease”; 0 = “I expect my income [expenses] will remain the same”; and +5 = “I expect my income [expenses] to greatly increase.” In Study 1, participants rated their expected income change before rating their expected expense change. In all subsequent studies, we counterbalanced the presentation order of these questions.

Results

Slack, income, and expense changes. Slack change scores were calculated by subtracting individual ratings of future slack from ratings of current slack for each time period. Figure 1, Panel A, displays expected slack change for each sample; Figure 1, Panel B, displays expected changes in income and expenses for each sample.

On average, participants in each sample estimated that their income, expenses, and slack would increase from the time of the survey to 3 months later. We reject the null hypothesis that changes = 0 (all Ms > .45; one-sample ts > 3.15, ps < .002). This pattern is even more pronounced when we compare the time of the survey with 12 months later. Participants in all groups expected that their income, expenses, and slack all to increase in the distant future compared with the present. These estimates are reported in Web Appendix A.

Predictions of slack growth. We next examined the extent to which participants weighed income changes versus expense changes when estimating their future financial slack growth. Across all participants, we ran separate regressions for the 3 month and 12 month time periods. Each regression included income change, expense change for the ith respondent in group j, and a dummy code for the separate groups as our independent variables, as well as slack change as our dependent variable. We refer to this as the “full model”:

\[
\text{Slack Change}_{ij} = \beta_0 + \beta_1 (\text{Income Change}_{ij}) + \beta_2 (\text{Expense Change}_{ij}) + \beta_{3.5} (\text{Group}_j) + \epsilon_{ij}.
\]

Results show significant expense neglect. When participants estimated slack change in the short term (this week vs. 3 months from now), greater expected income change led to greater expected slack change (\(\beta = .27, \ SE = .05; t(574) = 5.41, p < .001\)), but greater expected expense change did not significantly decrease slack change (\(\beta = .04, \ SE = .06; t(574) = .69, p = .49\)). Similarly, when participants estimated slack change in the long term (this week vs. 12 months from now), greater expected income change led to greater expected slack change (\(\beta = .46, \ SE = .06; t(574) = 8.13, p < .001\)), but greater expected expense change did not lead to significantly lower expected slack change (\(\beta = -.04, \ SE = .06; t(574) = -.70, p = .49\)).

We employed the following model comparison test to evaluate whether the coefficient on income is significantly larger in magnitude than the coefficient on expenses, that is, whether people underweight expenses relative to income. This test compared the fit of the “full model” (Equation 2) to a nested “constrained model” (Equation 3) in which the coefficients of income and expenses are set to be equal and opposite in sign. The constrained model for Study 1 is as follows:

\[
\text{Slack Change}_{ij} = \beta_0 + \beta_1 (\text{Income Change}_{ij} - \text{Expense Change}_{ij}) + \beta_{2.4} (\text{Group}_j) + \epsilon_{ij}.
\]

If participants weighted expense change and income change equally, then a constrained model that requires income and expenses to have coefficients that are equal and opposite in sign (Equation 3) should fit as well as the full model, in which the parameters on income and expenses are not constrained (Equation 2). In other words, if the coefficients on income and expenses are equal in absolute magnitude, then there should be no benefit to fitting a separate parameter for income and expenses. However, if participants were weighing income and expenses differently, then the full model in Equation 2 should fit significantly better than the constrained model.1

1Alternatively, one can run the following model: Slack Change_{ij} = \beta_0 + \beta_1 (\text{Income Change}_{ij} - \text{Expense Change}_{ij}) + \beta_2 (\text{Expense Change}_{ij}) + \beta_{2.4} (\text{Group}_j) + \epsilon_{ij} In this case, the \(\beta_1\) coefficient is statistically equivalent to the coefficient on Income Change in Equation 2. The \(\beta_2\) coefficient is equivalent to the model comparison test between Equations 1 and 2 (i.e., the degree to which the expense coefficient \(\beta_1\) in Equation 1 differs from \(-\beta_1\) in Equation 2).
Results show that the full model that allows the weights of income and expenses to differ independently fits significantly better than the constrained model for both the 3-month ($R^2_{\text{Full}} = .06$ vs. $R^2_{\text{Constrained}} = .02$; $F(1, 574) = 20.74$, $p < .001$) and 12-month time periods ($R^2_{\text{Full}} = .12$ vs. $R^2_{\text{Constrained}} = .07$; $F(1, 574) = 33.48$, $p < .001$). Clearly, participants were not attending to income and expenses equally. We further examine the robustness of these results by evaluating each of the four groups separately, with results displayed in Table 1.

Note that the lower weight given to income compared with expenses is not an artifact of a high correlation between income and expense predictors. The within-sample correlations between income growth and expense growth are relatively low (all $r < .35$), and we see low variance inflation factors across all regressions ($<1.14$; Cohen et al. 2003). In all subsequent studies, we find no evidence for multicollinearity affecting our results. Furthermore, multicollinearity cannot explain the significantly better fit of Equation 2 compared with Equation 3.

**Discussion**

Study 1 demonstrates expense neglect across four samples of markedly different respondents. Even though participants anticipated their expenses increasing in both the near and distant future, they did not take this increase into account when forecasting their future spare money. For the 12-month time period, only the executives did not show a significant degree of expense neglect, although their pattern of coefficients on income and expenses was similar to those in the other groups.

