

Consumption and the Great Recession

Mariacristina De Nardi, Eric French, and David Benson

Introduction and summary

The Great Recession of 2008–09 was characterized by the most severe year-over-year decline in consumption the United States had experienced since 1945. The consumption slump was both deep and long lived. It took almost 12 quarters for total real personal consumption expenditures (PCE) to go back to its level at the previous peak (2007:Q4).

In this article, we document key facts about aggregate consumption and its subcomponents over time and look at the behavior of important determinants of consumption, such as consumers' expectations about their future income and changes in consumers' wealth positions related to house prices and stock valuations. Then, we use a simple permanent-income model to determine whether the observed drop in consumption can be explained by these observed drops in wealth and income expectations.

We begin our data analysis by using macroeconomic data to study the behavior of consumption and its subcomponents. We then use microeconomic data from the *Reuters/University of Michigan Surveys of Consumers*¹ to study nominal expected income growth and inflationary expectations.

Our main findings from the macrodata are the following. First, the Great Recession marked the most severe and persistent decline in aggregate consumption since World War II. All subcomponents of consumption declined during this period. However, the large drop in services consumption stands out most, relative to previous recessions. Second, while the decline was historic, the trends in consumption and its subcomponents leading up the recession were not substantially different from past recessionary periods. Third, the recovery path of consumption following the Great Recession has been uncharacteristically weak. It took nearly three years for total consumption to return to its level just prior to the recession. In contrast,

the second-worst rebound observed in the data followed the 1974 recession and lasted just over one year. We find that this persistence is reflected most in the sub-components of nondurables and especially in services.

Our main findings from the analysis of the micro-data are as follows. First, expected nominal income growth declined significantly during the Great Recession. This is the worst drop ever observed in these data, and this measure has not yet fully recovered to pre-recession levels. Second, the decline exists for all age groups,

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ISSN 0164-0682

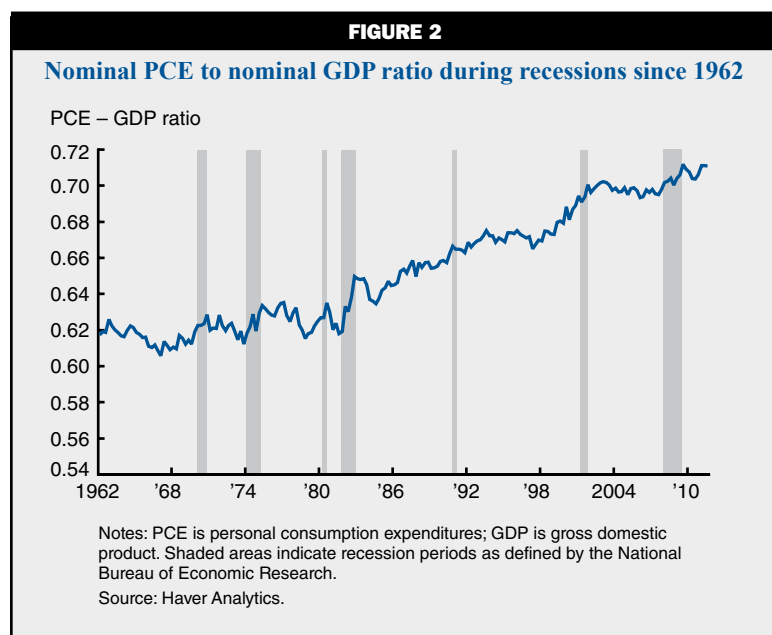
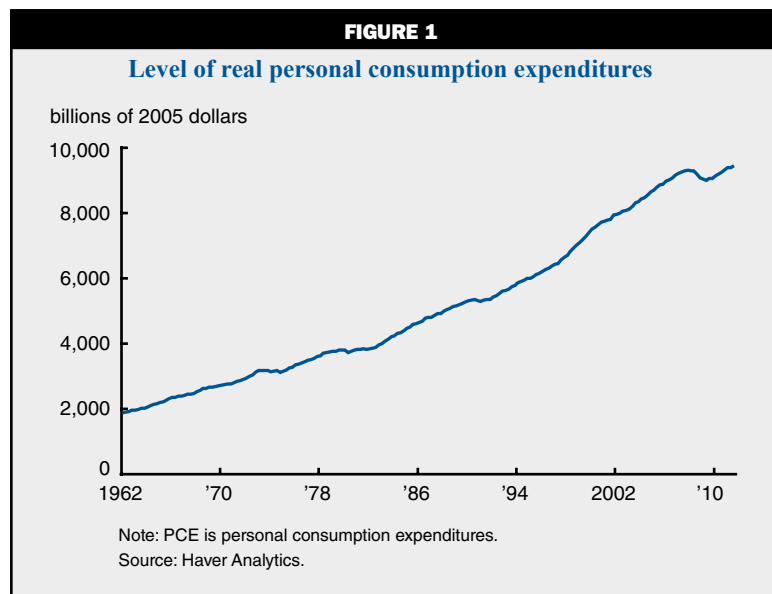
education levels, and income quintiles. Relative to previous recessions, those with higher levels of income and education are more pessimistic coming out of this recession than their poorer and less-educated counterparts. Third, expectations for real income growth have also declined, and the decline in expected real income growth is more severe when personal inflation expectations are used instead of actual Consumer Price Index (CPI) inflation. Fourth, expected income growth is a strong predictor of actual future income growth. Since expected income growth is a very important determinant of consumption decisions, the observed drop in expected income has the potential to explain at least part of the observed decline in consumption.

In the context of a simple permanent-income model, we find that the negative wealth effect (coming from decreased stock market valuations and housing prices) and consumers' decreased income expectations were big factors in determining the observed consumption drop. In fact, we find that in this model, the observed drops in wealth and income expectations can explain the observed drop in consumption in its entirety, depending on what we assume about future income growth beyond the time horizon covered by the *Reuters/University of Michigan Surveys of Consumers* data set.

Reinhart and Rogoff (2009) have stressed the similarities between the current financial crisis and many earlier ones stretching across centuries, continents, and economies. These crises entailed large declines in real housing prices, equity collapses, and profound declines in output and employment. They emphasize the importance of balance sheet repair. We complement their research by emphasizing the role played by consumers' income expectations, as well as wealth effects.

Macrodata: Total real PCE

Figure 1 displays the level of real PCE from 1962 to 2011:Q3. Even over this long horizon, the chart



shows a flattening out of the consumption growth rate in 2008–09. The fact that this pattern is clearly visible, even over a period of almost 50 years, highlights the severity and persistence of the Great Recession and the very slow recovery that is following it.

Figure 2 shows that consumption growth outpaced gross domestic product (GDP) growth through past recessionary periods. The nominal PCE–GDP ratio has increased in each recession since 1962. In contrast, during the Great Recession, it increased more modestly. Since the latest recession, this ratio has either fallen or stagnated. Thus, as a share of GDP, consumption

has been hit harder than in previous recessions.

Petev, Pistaferri, and Eksten (2011) document that while real per capita consumption declined monotonically until the middle of 2009, real per capita disposable income was relatively stable and its decline was significantly smaller. This stability in per capita income is explained entirely by a strong increase in government transfers to households, as wages and financial income fell. The increase in government transfers was partly due to higher take-up rates for unemployment insurance and food stamps and partly due to the increased generosity of means-tested programs enacted by the federal government (such as extended unemployment benefits and increases in food stamps and emergency cash assistance). Given that these transfers are means tested, they primarily help poorer households. Consistent with this finding, we find that in the *Reuters/University of Michigan Surveys of Consumers*, the drop in income expectations for the next 12 months among poor households was smaller than that among all other households.

Figure 3 compares the time path of real PCE over several recessionary time periods, where the level of PCE is normalized to 1 at the business cycle peak (as defined by the National Bureau of Economic Research, NBER) prior to each recession. The NBER dates for the recessions' peaks are 1973:Q4, 1980:Q1, 1981:Q3, 1990:Q3, 2001:Q1, and 2007:Q4.

Figure 3 highlights that in the 2008–09 recession, consumption dropped 3.4 percent from peak to trough (six quarters after the peak) and was slow to increase afterward.

This pattern contrasts with every other recession since 1974. During all previous recessionary periods, consumption either fell only modestly or increased following the peak.

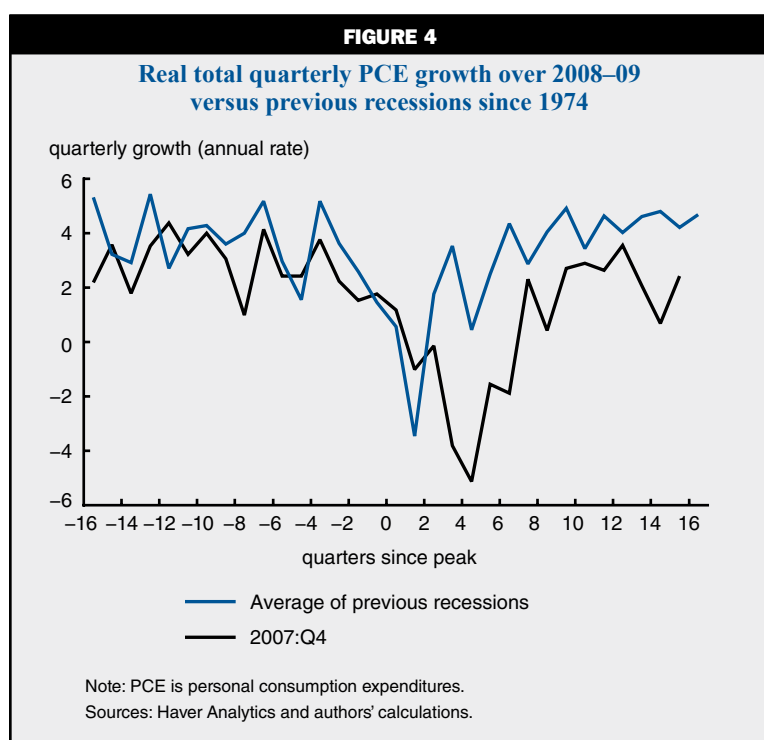
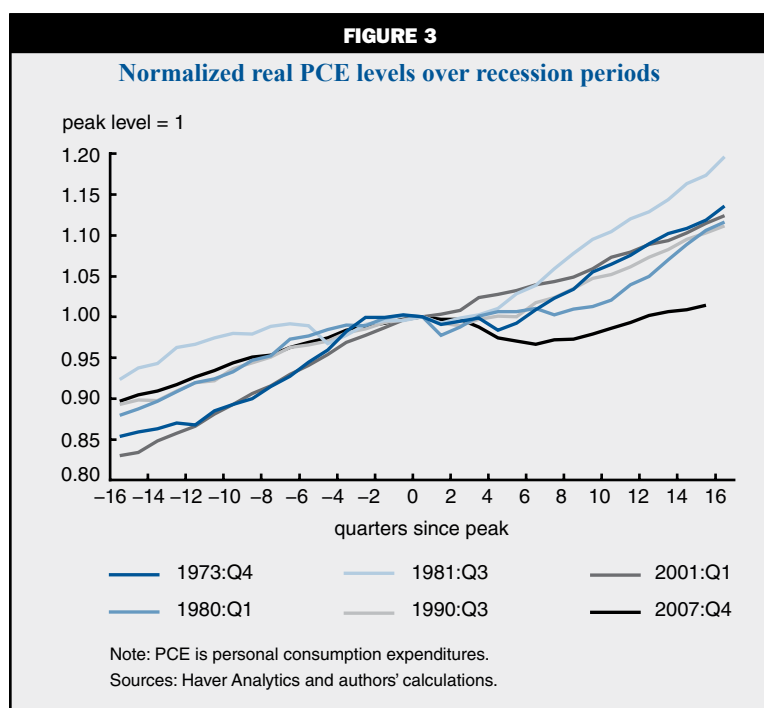


Figure 4 displays the time path of the real PCE growth rate for the 2008–09 recession around the NBER peak and compares it with the average real PCE growth rates from all other recessions since 1971. This graph shows that the average real PCE growth

rate around the 2008–09 recession was significantly lower than the corresponding average over the previous five recessions. Consumption has grown 4.1 percent in total over the past five years, or an average rate of 0.8 percent per year. This consumption growth rate contrasts sharply with its average rate since 1971 of 3.1 percent, adding up to about 15 percent growth over an average five-year period. Thus, consumption expenditures are about $15\% - 4\% = 11\%$ below what they would have been had they grown at their historical averages from 2007:Q4 onward.

All subcomponents of PCE fell during the Great Recession. Durables growth was somewhat weaker than in the previous five recessionary periods, both in terms of average growth rate and pattern of recovery. However, nondurables, and especially services, were the most depressed compared with previous recessions.

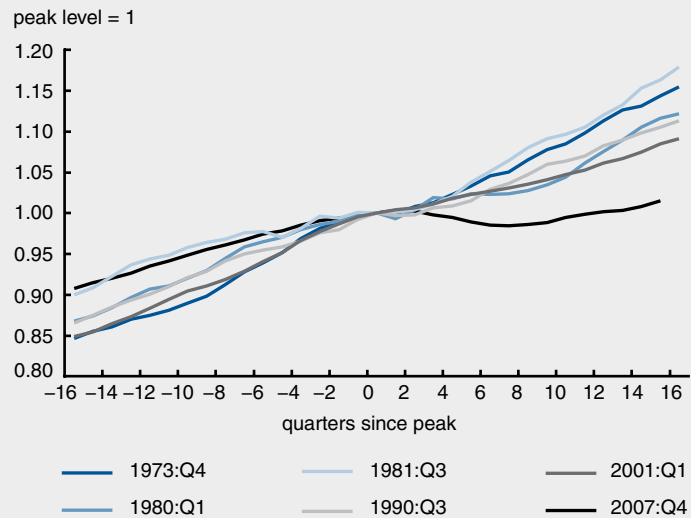
Macrodata: Total real PCE services

Figure 5 highlights that the behavior of PCE services was starkly different over the 2008–09 recession from all other recessions since 1974. In all other recessions, PCE services grew both before and after the peak, while during the latest recession, it stagnated starting two quarters after the peak (four quarters before the trough) and kept stagnating for four additional quarters afterward. PCE services took until 2010:Q4 to return to peak levels.

Regarding the main services subcomponents, Petev, Pistaferri, and Eksten (2011) document that spending on health services increased, held stable for housing and utilities, but declined substantially for services related to transportation, food, and recreation. In sum, the most adjustable services dropped, while those components that the consumer has little discretion to adjust did not.

