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ABSTRACT

Balance-sheet repair drove the response of a significant fraction of households to fiscal stimulus following the Great Recession. By combining survey, behavioral, and time-series evidence on the 2011 payroll tax cut and its expiration in 2013, this papers identifies and analyzes households who smooth debt repayment. These "balance-sheet households" are as prevalent as "permanent-income households," who smooth consumption in response to the temporary tax cut, and outnumber "constrained households," who temporarily boost spending. The asymmetric *spending* response of balance-sheet households poses challenges to standard models, but nonetheless appears important for understanding individual and aggregate responses to fiscal stimulus.

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U.S. households entered the Great Recession with an unprecedented amount of debt relative to their income and assets. Many observers have cited this debt as a drag on subsequent consumer spending, either due to a desire to hold less debt or to reduced access to credit (Dynan, 2012; Mian, Rao, and Sufi, 2013). In addition, the value of many households' assets fell substantially in the recession, leaving their balance sheets in worse shape than before the recession.

In this paper we argue that the deterioration of balance sheets may have also made subsequent fiscal stimulus less effective at boosting consumer spending. The payroll tax holiday, which temporarily reduced the taxes on earnings by 2 percentage points in 2011 and 2012, was the most significant policy aimed at stimulating the economy subsequent to the 2009 stimulus package. We use a research design that examines the behavioral response to both the 2011 decrease in the payroll tax and the 2013 increase in the payroll tax. We identify a sizeable segment of the population—almost one-third of all households—who mostly used the increase in take-home pay in 2011 to rebuild their balance sheets (rather than spend more) and then, when the payroll tax cut expired in 2013, reacted by spending less (rather than drawing down their balance sheets). We call these *balance-sheet households*. Their behavior limits the response of spending to fiscal stimulus by reducing the aggregate marginal propensity to spend from stimulus payments and by deepening the pullback in spending when the stimulus expires. Macroeconomically, their behavior carries similar implications for stimulus as the presence of lifecycle/permanent income hypothesis (LC/PIH) households, but their underlying behavior—as seen in the asymmetric spending response when stimulus expires—differs strikingly from that predicted by standard economic theory.

We uncover this asymmetric spending response of some households to tax changes by examining the onset and expiration of the 2011-2012 payroll tax holiday. Specifically, we fielded three separate modules on the University of Michigan Surveys of Consumers: shortly after the beginning of the payroll tax holiday (in spring 2011), shortly after the end of the payroll tax holiday (in spring 2013), and a retrospective survey more than a year after its expiration (in summer 2014). The survey asked households how they responded to these tax changes. By combining responses to the tax cut and tax increases, we identify four types of households: those with the symmetric response to tax decreases and increases predicted by standard economic

models, that is, the LC/PIH households and liquidity-constrained households; and those with asymmetric responses, that is the balance-sheet households and a relatively small group that always spends more.

The survey approach with direct questions on stimulus has proved valuable for examining the response to particular policies and for eliciting meaningful heterogeneity in responses to income. This observed heterogeneity also allows for an evaluation of economic models that predict households' response to economic stimulus. We have used this approach to study earlier changes in tax withholding, the tax rebates of 2001 and 2008, and the tax credits of 2009-2011 (see Shapiro and Slemrod, 2003a, 2003b, 2009; Sahm, Shapiro and Slemrod 2010, 2012). Zafar, Livingston, and van der Klaauw (2013) and Graziani, van der Klaauw, and Zafar (2013) use direct survey questions on the American Life Panel to study responses to the recent payroll tax changes. The survey approach has also been applied in more abstract settings, for example, Jappelli and Pistaferri (2014) use a survey concerning a hypothetical tax rebate to analyze heterogeneity in responses to fiscal stimulus across income. Later in the paper, we discuss evidence that validates survey responses as a tool for examining household behavior.

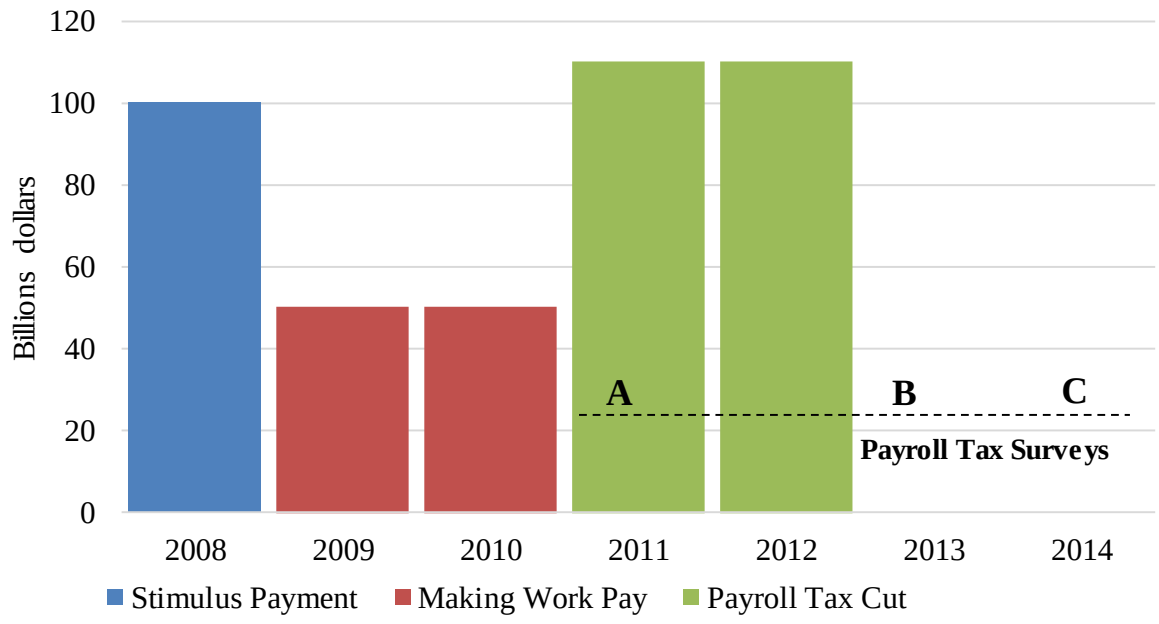
The paper proceeds as follows. First, it uses the survey responses to characterize these four types of households. In addition to considering the survey answers about responses to tax changes, it investigates free responses to support our contention that households' targeting of their balance sheets explains the asymmetric responses to tax cuts revealed by the surveys. Second, it examines in some detail the characteristics of these balance-sheet households and their behavior over this period. This analysis uses data on balance sheets that we collected as part of the surveys. Finally, it shows that the balance-sheet behavior identified in the paper helps explain fluctuations in aggregate time-series data.

I. Responses to Payroll Tax Changes

Severe and widespread shocks in the Great Recession led policymakers to distribute an unprecedented amount of income support to households. Three large programs—the economic stimulus payments in 2008, the Making Work Pay tax credit in 2009-2010, and the payroll tax cut in 2011-12—provided a boost to disposable income of nearly $1/2 trillion. Figure 1 shows the timing and magnitude of these income transfers. After five years of support to working

households, all broad-based stimulus programs ended. Specifically, the payroll tax holiday expired as expected on December 31, 2012. There were no other changes in tax rates at the time for the vast majority of taxpayers.[1]

Figure 1: Stimulus Income and Payroll Tax Surveys



Note: The surveys concerning the 2011 payroll tax cut and its expiration were fielded in March/April 2011 (Group A), April/May 2013 (Group B), and May/June 2014 (Group C).