Study 1 also shows that consumers expect their spare money to increase in the future, and more so in 12 months than in 3 months. These results may appear to diverge from...
Table 1
BREAKDOWN OF STUDY 1 RESULTS BY GROUP

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Intercept</th>
<th>Income Change</th>
<th>Expense Change</th>
<th>F(1, N − 3)</th>
<th>p</th>
<th>Intercept</th>
<th>Income Change</th>
<th>Expense Change</th>
<th>F(1, N − 3)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed</td>
<td>150</td>
<td>.29 (.16)</td>
<td>.30*** (.09)</td>
<td>.12 (.11)</td>
<td>9.74</td>
<td>.002</td>
<td>.79*** (.23)</td>
<td>.44*** (.10)</td>
<td>−.03 (.12)</td>
<td>9.21</td>
<td>.003</td>
</tr>
<tr>
<td>Unemployed</td>
<td>150</td>
<td>.60*** (.17)</td>
<td>.13 (.07)</td>
<td>.05 (.08)</td>
<td>3.15</td>
<td>.078</td>
<td>1.28*** (.26)</td>
<td>.44*** (.10)</td>
<td>−.09 (.10)</td>
<td>7.00</td>
<td>.009</td>
</tr>
<tr>
<td>Students</td>
<td>216</td>
<td>.47** (.18)</td>
<td>.57*** (.12)</td>
<td>−.08 (.11)</td>
<td>12.97 &lt; .001</td>
<td>.70* (.31)</td>
<td>.50*** (.11)</td>
<td>.005 (.10)</td>
<td>15.48 &lt; .001</td>
<td>.61* (.14)</td>
<td>.49*** (.10)</td>
</tr>
<tr>
<td>Executives</td>
<td>64</td>
<td>.35 (.22)</td>
<td>.10 (.14)</td>
<td>.09 (.17)</td>
<td>1.23 .27</td>
<td></td>
<td>.41 (.41)</td>
<td>.45* (.19)</td>
<td>−.09 (.21)</td>
<td>2.37 .13</td>
<td></td>
</tr>
</tbody>
</table>

* p < .05.
** p < .01.
*** p < .001.

Notes: The model comparison test examines the difference in fit between the full model, in which the weights of income and expenses are free to vary, and the constrained model, in which income and expenses are set to have equal and opposite signs. A significant p-value for the model comparison test indicates that we can reject the null hypothesis that the weights on income and expense change are equal and opposite in sign. Standard errors are shown in parentheses.

In Studies 2–5, we rule out a number of alternative explanations that would suggest that expense neglect is an artifact of how income, expenses, and financial slack are measured. For brevity, we provide an overview of each study below, and we display the coefficients for income change and expense change from each study in Figure 2. In all cases, we replicate expense neglect using the model comparison test (Equation 2 vs. Equation 3). Full details and results for each study are in Web Appendix A.

Studies 2–5 all differ from Study 1 in the following ways. First, we explicitly defined income and expenses to participants. For the income question, participants read, “We would like for you to think about your monthly income. This includes all the money that you will earn from salary, bonuses, Social Security checks, interest, alimony receipts, etc.” For the expenses question, participants read, “We would like for you to think about your monthly expenses. This includes all the money that you spend in a given month such as your rent, bills, travel expenses, entertainment, etc., as well as any savings commitments, debt payments, and donations to charity.” Second, we adjust the time period for estimates of income, expense, and slack from a week to a month, which reflects a more natural time frame over which participants might evaluate their finances.

Study 2 (N = 302) makes two additional changes. We asked participants to make “static” estimates of income and expenses at two points in time, rather than asking them to make direct ratings of changes over time. Participants estimated their income and expenses for the next month and for a one-month period two years later (ratings were on 11-point scales, anchored by 1 = “very little” and 11 = “a lot”). We also test whether a scale compatibility effect is driving our results (Slovic, Griffin, and Tversky 1990; Tversky, Sattath, and Slovic 1988). Both income and spare money may be associated with inflows that create wealth, whereas expenses are associated with outflows that inhibit wealth accumulation. A scale compatibility explanation suggests that participants place more weight on income because it is more compatible with the idea of spare money. To test this explanation, we asked half the participants to estimate their “financial constraint,” a measure that assesses limitations in wealth, whereas the other half of participants estimated their “spare money,” as in Study 1. We replicated expense neglect across both measures of financial slack and found no differences in the weighting of income versus expenses between the two measures.

Study 3 (N = 74) tests for the possibility that participants interpreted “spare money” and “financial constraint” more broadly than intended. We account for this by introducing a measure of financial slack that asks participants the likelihood that they would be able to make an emergency repayment of a given amount out of their liquid discretionary funds (e.g., Lusardi, Schneider, and Tufano 2011). Such a measure is robust to different ways in which people may think about financial slack, and it also excludes wealth effects that could arise from the purchase of illiquid assets.2 We created a three-item measure of financial slack that included the measures of spare money and financial constraint used in the previous study, along with the following “likelihood of repayment” question: “Imagine that next month [in 24 months] you had an unexpected expense of $1,500 such as a medical bill or a necessary car repair. How likely is it that you would be able to pay this bill in full and on time without having to dip into your retirement fund, borrow money, or charge it to a credit card?” Participants responded on a scale ranging from 1 = “very unlikely” to 11 = “very likely.” We replicated expense neglect using a three-item measure of financial slack (α = .69) and also when the “likelihood of repayment” question is examined alone.

2For instance, consider someone who expects to receive a raise in the future and expects to spend the money on an illiquid asset, such as a mortgage. It is possible that this person would indicate an increase in income (the raise), expenses (the mortgage payment), and financial slack (a wealth increase due to the mortgage), a pattern of results that would appear as if this person were neglecting expenses.
Our model comparison test for detecting expense neglect implicitly assumes that the psychological units of our expenses and income questions are comparable. Studies 1–3 utilize an 11-point ("very little" to "a lot") rating scale to assess income and expenses. If participants used the scale to rate their income differently from the way they used the scale to rate their expenses, then we may not be accurately comparing their true feelings about these estimates (Lynch, Chakravarti, and Mitra 1991).