FIGURE 5

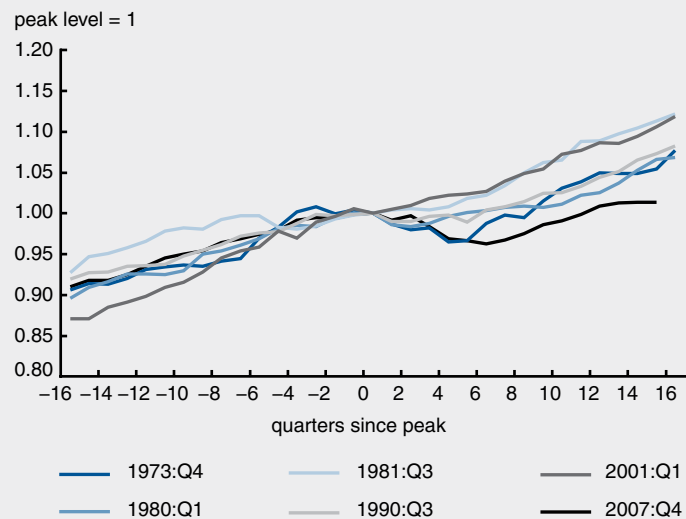
Normalized real PCE services over several recessions



Notes: PCE is personal consumption expenditures. For each recession, the level of PCE services is normalized to 1 at the business cycle peak (as defined by the National Bureau of Economic Research) prior to the recession.
Sources: Haver Analytics and authors' calculations.

FIGURE 6

Normalized real nondurables PCE over several recessions



Notes: PCE is personal consumption expenditures. For each recession, the level of nondurables PCE is normalized to 1 at the business cycle peak (as defined by the National Bureau of Economic Research) prior to the recession.
Sources: Haver Analytics and authors' calculations.

Macrodata: Total real nondurables PCE

We can see from figure 6 that the rise in PCE nondurables was similar to that experienced in most other recessions before the peak, but its recovery path

in the latest recession was among the worst.

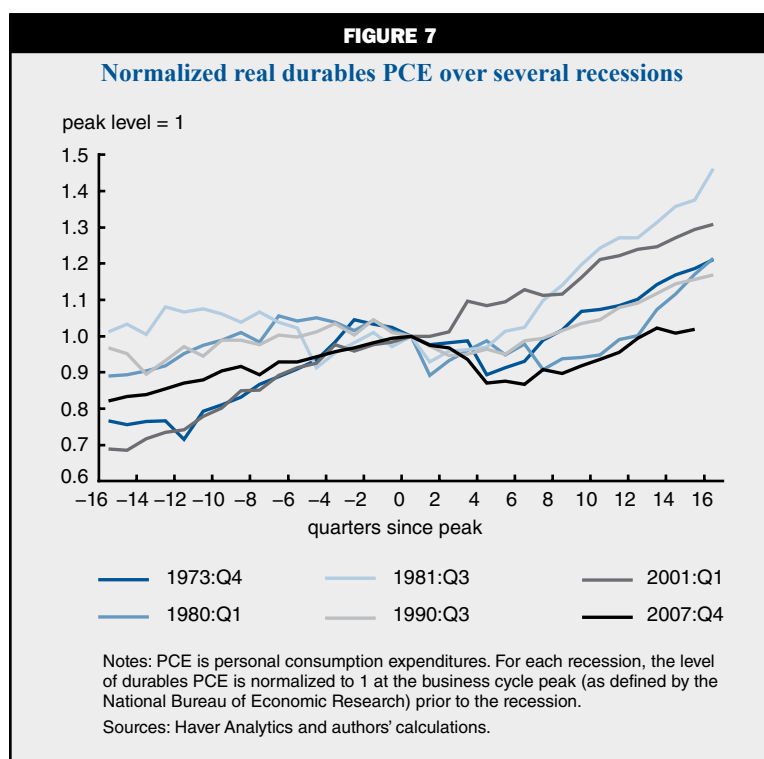
Petev, Pistaferri, and Eksten (2011) document an unusual decline in spending on food, an important indicator of consumer well-being, which raises concerns about the extent and depth of the strains on households during the latest recession. An interesting new paper by Aguiar, Hurst, and Karabarbounis (2011), however, documents that during the most recent recession, a significant fraction of foregone market work hours went to home production (based on diary information)—35 percent, including childcare. This is an important channel that could produce more goods (such as food) and services (such as childcare) at a lower cost. More research is needed to determine if home production could completely explain the observed decline in food spending.

Macrodata: Total real PCE durables

Figure 7 displays a large drop for durables over the most recent recession. Five to six quarters after the peak, this recession actually displayed the largest drop in durables, compared with the previous five recessions. In addition, the pace of recovery in durables was slow—it took 12 quarters for durables to regain the previous peak level.

Petev, Pistaferri, and Eksten (2011) document that the bulk of the decline in real per capita spending is attributable to purchases of cars (a 25 percent decline by the end of 2008) and partly of furniture (a 9 percent decline).

To summarize, our main findings from the macrodata are as follows. First, the Great Recession marked the most severe and persistent decline in aggregate consumption since World War II. All subcomponents of consumption declined during this period. However, we find that the significant drop in consumed services stands out most, compared with previous recessions. Second, while the decline was historic, the time path of consumption and its subcomponents leading up to the recession was not substantially different from past recessionary periods. Third, the recovery path of consumption following the Great Recession has been uncharacteristically weak. It took nearly three years for total consumption to return to its level just prior



to the recession. In contrast, the second-worst rebound observed in the data followed the 1974 recession and was just over one year. We find that this persistence is reflected most in the subcomponents of nondurables and especially in services consumption.

Microdata: Expected income

This section uses consumer expectations for future income from the *Reuters/University of Michigan Surveys of Consumers*, both in nominal and real terms, to see whether shocks to expected future income are contributing to the consumption dip that we have experienced. The survey asks two questions to identify the magnitude and sign of income changes.

1. “During the next 12 months, do you expect your income to be higher or lower than during the past year?”
2. “By about what percent do you expect your income to (increase/decrease) during the next 12 months?”

The resulting index of expected income growth ranges widely across individuals, but on average, the estimates tend to accord with what we might have anticipated ex ante. The historical mean is +5.5 percent, split between +4.8 percent during recessions and +5.6 percent during expansions. While the realized

measure is much more variable, figure 8 shows that expected nominal disposable income tracks realized income quite well.

The survey also asks about expected *changes* in the price level over the next 12 months. Historically, this survey estimate has been very similar to realized CPI inflation. We construct expected real income growth by subtracting each individual's inflation expectations from his expected nominal income growth.

We construct time series from the microdata. For each month of the survey, we take cross-sectional means within each demographic group and then aggregate to quarterly frequency to minimize noise. The data begin in 1978 and go through the first half of 2011, though some series only go back to 1990. Thus, we typically have five recessionary periods to examine.

Microdata: Nominal income growth expectations

Except for the Great Recession and the 1980 recession, income expectations show a downward trend for up to four quarters around the NBER peak, but then stabilize and actually rise by the end of our four-year window (see figure 9). For both the 1980 and most recent recession, we observe larger and more prolonged dips before and after the NBER business cycle peak. Besides the abnormal drop, both in terms of size and duration, the recovery periods also stand out for their length and sluggishness. Even well after ten quarters from the peak, expected nominal income growth was still well below its pre-recessionary level. It should be noted that the most recent recession is the only one during which nominal income expectations reached negative growth rates. In all of the previous recessions that we study, even when nominal income growth rates went down, they stayed well above 4 percent. Of course, inflation has been lower during the most recent recession. We discuss real income patterns in the next section.

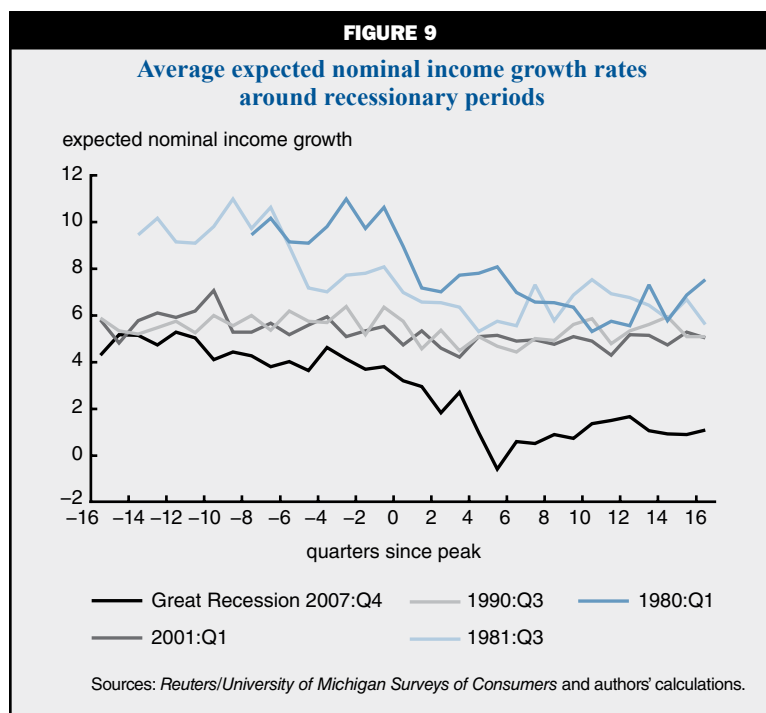
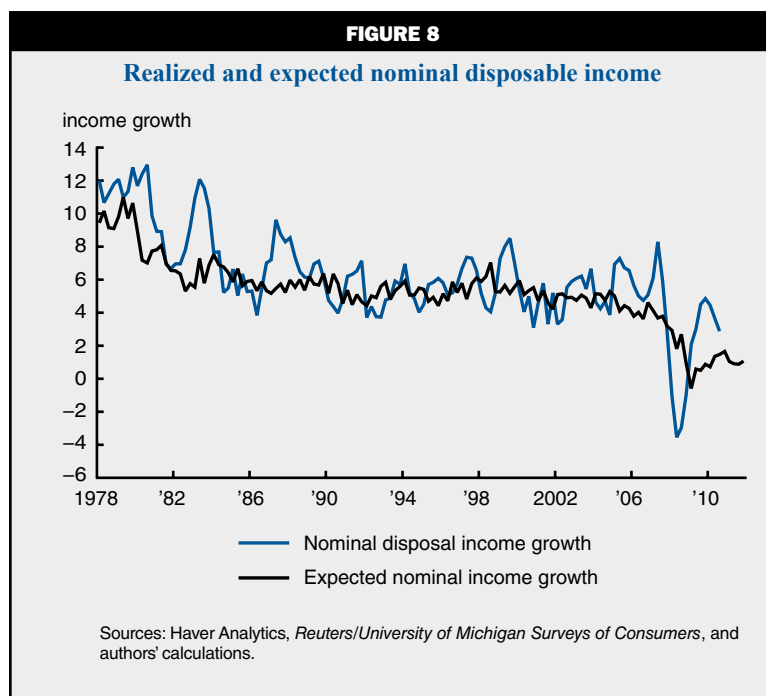
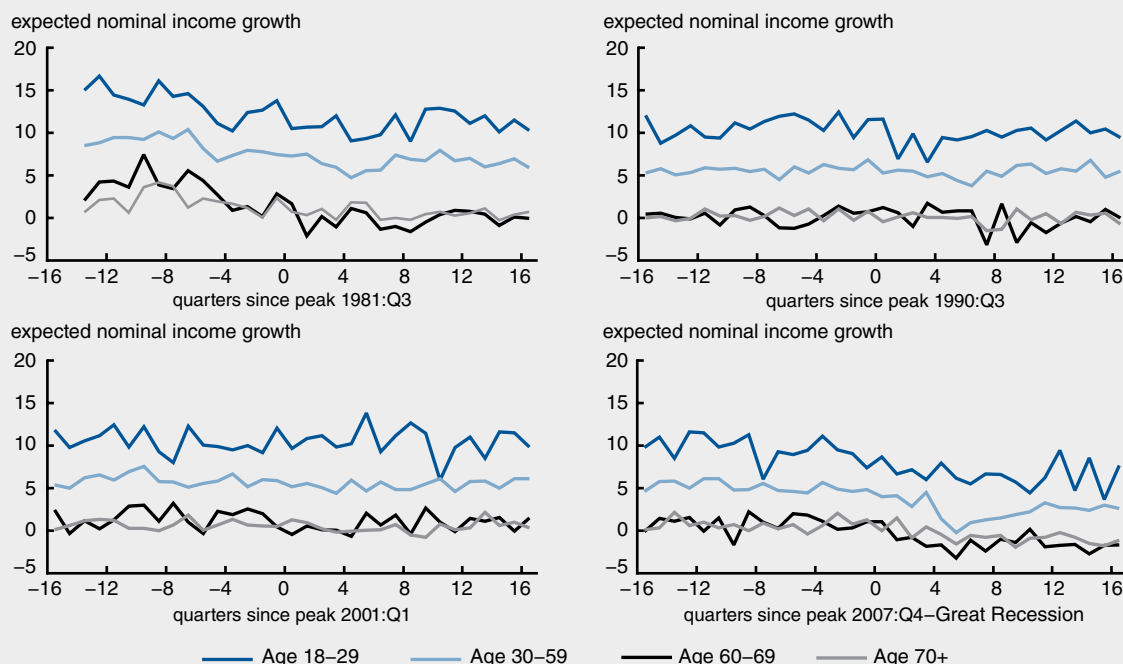


Figure 10 shows that since the late 1970s, nominal income growth expectations have not varied demographically until the most recent recession. The prime-aged individuals (30–59) experienced the largest drop in expected nominal income growth during the Great Recession and have now only partly recovered,

FIGURE 10

Expected nominal income growth by age group



Sources: Reuters/University of Michigan Surveys of Consumers and authors' calculations.

ten quarters after the peak. For younger consumers, expectations dropped well before the peak—five quarters ahead—but then stabilized after the peak.

In past recessionary periods, nominal income expectations of the elderly population had hovered around or just above zero. However, these expectations have been markedly negative since the NBER peak in 2007:Q4. Focusing on this population, Christelis, Georgarakos, and Jappelli (2011) use the *2009 Internet Survey of Health and Retirement Study* (HRS) to look at the effects of three different shocks—the drop in house prices, the decline in the stock market, and the increase in unemployment—on households' expenditures during the Great Recession. This data set refers to the population aged 50 years and older. The *HRS Internet Survey* contains detailed measures of both housing wealth losses (between summer 2006 and summer 2009) and losses in various financial assets (between October 2008 and mid-2009). It also contains measures of consumption growth and qualitative indicators of consumption changes, allowing the researchers to estimate the effect of the losses on adjustments in consumption expenditure.