To understand the response of households to the payroll tax cut and its expiration we fielded three surveys, labeled A, B, and C in Figure 1 to gauge the response of households to the onset and the expiration of the payroll tax cut. Previous studies of the 2001 tax rebates (Shapiro and Slemrod 2002, 2003), the 2008 stimulus payments (Shapiro and Slemrod 2009, Sahm, Shapiro, and Slemrod 2009), and the 2009-2010 Making Work Pay tax credit (Sahm et al 2012)

[1] The Making Work Pay tax credit was the main tax cut for individuals in the 2009 American Recovery and Reinvestment Act (ARRA). It was enacted for two years, though the Obama administration intended that it be made permanent and indeed proposed such a permanent tax cut as part of its 2011 budget. That proposal was not enacted. Instead, a temporary 2 percentage point cut in the payroll tax was enacted for 2011 in the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010, signed into law on December 17th, 2010. On December 23, 2011, The Temporary Payroll Tax Cut Continuation Act of 2011 extended the payroll tax cut for the first two months of 2012 and then on February 22, 2012 the Middle Class Tax Relief and Job Creation Act of 2012 extended the payroll tax cut through the end of 2012. The temporary payroll tax cut was allowed to expire at the end of 2012. Moreover, in 2013 the only tax policy change for the vast majority of taxpayers was the expiration of the temporary payroll tax cut that is the focus of this paper.

used a similar survey methodology. The fraction of households who said they would mostly spend the stimulus has been modest, ranging from 13 percent with Making Work Pay tax credit to 25 percent with the 2008 stimulus payments. Other analysis has shown that the direct survey measures are externally valid and are consistent with actual household behavior. First, the direct survey responses are strongly correlated with more standard, indirect estimates of the marginal propensity to consume out of one-time stimulus derived from the Consumer Expenditure Survey (Parker et al 2010, slides). Second, the direct survey estimates of behavior are consistent with aggregate trends in saving and debt (Sahm et al. 2009). The direct survey responses also have the advantage that they can provide estimates of stimulus response even when delivery of the stimulus does not vary randomly across households.

Each question about the household response to a tax change begins with a preamble that reminds households about its basic details, in particular its size. See the appendix for the full text of the questions. Our initial question about the decrease in payroll taxes that began in 2011 is[2]:

> Thinking about your (family's) financial situation this year, will this payroll tax reduction lead you mostly to increase spending, mostly to increase saving, or mostly to pay off debt?

The first column of Table 1 shows that in the initial survey on the tax cut (to Interview Group A)—soon after the tax change—only 14 percent of households said that they planned to mostly increase spending in response. In contrast, 50 percent reported they planned to mostly pay down debt (or reduce borrowing) and another 36 percent planned to mostly increase their saving. Taken together, 86 percent of households said they would mostly use the reduction in taxes to improve their balance sheets. While this prospective spend rate is at the low end of the findings from other stimulus studies, on its own this behavior is not puzzling behavior to economists: we would not expect forward-looking and unconstrained households to spend much out of a temporary tax cut.

[2] See Appendices A and B for more discussion of the survey wording.

Table 1: Responses to Recent Payroll Tax Changes

	2011 Tax Decrease		2013 Tax Increase	
Orientation of question:	Prospective	Retrospective	Prospective	Retrospective
Interview group:	A	B	B	C
Percent who mostly adjust:				
Spending	14	35	55	43
Saving	36	33	30	35
Debt/Borrowing	50	32	15	22
Number affected by tax change	556	533	561	519
Percent of all respondents:				
Not affected by tax change	38	37	37	38
Did not answer	2	6	4	7
Number of respondents	970	982	982	994

Note: Authors' weighted tabulations of the Michigan survey. Prospective question about tax cut asked to Interview Group A in Mar/April 2011. Two questions about tax cut, retrospectively, and its expiration, prospectively, asked to Interview Group B in April/May 2013. Retrospective question about expiration of tax cut asked to Interview Group C in May/June 2014.

In 2013, shortly after the expiration of the two-year payroll tax cut, we asked a different set of individuals (Interview Group B) to look back on their response to the recent payroll tax cut. Specifically, in the follow-up survey we asked:

> Now I would like you to think about the payroll tax cut that just expired. Thinking about your (family's) financial situation in the past two years, when the payroll tax was lower, did the payroll tax cut lead you mostly to increase spending, mostly to increase saving, or mostly to pay off debt [or mostly to decrease borrowing]?

The retrospective spend rate—shown in the second column of Table 1—was 35 percent, more than double the spend rate initially reported at the start of the tax cut. Only 32 percent said that they had mostly paid down debt (or decreased borrowing) and 33 percent said they had mostly increased saving. At 65 percent of households, the impact of the tax decrease on balance sheets is still larger than its impact on spending in the follow-up survey, although less so than in initial survey.

We also asked these same households in 2013 how they planned to respond to the *increase* in payroll taxes:

> Thinking about your (family's) financial situation this year, will this payroll tax increase lead you mostly to decrease spending, mostly to decrease saving, or mostly to pay off less debt [or mostly to increase borrowing]?

As shown in the third column of Table 1, 55 percent of households said that they planned to mostly reduce their spending in response to the payroll tax increase. Note that the increase in taxes elicited a significantly larger adjustment to spending than the tax cut. *Substantially more people reduced their spending when taxes went back up than increased their spending when taxes initially went down.* The rest said that the payroll tax increase would lead them to mostly reduce saving (30 percent) or mostly pay off less debt/increase borrowing (15 percent). All in all, only 45 percent were willing to degrade their balance sheets to make up for the lost income at the tax increase. The larger pullback in spending at the end of stimulus compared to the boost at the beginning is at odds with standard economic models, which predicts that households who used the tax decrease to improve their balance sheets would draw out that money when taxes increased—leaving their spending mostly unchanged. Instead, it appears that throughout this whole period many households are prioritizing their balance sheets over their spending.

To confirm that this pattern held up over time, we fielded a third survey in 2014 with a different group of households (Interview Group C). Almost a year and half after payroll taxes increased, we asked:

> Thinking about your (family's) financial situation over the past year, did the payroll tax increase lead you mostly to decrease spending, mostly to decrease saving, or mostly to pay off less debt [or mostly to increase borrowing]?