Study 4 (N = 244) employs a modulus to measure income and expense change to examine whether expense neglect is an artifact of different scaling units of income and expenses. The use of a modulus is a standard technique in "magnitude estimation" in psychophysics for keeping estimations on a common scale (Stevens 1957). If differential use of the response scale can account for our findings, then we may not be accurately comparing their true feelings about these estimates (Lynch, Chakravarti, and Mitra 1991).

Study 4 (N = 244) employs a modulus to measure income and expense change to examine whether expense neglect is an artifact of different scaling units of income and expenses. The use of a modulus is a standard technique in "magnitude estimation" in psychophysics for keeping estimations on a common scale (Stevens 1957). If differential use of the response scale can account for our findings, then we may not be accurately comparing their true feelings about these estimates (Lynch, Chakravarti, and Mitra 1991).

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In Study 5 (N = 121), we examine whether asking participants to estimate their income and expenses in dollars would eliminate expense neglect. Participants estimated their income and expenses in dollars and their financial slack in terms of the three-item measure used in Study 3 (α = .82). We replicated expense neglect using a dollar measure of income and expenses.

In sum, Studies 2–5 replicate expense neglect and show that this effect is robust to a range of different operational definitions and measures of financial slack, income, and expenses. It is clear that the effect is neither a consequence of unequal units in measurement of income and expenses nor a statistical artifact. In Studies 6–9, we investigate possible mechanisms for the effect.
STUDY 6: UNCERTAINTY DOES NOT EXPLAIN EXPENSE NEGLECT

The present study examines whether expense neglect is due to differing levels of confidence about future income and expenses. If participants feel that their estimates about future income are more certain than their estimates about future expenses, then they might rely more heavily on income than expenses when estimating future financial slack. To test this, we directly asked participants to report their level of confidence in their estimates.

Method

We recruited 301 participants (32.6% female; mean age = 31.8 years; median household income = $40,000–$50,000) through Amazon Mechanical Turk (MTurk) to participate in a study about personal finances. Participants evaluated their financial slack, income, and expenses for the next month and for a one-month period 24 months later. After each estimate, participants were asked, “How confident are you in your response?” They rated confidence on a scale ranging from 1 = “not at all confident” to 11 = “extremely confident.” To measure expected financial slack, we asked participants the “spare money” and “likelihood of repayment” questions from previous studies. We combined the change scores for these items to create a two-item measure of slack change (α = .65). Financial constraint was not measured in this study.

Results and Discussion

Predictions of slack change. We again replicated expense neglect. We ran a regression with income change and expense change to predict slack change; we found that the coefficient on income change (β = −.62, SE = .06; t(298) = 10.62, p < .001) was 3.1 times the size of the coefficient on expense change (β = −.20, SE = .07; t(298) = −2.97, p = .003). Furthermore, the full model (R2 = .28), which allows the income and expense parameters to differ, fit the data better than the constrained model (R2 = .20; F(1, 298) = 32.88, p < .001).

Confidence ratings. A 2 × 2 repeated-measures analysis of variance shows a significant interaction, such that relative confidence in expected income versus expense varied by time period (next month vs. in 24 months; F(1, 300) = 11.26, p < .001). Planned contrasts show that for their estimations of the next month, participants were slightly more confident about their income (M = 9.34, SD = 1.93) than their expenses (M = 9.14, SD = 1.83; t(300) = 1.77, p = .077). However, for their estimations of finances 24 months out, they were significantly less confident about their income (M = 7.83, SD = 2.42) than their expenses (M = 8.09, SD = 2.39; t(300) = −2.27, p = .024).3 Participants had high confidence in their slack estimates for the next month (M = 9.69, SD = 1.46) and for 24 months in the future (M = 8.04, SD = 2.33).

In sum, Study 6 shows that expense neglect is not due to lower confidence in expense estimates compared with income estimates. Participants were slightly more confident in their own expense estimates than their own income estimates for a month two years in the future. It is unlikely that differences in confidence levels caused people to neglect expenses when forecasting their financial slack.

STUDY 7: CATEGORY FLEXIBILITY DOES NOT EXPLAIN EXPENSE NEGLECT

Study 7 examines whether expense neglect can be explained by differing beliefs in the flexibility of future income and future expenses. Consumers might expect their expenses to increase in the future, but they might also consider some of these expenses discretionary and capable of being eliminated if necessary. If so, they might discount flexible expenses when considering future financial slack.

For example, consider Jim and Bob, each of whom expects to receive a raise in the next period. Jim does not plan to increase his expenses when he receives a raise, and he indicates that his income and spare money will increase in the future, but not his expenses. Bob plans to purchase a cable package upon receiving his raise. Bob may consider this expense flexible: if he received an unexpected bill in the future, he would be able to help pay it by canceling his cable package and freeing up spare money. As a result, Bob indicates that his income, expenses, and spare money will all increase in the future. This will lead to partial effects of expected income change and expense change that look like expense neglect. In essence, Bob’s increase in spare money does not reflect his increase in expenses. If category flexibility can explain expense neglect, then we should see that participants who expect their expenses to be more flexible in the future place less weight on expenses than those who expect to have less flexible expenses in the future.