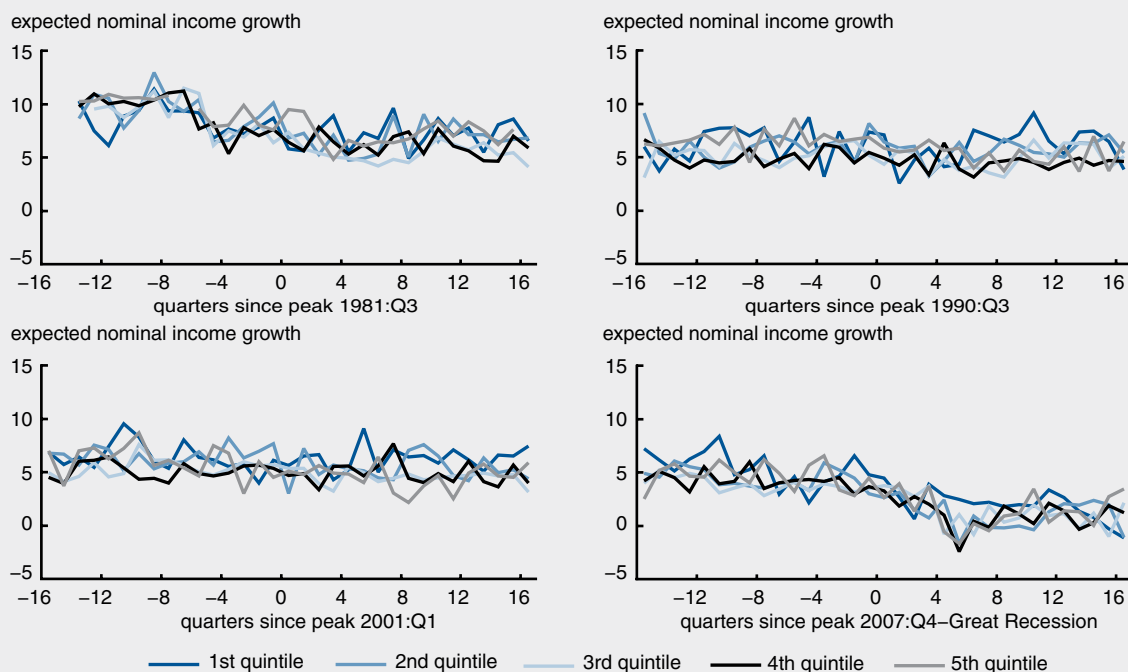
Their main finding is that losses on housing and financial wealth, together with the income loss from becoming unemployed, led households to reduce their

spending. The estimated elasticity of consumption to financial wealth implies a marginal propensity to consume with respect to financial wealth equal to 3 percentage points. The decline in house prices also had an important impact on consumption: The estimated elasticity implies that the marginal propensity to consume out of housing wealth is 1 percentage point. Put differently, these estimates suggest that every dollar of financial wealth lost reduces consumption three cents per year and every dollar of housing wealth lost reduces consumption one cent per year. Additionally, households in which at least one of the two adult members (or the single head) became unemployed in 2008 and early 2009 reduced consumption by 10 percent in 2009. See Hurd and Rohwedder (2010a, 2010b) and the citations therein for more estimates on the responsiveness of consumption to asset and income shocks.

Figure 11 shows that all income levels adjusted their expected income growth downward during the most recent recession. In past recessions, these adjustments were smaller. In the most recent recession, the first quintile (the poorest) dropped their income growth expectations the least. By the end of 2010, all income levels had roughly converged to the same post-peak level and their expectations are now much closer together. This result is consistent with Petev, Pistaferri,

FIGURE 11

Expected nominal income growth by income quintile



Sources: Reuters/University of Michigan Surveys of Consumers and authors' calculations.

and Eksten's findings. First, they find that increased government transfers propped up income among the poorest households during the Great Recession. Second, using the Michigan Index of Consumer Sentiment (constructed using a subset of questions from the *Reuters/University of Michigan Surveys of Consumers*), they document that high-income individuals became more pessimistic than other groups during the Great Recession.² Finally, using the Bureau of Labor Statistics' *Consumer Expenditure Survey* (CEX), they find that respondents in the top decile of the wealth distribution are the ones who decreased spending during the Great Recession (–5.4 percent). This finding holds for the subcategories of nondurables and services. This drop in consumption might be due to the large negative wealth effect experienced by these households due to declining house prices and stock market valuations.

Figure 12 shows that in previous recessions, income expectations across education groups were rather flat over the cycle. In the most recent recession, everyone reduced their expected income growth.

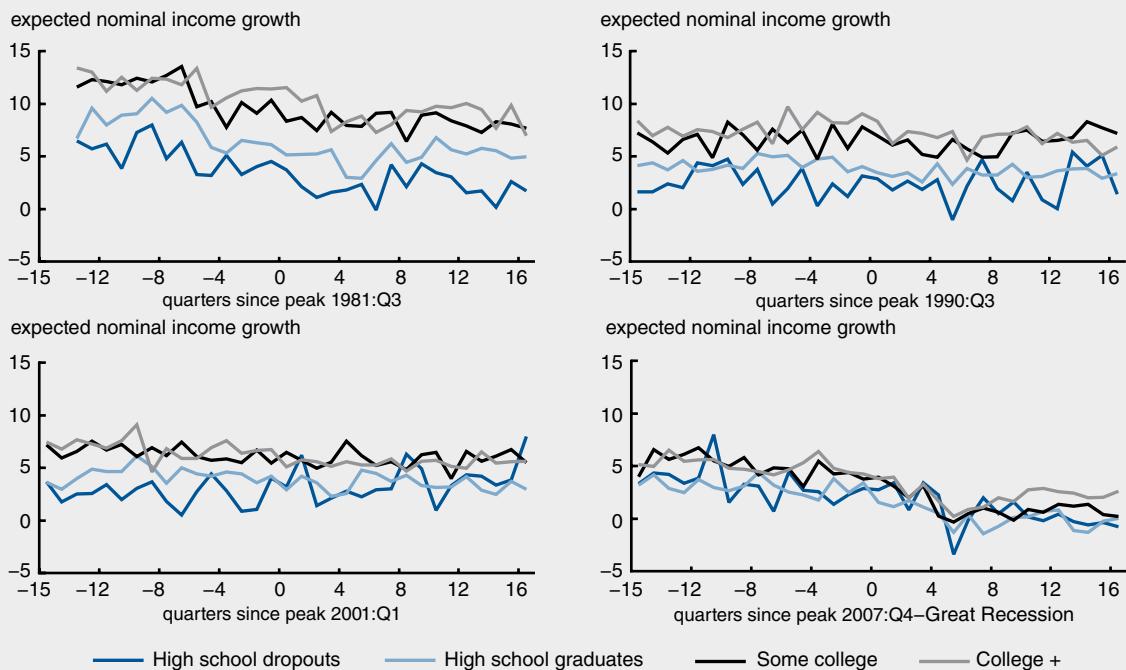
Microdata: Real income growth expectations

Nominal income growth during the Great Recession was low, but realized inflation was also low. To study the behavior of real income expectations, we measure

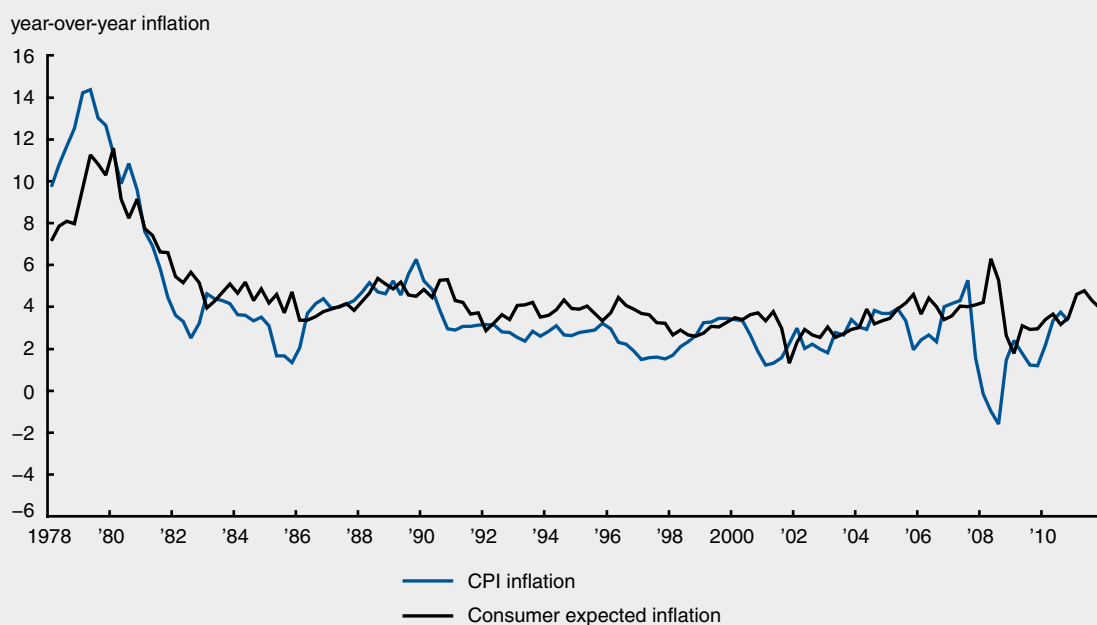
inflation in two ways. First, we use actual CPI inflation over the 12-month period covered by the survey question, which assumes that consumers have perfect foresight over the next year concerning inflation. Second, we use the answer to the survey question about the individual's expectation about growth in prices over the next 12 months. Using these two measures, we construct individual-level expected real income growth and then aggregate up to population-quarter means.

The two inflation series have diverged in the past, but after the late 1970s the differences are minor. At the start of the Great Recession, however, a large gap opened up, making for the largest discrepancy we have observed between these two data series. The swing in 2008:Q2 is +6 percent in expected inflation, compared with –1 percent actual CPI inflation. The two measures have since become much closer (see figure 13). The gap in these two measures, of course, affects measured real income growth expectations as we document next.

In figure 14, there is no clear cyclical pattern prior to the Great Recession in real income expectations. Before the most recent recession, real income growth was rather flat; it dropped into negative territory several quarters before the peak; and it then went up to about 4 percent four quarters after the peak. From then on, however, it had a large drop, reaching –3 percent five

FIGURE 12**Expected nominal income growth by educational level**

Sources: Reuters/University of Michigan Surveys of Consumers and authors' calculations.

FIGURE 13
Time series of 12 months forward inflation since 1978
(CPI versus personal inflation expectations for the Reuters/University of Michigan Surveys of Consumers)


Note: CPI is Consumer Price Index.

Sources: Haver Analytics, Reuters/University of Michigan Surveys of Consumers, and authors' calculations.

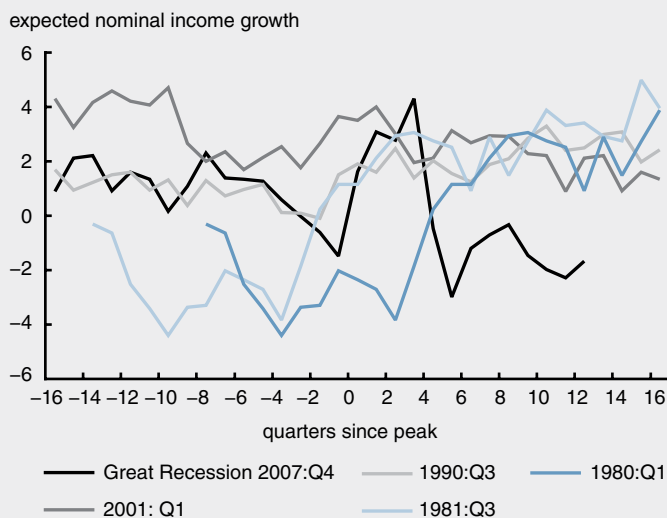
quarters after the peak. In summary, real income growth expectations deflated by CPI showed a deterioration and lower average growth during the latest recession than during previous recessions.

Figure 15 shows that perceived real income growth based on consumers' inflation expectations paints a much more pessimistic picture of consumers' purchasing power during the Great Recession. Consumers' perceived real income growth dipped in and out of negative territory well before the recession started, and sustained a large drop starting four quarters before the peak. That drop brought expectations from almost +2 percent to a -4 percent growth rate three quarters after the peak. It took two more quarters for expectations to go back up to a -2 percent growth rate, and they have remained stagnant ever since. The recession window in figure 15 ends in 2011:Q4, with expected real income growth of -2.5 percent. In 2011, the series has recorded values of -3.1 percent, -3.7 percent, and -2.9 percent for the first three quarters of the year, respectively.

Our main findings from the analysis of the microdata are as follows. First, expected nominal income growth declined significantly during the Great Recession. It is the worst drop ever observed in these data, and this measure has still not recovered to pre-recession levels. Second, the decline exists for all age groups, education levels, and income quintiles. Relative to previous recessions, those with higher levels of income and education have been more pessimistic this time than their poorer and less-educated counterparts. Third, expectations for real income growth have also declined, and the decline in expected real income growth is more severe when we look at personal inflation expectations instead of actual CPI inflation.

FIGURE 14

Expected real income growth, deflated by CPI inflation

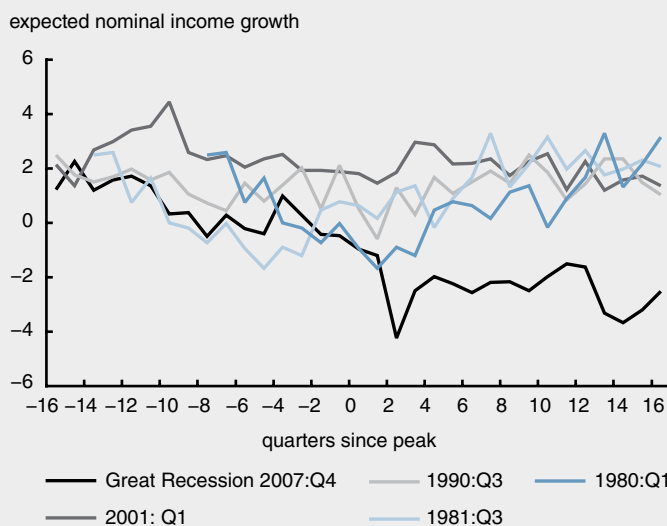


Note: CPI is Consumer Price Index.

Sources: Haver Analytics, Reuters/University of Michigan Surveys of Consumers, and authors' calculations.

FIGURE 15

Expected real income growth, using consumers' inflation expectations



Sources: Reuters/University of Michigan Surveys of Consumers and authors' calculations.

Do the Michigan microdata have predictive power?