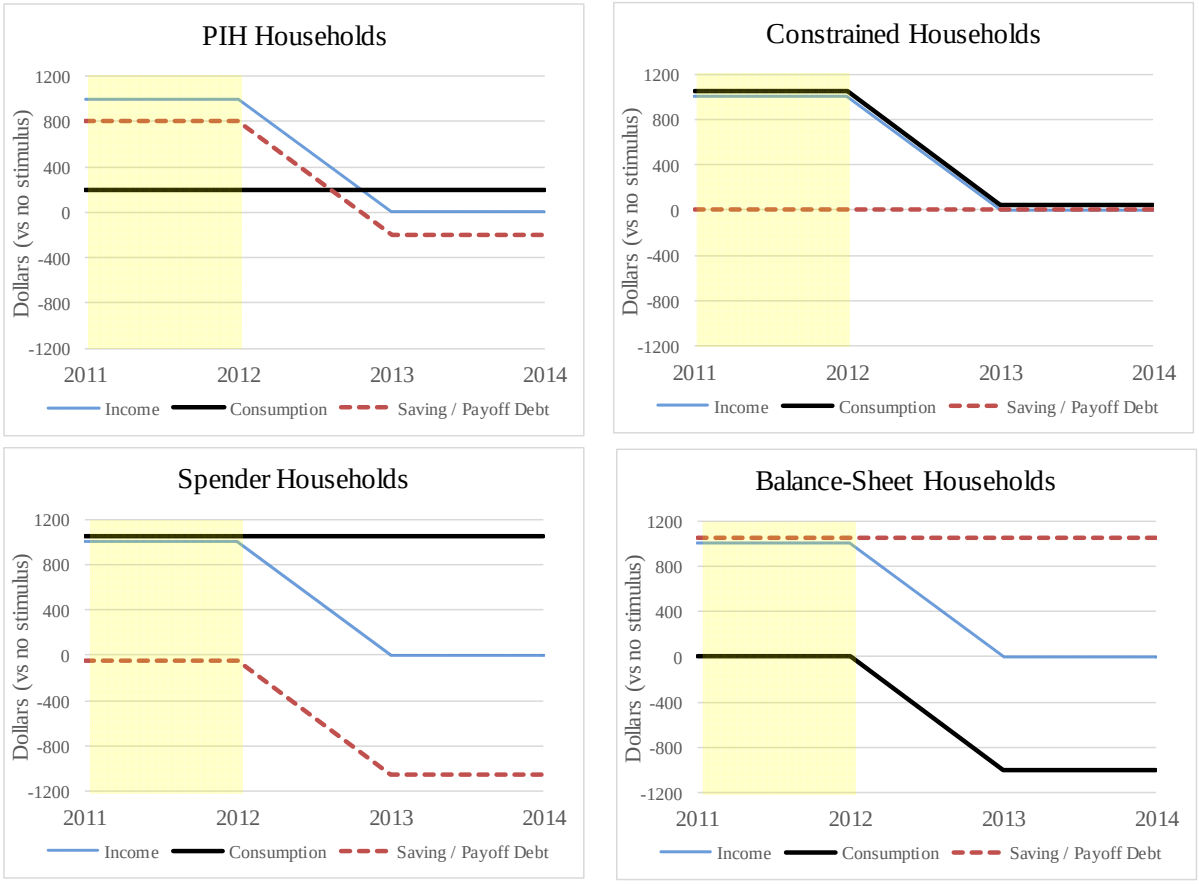
As shown in the final column of Table 1, 43 percent said that the payroll tax increase mostly led to a decrease in spending, 13 percentage points less than the initial response in 2013. Nevertheless, this spending response is still larger in magnitude than what we found in our two surveys about the tax decrease. The difference is statistically different from zero (even with these relatively small samples). In the follow-up survey, 35 percent said the tax increase led them mostly to reduce their saving, and 22 percent took on new debt or increased their borrowing.

We now use the survey module asked in 2013 of Interview Group B to further unpack this unexpected difference in spending responses to tax decreases versus tax increases. Recall that in this survey we have responses from the *same* individuals regarding both the decrease and

the increase in taxes. We assign those households to one of four groups based on their survey responses. Figure 2 provides a stylized example to illustrate the household types. In it, we consider four different households each of which receive a payroll tax cut of $1000 in 2011 and 2012. Notice how in all four charts stimulus income (thin line) is at $1000 for two years before falling to zero. The difference across households is in their response to that income path (relative to the world with no stimulus) in terms of consumption (thick line) and saving / debt repayment (dashed line).

Figure 2: Stimulus Income, Spending, and Saving by Household Types

Example: Payroll Tax Cut of $1000 per Year in 2011 and 2012 (Yellow Shading)



The two groups whose behavior is illustrated in the top row of Figure 2 exhibit familiar behavior, and have been well-studied in the context of stimulus effects. The first group, "PIH" households, mostly increases their saving or pays down debt (dashed line) with the tax decrease and then reduces their saving or debt repayment when taxes increase. Thus their spending (thick line) is little changed over this period. (In this example, we assume that they spend the two-year

tax cut evenly over ten years.) Those in the second group, "constrained" households, spend the tax cut and then reduce spending when it expires; their changes in spending (thick line) exactly equal the changes in income (thin line). This spending response of constrained households to tax-induced income changes is a standard explanation for the macroeconomic effects of temporary stimulus. Note that the behavioral adjustments of both PIH households (saving, dashed line) and constrained households (spending, thick line) households are *symmetric* with respect to the stimulus-induced income changes (thin line).

The bottom row of Figure 2 illustrates the behavior of the groups who exhibit *asymmetric* responses to the introduction and elimination of the payroll tax cut. The third group, which we call "spender" households, increases their spending when taxes are cut and income increased, but then keep their spending high when taxes rise and income returns to its normal level. To maintain the higher spending when the tax cut expires, these households reduce saving or debt repayment. The spender behavior is asymmetric in that they adjust spending when income increases, but then adjust saving or debt repayment when income decreases.

Our results highlight the importance of the "balance-sheet" households who increase their saving or debt repayment with the tax cut, and then reduce spending (rather than reduce saving or debt repayment) when taxes increase. Their asymmetry is that they increase saving or debt repayment when income increases, but decrease spending when income decreases rather than decrease their saving or debt repayment. To distinguish households, we need to observe households' response to the tax cut and to its expiration. That is because the groups on the diagonals are observationally equivalent in the survey question about the payroll tax cut. The behavior at the expiration of the tax cut is essential and provides a richer test of stimulus response than most research which focuses only on the receipt of stimulus.

The top row of Table 2 shows the distribution of these four household types among those affected by payroll tax changes. The PIH households (33%) and constrained households (23%), who exhibit symmetric responses to payroll tax changes, comprise slightly more than half of households.

Table 2: Household Types with Payroll Tax Changes

	PIH Households	Constrained Households	Spender Households	Balance-Sheet Households
Percent of all recipients	33	23	12	32
Response to transitory increase and decrease of income	Symmetric, Never changes spending	Symetrically changes spending	Asymetric, Always spends more	Asymmetrically changes spending
Survey responses of groups:				
Tax decrease response (%)				
Spend more	0	100	100	0
Save more	51	0	0	51
Debt/borrowing less	49	0	0	49
Tax increase response (%)				
Spend less	0	100	0	100
Save less	66	0	69	0
Debt/borrowing more	34	0	31	0

Note: Authors' weighted tabulations of the Michigan survey.

Spender households (12%) are a relatively small group. The balance-sheet households are a sizeable minority (32%)—indeed are just shy of being the largest of the four groups—and suggest that their asymmetric responses looms large in predictions about overall behavior.

The bottom panel of Table 2 maps the survey responses to the payroll tax decrease and the payroll tax increase of each of the four groups. This allows us to look at saving and debt/borrowing adjustments separately. In response to the tax decrease, PIH and balance-sheet households are both about evenly split between paying down debt and increasing saving. In contrast, when taxes increased more than two-thirds of the PIH and spender households reduced their saving and only one-third took on more debt/borrowed, suggesting a widespread aversion to taking on new debt in 2013. And even though half of balance-sheet households mostly saved their tax decrease, they chose to cut their spending rather than draw down that extra savings when taxes increased. This suggests that these households focused on their balance sheets—paying off debt and building up savings —rather than their current spending, in contrast to the standard model of consumption behavior.

To better understand this behavior, after the spend-or-save questions we directly asked those who revealed themselves to be balance-sheet households to explain their "asymmetric" response to the tax decrease and the tax increase. Specifically, we asked the following:

You said that the lower payroll tax in the past two years led you mostly to change your ((borrowing/debt)/saving) and that the payroll tax increase this year will mostly change your spending. Why do you plan to react differently to the tax increase this year than you did to the tax decrease two years ago?

Table 3: Free Response to Payroll Tax Changes

	Balance-Sheet Households (%)
Debt (incl. have more, paid off, or avoid more)	30
Budget/need for saving, retirement saving	16
Spend within means	9
Income less now / higher then	18
Economic conditions worse/more uncertain	4
Personal or family reasons, change in needs	6
Tax increase more noticeable	2
Other (incl. prices higher, no effect, etc.)	5
Don't Know / Not Applicable	10
Number of respondents	170

Note: Authors' weighted tabulations of the Michigan survey.