Method

We recruited 500 participants (43.2% female; mean age = 33.2 years; median household income = $30,000–$40,000) through MTurk to participate in a study about personal finances. We asked participants about their expected financial slack, income, and expenses for the next month and for a one-month period two years later. We measured financial slack using only the “likelihood of repayment” item. After each estimate of their income and expenses, we asked participants the following question: “Some people's income is [expenses are] highly flexible, and they have the ability to quickly increase or decrease their income [expenses] if need be. Other people's income is [expenses are] not at all flexible, and they would find it impossible to quickly adjust their income [expenses].” Participants then evaluated their income/expenditure flexibility on an 11-point scale ranging from 1 = “not at all flexible” to 11 = “extremely flexible.”

Results and Discussion

Predictions of slack change. We again replicated expense neglect. We ran a regression with income change and expense change to predict slack change; we found that the coefficient on income change (β = .43, SE = .07; t(497) = 6.09, p < .001) was positive and significant, whereas the coefficient on expense change (β = .04, SE = .06; t(497) = .63, p = .53) was not significantly different from 0. Furthermore, the full model (R2 = .08), which allows the income and expense parameters to differ, fit better than the constrained model, in which income and expenses have equal and opposite signs (R2 = .02; F(1, 497) = 33.32, p < .001).

Category flexibility. Next, we tested whether the extent to which income and expenses are considered flexible affects the weight placed on expenses. To do so, we first took change scores for the extent to which participants expected...
their income flexibility and expenses flexibility to change over time and ran the following regression:

\[
\text{Slack Change} = \beta_0 + \beta_1 (\text{Income Change}_i) + \beta_2 (\text{Expense Change}_i) + \beta_3 (\text{Income Flexibility Change}_i) + \beta_4 (\text{Expense Flexibility Change}_i) + \beta_5 (\text{Income Change}_i \times \text{Income Flexibility Change}_i) + \beta_6 (\text{Expense Change}_i \times \text{Expense Flexibility Change}_i) + \varepsilon_i.
\]

Both income flexibility change (M = .74, SD = 2.00) and expense flexibility change (M = .52, SD = 2.09) were mean centered.

Table 2 displays the regression results and shows that category flexibility does not affect the weighting of either income or expenses. Neither the income change by income flexibility change interaction nor the expense change by expense flexibility change interaction is significant. Thus, participants who expected greater income or expense flexibility in the future did not weight these inputs any differently than those who reported less income or expense flexibility.

Notably, we do find a significant positive relationship between increased expense flexibility and increased slack (when expense change = 0); the more participants believed that their expenses would be flexible in the future, the more financial slack they expected to have in the future. However, flexibility did not affect the overall weighting of expenses: those who expected more flexibility in their expenses did not place more weight on expense change than those who expected less flexibility.

In summary, Study 7 shows that beliefs regarding the flexibility of expenses cannot explain expense neglect. Although participants who expected to have greater expense flexibility in the future reported expecting greater slack in the future, there was no relationship between expense flexibility change and the weighting of expense change in predicting slack change.

**STUDY 8: OPTIMISM DOES NOT EXPLAIN EXPENSE NEGLECT**

Study 8 examines whether expense neglect can be explained by generalized optimism. In particular, it may be that people who are optimistic and view the future favorably are also more likely to ignore expenses when forecasting their future slack.

**Method**

We recruited 1,004 participants (39.0% female; mean age = 30.1 years; median household income $40,000 to $50,000) via MTurk. Participants first rated their available financial slack for the next month and for a one-month period two years later, using the same three-item measure developed in Study 4 ($\alpha = .81$). Participants then evaluated their expected monthly income and expenses for the next month and for a one-month period two years later. Income, expenses, and slack were all rated on 11-point scales. Finally, participants were given the Life Orientation Test–Revised (LOT-R), a measure of generalized optimism (Scheier, Carver, and Bridges 1994). The LOT-R scale is a six-item response measure that includes statements such as, “Overall, I expect more good things to happen to me than bad.”

**Results and Discussion**

**Predictions of slack growth.** We again find evidence for expense neglect. We ran a regression with income change and expense change to predict slack change; we found that the coefficient on income change ($\beta = .62$, $SE = .03$; $t(1,001) = 19.22, p < .001$) was 3.0 times the size of the coefficient on expense change ($\beta = -.21$, $SE = .03$; $t(1,001) = -6.56, p < .001$). Furthermore, the full model ($R^2 = .27$), which allows the income and expense parameters to differ, fit the data better than the constrained model, in which income and expenses have equal and opposite signs ($R^2 = .20$; $F(1, 1,001) = 99.82, p < .001$).

**Optimism.** The scores for the LOT-R range from 0 (extreme pessimist) to 24 (extreme optimist). Participants on average were slightly above the midpoint of the LOT-R scale ($M = 13.26, SD = 5.19$). We first checked to see whether optimists viewed their future finances more favorably than pessimists. More optimistic respondents expected greater future income ($r = .22, p < .001$), smaller future expenses ($r = -.11, p < .001$), and greater future slack ($r = .37, p < .001$). More optimistic participants also expected greater future income growth ($r = .08, p = .016$) and greater future slack growth ($r = .10, p = .002$), but they did not expect significantly more expense growth than pessimists ($r = .03, p = .29$). These results attest to the validity of the LOT-R scale in this context.