Below we show that the *Reuters/University of Michigan Surveys of Consumers* have remarkable forecasting power for both future disposable income

TABLE 1					
Regression results					
Dependent variable	Lagged income growth variable	Michigan income expectations	Lagged consumption growth variable	Forecasted annual growth, Q3/Q3	R-squared
Annual income growth 1 year forward	−0.35 (0.10)	0.80 (0.17)	—	0.61*	0.29
Annual income growth 2 years forward	0.06 (0.08)	0.36 (0.17)	—	1.24**	0.08
Annual income growth 3 years forward	−0.34 (0.13)	0.42 (0.20)	—	2.16***	0.08
Annual consumption growth 1 year forward	—	0.71 (0.23)	0.08 (0.13)	0.05*	0.37
Annual consumption growth 2 years forward	—	0.77 (0.23)	−0.25 (0.16)	0.13**	0.18
Annual consumption growth 3 years forward	—	0.58 (0.27)	−0.49 (0.19)	1.15***	0.11
Annual consumption growth 1 year forward	−0.20 (0.14)	0.75 (0.21)	0.18 (0.14)	0.39*	0.39
Annual consumption growth 2 years forward	0.10 (0.14)	0.76 (0.23)	−0.31 (0.19)	−0.07**	0.17
Annual consumption growth 3 years forward	−0.09 (0.16)	0.59 (0.27)	−0.44 (0.21)	1.36***	0.11

Notes: Regressions are run with data from 1978:Q1 to 2011:Q2. Newey-West standard errors in parentheses. Average annual income and consumption growth are 2.78 and 2.91, respectively. Using data up to 2011:Q3, forecast of growth between: *2011:Q3 and 2012:Q3; **2012:Q3 and 2013:Q3; ***2013:Q3 and 2014:Q3.

Sources: Authors' calculations based on data from Haver Analytics and Reuters/University of Michigan Surveys of Consumers.

and consumption growth.³ We estimate the regression for disposable income (Y_t) in period t first:

$$((Y_{t+k+4} - Y_{t+k})/Y_{t+k}) = \alpha_0 + \alpha_1 ((Y_t - Y_{t-4})/Y_{t-4}) + \alpha_2 g_{Mt} + \varepsilon_{t+k},$$

where α_0 , α_1 , α_2 are parameters to be estimated, and α_1 and α_2 are reported in table 1. The variable $((Y_{t+k+4} - Y_{t+k})/Y_{t+k})$ is next year's annual income growth k quarters from now, so k is 0 when forecasting income growth over the next year and 4 when forecasting income growth over the subsequent year. $((Y_t - Y_{t-4})/Y_{t-4})$ is income growth over the past year, and g_{Mt} is expected real income growth from the Michigan surveys, where we deflate using expected inflation from the survey.

As can be seen in table 1, lagged income growth has a negative coefficient, and expected income growth has a positive coefficient. The coefficient on expected income growth in the next year is 0.8, indicating that a 1 percent decline in expected income growth reduces next year's income growth 0.8 percent, taking into account the previous year's income growth. The right-hand column shows that predicted income growth over

the next year (2011:Q3 to 2012:Q3), using lagged income growth and expected income growth, is 0.6 percent, well below its average of 2.8 percent over the 1978–2011 sample period. Income growth between 2012:Q3 and 2013:Q3 is also forecasted to be low.

Expected income growth also turns out to be a good predictor of consumption growth. Table 1 presents regressions using future consumption growth as the left-hand-side variable and lagged consumption growth and the Michigan expectations variable as the right-hand-side variables. Using these estimates, the consumption forecast for 2011:Q3 to 2012:Q3 calls for a meager growth rate of 0.1 percent.

In short, the low expected income growth in the expectations data of the *Reuters/University of Michigan Surveys of Consumers* suggests that the U.S. will experience low growth in both income and consumption over the next two years. Obviously, there are many things not included in this specification, so the estimates should only be taken as suggestive. However, the results are fairly robust to changes in model specification and to the addition of a few other variables, such as the unemployment rate.

Quantifying the effects of the drops in wealth and income expectations

Data from the Federal Reserve Board of Governors' flow of funds accounts show that in 2008, American households experienced a loss of \$13.6 trillion in wealth, with most of the loss concentrated in stock market wealth. While stock market wealth has partially recovered since then, housing wealth has continued to decline. The resulting wealth loss, combined with lower expected income growth, has the potential to explain the extent to which consumers cut back consumption during the Great Recession.

Now, we quantify the effects of these declines by first calibrating a simple model of consumption that matches the observed level of consumption in 2007:Q4 and that implies empirically plausible marginal propensities to consume (MPCs) out of both assets and permanent income. Then, we show the model's predicted consumption in 2011:Q2 under different expectations for income and asset values. We find that for reasonable parameter values, the decline in asset values can explain one-third of the gap between actual and potential consumption, while declines in permanent income expectations can easily explain the rest. That is, the weak growth in consumption that we have experienced in the past few years can be explained by the combination of realized wealth losses on equity shares and housing and a more subdued outlook for future income growth.

Model

We define C_t as consumption expenditures at time t (where time is measured in quarters). Households maximize

$$1) \quad \sum_{t=t_0}^{\infty} \beta^t \ln(C_t),$$

subject to the following asset accumulation equation,

$$2) \quad A_{t+1} = (1+r)A_t + Y_t - C_t, \quad \lim_{t \rightarrow \infty} \beta^t \frac{A_t}{C_t} = 0$$

given A_{t_0} and given income expectations, and r denotes the interest rate earned on assets (A_t). To avoid the additional complication of dealing with uncertainty, we make the simplifying assumption that individuals are certain of future income. However, we allow them to revise their perceived income process if they make a mistake.

The solution to the consumer's optimization problem is:

$$3) \quad C_t = (1-\beta)(\tilde{Y}_t + A_t),$$

where

$$4) \quad \tilde{Y}_t = \sum_{\tau=t}^{\infty} (1/(1+r))^{\tau-t} Y_{\tau}$$

is the present value of discounted future labor income.

We compute \tilde{Y}_t by assuming that consumers observe income up to 2011:Q2 and that from that point on, income expectations for the next year are those measured in the most recent *Reuters/University of Michigan Surveys of Consumers*, but they revert to long-run income growth afterward.

Mathematically, we can write this as

$$Y_{t+k} = (1+g_M)^k Y_t, \quad k \leq 4$$

$$Y_{t+k} = (1+g)Y_{t+k-1}, \quad k > 4,$$

where Y_t is disposable income, g_M is the perceived real income growth for the next year in the 2010:Q4 *Reuters/University of Michigan Surveys of Consumers* (the most recent release of this variable suggests even more pessimism on consumers' part than in 2010:Q4), while g is the average growth rate of income over the past 40 years. Putting these equations together yields

$$5) \quad \begin{aligned} \tilde{Y}_t &= \sum_{\tau=t}^{\infty} (1/(1+r))^{\tau-t} Y_{\tau} \\ &= Y_t(1+(1+g_M)/(1+r) + ((1+g_M)/(1+r))^2 \\ &\quad + ((1+g_M)/(1+r))^3 + ((1+g_M)/(1+r))^4 \\ &\quad \times [1+(1+g)/(1+r) + ((1+g)/(1+r))^2 + \dots]) \\ &= Y_t(1+(1+g_M)/(1+r) + ((1+g_M)/(1+r))^2 \\ &\quad + ((1+g_M)/(1+r))^3 + ((1+g_M)/(1+r))^4 \frac{(1+r)}{(r-g)}). \end{aligned}$$

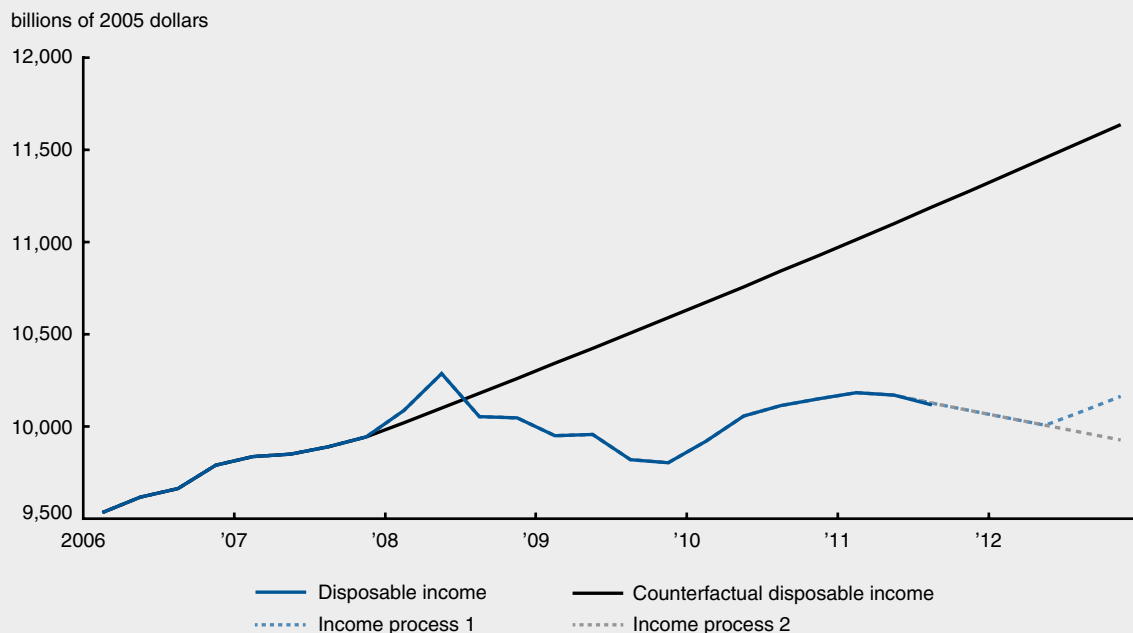
We call the income process above income process 1. Then, to show the importance of low expected income growth, we consider a more pessimistic scenario, which we call income process 2, in which rather than reverting back to a long-run expected growth after four quarters, pessimism about income growth persists forever. In this case,

$$6) \quad \begin{aligned} \tilde{Y}_t &= \sum_{\tau=t}^{\infty} (1/(1+r))^{\tau-t} Y_{\tau} \\ &= Y_t \left(\frac{(1+r)}{(r-g_M)} \right). \end{aligned}$$

Figure 16 reports four different lines for the time path of real disposable income since the beginning of 2007. The black line shows a counterfactual disposable income level—the level that would have existed had

FIGURE 16

Disposable income and assumed income processes



Sources: Haver Analytics and authors' calculations.

it continued to grow at its historical average rate of 3.2 percent from 2007:Q4 onward. The blue line shows realized disposable income up to 2011:Q2. The grey dotted line begins with realized disposable income in 2011:Q2. It then tacks on the expected level of disposable income using expectations data from the *Reuters/University of Michigan Surveys of Consumers* for all periods thereafter. This corresponds to income process 2. The blue dotted line begins in 2012:Q2, assuming that income grows according to the *Reuters/University of Michigan Surveys of Consumers* between 2011:Q2 and 2012:Q4 and then at its historical rate afterwards. It corresponds to income process 1.

Calibration

The three key moments we wish to match are the marginal propensity to consume (MPC) out of assets, the MPC out of permanent income, and the level of consumption in 2007:Q4.

Most estimates of the MPC out of assets are in the range 0.01–0.05, and most estimates of the MPC out of permanent income are between 0.5 and 1. We assume the MPC out of assets is 0.03 per year. We use per capita income growth for the individual's decision problem. Thus, we set $g = .032 - .014 = .018$ (average disposable income growth over the 1967:Q4 to 2007:Q4 period less population growth of those

aged 16 and older over the same period). We then pick r and β to match the MPC out of assets and the level of consumption in 2007:Q4. Thus, we match

$$\frac{\partial C_t}{\partial A_t} = (1 - \beta) = .03$$

$$C_{2007:Q4} = (1 - \beta) \left[Y_{2007:Q4} \frac{1 + r}{r - g} + A_{2007:Q4} \right],$$

where $C_{2007:Q4} = \$9,312.6$ billion (at an annualized rate), $Y_{2007:Q4} = \$9,944$ billion (annualized), and $A_{2007:Q4} = \$69,139$ billion.

The unit of time in this analysis is a quarter. So, we convert annual growth rates to quarterly ones, using the formula $(1 + g)^{(1/4)} - 1$ when taking the quarterly growth rate for g . For dollar amounts, we divide by 4. After converting everything to quarterly rates, we use the above two equations to solve for β and r . Table 2 presents all variables at quarterly and annualized rates. At annualized rates, $\beta = 0.97$ and $r = 0.060$. This gives a quarterly MPC out of permanent income equal to

$$\frac{\partial C_t}{\partial Y_t} = (1 - \beta)[(1 + r)/(r - g)] = .730,$$

TABLE 2
Model parameters

	Annual	Quarterly
	<i>(dollars in billions)</i>	
Exogenously set		
g_M	-0.016	-0.0040
Population growth	0.014	0.0035
g	0.018	0.0045
MPC out of assets	0.030	0.0074
$Y_{2007:Q4}$	9,944	2,486
$C_{2007:Q4}$	9,313	2,328
$A_{2007:Q4}$	69,139	69,139
Endogenously determined		
β	0.970	0.993
r	0.060	0.015
Implied MPC out of income		0.730

Note: MPC is marginal propensity to consume.

Sources: Authors' calculations based on data from Haver Analytics and the Reuters/University of Michigan Surveys of Consumers.

which is about in the middle of the normal range estimates in the literature for the MPC.

Over the past 40 years, annual population growth for those aged 16 and older is 1.4 percent, which we define as p . We assume this rate of population growth continues in the future. Income growth in the individual's decision problem is in per capita terms. We then account for aggregate growth at the end by adjusting up disposable income by 1.4 percent at an annual rate.

Results

Table 3 explains our key findings. All quarterly numbers in this section are annualized; that is, they are the quarterly flows multiplied by 4. Consumption expenditures in 2011:Q2 were \$9,379 billion. Had they grown at average rates from 2007:Q4 onward, they would have been at \$10,472 billion in 2011:Q2, which is 10 percent higher than they are today. This difference of \$1,093 billion, line 3 of the table, is the shortfall we seek to explain with the model. Figure 17 depicts this shortfall graphically.

Lines 4 and 5 in table 3 trace out the effects of the decline in asset prices. Net worth fell \$9,746 billion in real terms over this period. Given a quarterly MPC of 0.0074 out of assets, we predict a (\$9,746 billion) \times (0.0074) \times 4 = \$289 billion fall in consumption, at an annualized rate.