Table 3 provides a summary of our characterization of the free responses. Consistent with our story, the majority of the balance-sheet households mentioned a desire to reduce or maintain lower debt levels as well as to save more or spend within means. Slightly less than one-fifth of balance-sheet households mentioned they had lower income and higher uncertainty when the payroll tax cut expired in 2013, which could signal that they experienced it as a surprise that led them to cut spending.[3] Note that such an expectation surprise could map to a more standard consumption model, but it apparently explains only a fraction of the balance-sheet behavior. Other, less frequently mentioned, explanations are harder to square with balance-sheet concerns (or in some cases to understand at all), but it does seem that many of these households are focusing on their balance sheets, to the point of targeting balance-sheet outcomes as opposed to consumption.

[3] While negative income surprises may drive some of the balance-sheet behavior, they do not appear to be the main source. In fact, balance-sheet households are somewhat less likely to report below normal income (Table 5).

II. Balance-Sheet Households: Who Are They and How Do They Behave?

In this section, we turn to the question of what characterizes the balance-sheet households. The analysis in this section relies on our 2013 survey of households in Interview Group B—this is the only survey for which we have a response to *both* the tax decrease and the tax increase. We have defined households by their response to the payroll tax changes, but if balance-sheet repair is an important goal, there should be other signs of it. Because the Michigan survey ordinarily has very limited information on assets and debt, we added several new questions to the 2013 survey designed to be helpful for examining their behavior.[4] As we detail below, in terms of demographics and income, the balance-sheet households are quite similar to other households. There are signs that balance-sheet households have weaker financial positions, but they had made improvements in recent years. This behavior is generally consistent with the specific responses they provided about their response to the payroll tax changes.

Who Are Balance-Sheet Households?

Table 4 compares the demographics of balance-sheet households (in the last column) to our other household types (in the three previous columns). In general, the distribution of age, marital status, education, and income is similar across the households. When looking across each row-characteristics in Table 4, the only statistically significant differences between balance-sheet households and other household types relate to education. Constrained households are more likely than balance-sheet households to have a college degree and less likely to have less than a high school degree. In terms of income, there are no significant differences across the four household groups: balance-sheet repair (as well as being constrained) is not confined to low-income households.

[4] From earlier work on the 2008 rebate, the 2009-2011 tax credit, and the onset of the payroll tax cut, we knew that debt repayment was the most common response to receipt of stimulus income. That finding motivated including these questions about debt on the 2013 and 2014 surveys and anticipated the focus on debt in this paper.

Table 4: Demographics

	PIH Households	Constrained Households	Spender Households	Balance-Sheet Households
Age of respondent (%)				
Under 40	34	31	32	32
40 to 49	21	26	18	21
50 to 64	37	35	43	39
65 and over	8	7	7	8
Married (%)	62	69	62	69
Education (%)				
Less than high school	4	**0**	4	3
High school graduate	25	**10**	14	21
Some college	26	30	27	29
College graduate	45	**60**	55	47
Household income (%)				
Under $35,000	22	19	27	21
$35,000 to $75,0000	37	38	24	33
$75,000 and over	40	65	49	47
Number of respondents	171	128	61	169

Note: Authors' weighted tabulations of the April/May 2013 Michigan survey. In each row, a linear regression of the row-characterstic on household type dummies (balance-sheet household ommitted) is used to determine whether prevelance of characteristic differs significantly from balance-sheet households. Differences from balance-sheet households that are statistically significant at the 10% level are in bold.

If we look at the finances, income, and constraints of households shown in Table 5, we see more differences across the household types. Balance-sheet households are the most likely to have had their personal finances improve over the past year, and relative to constrained households this difference is more pronounced. This suggests that balance-sheet households have made some relative progress in repairing their finances. And yet, their housing-related balance sheets are still somewhat worse than the other household types. Balance-sheet households are the least likely not to have a mortgage (only 12%, half the rate of PIH or spender households) and they are the most likely (19%) to have zero or negative equity in their home. Note that 29% of balance-sheet households are renters, so their behavior is not purely a reaction to mortgage debt. Taking the two measures of personal finances together, even though balance-

sheet households made relatively more progress on financial repair during the period of the payroll tax cut, their balance sheets remained weak, so it is not surprising that balance-sheet repair remained a goal through the expiration of the payroll tax cut.

Table 5: Household Finances, Income, and Constraints

	PIH Households	Constrained Households	Spender Households	Balance-Sheet Households
Finances compared to a year ago (%)				
Better	45	**40**	45	51
Same	25	19	26	18
Worse	30	**41**	29	31
Home value vs mortgage (%)				
No mortgage	**24**	18	**28**	12
Positive home equity	36	47	31	40
Zero or negative equity	13	14	**4**	19
Renter	27	21	37	29
Income relative to normal (%)				
High	5	5	**3**	7
Normal	72	60	70	69
Low	23	**35**	28	23
Pay for unexpected expense (%)				
Take money out of savings	52	51	48	56
Use credit or borrowing	28	20	33	24
Cut other spending	19	29	19	20
Access to credit (%)				
Turned down for credit	38	27	**45**	31
Not turned down	**55**	66	**51**	66
Did not apply for credit (vol.)	7	6	5	3
Number of respondents	171	128	61	169

Note: Authors' weighted tabulations of the April/May 2013 Michigan survey. In each row, a linear regression of the row-characterstic on household type dummies (balance-sheet household ommitted) is used to determine whether prevelance of characteristic differs significantly from balance-sheet households. Differences from balance-sheet households that are statistically significant at the 10% level are in bold.

Turning to the three measures of constraints on household spending, balance-sheet households are generally less constrained. Balance-sheet households are the least likely (23%) to have had below-normal income in the past few years, whereas the constrained households are the most likely (35%) to have had below-normal income. Of course, unusually low income is a main reason that we would expect households to be constrained and thus spend the payroll tax cut. We also asked households how they would pay for an unexpected expense, such as a one-time car repair. Here the differences are less pronounced, but constrained households are somewhat more likely to cut their spending to pay for the expense (29%)—a sign of being constrained—than the other household types (19-20%). Finally, with respect to credit constraints, balance-sheet households are the least likely to have been turned down for credit in the past few years (31%) and significantly less than spender households (45%). Taken together, there is no evidence that balance-sheet households are particularly constrained and there is some external support for our assignment of constrained households in that their responses to the payroll tax cut correspond reasonably to other, more general measures of constraints.

How Do Balance-Sheet Households Behave?

A focus on balance-sheet repair should be evident in other behavior, as well. We asked a few additional questions to get a sense of how households' debt and savings had changed over the past few years. First, to households who had any debt (not just mortgages), we asked how their debt had changed over the past few years. The results in Table 6 are imprecise, but the pattern is as one would expect: balance-sheet households were the least likely to report an increase in their debt (22%) and the most likely to report a decline in their debt (40%). Moreover, over the previous few years when the payroll tax cut had been in effect, the changes in debt for balance-sheet and PIH households are more similar to each other than to constrained or spender households.

We also asked households about changes in the savings they had set aside for unexpected expenses:

> Some people keep money in the bank, or maintain other assets, or have lines of credit available as a rainy day fund for unexpected expenses. In the past few years has your family's rainy day fund increased, stayed the same, or decreased?

Balance-sheet households were the least likely to report that rainy day funds had decreased (31%) and the second most likely to report an increase in these funds (31%). The differences across the household types is not as pronounced with the rainy day funds as with debt, but we see some indication of balance-sheet improvement among those who did not spend the payroll tax cut.