Next, we tested whether the tendency to weight income more heavily than expenses is accounted for by different levels of optimism. To do so, we ran the following regression, with Income Change and Expense Change centered at 0 and LOT-R mean centered:

\[
\text{Slack Change} = \beta_0 + \beta_1 (\text{Income Change}_i) + \beta_2 (\text{Expense Change}_i) + \beta_3 (\text{LOT-R}_i) + \beta_4 (\text{Income Change}_i \times \text{LOT-R}_i) + \beta_5 (\text{Expense Change}_i \times \text{LOT-R}_i) + \varepsilon_i.
\]

Table 3 shows the regression results. Notably, neither the income change by LOT-R interaction nor the expense change interaction is significant, suggesting that flexibility does not affect the weight placed on income change or expense change.
Table 3

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>SE</th>
<th>t</th>
<th>p</th>
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<td>.03</td>
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<tr>
<td>Expense change</td>
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<td>.03</td>
<td>−6.63</td>
</tr>
<tr>
<td>LOT-R</td>
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<td>.02</td>
<td>1.79</td>
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<td>Income change × LOT-R</td>
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<td>.01</td>
<td>−.07</td>
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<tr>
<td>Expense change × LOT-R</td>
<td>−.005</td>
<td>.01</td>
<td>−.77</td>
</tr>
</tbody>
</table>

Notes: Income change and expense change are centered at 0. Optimism, as measured by the LOT-R scale, is mean centered. Neither the income change × T-S interaction nor the expense change × LOT-R interaction is significant, suggesting that optimism does not affect the weight placed on income change or expense change.

by LOT-R interaction was significant. We additionally replicated expense neglect while controlling for optimism at mean LOT-R. In other words, regardless of their level of optimism, consumers equally relied on their own income change forecasts to predict slack change, and they equally underweighted the role of expense change in affecting slack change.

In summary, Study 8 shows that generalized optimism does not explain expense neglect. While participants higher on optimism were more likely to expect to have a favorable financial future, they were no more likely to neglect expenses when estimating their future financial slack.

STUDY 9: SPENDTHRIFTS SHOW GREATER EXPENSE NEGLCT THAN TIGHTWADS

In Study 9, we examine whether consumers who are chronically attuned to expenses are less likely to display expense neglect. Previous research has shown that “tightwads” experience greater pain of paying and are less likely to neglect opportunity costs than spendthrifts (Frederick et al. 2009; Rick, Cryder, and Loewenstein 2008). We expect that tightwads’ sensitivity to costs causes them to be more likely to attend to and account for expenses when estimating future financial slack.

Method

A power analysis based on a pretest suggested a sample of 942 participants for power of .80 to detect an interaction effect of the size found in the pretest (see Web Appendix A for details). As a result, we recruited 1,000 participants (31.5% female; mean age = 27.9; median household income $40,000–$50,000) through Mechanical Turk to participate in this study. Participants rated their available financial slack for the next month and for a one-month period two years later, using the same three-item measure developed in Study 4 (α = .78). Participants also evaluated their expected monthly income and expenses for a one-month period two years later. Income, expenses, and slack measures were all rated on 11-point scales. Finally, participants were given the four-item Tightwad-Spendthrift (T-S) scale (Rick, Cryder, and Loewenstein 2008). Scores for the T-S scale range from 4 (extreme tightwad) to 26 (extreme spendthrift) (M = 13.79, SD = 4.75).

Results

Prediction of slack growth. We again find evidence for expense neglect. We regressed slack change on income change and expense change and found that the coefficient on income change (β = .56, SE = .03; t(997) = 16.51, p < .001) was 2.8 times the size of the coefficient on expense change (β = −.20, SE = .03; t(997) = −6.43, p < .001). Furthermore, the full model (R2 = .23), which allows the income change and expense change parameters to differ, fit the data better than the constrained model, in which income and expenses have equal and opposite signs (R2 = .18; F(1, 997) = 64.64, p < .001).

Tightwad-Spendthrift scale. We then tested whether tightwads give more weight to expenses when forecasting slack change than spendthrifts. To do so, we ran the following regression:

(6) \[
\text{Slack Change} = \beta_0 + \beta_1 (\text{Income Change}) + \beta_2 (\text{Expense Change}) + \beta_3 (\text{T-S}) + \beta_4 (\text{Income Change} \times \text{T-S}) + \beta_5 (\text{Expense Change} \times \text{T-S}) + \epsilon_i.
\]

We found a significant expense change by T-S interaction (β = .013, SE = .006; t(994) = 2.13, p = .034) in the predicted direction: the lower participants scored on the T-S scale (i.e., the more they were considered tightwads), the more likely they were to account for expenses when estimating their future financial slack. However, the income change by T-S interaction was not significant (β = .001, SE = .007; t(994) = .22, p = .83); tightwads and spendthrifts weighted income equally.

Next, we conducted a floodlight analysis (Spiller et al. 2013) to determine how the coefficients on income change and expense change vary across specific levels of the T-S scale. Figure 3 displays the results.

Several points emerge. First, the coefficient on income is significant for all values of the T-S scale, as shown by the fact that 95% confidence bands exclude 0 throughout the graph. Second, the coefficient on expenses is significant for all T-S values beyond the Johnson–Neyman point of 21.6—only extreme spendthrifts entirely neglect expenses. More importantly, when we centered the scale on extreme tightwads (T-S = 4), the coefficient on income change (β = .54, SE = .07, t(994) = 7.70, p < .001) was only 1.6 times the size of the coefficient on expense change (β = −.33, SE = .07, t(994) = −4.58, p < .001). However, when we centered the scale on extreme tightwads (T-S = 26), the coefficient on income change (β = .57, SE = .09, t(994) = 6.40, p < .001) was 14.3 times the size of the coefficient on expense change (β = −.04, SE = .08, t(994) = −.56, p = .58).