The following lines in the table predict the consumption fall due to various permanent income scenarios. To perform this computation, we first put ourselves in

TABLE 3
Results

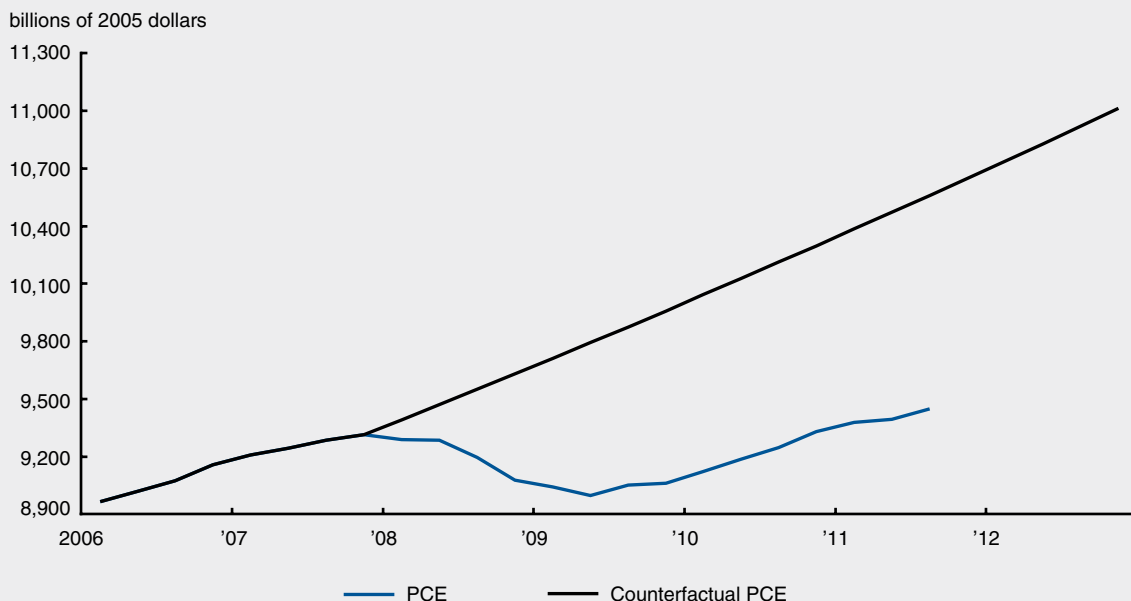
Realized consumption level 2011:Q2	9,379
Predicted consumption level 2011:Q2, given information in 2007:Q4	10,472
Consumption loss	1,093
Consumption loss due to asset value decline	
Asset value decline	9,746
Predicted consumption decline due to asset price decline	289
Consumption loss, given disposable income decline	
Income process 1	917
Income process 1 and lower short-term interest rate	710
Income process 2	4,038
Consumption loss given both asset and income declines	
Income process 1	1,206
Income process 1 and lower short-term interest rate	999
Income process 2	4,328

Note: All amounts in billions of dollars.

Sources: Authors' calculations and data from Haver Analytics.

2007:Q4 and predict \tilde{Y} as of 2011:Q2, had income grown steadily at its long-run historical average. Second, we calculate \tilde{Y} , given realized income in 2007:Q4 and the two income processes that we described previously. To be clear, taking into account population growth rates, we calculate $\tilde{Y}_{2011:Q2}$, given the information set from 2007:Q4, as $\tilde{Y}_{2011:Q2} = Y_{2007:Q4} \frac{1+r}{r-g} ((1+p)(1+g))^{14}$, where the term in the exponent (14) is the number of quarters between 2007:Q4 and 2011:Q2.

Once we calculate the loss in \tilde{Y} under different income and interest rate scenarios, we use the model to calculate the resulting consumption loss. The consumption loss associated with income process 1 is \$0.917 trillion, which is reasonably close to the observed consumption loss. This computation is sensitive to the time path of the interest rate as well. The baseline calibration yields a yearly interest rate of 6 percent. In the lower short-term interest rate scenario, we assume that over the first year the yearly interest rate is 3 percent and then reverts back to 6 percent. In this case, income is less heavily discounted; hence its present value is higher and the implied consumption drop is smaller, \$710 billion rather than \$917 billion. Unsurprisingly, the very pessimistic income expectation scenario considered in income process 2 generates a huge consumption loss of \$4.038 trillion, which is almost four times larger than the consumption shortfall we wish to explain.

FIGURE 17**Real PCE with and without the Great Recession**

Note: PCE is personal consumption expenditures.
Sources: Haver Analytics and authors' calculations.

Because our model predicts that consumption is linear in resources (assets and the present value of future income), we can add up the losses from assets and income. Note that the predicted consumption decline given the asset fall plus the predicted decline given income process 1 of \$1.206 trillion lines up almost exactly with what actually occurred.

Conclusion

This article documents key facts about aggregate consumption and its subcomponents and looks at the behavior of important determinants of consumption over the cycle, such as consumers' expectations about their future income and changes in consumers' wealth positions due to changes in house prices and stock valuations. We performed a simple computation to determine whether the observed drop in consumption can be explained by the observed drops in wealth and income expectations.

In the context of a simple permanent income model, we find that the negative wealth effect (coming from decreased stock market valuations and house prices) and decreased consumer income expectations were crucial factors in determining the observed consumption drop. In fact, we find that in this model, the observed drops in wealth and income expectations can explain the observed drop in consumption in its entirety, depending on what is assumed about future income growth beyond the time horizon covered by the *Reuters/University of Michigan Surveys of Consumers* data set.

NOTES

¹This survey also collects the data that form the well-known Michigan Consumer Confidence Index. The survey is published monthly by the University of Michigan and Thomson Reuters.

²As a possible explanation for the pessimism of the wealthy, Shapiro (2010) finds that these households were exposed more to the stock market and experienced larger declines in wealth as a

consequence. The median decline in wealth was 15% in Shapiro's data, and those who lost at least 10% of their net worth had almost twice the mean wealth and 3.5 times the median wealth of the sample.

³See Souleles (2004), Ludvigson (2004), and Barsky and Sims (2009) for more on the predictive power of the Michigan surveys.

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Medicaid and the elderly

Mariacristina De Nardi, Eric French, John Bailey Jones, and Angshuman Gooptu

Introduction and summary

Expenditures on medical care by Medicaid and Medicare, America's two main public health insurance programs, are large and growing rapidly. Although Medicare is the main provider of medical care for the elderly and disabled, it does not cover all medical costs. In particular, it covers only a limited amount of long-term care expenses (for example, nursing home expenses). The principal public provider of long-term care is Medicaid, a means-tested program for the impoverished. Medicaid now assists 70 percent of nursing home residents¹ and helps the elderly poor pay for other medical services as well. In 2009, Medicaid spent over \$75 billion on 5.3 million elderly beneficiaries.²

An important feature of Medicaid is that it provides insurance against catastrophic medical expenses by providing a minimum floor of consumption for households. Although Medicaid is available only to "poor" households, middle-income households with high medical expenses usually qualify for assistance also. Given the ongoing growth in medical expenditures, Medicaid coverage in old age is thus becoming as much of a program for the middle class as for the poor (Brown and Finkelstein, 2008).

Another important feature of Medicaid is that it is asset and income tested; in contrast, almost all seniors qualify for Medicare. This implies that Medicaid affects households' saving decisions, not only by reducing the level and risk of their medical expenses, but also by encouraging them to consume their wealth and income more quickly in order to qualify for aid (Hubbard, Skinner, and Zeldes, 1995). Although Medicaid covers poor people of all ages, this article focuses on Medicaid's coverage for the elderly.

Many recent proposals for reforming Medicaid could have significant effects on the financial burdens of the elderly, on the medical expense risk that they face, and on their saving decisions. Moreover, Medicaid is

a large and growing component of the federal budget. The share of total federal, state, and local government expenditures absorbed by Medicaid rose from less than 2 percent in 1970 to almost 7 percent in 2009,³ and it is expected to increase even more in the future. Controlling the cost of Medicaid is an important component in correcting the federal government's long-term fiscal imbalance.

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ISSN 0164-0682

In this article, we describe the Medicaid rules for the elderly and discuss their economic implications. We focus on the rules for single (that is, never married, divorced, or widowed) individuals to avoid the additional complications involved in considering couples. The main difference between singles and couples is that the income and asset limits for Medicaid eligibility are higher for couples.

Medicaid is administered jointly by the federal and state governments, but each state has significant flexibility on the details of implementation; hence, there is large variation across states in income and asset eligibility and in coverage. This variation may well provide elderly people in different states with different saving incentives, and it might even encourage them to move from one state to another. We focus on finding the features common to all states, and identifying the most salient state-level differences.

Overview of the Medicaid program

Medicaid and Medicare were created by the Social Security Act Amendments of 1965. Although the program was initially intended to cover the population on welfare (for example, recipients of Aid to Families with Dependent Children, AFDC, or Supplemental Security Income, SSI), over time legislation has expanded coverage to non-welfare recipients overwhelmed by their medical costs. Box 1 provides a chronology of important Medicaid-related legislation for the elderly. Two key themes emerge from box 1. First, Medicaid has increased the number of services provided over time. Second, Medicaid has attempted to limit the abuse of the system by using increasingly stringent and comprehensive asset tests to determine eligibility.

For our purposes, it is useful to divide elderly Medicaid recipients into three groups: 1) the *categorically needy*, whose low income and assets qualify them for Medicaid. This group includes those who qualify for SSI, as well as “dual eligibles,” whose Medicare deductibles and co-pays are covered by Medicaid; 2) the *institutionalized medically needy*, who qualify for Medicaid because their financial resources do not cover their nursing home expenses; and 3) the *noninstitutionalized medically needy*, who qualify for Medicaid because their financial resources cannot cover catastrophic noninstitutional medical expenses. Each group faces a different set of asset and income tests. Figure 1 presents data on Medicaid enrollment and expenditures. In 2008, Medicaid spent roughly \$75 billion⁴ on 5.3 million beneficiaries aged 65 and older (data from the Center for Medicare and Medicaid Services). These data provide information on the number of people and expenditures in the different groups. Of those aged

65 and older, SSI recipients account for 40 percent of all beneficiaries and 27 percent of all Medicaid expenditures. “Dual eligibles” represent 29 percent of all beneficiaries and 9 percent of all Medicaid expenditures and are the second-largest group of Medicaid beneficiaries. “Medically needy” individuals represent 10 percent of all beneficiaries and 23 percent of all expenditures. “Others,” a category largely made up of those with catastrophic medical expenses who are not technically “medically needy,” represent 29 percent of all beneficiaries and 41 percent of all expenses. Although the Center for Medicare and Medicaid Services technically refers to “others” as categorically needy, a large share of this group are what we will refer to as medically needy, because their circumstances (catastrophic medical expenses) are more like those of the strictly medically needy than those of the other categorically needy groups.

The categorically needy: SSI beneficiaries

In most states, SSI recipients qualify for Medicaid as categorically needy recipients. Under the Social Security Act Amendments establishing SSI in 1972, states were mandated to provide elderly SSI recipients with Medicaid benefits. The law exempted states that in 1972 were using Medicaid eligibility criteria stricter than the newly enacted SSI criteria (Gruber, 2000). The 11 states that had the more restrictive rules for Medicaid are referred to as 209(b) states (Gardner and Gilleskie, 2009).

SSI pays monthly benefits to people with limited incomes and wealth who are disabled, blind, or aged 65 years and older. There is a (maximum) monthly SSI benefit that is paid for by the federal government. States can supplement this benefit. Figure 2 plots the federally provided monthly SSI benefit from 1975 to 2010. Table 1 shows the state-level supplements for all states that have offered a supplement over the sample period. In contrast to the federal benefit, which in real terms has been constant, the state supplements have varied greatly over time as well as across states.

To qualify for SSI, individuals must pass both an income test and an asset test. In non-209(b) states, the income test is based on the combined federal and state maximum monthly benefit. Individuals with no income receive this maximum monthly benefit if they pass the asset test. Otherwise, each individual’s “countable income” is deducted from the maximum to produce a net benefit. In most states, individuals receiving any benefit, no matter how small, are categorically eligible for Medicaid. This implies that the implicit marginal tax rate for the threshold dollar of countable income—the incremental dollar that pushes the individual over

BOX 1**Medicaid time line****Social Security Act Amendments of 1965**

- Medicaid program enacted.
- Medicare program for the elderly also started.

Social Security Act Amendments of 1972

- Enacted Supplemental Security Income (SSI) program for elderly and disabled, replacing state-level programs that served the elderly and disabled.
- Required states to extend Medicaid to SSI recipients or to elderly and disabled meeting that state's 1972 requirements.

Omnibus Reconciliation Act of 1981

- Section 1915(c) home- and community-based waiver program launched. This program allows people with serious health problems to obtain home-based care instead of nursing home care.

Tax Equity and Fiscal Responsibility Act of 1982

- Allowed states to make institutionalized individuals pay for Medicaid services if they owned a home and did not plan to return to that home.

Omnibus Reconciliation Act of 1986

- Allowed states to pay for Medicare premiums for Medicare beneficiaries with incomes below the poverty level (qualified Medicare beneficiaries, QMBs).

Omnibus Reconciliation Act of 1990

- Allowed states to cover Medicare premiums for Medicare beneficiaries with incomes between 100 and 120 percent of the poverty level (specified low income beneficiaries, SLMBs).

Omnibus Reconciliation Act of 1993

- Tightened prohibitions against transfer of assets in order to qualify for Medicaid nursing home coverage. Instituted a three-year look-back period. Required recovery of nursing home expenses from beneficiary estates.

Deficit Reduction Act of 2005

- Increased cost sharing (for example, increased copayments for certain drugs) and reduced certain benefits.
- Extended the look-back period for assessing transfers from three to five years.
- Imposed an upper bound on the amount of home equity excluded from asset tests.

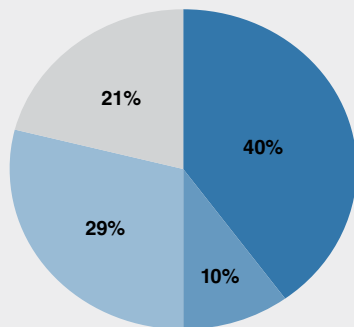
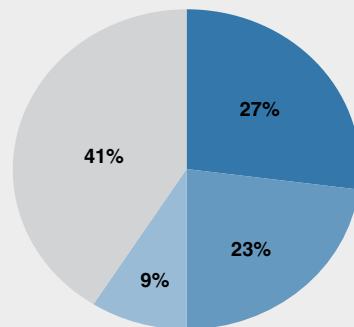
Sources: For 1965–93, Kaiser Commission on Medicaid and the Uninsured (2002); for 2005, Kaiser Commission on Medicaid and the Uninsured (2006).

the income threshold—is extremely high, because that last dollar of income eliminates the individual's Medicaid coverage.