Table 6: Change in Total Debt and Rainy Day Funds

	PIH Households	Constrained Households	Spender Households	Balance-Sheet Households
Change in total debt past few years (%)				
Increased	27	27	**43**	22
Same	16	25	16	21
Decreased	35	33	**26**	40
No debt	21	14	16	17
Change in rainy day fund past few years (%)				
Increased	27	32	**13**	31
Same	36	31	32	34
Decreased	36	34	**50**	31
No fund	1	4	5	4
Change in rainy day fund next year (%)				
Increase	48	51	55	49
Same	44	39	37	44
Decrease	8	10	9	8
Number of respondents	172	127	61	169

Note: Authors' weighted tabulations of the April/May 2013 Michigan survey. In each row, a linear regression of the row-characterstic on household type dummies (balance-sheet household ommitted) is used to determine whether prevelance of characteristic differs significantly from balance-sheet households. Differences from balance-sheet households that are statistically significant at the 10% level are in bold.

We also asked households about their plans for the next year:

> Over the next year, do you plan to increase or decrease your rainy day fund, or do you plan it leave it largely unchanged?

There is relatively little variation in the response to this question across our household types. Whereas about a third of households said their rainy day funds had decreased over the past few years, ten percent or less expect their rainy day funds to decrease over the next year. One might have expected the balance-sheet and constrained households—who both said they would cut spending with the payroll tax increase—to have more similar responses to the rainy day changes over the next year.

Multivariate Regression Analysis of Changes in Debt and Saving

We have shown in a univariate framework that our household type characterization is helpful for understanding recent changes in household debt and saving. We now extend this analysis to multivariate regressions that include other household attributes. The goal is both to verify our assignment of household types and to argue that these debt and saving behaviors extend beyond the response to the payroll tax cut.

Table 7 shows the results of OLS regressions that examine the changes in debt and the changes in precautionary savings. In the first two columns, we estimate a linear probability model of a decrease in debt in the past few years. The model in column (1) includes only dummy variables for each of the four household types (with the PIH households omitted) and a constant term. Because the change in debt coincides with the period of the payroll tax cut, we would expect PIH and balance-sheet households to exhibit similar behavior. As expected, balance-sheet households are indistinguishable from PIH households in their debt reduction. In addition, both the constrained and spender households are less likely to have decreased their total debt, although only the latter coefficient is statistically different from zero. In column (2), the regression model adds controls for demographics (age, education, marital status and income) as well as some other household characteristics. The coefficients on the household types are little changed from column (1). Looking at the additional covariates we learn that, households with below-normal income are less likely to have decreased their debt, as are households who would pay for an expected expense by a cut in other spending or borrowing more. The differences by access to credit and home equity are less pronounced.

The next two columns of Table 7 examine the determinants of an increase in rainy-day savings over the previous few years. In column (3) the linear probability model includes only the household types and shows that balance-sheet and constrained households are as likely as

PIH households to have increased their savings. Note this is different than in the first two regressions, when constrained households were less likely to reduce debt, though none of these results is distinguishable from zero. Spender households are again less likely to have increased their spending. In column (4) with additional controls, we see a similar pattern in the household groups as in column (3). The estimated relationships between the other covariates and saving are similar in regression (2). In general, the estimates are limited in precision, but the direction of the relationships is sensible.

The final two columns add prospective savings to the retrospective savings in the middle two columns. Specifically, we estimate a linear probability model of whether a household increased their rainy-day savings in the past few years *and* they expect to increase their savings in the next year. In principle this should capture the balance-sheet household behavior. In column (5) the pattern is quite similar to column (3). The balance-sheet households do not appear to be the most likely to always increase savings, although the spender households are clearly less likely to increase their savings. In column (6) one difference is that households with positive home equity are more likely to always increase their savings.

Table 7: Multivariate Regressions: Change in Total Debt and Rainy Day Funds

	Decreased total debt past few years		Increased rainy day fund past few years		Increased rainy day fund past few years and next year	
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	**44.9**	18.5	**27.1**	**36.2**	**14.9**	9.3
	(4.5)	(24.8)	(3.6)	(17.9)	(3.0)	(11.6)
PIH household	-	-	-	-	-	-
Constrained Household	-6.0	-9.2	6.0	3.2	6.7	3.4
	(6.7)	(6.6)	(5.9)	(5.7)	(5.0)	(4.9)
Spender Household	**-14.5**	**-14.9**	**-13.7**	**-14.3**	**-7.9**	**-9.1**
	(8.0)	(8.1)	(6.0)	(6.3)	(4.5)	(4.7)
Balance-sheet household	3.3	-0.4	5.4	1.5	5.4	1.4
	(6.4)	(6.2)	(5.3)	(5.3)	(4.6)	(4.6)
Demographics	No	Yes	No	Yes	No	Yes
Income higher than normal		11.7		**20.5**		11.0
		(10.6)		(9.9)		(9.1)
Income normal		-		-		-
Income lower than normal		**-10.1**		**-12.3**		**-7.2**
		(5.7)		(4.6)		(3.8)
Use savings for unexpected expense		-		-		-
Cut spending for unexpected expense		**-12.7**		-5.8		-2.7
		(7.0)		(5.4)		(4.7)
Borrow for unexpected expense		**-23.9**		**-13.5**		**-8.6**
		(5.6)		(4.9)		(4.1)
Turned down for credit		-1.9		-3.8		1.6
		(12.9)		(9.2)		(6.9)
Not turned down for credit		3.4		9.0		12.3
		(12.5)		(9.0)		(7.1)
Did not apply for credit		-		-		-
No mortgage		14.3		2.2		6.0
		(9.4)		(6.6)		(5.6)
Positive home equity		3.5		0.6		**10.0**
		(7.7)		(6.5)		(6.0)
Zero or negative home equity		5.5		-2.9		-7.6
		(8.5)		(7.5)		(7.0)
Renter		-		-		-

Note: Demographics include age, income, marital status and education. Linear probability model is weighted. Dash signifies omitted categories. Standard errors are in parenthese. Coefficient estimates statistically different from zero at the 10% level are in bold.

While in standard models decreases in debt and increases in saving are equivalent economic behavior, this may not be the case for all households. To investigate this further, we can divide the balance-sheet households into two groups: those who used the payroll tax cut to pay down debt and those who used it to increase saving. Table 8 repeats the regressions from Table 7, but splits the balance-sheet households in those two groups. As the shaded portions of the table highlight, the debt-focused balance-sheet households were more likely to reduce their debt over the previous few years, and the savings-focused balance-sheet households were the most likely to increase their savings. These results suggest that a focus by some households on balance-sheet repair is real, and is reflected in their other behavior and plans.

Table 8: Multivariate Regressions: Change in Total Debt and Rainy Day Funds, Two Balance-Sheet Households

	Decreased total debt past few years		Increased rainy day fund past few years		Increased rainy day fund past few years and next year	
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	**44.9**	19.3	**27.1**	**36.2**	**14.9**	9.3
	(4.5)	(25.4)	(3.6)	(17.9)	(3.0)	(11.6)
PIH household	-	-	-	-	-	-
Constrained Household	-6.0	-9.7	6.0	3.4	6.7	3.6
	(6.7)	(6.6)	(5.9)	(5.7)	(5.0)	(4.9)
Spender Household	**-14.5**	**-15.0**	**-13.7**	**-14.3**	**-7.9**	**9.1**
	(8.0)	(8.1)	(6.0)	(6.3)	(4.5)	(4.7)
Balance-sheet household:						
i) paid down debt w/ tax cut	9.2	9.9	-6.5	-5.5	-1.9	-2.4
	(7.7)	(7.5)	(6.1)	(5.6)	(5.2)	(4.9)
ii) increased saving w/ tax cut	-2.7	-11.2	**17.3**	8.6	**12.6**	5.2
	(7.7)	(7.5)	(6.8)	(7.2)	(6.1)	(6.4)
Demographics, other covariates	No	Yes	No	Yes	No	Yes

Note: Linear probability regressions include the same covariates as in Table 7.