Discussion

Two results are critical in an interpretation of the analysis above and in the implications for expense neglect. First, the weighting of income change does not differ significantly by score on the T-S scale, as evidenced by the lack of an income change by T-S interaction. However, the weighting of expense change does differ by T-S score, as evidenced by a significant expense change by T-S interaction. This is consistent with an interpretation that the difference between tightwads and spendthrifts is about sensitivity to expenses and that tightwads are more likely to attend to expenses when forecasting their future financial slack. Second, the
 coef-ficient on income change is greater in magnitude than the coefficient on expense change across the entire range of the T-S scale (although to varying degrees). That is, even extreme tightwads give more weight to income than expenses, which attests to the robustness of the effect.

One question that arises in considering testing sensitivity to expenses is whether a direct manipulation that increases attention toward expenses would "de-bias" participants. For example, in two unreported studies (see Web Appendix B for full details), we attempted to systematically manipulate participants’ attention to the various inputs into slack. While we found some evidence that our attention manipulations increased the weight placed on expenses, we did not find this result to be robust. Given the reliability of expense neglect, we expect that this inconsistency is due to the fact that these assessments are not easily overridden using the type of manipulations employed in an experimental session.

STUDY 10: EXPECTATIONS ABOUT FUTURE INCOME (NOT EXPENSES) PREDICT RESPONSES TO THE MICHIGAN ICS

We argued earlier that consumer sentiment indices that predict changes in the macro economy reflect expectations of future financial states, much as slack does. This study investigates how consumers weight their own expectations regarding consumer sentiments and, in particular, what drives their responses to the Michigan ICS, a leading economic indicator.

We examine how consumers weight their own expectations regarding income or expenses when we assess the ICS. Because the full ICS is used for many macroeconomic forecasts, we regress the ICS on expected income and expense changes. We expect that forecasts about income growth strongly predict the ICS but forecasts of expense growth do not. More specifically, the ICS contains two subscales. Three of the five items make up the Index of Consumer Expectations, wherein we expect to again observe expense neglect in predictions of this subscale, which focuses on sentiments about the future. The other two of the five items make up the Index of Current Economic Conditions, and we do not conjecture that expected future income and expense changes predict current economic conditions.

Method

We recruited 1,004 subjects from an online panel. Participants were sampled according to a quota designed to match the Federal Reserve Board 2014 Survey of Household Economics and Decisionmaking (SHED). We stratified the SHED survey sample according to gender, age group (18–34 years, 35–49 years, 50–64 years), and household income (under $30,000; $30,000–$75,000; over $75,000),
As expected, we did not find expense neglect in a similar analysis for the Index of Current Economic Conditions. Neither future income change ($\beta = .009, SE = .010; t(1,001) = .88, p = .38$) nor future expense change ($\beta = -.001, SE = .11; t(1,001) = -.12, p = .90$) significantly predicted consumer sentiments toward current economic conditions. Nor did the full model ($R^2 = .074$), which allows the income and expense parameters to differ significantly, improve on a model that constrains these parameters to have to equal and opposite signs ($R^2 = .073; F(1, 1,001) = 1.08, p = .30$).

**Discussion**

When responding to the ICS, consumers rely on their estimates of how much their income is expected to increase in the future but do not rely on their estimates of how much their expenses are expected to increase in the future. We further find that this pattern holds for the Index of Consumer Expectations, the subset of ICS questions that ask consumers about future financial conditions. In contrast, neither estimates of income change nor those of expense change predict the Index of Current Economic Conditions. This is to be expected because future income and expense changes are not directly relevant to current conditions.

**META-ANALYSIS**

We conducted a series of meta-analyses to test whether expense neglect persists across our entire file drawer of 27 studies and 8,418 participants (see Web Appendix C for an overview of studies, results, and the data used in the meta-analysis). In the first part, we examine how participants weight income change and expense change when predicting slack change, consistent with our analyses conducted thus far. In the second part, we examine the subset of our studies that ask participants to make “static” estimates about their income, expenses, and slack at different points in time (e.g., what they expect their expenses to be next month/two years from now) and exclude studies that ask participants to make estimates regarding changes over time (e.g., how much they expect their expenses to change in two years). This allows us to directly compare how much weight participants place on income and expenses in the immediate future, separately from the weight that they place on income and expenses in the distant future. This comparison provides an additional test of our attention mechanism by showing whether participants are more sensitive to constraints in the present than those in the future.

**Estimating Slack Change over Time**

We first examined the extent to which participants weight income change relative to expense change when estimating slack change. Each study contributed three partial correlations into the meta-analysis, which were all converted into Fisher’s Z:

- The semipartial r of the model comparison: semipartial $r = \sqrt{R^2_{\text{Full}} - R^2_{\text{Constrained}}}$ (full model: Slack Change $= B_0 + B_1(\text{Income Change}) + B_2(\text{Expense Change})$; constrained model: Slack Change $= B_0 + B_1(\text{Income Change})$ $- B_2(\text{Expense Change})$).
- The partial r between Income Change and Slack Change from the full model; and
- The partial r between Expense Change and Slack Change from the full model.

---

5All results hold when the covariates are removed from the analysis, as reported in Web Appendix A.
We computed Fisher’s Z for each semipartial correlation from each study and calculated a weighted mean Z, using inverse variance weights to assign more weight to studies with larger samples (Lipsey and Wilson 2001). We converted Fisher’s Z values back to r for presentation in what follows, for ease of interpretation.

Table 4 presents an overview of the meta-analysis results, and Web Appendix C contains the data used in the meta-analysis. Overall, we find that across studies, participants weight income change more heavily than expense change when predicting future slack. The mean effect size of the model comparison semipartial r is .207 (95% confidence interval [CI] = [.186, .227]). The mean effect size of the Income Change partial r is .383 (95% CI = [.365, .402]), and that of the Expenses Change partial r is −.134 (95% CI = [−.155, −.113]), which corresponds to assigning 2.9 times more weight to standardized income change than standardized expense change.