The conversion of actual income into countable income depends on whether the income is earned or unearned. Earned income consists of financial or in-kind income from wages, self-employment (net), and sheltered workshops.⁵ Each dollar of earned income in excess of \$65 counts as 50 cents of countable income. Unearned income includes Social Security benefits, worker or veteran compensation, annuities, rent, and interest from assets. Each dollar of unearned income

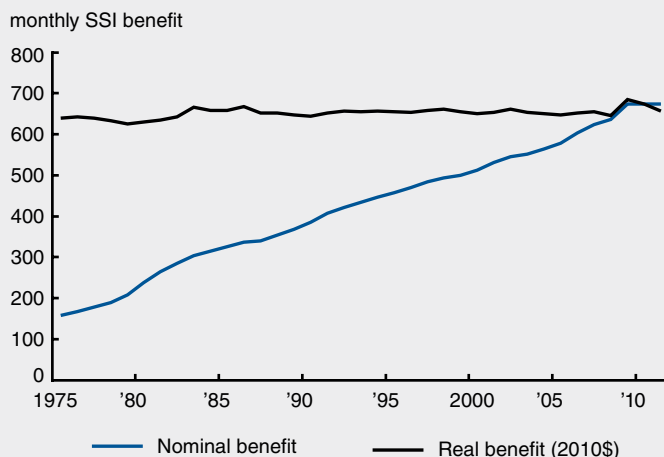
counts as one dollar of countable income. In addition, the first \$20 of income, earned or unearned, is disregarded; the amount varies slightly across states. By way of example, in 2010 the maximum federal benefit for single, aged SSI recipients was \$674. To qualify for SSI, an individual must have had less than $\$674 \times 2 + \$65 + \$20 = \$1,433$ of earned income or $\$674 + \$20 = \$694$ in unearned income. Finally, several types of income, most notably food stamps, are excluded from the income test.⁶

The income standards used by the 209(b) states do not have to follow this formula, although some do.

FIGURE 1**Medicaid enrollment and expenditures by maintenance assistance status in 2008, age 65+****A. Enrollment****B. Expenditures**

■ SSI recipients ■ Dual eligibles
■ Medically Needy ■ Other

Source: Centers of Medicare and Medicaid Services, Medicaid Statistical Information System (MSIS).

FIGURE 2**Monthly federal SSI benefit for aged individuals living independently, 1975–2010**

Source: Data from U.S. Social Security Administration, available at www.ssa.gov/oact/COLA/SSlams.html, deflated using Consumer Price Index data from Haver Analytics.

The law only requires that the states impose criteria no stricter than those in effect in 1972 (House Ways and Means Committee, 2004).

The asset test is more straightforward. Individuals with assets at or below the state-specific threshold qualify. Individuals with assets above the threshold do not qualify. This implies that the implicit marginal tax rate for the threshold dollar of assets is extremely high,

as that last dollar of assets eliminates the individual's SSI and Medicaid benefits. Such a penalty provides a strong disincentive to saving and encourages people to spend down their assets until they fall below the threshold.

The asset threshold varies across states, with a modal value of \$2,000. It is also the case, however, that many important categories of wealth are exempt, including one's principal residence. Box 2 lists assets that are excluded for elderly individuals.

Table 2 shows the current income and asset thresholds for each state. The 209(b) states appear at the bottom of the table. The only common factor across 209(b) states is that individuals have to apply for Medicaid separately from their SSI benefit application. Although some of the 209(b) states impose tighter

income or asset restrictions for Medicaid, SSI eligibility implies Medicaid eligibility in most of these states.

The categorically needy: Dual eligibles

"Dual eligibles" are individuals who are enrolled in Medicaid and have Medicaid pay their Medicare premiums. Medicare covers basic health services,

TABLE 1							
State SSI supplements (in 2010 dollars) for aged individuals living independently (selected years, 1975–2009)							
State	1975	1980	1985	1990	1996	2002	2009
Alaska	575	622	529	552	503	439	588
California	409	482	363	407	217	249	233
Colorado	109	146	118	90	78	45	25
Connecticut	0	270	286	611	0	245	171
District of Columbia	0	40	30	25	7	0	233
Hawaii	69	40	10	8	7	6	370
Idaho	255	196	158	122	51	63	27
Illinois ^a	NA	NA	NA	NA	NA	NA	NA
Maine	41	26	20	17	14	12	233
Massachusetts	450	363	261	215	175	156	233
Michigan	49	64	55	50	19	17	233
Minnesota	126	90	71	125	113	98	233
Nebraska	271	199	140	63	17	10	233
Nevada	223	124	73	60	50	44	37
New Hampshire	49	122	55	45	38	33	41
New Jersey	97	61	63	52	43	38	233
New York	247	167	124	144	120	105	95
Oklahoma	109	209	122	107	75	64	45
Oregon	69	32	4	3	3	2	2
Pennsylvania	81	85	65	53	38	33	233
Rhode Island	126	111	109	107	89	78	233
South Dakota	0	40	30	25	21	18	15
Utah	0	26	20	10	0	0	233
Vermont	117	109	107	105	65	72	246
Washington	146	114	77	47	35	32	47
Wisconsin	284	265	203	172	117	102	85
Wyoming	0	53	41	33	14	12	25

^aIllinois supplements are determined on a case-by-case basis.
Notes: Converted to 2010 dollars using Consumer Price Index data from Haver Analytics. NA indicates not applicable.
Sources: For 1975–2002, U.S. House of Representatives, House Ways and Means Committee (2004); for 2009, Social Security Administration (2009b).

including physicians and hospital care, for the elderly. Medicare Part B, which covers outpatient services such as doctor visits, costs \$96.40 per month. As a dual eligible, an aged individual can get Medicaid to cover Medicare premiums and services that Medicare does not cover. Depending on their income, dual eligibles can qualify as Qualified Medicare Beneficiaries (QMBs), Specified Low-Income Medicare Beneficiaries (SLMBs), or Qualified Individuals (QIs). QMBs are assisted with Medicare Part B premiums and co-payments. In most states, the QMB income limit is 100 percent of the federal poverty level (\$903 for single elderly people), and the asset limit is \$6,600. However, nine states (including New York) do not impose any asset limits, and a subset of these states also provide more generous income limits and disregard amounts. SLMBs are elderly individuals with income between 100 percent and 120 percent of the federal poverty level. SLMBs are assisted with premiums only. QIs are individuals with income between 120 percent and 135 percent of the poverty level who, depending on funding availability,

may receive assistance with Medicare Part B premiums (Kaiser Commission on Medicaid and the Uninsured, 2010a and 2010b). Table 3 shows the asset and income limits for QMBs, SLMBs, and QIs.

The medically needy

Individuals with income or assets above the categorically needy limits may nonetheless not have enough resources to cover their medical expenses. Under the medically needy provisions, Medicaid pays part of these expenses. The implementation of medically needy coverage, however, varies greatly across states and types of medical care. The types of care covered under these arrangements include institutional (long-term) care, as well as home- and community-based service (HCBS) care.

As pointed out earlier, the term “medically needy” has both a loose and a strict definition. The loose definition we use refers to all programs for receiving Medicaid due to catastrophic medical expenses. However, in formal Medicaid language, the term “Medically Needy”

BOX 2

Assets excluded from the SSI asset test

1. The home you live in and the land it is on, regardless of value.
2. Property that you use in trade (gas station, beauty parlor, etc.).
3. Personal property used for work (tools, equipment, etc.).
4. Household goods and personal effects.
5. Wedding and engagement rings.
6. Burial funds (up to \$1,500).
7. Term life insurance policies (regardless of face value) and whole life insurance policies (with face value up to \$1,500).
8. One vehicle (regardless of value).
9. Retroactive SSI or social security benefits for up to nine months after you receive them (includes payments received in installments).
10. Grants, scholarships, fellowships, or gifts set aside to pay educational expenses for up to nine months after you receive them.
11. Some property may be partially excluded, such as the property used to produce goods or services needed for daily life, and nonbusiness property that produces income, such as rented land, real estate, or equipment.

Source: Social Security Administration (2009a).

refers to just one of several mechanisms for coping with unaffordable medical expenses. As a rule, we will use the lowercase term “medically needy” to refer to the loose definition, and the uppercase term “Medically Needy” to refer to the formal program.

Figure 3 presents a diagram of how individuals may qualify for medically needy coverage under the various provisions. In addition to having different mechanics, the provisions impose different asset and income thresholds. For example, Medicaid imposes more generous asset limits for noninstitutional care. We discuss these provisions below.

The institutionalized medically needy

We begin by looking at provisions for institutional (that is, nursing home) care.⁷ If an institutionalized elderly individual’s monthly income is within 300 percent of the SSI limit, then she qualifies for Medicaid (Gruber, 2000) in 39 states, plus the District of Columbia, through the expanded nursing home provision. Virtually all of the person’s income will still be applied toward the cost of care, and the individual will get an allowance. If an institutionalized person’s income is greater than 300 percent of the SSI limit, but still insufficient to cover her medical expenses, she may qualify for Medicaid through one of two mechanisms. The first option is to use the formal Medically Needy provision, which can be used for any sort of medical expense, to cover institutional care. The individual will have a “spend-

down” period that lasts until her net income—income less medical expenses—falls below the Medically Needy threshold. After qualifying as medically needy, the person still has to direct most of her income to pay for her care. She can keep only a small amount as a personal allowance, while Medicaid uses the rest to keep the individual at the institution (Gruber, 2000).

The second mechanism for receiving institutional care is to use a Qualified Income or Miller trust. Income deposited in these trusts is excluded from the Medicaid tests. The individual deposits enough income in a trust to fall below the 300 percent limit and qualify for expanded nursing home coverage. Once the individual passes away, the state receives any money remaining in the trust, up to the amount that Medicaid has paid on the individual’s behalf⁸ (Weschler, 2005).

Of the 39 states offering enhanced nursing home coverage, 25 also offer Medically Needy coverage. The remaining 15 states are required by federal law to allow applicants to use Miller trusts. Four of the states that provide medically needy coverage permit Miller trusts as well (Stone, 2002).

Of the 11 states not offering expanded nursing home coverage, nine offer Medically Needy coverage. The difference between these states and the states offering expanded nursing home coverage is that individuals in these states are not automatically eligible for Medicaid nursing home care if their incomes are below 300 percent of the SSI level. However, given

TABLE 2

Income and asset limits (in \$) for SSI/Medicaid recipients, 2009

State	SSI and Medicaid asset limit ^{b, d}	Maximum federal SSI benefit plus state supplement	Disregarded income	Monthly (earned) income limit for SSI/Medicaid eligibility
Non-209(b) states				
Alabama	2,000	674	20	1,433
Alaska ^a	2,000	1,262	20	2,609
Arizona	No limit	903	20	1,891
Arkansas	2,000	674	20	1,433
California	2,000	907	230	2,109
Colorado	2,000	699	20	1,483
Delaware	2,000	674	20	1,433
District of Columbia	4,000	907	20	1,899
Florida	5,000	674	20	1,433
Georgia	2,000	674	20	1,433
Idaho	2,000	701	20	1,487
Iowa	2,000	674	20	1,433
Kansas	2,000	674	20	1,433
Kentucky	2,000	674	20	1,433
Louisiana	2,000	674	20	1,433
Maine	2,000	907	75	1,954
Maryland	2,500	674	20	1,433
Massachusetts	2,000	907	20	1,899
Michigan	2,000	907	20	1,899
Mississippi	4,000	724	50	1,563
Montana	2,000	674	20	1,433
Nebraska	4,000	907	20	1,899
Nevada	2,000	711	20	1,507
New Jersey	4,000	907	20	1,899
New Mexico	2,000	674	20	1,433
New York	4,350	769	20	1,623
North Carolina	2,000	903	20	1,891
Oregon	4,000	676	20	1,437
Pennsylvania	2,000	907	20	1,899
Rhode Island	4,000	907	20	1,899
South Carolina	4,000	903	20	1,891
South Dakota	2,000	689	20	1,463
Tennessee	2,000	674	20	1,433
Texas	2,000	674	20	1,433
Utah	2,000	907	20	1,899
Vermont	2,000	920	20	1,925
Washington	2,000	721	20	1,527
West Virginia	2,000	674	20	1,433
Wisconsin	2,000	759	20	1,603
Wyoming	2,000	699	20	1,483
209(b) states				
	SSI: 2,000			
Connecticut	Medicaid: 1,600	845	278	2,033
Hawaii ^c	2,000	1,044	20	2,173
Illinois	2,000	674	25	1,438
	SSI: 2,000			
Indiana	Medicaid: 1,500	674	20	1,433
Minnesota	3,000	907	20	1,899
	SSI: 2,000			
Missouri ^c	Medicaid: 1,000	768	20	1,621
	SSI: 2,000			
New Hampshire ^c	Medicaid: 1,500	715	13	1,508
North Dakota	3,000	674	20	1,433
Ohio	SSI: 2,000			
	Medicaid: 1,500	674	20	1,433
Oklahoma	2,000	719	20	1,523
Virginia	2,000	722	20	1,529

^aBased on Alaska Public Assistance payments.

^bDisabled individuals under the age of 65 face no asset limits.

^cIndividuals receiving reduced SSI benefits may not qualify for Medicaid.

^dIn 209(b) states, SSI and Medicaid asset limits are sometimes different.

Source: Kaiser Commission on Medicaid and the Uninsured (2010b).