Possible Explanations for Balance-Sheet Behavior

In this section we have provided information on characteristics of the balance-sheet households and tried to show that there is evidence of balance-sheet repair beyond their reaction to the payroll tax changes. The goal of balance-sheet repair can make sense in the context of negative equity, poor credit, or a desire for more liquidity, but it is seldom a part of an analysis of fiscal stimulus that focuses on consumption. All else equal, standard models of consumption would imply an equal and opposite response to an increase in income as to a decrease in income of the same size and expected duration. If a boost to after-tax income leads to more spending, a

cut in income should generate less spending; if a boost leaves spending essentially unchanged, so should a drop in income. In the most extreme example, a simultaneous one-time transfer and one-time exaction nets to zero and would have no effect on behavior at all.

Of course, the "all else equal" assumption might not hold. For instance, conditions may have changed between 2011 and 2013 in a way that explains the larger pullback in spending in 2013. For instance, if on average households were more liquidity-constrained at the time of the 2013 survey than in the prior two years, then they may have boosted their spending little when they got the income, but then had to reduce their spending more when the extra income was taken away. We will examine this possibility directly but, given the ongoing economic recovery from 2011 to 2013, this seems unlikely to explain the apparent increasing spending sensitivity to income.

Alternatively, households may have been surprised by the expiration of the payroll tax cut and sharply reduced their spending in response. They may have believed (erroneously) that the payroll tax cut was permanent—after all, there had been some kind of stimulus plan that increased disposable income for five years running—and thus had to sharply curtail spending upon a largely unexpected increase in payroll taxes. The problem with this story is that the households who said they had heard about the payroll tax increase before the survey were actually *more* likely to reduce their spending in response than households who had not heard about the tax change, which is inconsistent with the expectations hypothesis.[5]

The explanation we favor is that over the entire period of the payroll tax cut and even after its expiration, many households were focused on repairing their balance sheets and thus, on the margin, prioritized managing their debt and savings level over their flow of spending. Under this scenario, additional income went to saving or debt repayment and, when that income was removed, households were resolved to maintain their improved balance sheet by mostly cutting spending in line with the lower income. While these priorities sound plausible given the pervasive negative shocks to permanent income and wealth in the recession, the behavior is at odds with even precautionary saving models because households are not smoothing their consumption.

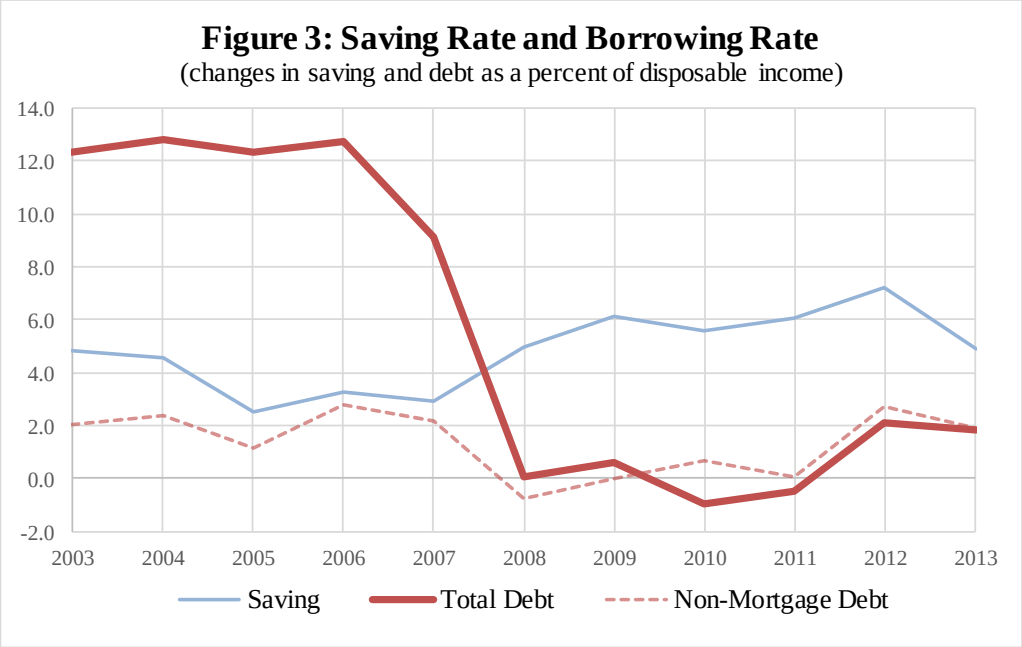
[5] In the 2013 survey 73 percent of respondents said they had heard about the expiration of the payroll tax cut before taking the survey. Yet, 58 percent of those who had heard previously about payroll tax increase said they would mostly cut their spending in response, *more* than the 48 percent of those who had not heard about the payroll tax increase prior to the survey.

III. Implications for Policy and Modelling Consumer Behavior

Our surveys concerning household response to the payroll tax cut and its expiration suggest that one-third of households were focused on balance-sheet repair rather than consumption. In this section, we examine the aggregate changes in debt and saving over this period as a way to shed light on the role of balance-sheet repair. In addition, we show with simulations from an error-correction model that consumer spending grew less than expected over this period, a pattern that could reflect a drag from pervasive balance-sheet repair. We then use the survey responses to estimate macroeconomic stimulus effects of the payroll tax cut on consumer spending. By comparing these estimates to the stimulus effects from the standard model, we see that the biggest difference arises when the payroll tax cut expires. Including the asymmetric responses of balance-sheet households in the stimulus effects may help explain some of the additional, unexpected weakness in spending in 2013. More broadly, widespread attention to balance-sheet repair could have been a drag on spending throughout this period.

Aggregate evidence of balance sheet repair

As a check on our survey responses that point to balance-sheet repair, we first examine aggregate statistics on the change in debt and saving as a percent of disposable income, shown in Figure 3. The personal saving rate (the thin line) moved up in the recession and remained elevated through 2013. Meanwhile, the change in household debt relative to income (the thick solid line) fell sharply after 2006, and was close to zero through 2011. The drop in the borrowing rate largely reflects changes in mortgage debt, but non-mortgage borrowing also declined. Taken together, the period of the payroll tax cut as well as the earlier stimulus programs coincides with more saving and less borrowing by households. The aggregate statistics are consistent with the idea that households were in fact improving their balance sheet during the payroll tax changes.



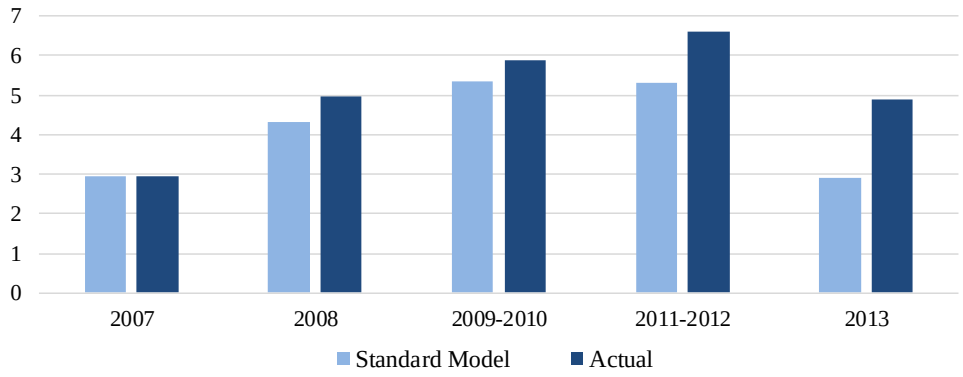
Note: Authors' tabulation of personal saving and disposable income from the Bureau of Economic Analysis and debt from the Financial Accounts of the United States.