We supplemented this analysis by examining whether different operationalizations across our studies contributed to variation in our results. Results show significant variation in effect sizes across studies (I² model comparison = .64). This is not surprising because we intentionally used a variety of operationalizations across our studies. We then coded each study for the variables that we expected to cause the variation in effect sizes, including (1) the log of the distance from the present to the future time period (Zauberman et al. 2009); (2) whether income and expenses were measured as static (estimates were taken of the immediate and distant future separately) or growth measures (a direct estimate of how much income and expense were expected to grow); (3) whether income and expenses were measured using a modulus or rating scales; and (4) whether the present time period referred to the current period (“this month”) or the next period (“next month”). We then conducted a meta-analysis regression to test whether these predicted factors uniquely contributed to the effect size variation. We ran a fixed effects model, whereby we regressed the effect size of the model comparison on the four factors listed above. Except for the distance-from-present factor (β = .112, SE = .053; p = .035), no other factor predicted the effect size of the model comparison (ps > .41). Thus, the further in the future participants evaluate their finances, the more they exhibit expense neglect.

We further analyzed the relationship between participants’ expectations of their future income and expense growth. Across studies, we found a moderate correlation between expected income and expense growth (r = .195; 95% CI = [.175, .216]). In other words, the more that participants expected their income to grow, the more they expected their expenses to grow. Moreover, participants expected their income to grow to a greater extent than their expenses over the same time period (d = .654; 95% CI = [.606, .702]).

### Estimating Total Slack at Different Points in Time

We reported earlier that when we examine slack growth, we find that participants place on average 2.9 times the weight on standardized income than standardized expenses. We supplement this analysis with an additional examination that compares participants’ “static” estimates of their slack at a given point of time, to provide converging evidence in support of our findings and interpretation. Thus, instead of estimating change scores, we estimate slack for individual i at specific points in time, as represented in Equations 7a and 7b:

\[
\begin{align*}
\text{Immediate Future Slack} & = \beta_0 + \beta_1 (\text{Immediate Future Income}_i) + \beta_2 (\text{Immediate Future Expenses}_i) + \epsilon_i; \\
\text{(7a)} \\
\text{Distant Future Slack} & = \beta_0 + \beta_1 (\text{Distant Future Income}_i) + \beta_2 (\text{Distant Future Expenses}_i) + \epsilon_i. \\
\text{(7b)}
\end{align*}
\]

If participants neglect expenses at all points in time equally, then the weight on Expenses (β2) would be similar in the distant future and the immediate future. However, if expenses in the present are more salient then expenses in the future, then β2 should be significantly smaller in the distant future than the immediate future.

We examined all of our studies that asked for separate ratings of immediate future and distant future values of the

<table>
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<th>Slack Assessment</th>
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<th>N</th>
<th>Weighted Mean Effect Size (r)</th>
<th>95% CI (r)</th>
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<td>.383</td>
<td>(.365, .402)</td>
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<td>(−.155, −.113)</td>
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<td>−.270</td>
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Notes: The “Slack Change” assessment refers to the analysis conducted on income change and expense change predicting slack change. The “Immediate Future” and “Distant Future” assessments refer to the “static” analysis that evaluates slack at a given point in time, as represented in Equations 7a and 7b, respectively.
three constructs income, expenses, and slack—omitting studies in which we asked participants to rate growth directly. These measures were assessed in 16 studies (N = 5,811). We estimated Equation 7a–b and extracted the partial r for income and expenses in both the immediate and the distant future. We then conducted the same meta-analysis as described above, weighting the Fisher’s Z of each partial r by inverse variance, and finally, converted the weighted mean Fisher’s Z values back to r.

Results show that for the immediate future, the mean effect size of the partial r for income is .514 (95% CI = [.495, .533]), and for expenses, the effect size is −.324 (95% CI = [−.347, −.301]). For the distant future, the mean effect size of the partial r for income is .516 (95% CI = [.497, .535]), and that of expenses is −.270 (95% CI = [−.294, −.246]). Thus, relative to the immediate future, the weight on income increases by only .4% in the distant future, whereas for expenses it decreases significantly, by 16.6%. In other words, as participants look toward the future, they do not change the weight that they place on income, but the weight that they place on expenses decreases with time. Finally, we evaluated the model comparison measures for the immediate future and the distant future separately. For the immediate future, the mean effect size of the model comparison semipartial r is .181 (95% CI = [1.156, .206]), and for the distant future it is .214 (95% CI = [.190, .239]), which corresponds to an 18.2% increase in effect size.

**GENERAL DISCUSSION**

This article provides a deeper understanding of how consumers forecast their finances by examining the manner in which consumers weight income and expenses to judge financial slack. We demonstrate evidence for expense neglect, defined as the tendency to underweight expected changes in expenses relative to expected changes in income when predicting future financial slack. We argue that expense neglect is due in part to insufficient attention to expenses and find that when estimating future financial slack, people who are more sensitive to expenses (tightwads) weight expenses more than those who are insensitive to expenses (spendthrifts).

A meta-analysis of our file drawer shows robust evidence for expense neglect and that expense neglect is stronger when people evaluate time periods more distant in the future. We supplement this analysis by comparing participants’ static estimates of their finances for the immediate future and those for the distant future. Consistent with an explanation arguing that the constraints are more salient in the present and that attention to constraints decreases with time, consumers place less weight on expenses in the distant future as compared with the immediate future. However, we do not find that the weight placed on income changes significantly with time.