TABLE 3

Income and asset limits (in \$) for dual eligibles, 2010

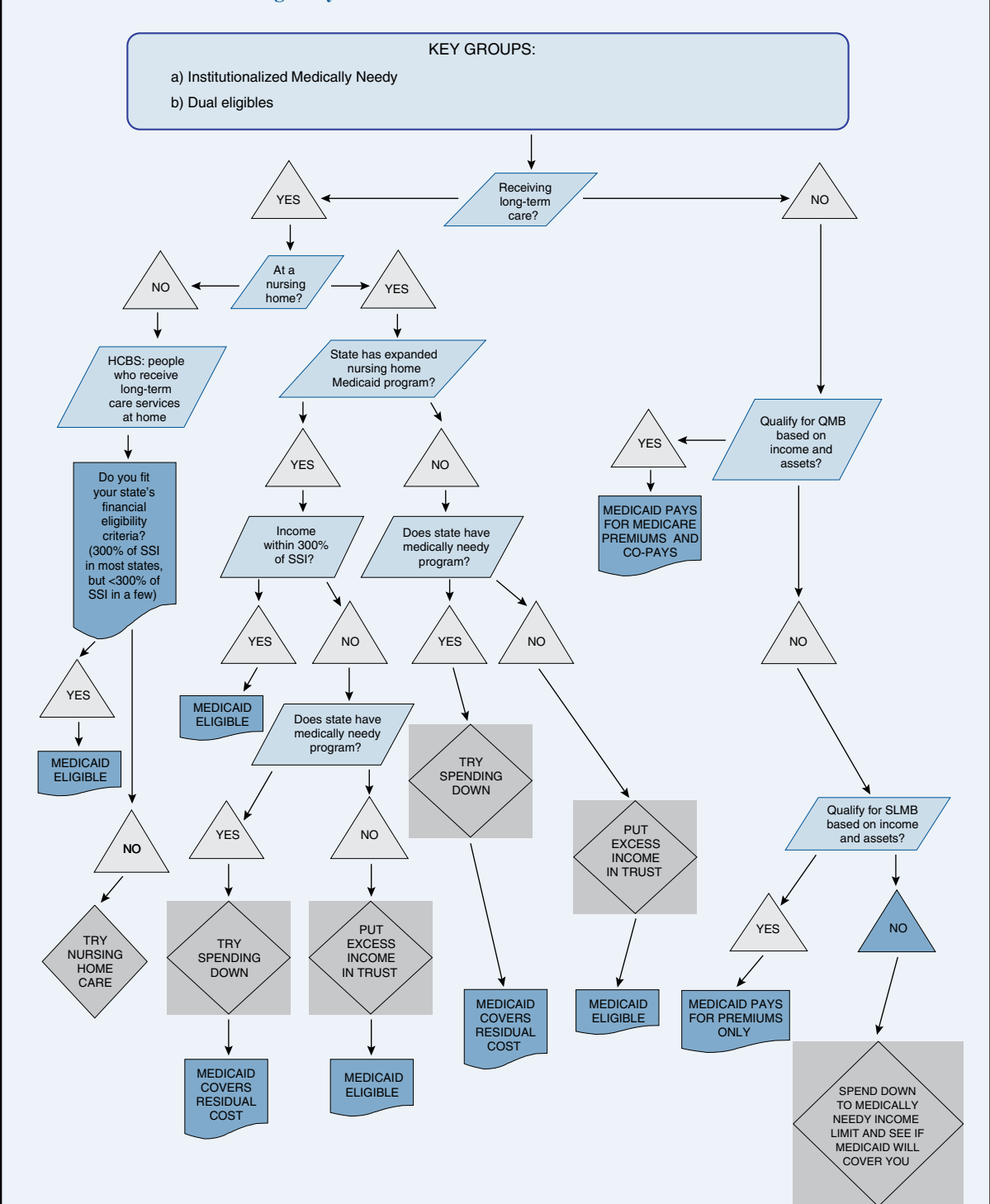
State	Monthly income limit, QMBs	Monthly income limit, SLMBs	Monthly income limit, QIs	Income disregard amount	Asset limit
Non-209(b) states					
Alabama	903	1,083	1,219	20	No limit
Alaska	1,108	1,333	1,503	20	6,600
Arizona	903	1,083	1,219	20	No limit
Arkansas	903	1,083	1,219	20	6,600
California	903	1,083	1,219	20	6,600
Colorado	903	1,083	1,219	20	6,600
Delaware	903	1,083	1,219	20	No limit
District of Columbia	2,706	2,708	NA	QMB: 1,803; SLMB: 1,625; QI: NA	No limit
Florida	903	1,083	1,219	20	6,600
Georgia	903	1,083	1,219	20	6,600
Idaho	903	1,083	1,219	20	6,600
Iowa	903	1,083	1,219	20	6,600
Kansas	903	1,083	1,219	20	6,600
Kentucky	903	1,083	1,219	20	6,600
Louisiana	903	1,083	1,219	20	6,600
Maine	1,354	1,535	1,670	75	No limit
Maryland	902	1,083	1,218	20	6,600
Massachusetts	903	1,083	1,219	20	6,600
Michigan	903	1,083	1,219	20	6,600
Mississippi	903	1,083	1,219	50	No limit
Montana	903	1,083	1,219	20	6,600
Nebraska	903	1,083	1,219	20	6,600
Nevada	903	1,083	1,219	20	6,600
New Jersey	903	1,083	1,219	20	6,600
New Mexico	903	1,083	1,219	20	6,600
New York	903	1,083	1,219	20	No limit
North Carolina	903	1,083	1,219	20	6,600
Oregon	903	1,083	1,219	20	6,600
Pennsylvania	903	1,083	1,219	20	6,600
Rhode Island	903	1,083	1,219	20	6,600
South Carolina	903	1,083	1,219	20	6,600
South Dakota	903	1,083	1,219	20	6,600
Tennessee	903	1,083	1,219	20	6,600
Texas	903	1,083	1,219	20	6,600
Utah	903	1,083	1,219	20	6,600
Vermont	903	1,083	1,219	20	No limit
Washington	903	1,083	1,219	20	6,600
West Virginia	903	1,083	1,219	20	6,600
Wisconsin	903	1,083	1,219	20	6,600
Wyoming	903	1,083	1,219	20	6,600
209(b) states					
Connecticut	1,779	1,960	2,092	QMB: 876; SLMB: 877; QI: 873	No limit
Hawaii	1,039	1,246	1,402	20	6,600
Illinois	903	1,083	1,219	25	6,600
Indiana	903	1,083	1,219	20	6,600
Minnesota	903	1,083	1,219	20	10,000
Missouri	903	1,083	1,219	20	6,600
New Hampshire	903	1,083	1,219	13	6,600
North Dakota	903	1,083	1,219	20	6,600
Ohio	903	1,083	1,219	20	6,600
Oklahoma	903	1,083	1,219	20	6,600
Virginia	903	1,083	1,219	20	6,600

Notes: QMB indicates qualified Medicare beneficiaries; SLMB indicates specified low-income Medicare beneficiaries; and QI indicates qualified individuals. NA indicates not applicable.

Source: Kaiser Commission on Medicaid and the Uninsured, 2010b.

FIGURE 3

Eligibility flowchart for non-SSI Medicaid beneficiaries



that most individuals in nursing homes incur medical expenses far greater than 300 percent of the SSI level, there is little practical difference in Medicaid eligibility across the different states. All individuals with incomes below 300 percent of the SSI level in either type of state will deplete all their resources and will be eligible for Medicaid nursing home care through the Medically Needy program. The remaining two states, Indiana and Missouri, lack both provisions. However, Indiana and Missouri are both 209(b) states. To reduce the hardships that SSI beneficiaries may face in 209(b) states, federal rules require these states to allow individuals to spend down to the states' income and asset limits for Medicaid.⁹ The rules thus mandate that 209(b) states offer the equivalent of a Medically Needy program, even if the states do not formally offer the Medically Needy option (Carpenter, 2000). Four 209(b) states—Indiana, Missouri, Ohio, and Oklahoma—offer a spend-down provision in accordance with this mandate. With this provision in place, institutionalized individuals in every state have at least one way to qualify for Medicaid if they are destitute and institutionalized.¹⁰

Table 4 shows the provisions offered in each state and the associated income and asset limits. In most states, the Medically Needy income limits (income less medical expenses) are stricter than the income limits for the categorically needy.

Medicaid's ability to recover assets from the estate

The asset limits presented in table 4 are similar to the asset limits for the categorically needy presented in table 2. There are two key distinctions between the two sets of asset tests, both relating to their treatment of housing. First, the Medicaid asset test for the categorically needy excludes the individual's principal residence, whereas the Deficit Reduction Act of 2005 stipulates that the Medicaid asset test for the medically needy places limits on the amount of home equity that is excluded. Although there are limits on the amount of home equity that can be excluded, the second-to-last column of table 4 shows that these limits are quite generous.¹¹ Second, and more importantly, houses owned by institutionalized individuals who do not plan to return to that house no longer serve as principal residences.¹² Therefore, the home equity of that individual is no longer excluded from the asset test. More precisely, the U.S. Department of Health and Human Services (2005c, p. 2) states that an individual's house is included in the asset test when he "has no living spouse or dependents and moves into a nursing home or other medical institution on a permanent basis without the intent to return, transfers the home for less than fair market value, or dies." An essential part of the definition is "the intent to return" provision, designed to exempt individuals

whose stays at the institution are temporary. In most states, the intent to return is based on the beliefs of the institutionalized individual, with no reference to the individual's underlying medical condition. Only the 209(b) states are allowed to use more objective criteria, such as a professional medical diagnosis or the duration of stay, to assess the likelihood that the individual might return to his home. A mechanism that is available to non-209(b) states is to restrict the institutionalized individual's income allowance so much that the individual can no longer cover property taxes and maintenance costs, forcing her to sell her home. However, individuals may be able to resist such "squeezes" by using reverse mortgages to fund taxes and maintenance (U.S. Department of Health and Human Services, 2005c).

Once an individual dies, his home ceases to be protected. The Omnibus Reconciliation Act of 1993 requires states to seek from beneficiary estates reimbursement for long-term care, both in-house and institutional, and services provided concurrently with long-term care. However, states cannot pursue homes occupied by the beneficiary's spouse or dependents (U.S. Department of Health and Human Services, 2005d). Furthermore, because the state may be one of many claimants to the estate, and given the general complexity of estate law—which in a few states explicitly protects estates from Medicaid claims—Medicaid collects relatively little money from estates.¹³ In 2004, estate recoveries equaled 0.8 percent of Medicaid spending on nursing homes, with the most successful state, Oregon, recovering 5.8 percent of its nursing home expenditures (U.S. Department of Health and Human Services, 2005a). Table 5 provides information on asset recovery practices and outcomes.

One device states use to enhance their recovery prospects is to place liens on their beneficiaries' assets. The Tax Equity and Fiscal Responsibility Act (TERFA) of 1982 allows states to place liens on the homes of permanently institutionalized Medicaid beneficiaries. After the beneficiary dies, states may also place "post-death" liens on her estate (U.S. Department of Health and Human Services, 2005b).

TERFA liens can help states protect themselves from abuses of the "intent to return" provision. While the intent to return is generally based on the subjective opinion of the beneficiary himself, TERFA liens may be established on the basis of objective criteria (U.S. Department of Health and Human Services, 2005b). Table 6 (p. 30) summarizes the criteria states use.

TERFA liens also protect states if a beneficiary attempts to transfer the house to a third party (for example, a child) prior to applying for Medicaid. The

TABLE 4							
Income and asset limits (in \$) for institutionalized medically needy Medicaid recipients, 2009							
State	Coverage	Asset limit	Income limit (income less medical expenses)	Expanded nursing home coverage	Income allowed if institutionalized in 2003	Home equity limit	State-allowed Miller trust
Non-209(b) states							
Alabama	No	NA	NA	Yes	NA	500,000	Yes
Alaska	No	NA	NA	Yes ^a	NA	500,000	Yes
Arizona	Yes	5,000 ^b	360	Yes	76.65	500,000	Yes
Arkansas	Yes	2,000	108	Yes	40	500,000	Yes
California	Yes	2,000	600	No	35	750,000	No
Colorado	No	NA	NA	Yes	NA	500,000	Yes
Delaware	No	NA	NA	Yes ^c	NA	500,000	Yes
District of Columbia	Yes	4,000	577	No	70	750,000	No
Florida	Yes	5,000	180	Yes	35	500,000	Yes
Georgia	Yes	2,000	317	Yes	30	500,000	No
Idaho	No	NA	NA	Yes	NA	750,000	Yes
Iowa	Yes	10,000	483	Yes	30	500,000	Yes
Kansas	Yes	2,000	495	Yes	30	500,000	No
Kentucky	Yes	2,000	217	Yes	40	500,000	No
			Urban: 100;				
Louisiana	Yes	2,000	Rural: 92	Yes	38	500,000	No
Maine	Yes	2,000	903	Yes	40	750,000	No
Maryland	Yes	2,500	350	Yes	40	500,000	No
Massachusetts	Yes	2,000	9,035 ^d	No	60–65	750,000	No
			Region 1: 341;				
			Region 2: 341;				
			Region 3: 350;				
			Region 4: 375;				
			Region 5: 391;				
Michigan	Yes	2,000	Region 6: 408	Yes	60	500,000	No
Mississippi	No	NA	NA	Yes	NA	500,000	Yes
Montana	Yes	2,000	625	Yes	40	500,000	No
Nebraska	Yes	4,000	392	Yes	50	Disregarded ^e	No
Nevada	No	NA	NA	Yes	NA	500,000	Yes
New Jersey	Yes	4,000	367	Yes	40	750,000	No
New Mexico	No	NA	NA	Yes	NA	750,000	Yes
New York	Yes	2,000	767	No	50	750,000	No
North Carolina	Yes	2,000	242	No	30	500,000	No
Oregon	No	NA	NA	Yes	NA	500,000	Yes
Pennsylvania	Yes	2,400	425	Yes	30	500,000	No
Rhode Island	Yes	4,000	800	Yes	50	500,000	No
South Carolina	No	NA	NA	Yes	NA	500,000	Yes
South Dakota	No	NA	NA	Yes	NA	500,000	Yes
Tennessee	Yes	2,000	241	Yes	30	500,000	No
Texas	No	NA	NA	Yes	NA	500,000	Yes
Utah	Yes	2,000	370	Yes	45	500,000	No
			916				
			(991 for				
Vermont	Yes	2,000	Chittenden)	Yes	47.66	500,000	No
Washington	Yes	2,000	674	Yes	41.62	500,000	No
West Virginia	Yes	2,000	200	Yes	NA	500,000	No
Wisconsin	Yes	2,000	592	Yes	45	750,000	No
Wyoming	No	NA	NA	Yes	NA	500,000	Yes

TABLE 4 (CONTINUED)

Income and asset limits (in \$) for institutionalized medically needy Medicaid recipients, 2009

State	Coverage	Asset limit	Income limit (income less medical expenses)	Expanded nursing home coverage	Income allowed if institutionalized in 2003	Home equity limit	State-allowed Miller trust
209(b) states							
			Region A: 576; Regions B and C: 476				
Connecticut	Yes	1,600		Yes	54	750,000	No
Hawaii	Yes	2,000	469	No	30	750,000	No
Illinois	Yes	2,000	903	No	30	NA	No
Indiana	No ^e	NA	NA	No	NA	500,000	No
Minnesota	Yes	3,000	677	No	69	500,000	No
Missouri	No ^e	NA	NA	No	NA	500,000	No
New Hampshire	Yes	2,500	591	Yes	50	500,000	No
North Dakota	Yes	3,000	750	No	40	500,000	No
Ohio	No ^e	NA	NA	Yes	NA	500,000	Yes
Oklahoma	No ^e	NA	NA	Yes	NA	500,000	Yes
			Group I: 281; Group II: 324; Group III: 421				
Virginia ^f	Yes	2,000		Yes	30	500,000	No

NA indicates not applicable.

^aIncome limit frozen at \$1,656.

^bLiquid asset limit—total assets, including housing, cannot exceed \$100,000.