Given the severity of the recession it is not surprising that the saving rate rose sharply and the borrowing rate fell. The rise in unemployment, decline in net worth, and deterioration in household expectations would have suggested a similar pattern without appealing to balance-sheet repair. And yet, even after taking into account the adverse conditions facing households, the post-recession recovery in consumer spending was unusually slow. One way to see this is through the lens of a standard consumption forecasting model. The model we examine—and is similar to some the consumption models used at the Federal Reserve Board—conditions on the actual path of income, wealth, short-term interest rates, unemployment, consumer sentiment, and credit supply since the recession and predicts the saving rate (the light bars in figure 4).[6] Figure 4 shows that the predicted saving rate from this model does indeed jump in the recession, but the

[6] The model is an error-correction model of quarterly real consumer spending, similar to Davis and Palumbo (2001). The target equation for the level of consumption includes net wealth and transfers, all normalized by disposable income. The dynamic equation of the change in log consumption includes the lagged change log consumption, the lagged log gap in consumption from its target, the log change in disposable income, the real Fed Funds rate, the change in the unemployment rate, consumer sentiment from the Michigan survey, and net willingness to make consumer installment loans from the SLOOS. The model is estimated through 2012:Q4 and the simulation begins in 2008:1.

increase is less than the increase in the actual saving rate (the dark bars). Early in the recession and recovery the gap is only ½ percentage point; however, as the recovery progresses, the model saving rate falls noticeably faster than the actual saving rate. In 2013—the year after the payroll tax expired—the actual saving rates is 2 percentage points higher than the model's prediction. There are many possible reasons for the unexpected weakness in spending over this period. The behavior of "balance-sheet households" could, we argue, be helpful in explaining the discrepancy.

Figure 4: Personal Saving Rate, Predicted and Actual 2007-2013
(average rate in period, percentage point)



Note: Author's tabulation of the personal saving rate from the Bureau of Economic Analysis and simulation of an error-correction forecasting model. (See footnote 6 for the model description.)

Estimated Impact of Balance-Sheet Households on Macro Stimulus Effects

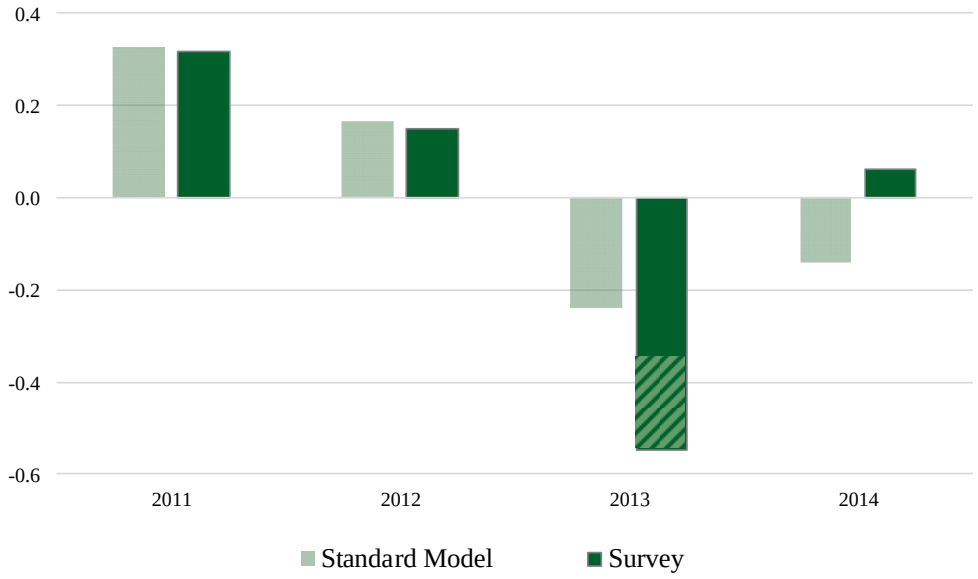
Next we turn to the question of how balance-sheet households might have altered the standard assumptions about the stimulus effects from the payroll tax cut. The light bars in Figure 5 represent the estimated impact of the payroll tax cut—via disposable income—in the standard model in Figure 4. The dark bars are estimates based on the survey responses. Note that our survey asks whether an individual "mostly" changes spending in response to the payroll tax changes and not for their marginal propensity to consume. To derive an aggregate MPC from the survey responses, we use the procedure as developed in Shapiro and Slemrod (2003b). These calculated aggregate MPCs tend to be somewhat higher than the percent of households who said

they would mostly spend to account for the fact that those who mostly save the tax cut probably do *some* additional spending.

During the tax cut period, the standard model and our survey responses suggest a similar boost to aggregate spending The payroll tax cut boosted Q4/Q4 real PCE growth by 1/3 percentage point in 2011 and by another 1/4 percentage point in 2012. In total, both the survey and the standard model suggest that the payroll tax cut boosted the level of spending by 1/2 percentage point by the end of 2012.

In contrast, the two approaches provide very different forecasts when the payroll cut expires. In 2013, the survey estimates suggest a drag on spending growth that is twice the size of the standard model. The asymmetric behavior of balance-sheet households implies that the end of stimulus would lead to a sharper correction in spending. In fact, if balance-sheet households had also mimicked the behavior of permanent-income households at the expiration of the payroll tax cut, the survey responses would have suggested a drag on spending growth in 2013 of only 1/4 percentage point, in line with the standard model. The striped portion of the "survey" bar of Figure 5 in 2013 is shaded to show the contribution of balance-sheet households. This exercise illustrates how balance-sheet households can introduce unexpected weakness in spending and, more broadly, how consideration of balance-sheet repair may help us to understand why the post-recession recovery was initially so slow.

Figure 5: Impact of Payroll Tax Cut on Real PCE Growth
(percentage point, annual rate)



Note: For the survey response in 2013, the total height of the bar reflects the stated responses. The striped part of the bar shows the contribution of balance-sheet household not responding symmetrically to the payroll tax increase as the PIH households do.

V. Discussion

As with all survey data, the responses we analyze about the stimulus are noisy and inference, in particular mapping them to the marginal propensity to consume, is difficult. Nevertheless, we maintain there is considerable information in these survey data relevant to understanding actual behavior. This is evident in how many of the liquidity and balance-sheet measures and free-response questions are consistent with the responses to payroll tax changes. We are also given confidence by the fact that Parker et al (2013) fielded similar mostly-spend questions on the Consumer Expenditure survey, and found that those households who said they mostly spent the rebate did in fact on average have higher indirect measures of stimulus spending.[7] As in the analysis of Italian survey data by Jappelli and Pistaferri (2014), our constrained households are the most likely to spend the temporary boost to income. Our finding that balance-sheet households were less likely to boost their spending from the payroll tax cut is,

[7] Parker et al (2013) analysis also showed that households who said they would mostly pay down debt or mostly save also spent some of the stimulus according to the standard CE measures. See the slides: http://japarker.scripts.mit.edu/docs/PSJMTaxReb20081bChiFed.pdf

however, at odds with the results reported in Misra and Surico (2014) regarding the 2001 and 2008 stimulus payments. However, both of those studies focus only on the receipt of stimulus, and not on its expiration.