The attention explanation we propose is similar to that of the focusing illusion in affective forecasting (Kahneman et al. 2006; Schkade and Kahneman 1998; Ubel et al. 2001) and provides an analogy for our findings. Just as people from the Midwest focus too much on the role of sunshine when thinking about life in California, those who think about their future finances may attend too much to the role of income and not enough to the role of expenses. Consumers may fail to realize that earning extra money, and then spending this money, will squeeze their available resources and leave them with less slack than anticipated.

Is it possible to observe the opposite (“income neglect”) under some condition? In our data, we do not find any subgroup of consumers who weight expenses more than income. Even the most extreme tightwads show a small degree of expense neglect. One might speculate that expense neglect is a variant of more general psychological processes in stock-flow reasoning, where Cronin et al. (2009) find that people believe changes in stocks should follow the pattern of changes in inflows rather than outflows. For example, if outflows are constant over some interval and inflows are increasing but are always less than outflows, people incorrectly expect the stock to rise rather than to fall. This seems broadly consistent with our findings on expense neglect.

However, one might also argue that there are factors that we have not captured that would cause some individuals to attend to expenses more than income. Perhaps people on constrained fixed incomes—such as retirees or the chronically ill—who do not expect their income to change much over time are particularly attuned to future expenses when they forecast their finances. Further research could examine whether subpopulations beyond those that we have evaluated tend to weight expenses higher than income.

If fixed incomes might eliminate expense neglect, one might speculate that expense neglect for money might not generalize to judgments of future time slack. With time, there is a fixed “income” of hours in the day. Here, one might find that judgments of changes in spare time are driven more by predictions about changes in demand for time (i.e., outflows such as meetings and other time commitments) than supply of time (i.e., inflows such as hours in a day or days in a week). However, there are situations in which inflows, or supply of time, can vary. Academics and artists have flexibility in determining the number of hours spent in an office or studio. The number of available working hours for farmers and construction workers is often determined by sunlight hours, which changes with the seasons. Further research can examine whether people with more variability in their supply of time place greater weight on time inflows relative to outflows.

**Expense Neglect and Financial (Slack) Management**

We find that consumers consistently predict their financial slack will rise in the future. Are consumers wrong to believe that their financial slack will increase with time? At the beginning of this article, we noted that the ICS shows that during the period between 2010 and 2013, consumers erred in predicting that their finances would improve, when in fact they did not. In our studies, one might argue that the weights for income and expenses in our static analysis of future slack reflect a prediction and the weights for income and expenses in static ratings of slack in the present reflect an experienced reality. This suggestion implies that the greater inequality of weights of income and expenses in the future compared with the present reflects a forecasting error: participants expect the weight of their expenses to decrease in the future, but they experience a greater weighting of expenses in the present.

Further research could examine the extent to which expense neglect affects consumer financial welfare. It is
possible that expense neglect causes consumers to make financially imprudent decisions that can place them in a state of financial distress. Someone choosing between two jobs in different cities might overweight salary considerations and underweight expense considerations, such as the cost of living. Even though a consumer may believe choosing the higher-salaried job would put him or her in a better financial position, by neglecting the full weight of expenses, it may leave the consumer more financially constrained than anticipated.

However, the manner in which expense neglect affects financial welfare ultimately depends on the dynamics of how consumers manage their finances. Given that consumers have the ability to change how they behave in the future, they can adjust for any prediction errors by changing their behavior relative to their initial forecasts. Those who neglect expenses when estimating their future finances may choose to subsequently cope by cutting down their expenditures or by working to increase their income relative to their initial predictions.

Any factor that causes consumers to adjust their estimates of the future and take actions in response to their recalibrated estimates will make it difficult for them to learn from their forecasting errors and avoid expense neglect. This may be particularly true if consumers do not plan for the future or actively track their finances and goals. Explicitly mapping out one’s future finances may rectify biases created by expense neglect as consumers calculate the extent to which spending affects their future bottom line (Fernbach, Kan, and Lynch 2015; Kan 2015). Indeed, long-term planning is associated with greater financial health (Lynch et al. 2010), suggesting that relying on one’s subjective estimates to plan future finances leads to over-spending and lower slack.

Expense Neglect and Consumer Sentiment

We found similar expense neglect in consumer responses to the ICS. The validity of the ICS in forecasting the future economy is supported by analyses that show the ICS predicts future macroeconomic expenditures above and beyond other major economic indicators (Bram and Ludvigson 1998; Carroll, Fuhrer, and Wilcox 1994; Howrey 2001; Ludvigson 2004). Our findings lead to interesting speculation about why the ICS “works” as a macroeconomic predictor. Presumably, the reason the ICS has predictive power is that consumers rely on their own personal information to answer the ICS, and this information is not yet reflected in other economic indicators. However, only expected income change, and not expected expense change, predicts responses. Thus, when responding to the ICS, consumers rely on information they have ascertained about their own personal employment and income prospects, and they fail to include information they have about their expected expenditures.

Nonetheless, while most consumer sentiment indices explicitly measure expected income growth, they rarely ask consumers to explicitly predict their future expenditures. Further research could evaluate whether directly soliciting consumer expectations about income growth and expense growth can provide additional insight into macroeconomic outcomes, perhaps on measures such as savings rates, which more accurately reflect the balance of income and expenses. It is also possible that simply asking consumers to estimate their own future expenditures can predict macro-level expenditures above and beyond the ICS.

Conclusion

In conclusion, the research presented here sheds light on one reason why people feel financially constrained in the present yet believe their future finances will be more favorable: When forecasting the future, they underweight the impact of the growth in expenses relative to the growth in income on their future finances.

REFERENCES