Others have observed an asymmetry as part of the response to stimulus. The analysis of the payroll tax cut and expiration using the American Life Panel by Zafar et al. (2013) also documented a larger expected cut back in spending when payroll taxes increased than the boost to spending when payroll taxes decreased. From their survey in February 2013, they conjectured that this asymmetry may partly reflect a difference between individuals' predicted and actual behavior. Our follow-up study a year after the expiration of the payroll tax cut in 2014 shows, however, that the asymmetry did persist, although smaller in size than the initial responses. In all the studies of the payroll tax changes one might be concerned about other factors changing over time and generating the asymmetry. Bracha and Cooper (2014) address this concern by studying the response to the payroll tax cut expiration and a nearly contemporaneous tax refund receipt. They also observe an asymmetry to income increases and income decreases that occurred at the same time, though their survey was limited to low-income households in Boston. Thus, the behavior of balance-sheet households that we have identified in the Michigan survey appears to be a pervasive phenomenon—one that is not limited to the recent changes in payroll taxes or an artifact of our survey instrument. Consumer spending grew less in the past few years than standard aggregate models of consumption, such as those used at the Federal Reserve Board, predict—this shortfall may be due in part to the focus of some households on reducing their debt—as it relates to the use of stimulus or more broadly.

VI. Conclusion

We identify a group of households, whom we call balance-sheet households, whose spending response to the recent payroll tax changes is asymmetric: they mostly save stimulus payments but mostly reduce spending when stimulus is rescinded. Our analysis builds on earlier stimulus research that studies the consumer spending response to increases in disposable income, but are among the first to examine simultaneously the household response to the expiration of stimulus and a decrease in disposable income. Our ability to sort households into groups based on their responses to two tax changes underscores a fact that has been in the background of our

earlier work—there is systematic variation across households in their response to stimulus. We find evidence of constrained households, whose behavior underlies the conventional wisdom for stimulus effect. Our important new finding is the preponderance of balance-sheet households—those who refrained from mostly spending after the due to the payroll tax cut but who did not mostly spend when the tax cut was eliminated. This asymmetric behavior cannot be explained by standard consumption models, and suggests a larger-than-expected pullback in spending at the end of the stimulus programs. To the extent that fiscal stimulus is aimed at boosting spending in the near term, the behavior of balance-sheet households likely reduces the effectiveness of stimulus. In addition, the non-trivial presence of balance-sheet households may be part of the explanation for the slow post-2013 recovery in consumer spending (Dynan 2012). These results fit well with other empirical evidence of "deleveraging" by households during the recovery, and may suggest the need for a richer model of how indebted households behave.

The behavior of balance-sheet households is admittedly hard to reconcile with standard economic theories concerning the determinants of consumption. Even if managing debt is a separate motive apart from standard intertemporal consumption smoothing, we are not aware of a model the delivers the asymmetric response of spending to an increase and a decrease in income. Nonetheless, this paper delivers significant evidence—from the stated behavior of survey respondents, from the fact that these stated responses predict their saving, and from how the survey evidence largely explains the anomalous drop in consumption after the expiration of payroll tax cut—that such behavior needs to be taken seriously. Hence, our finding suggest that it is important to develop models where consumers have a distinct balance-sheet motive.

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APPENDIX

A. Survey Question Wording

Framing of the Questions

One might be concerned that the survey responses are sensitive to the framing of the question. To address this issue, in our 2013 and 2014 surveys we experimented with how we worded the debt option. For example, when asking about the increase in taxes, we randomized the third response choice to be either "mostly to pay off less debt" or "mostly to increase borrowing." Table 3 first shows the percent of respondents who adjusted their debt or borrowing according the question option. In the case of the tax decrease, respondents are 10 percentage points less likely to choose "decrease borrowing" than "pay off debt;" the bottom part of the table shows much of this difference is reflected in the percent of households who increase their spending. This also implies that some of the increase in the spend rate between the initial and the follow-up surveys in Table 1 is driven by using the borrowing wording option in the follow-up interview. When we turn to the tax increase, we see households are much less likely to say that "increased borrowing" than "pay off less debt." Again, those who were given the borrowing option were much more likely to report that they adjusted their spending than those who had the debt option. There is clearly some sensitivity to framing the question in terms of the stock or flow of debt; however, the asymmetry in the responses to tax changes in present regardless of which wording is used.

Table A1: Responses to Payroll Tax Changes by Question Options

	Tax Decrease		Tax Increase	
	Initial	Follow-up	Initial	Follow-up
Percent who mostly adjust:				
Debt/Borrowing				
w/ debt option	50	37	25	31
w/ borrowing option	-	27	5	14
Spending				
w/ debt option	14	31	50	35
w/ borrowing option	-	38	61	50

Note: Authors' weighted tabulations of the Michigan survey. The question version (debt or borrowing option) was randomly assigned and the same within a survey.

B. Questionnaire

April 2013 and May 2013

Note: Alternate wording discussed in Appendix A is in brackets.

Q1. Are you (or your spouse) doing any work for pay at the present time?

If Q1 = no then skip to end

Q2. In January of this year, a two-year cut in the payroll tax expired. For most households, other Federal income tax rates remain unchanged. Payroll taxes will increase by two percent of earnings, and take-home pay will decrease. The exact increase in payroll taxes and decrease in take-home pay this year will depend on the amount of earnings. For example, for someone earning forty thousand dollars a year, the payroll tax increase will be eight hundred dollars for the year, resulting in a decrease in take-home pay of sixty-six dollars per month. Each earner in a household will be subject to this tax increase.

Thinking about your (family's) financial situation this year, will this payroll tax increase lead you mostly to decrease spending, mostly to decrease saving, or mostly to pay off less debt [mostly to increase borrowing]?

Q3. As a result of this change in the tax law, has your employer (or your spouse's employer) increased your payroll taxes?

Q4. Had you heard any information about this payroll tax increase before taking part in this survey?

Q5. Now I would like you to think about the payroll tax cut that just expired. Thinking about your (family's) financial situation in the past two years, when the payroll tax was lower, did the payroll tax cut lead you mostly to increase spending, mostly to increase saving, or mostly to pay off debt [mostly to decrease borrowing]?

If Q2 = debt/saving/borrowing & Q5=spending then ask Q6

Q6. You said that the lower payroll tax in the past two years led you mostly to change your ((borrowing/debt)/saving) and that the payroll tax increase this year will mostly change your spending. Why do you plan to react differently to the tax increase this year than you did to the tax decrease two years ago? (Any other reasons?)

If Q2 = spending & Q5= debt/saving/borrowing then ask Q7

Q7. You said that the lower payroll tax in the past two years led you mostly to change your spending and that the payroll tax increase this year will mostly change your ((borrowing/debt)/saving). Why do you plan to react differently to the tax increase this year than you did to the tax decrease two years ago? (Any other reasons?)

Q8. If (you/your family) had an unexpected expense, such as a one-time car repair, would you pay for it mostly by taking money out of savings, mostly by cutting back on other spending, or mostly by using credit or borrowing?

Q9. Please tell me if any of the following happened to you (or your (husband/wife)) in the past few years -- you were turned down for credit, you were not given as much credit as you applied for, or you put off applying for credit because you thought you might be turned down?

If not homeowner skip to Q12

Q10. Do you have a mortgage, a home equity loan, or a home equity line of credit?

Q11. Now we would like you to think about the current market value of your home and compare it to the total still owed on your mortgage, home equity loans and lines of credit. Would you say that your home is worth much more, somewhat more, the same, somewhat less, or much less than the total amount still owed on your mortgage, home equity loans, and home equity lines?

Q12. Do you have any (other) debts, such as credit card debt, student loans, or auto loans?

If no debt skip to Q14

Q13. In the past few years has the total amount of your (family's) debt increased, stayed the same, or decreased?

Q14. In the past few years has your (family) income been high or low compared to what you would expect in a normal year, or has it been normal?

Q15. Some people keep money in the bank, or maintain other assets, or have lines of credit available as a rainy day fund for unexpected expenses. In the past few years has your (family's) rainy day fund increased, stayed the same, or decreased?

Q16. Over the next year, do you plan to increase or decrease your rainy day fund, or do you plan to leave it largely unchanged?

Q17. Over the next year, do you plan to set up a rainy day fund for unexpected expenses?