^cIncome limit set at 250 percent, rather than 300 percent, of SSI limit.

^dLimit is \$1,200 for those with professional care assistance.

^eState is required to offer a spend-down provision.

^fThe state of Virginia is split into three groups, each with a different Medically Needy income limit.

Source: Kaiser Commission on Medicaid and the Uninsured (2010b); Miller trust information from Stone (2002).

Deficit Reduction Act of 2005 extended Medicaid's "look-back" period from the three years preceding application to five years. Transfers made during the look-back period are subject to Medicaid review. If the applicant is found to have made a net transfer, that is, sold some of his assets at prices below their fair market value, his eligibility will be delayed (ElderLawNet, Inc., 2011).

The degree to which elderly individuals transfer their assets in order to become eligible for Medicaid has been the subject of several studies. These studies find that the elderly transfer little if any of their money to their heirs for the purpose of making themselves eligible for Medicaid. Thus, extending the look-back period past five years or more aggressive pursuit of transferred assets is unlikely to defray much of Medicaid's expenses. Norton (1995) argues that elderly individuals are more likely to receive transfers in an attempt to *avoid* Medicaid. In contrast, Bassett (2007) finds that "the self-assessed probability of entering a nursing home is a significant determinant of making an asset transfer." Bassett estimates that in 1993 there were about \$1 billion "Medicaid-induced" asset transfers, equaling about 3 percent of total Medicaid expenditures. Many of the

people making the transfers, however, did not receive Medicaid long-term care benefits, implying a smaller final cost to Medicaid. Waidmann and Liu (2006) study asset transfers over the period 1995 to 2004. They conclude that "even the most aggressive pursuit of transferred assets would recover only about 1 percent of total Medicaid spending for long-term care." Reviewing the literature, O'Brien (2005) concludes that the evidence "do[es] not support the claim that asset transfers are widespread or costly to Medicaid." In summary, the evidence is mixed whether the elderly give or receive transfers to affect their Medicaid eligibility. However, there is a clear consensus that these transfers are small relative to the size of Medicaid transfers.

The noninstitutionalized medically needy

The structure of Medicaid coverage for noninstitutionalized medically needy individuals is similar to that for those in institutions. Individuals with specific needs, such as home health care, can qualify under provisions tailored to those needs. Individuals not qualifying under these limited provisions can qualify under the general medically needy provision, if their state offers it.

TABLE 5

**Share of Medicaid nursing home expenses
collected from estates**

State	Medicaid collections/ nursing home costs (%)
Alabama	0.8
Alaska	0.0
Arizona	10.4 ^a
Arkansas	0.4
California	1.5
Colorado	1.5
Connecticut	0.8
Delaware	0.3
District of Columbia	1.0
Florida	0.6
Georgia	0.0
Hawaii	0.9
Idaho	4.5
Illinois	1.3
Indiana	1.8
Iowa	2.9
Kansas	1.4
Kentucky	0.9
Louisiana	0.0
Maine	2.5
Maryland	0.6
Massachusetts	2.0
Michigan	0.0
Minnesota	2.8
Mississippi	0.1
Missouri	1.1
Montana	1.4
Nebraska	0.3
Nevada	0.3
New Hampshire	1.6
New Jersey	0.6
New Mexico	0.0
New York	0.5
North Carolina	0.5
North Dakota	1.2
Ohio	0.5
Oklahoma	0.3
Oregon	5.8
Pennsylvania	0.1
Rhode Island	1.0
South Carolina	1.3
South Dakota	1.0
Tennessee	0.9
Texas	0.0
Utah	0.0
Vermont	0.4
Virginia	0.1
Washington	1.8
West Virginia	0.1
Wisconsin	1.8
Wyoming	2.7

^aResults for Arizona are not comparable to those for other states because of data issues arising from the extensive use of prepaid managed care contracts.

Sources: Probate data—Karp, Sabatino, and Wood (2005); policy range and collections data—U.S. Department of Health and Human Services (2005a).

Individuals needing long-term care can often substitute home-based care for care at a nursing home or another institution. To promote the use of home-based care, states can utilize 1915(c) home- and community-based service care (HCBS) waivers, which give them additional flexibility in how they provide these services (Carpenter, 2000). Services that can be offered under an HCBS waiver range from traditional medical services, such as dental care and skilled nursing services, to nonmedical services, such as case management and environment modification.

In most states, the income test used for 1915(c) waivers is the same as the one used for expanded nursing home coverage, namely 300 percent of the SSI limit. Other states (for example, California) impose more stringent tests. As Table 4 shows, many states (including Arizona) allow the use of Miller trusts. As with the expanded nursing home program, beneficiaries are expected to direct their income toward the cost of their expenses. The income allowances, however, vary greatly across states (Walker and Accius, 2010).

The asset limits for 1915(c) applicants are the ones for the categorically needy (Stone, 2002). Housing is excluded from the asset test, but the Omnibus Reconciliation Act of 1993 requires states to pursue estates to recover the cost of long-term care. On the other hand, states do not have to pursue these costs if they decide it would not be cost-effective (U.S. Department of Health and Human Services, 2005d). Given the limited success of state cost recovery efforts in general, such efforts are unlikely to play a large role in the case at hand.

Some states limit access by requiring 1915(c) beneficiaries to exhibit difficulties in performing at least three “activities of daily living” (bathing, dressing, grooming, and so on); functional eligibility for nursing homes requires only two. Most states impose limits on how much they spend per year for home and community-based service care. Furthermore, states are free to choose how many applications to approve. They are also free to limit the number of waivers.¹⁴ Many states have more individuals in need of waivers than open “slots,” and thus operate waiting lists (Kaiser Commission on Medicaid and the Uninsured, 2009). Table 7 summarizes the 1915(c) HCBS waiver programs offered by each state.

In addition to utilizing 1915(c) waivers, states can provide HBCS services under two other provisions: the federally mandated home health benefit provided by all states; and the optional personal care benefit, which in 2006 was provided by 31 states. In 2006, the two programs incurred 34 percent of total HCBS expenditures and assisted 61 percent of the HCBS beneficiaries. Most states screened applicants to these

TABLE 6

Decision criteria for TERFA liens

State	Length of stay presumption	Number of months triggering presumption	Intent to return home	Physician's declaration	Other third-party evaluation	Other
Alabama	Yes	3	Yes	Yes	No	No
Arkansas	Yes	4	Yes	Yes	No	No
California	Yes	No	No	No	No	No
Connecticut	Yes	6	Yes	Yes	Yes	Yes
Delaware	Yes	24	Yes	No	No	No
Hawaii	Yes	6	Yes	Yes	No	No
Idaho	Yes	Yes	No	No	No	No
Illinois	Yes	4	Yes	No	No	No
Indiana	NR	Yes	Yes	Yes	Yes	Yes
Maryland	Yes	NR	Yes	Yes	No	Yes
Massachusetts	Yes	6	Yes	Yes	Yes	No
Minnesota	Yes	6	Yes	No	No	No
Montana	Yes	Yes	No	No	No	Yes
New Hampshire	Yes	No	No	No	No	Yes
New York	Yes	No	No	No	No	No
Oklahoma	Yes	6	Yes	Yes	No	No
South Dakota	Yes	Yes	No	No	No	Yes
West Virginia	NR	NR	Yes	No	No	Yes
Wyoming	NR	No	NR	NR	NR	NR

Notes: TERFA is the Tax Equity and Fiscal Responsibility Act of 1982. NR indicates no response.
Source: Karp, Sabatino, and Wood (2005).

programs with the income and asset tests for categorically needy recipients. There is variation in the financial eligibility limits states require to get this benefit. Some states keep it at the 300 percent level, but others restrict it further. Many states also provide a medically needy spend-down option (Kaiser Commission on Medicaid and the Uninsured, 2009).

The noninstitutionalized medically needy: Other pathways

For individuals unable to qualify under any of the preceding pathways, the Medically Needy provision provides an important “last chance” opportunity to qualify for Medicaid (Crowley, 2003). The income and asset levels for the noninstitutionalized Medically Needy applicants are the same as the ones for institutionalized individuals presented in table 4. Similarly, noninstitutionalized individuals with high incomes end up paying most if not all of their medical expenses before they receive aid.

Because the income limits for the Medically Needy provision are usually stricter than the limits for the “income needy” (for example, the SSI recipients, dual eligibles, and certain HCBS beneficiaries), noninstitutionalized individuals also face a possible discontinuity in coverage. In consequence, the penalty to being

Medically Needy rather than income needy may be significant.

By way of example, consider two individuals in Pennsylvania. Both individuals require health care costing \$500 per month. The first individual has a monthly income of \$900 per month, which in Pennsylvania allows him to qualify as categorically needy (table 2). This person pays nothing for medical care. The second individual has a monthly income of \$1,100 and does not qualify as categorically needy. Deducting medical expenses leaves her with a net income of \$600, which is above Pennsylvania’s Medically Needy net income limit (table 4). In short, receiving an additional \$200 of income costs the second person \$500 of Medicaid benefits. The quantitative importance of these discontinuities is of course an empirical matter, depending both on the formal provisions and their practical application by Medicaid administrators.

Discussion

In a number of recent studies, the joint effect of Medicaid and public assistance programs such as SSI is modeled as a consumption floor: If an individual is not able to cover her medical expenses and purchase a minimal amount of consumption, the government will cover the difference (Hubbard, Skinner, and Zeldes, 1995; Palumbo, 1999; De Nardi, French, and Jones,

TABLE 7

Eligibility criteria for Medicaid 1915(c) HCBS waivers, 2008

States	Income limit for the aged ^a (% of SSI limit) ^a	Waiting list for the aged	Income limit for the aged/disabled (% of SSI limit) ^a	Waiting list for the aged/disabled	Tougher functional requirements; ^b cost limits	Income allowed ^c (in \$)
Non-209(b) States						
Alabama			300, MT	7,094	Yes; yes	UL
Alaska	300, MT	0			No; yes	1,656
Arizona	NP ^d					
Arkansas	300, MT	0			No; yes	UL
California			100	1,200	No; yes	≤2,022
Colorado			300, MT	0	No; no	2,022
Delaware	100, MT	0	250, MT	0	Yes; no	1,685
District of Columbia			300	0	No; yes	2,022
Florida	300, MT	0	300, MT	12,684	Yes; yes	674
Georgia			300, MT	763	Yes; no	674
Idaho			300, MT	0	No; no	674 ^e
Iowa	300, MT	0			No; yes	2,022
Kansas	300	0			Yes; yes	727
Kentucky			300, MT	0	No; yes	694
Louisiana			300	8,433	No; yes	2,022
Maine			300	0	No; yes	1,128
Maryland	300	6,000			No; yes	2,022
Massachusetts	100	0			No; no	2,022
Michigan			300	3,404	No; no	2,022
Mississippi			300, MT	6,000	Yes; yes	UL
Montana			100	600	No; yes	625
Nebraska			100	0	No; yes	903
Nevada	300, MT	343	300, MT	0	No; no	UL
New Jersey			300	0	No; yes	2,022
New Mexico			300	5,000	No; no	UL
New York			300, MT	0	Yes; yes	787
North Carolina			100	6,000	No; yes	903
Oregon			300, MT	0	No; yes	1,822
Pennsylvania	300	0			No; yes	2,022
Rhode Island	300	0	300	99	No; no	923
South Carolina			300, MT	2,016	No; yes	2,022
South Dakota	300, MT	0			No; yes	694
Tennessee			300, MT	350	No; yes	1,348
Texas			300, MT	40,107	Yes; yes	2,022
Utah	300	0			Yes; no	≥903, ≤2,022
Vermont	NP					
Washington			300	0	No; yes	≤2,022
West Virginia			300	0	No; yes	674
Wisconsin			300	13,296	No; no	≤2,022
Wyoming			300, MT	210	No; yes	UL
209(b) states						
Connecticut			300	0	No; yes	1,805
Hawaii			100	100	No; no	1,128
Illinois	100	0	100	0	No; no	674
Indiana			100, MT	1,279	No; yes	2,022
Minnesota	300	0			No; yes	935
Missouri			100	0	No; yes	1,113
New Hampshire	100	0			No; no	Varies
North Dakota			100	0	No; no	750
Ohio			300, MT	1,224	No; yes	1,314
Oklahoma			300, MT	0	No; yes	1,011
Virginia	300	0	300	0	No; no	≤2,022

^aMT indicates that the state allowed Miller trusts in 2009–10.

^bIndividual must exhibit difficulty performing three (rather than two) activities of daily living.

^cCost allowance for 2009–10. These limits may be exceeded through the use of Miller trusts.

^dOffers a similar program.

^eAllowance is \$1,128 for renters.

Note: HCBS is home- and community-based service care; NP indicates not a participant; UL denotes unlimited with a Miller trust; ≤ means at most, but the income allowance depends on multiple factors.

Source: Kaiser Commission on Medicaid and the Uninsured (2009); Miller trust information from Walker and Accius (2010).

2010; French and Jones, 2011). Is this a reasonable approximation of the Medicaid system?

Our review suggests that the effective consumption floor provided by Medicaid varies greatly by income and asset levels, as well as medical conditions. Individuals in nursing homes are given much smaller allowances, and are more likely to forfeit the value of their house, than noninstitutionalized individuals. This distinction has been recognized by Brown and Finkelstein (2008), among others. The extent to which institutionalized individuals must surrender their homes depends on a number of factors, including the interpretation of the intent to return, the willingness of the state to impose liens, and the effectiveness of estate recovery, all of which vary across states.

We also find the potential for discontinuities in coverage. Medicaid recipients can be placed in two

groups. The first group is the income needy, who receive benefits because they have low incomes. Income-needy individuals include those receiving expanded nursing home coverage, many recipients of HCBS services, and dual eligibles, as well as the categorically needy. The second group is the expenditure needy, who receive benefits because their medical expenses are large relative to their income. This group includes individuals utilizing Miller trusts, as well as the Medically Needy. In some cases, the net income (income less medical expenses) limits for the medically needy are stricter than the income limits for the income needy. This raises the possibility that the income needy receive more generous coverage. We believe that the scope for such unequal treatment is greatest for noninstitutionalized individuals.

NOTES

¹Figure is taken from the Kaiser Family Foundation (2010).

²Figures are taken from the 2010 Medicaid Actuarial Report (Office of the Actuary, Centers for Medicare and Medicaid Services, 2010) for those who are “aged.” Data from the Medicaid Statistical Information System show that over 0.6 million disabled people are also aged 65 and older.

³Figures are taken from the U.S. Bureau of Economic Analysis, 2011, tables 3.1 and 3.12.

⁴Data from the Medicaid Statistical Information System (MSIS) cited in figure 1 show \$68.3 billion, but these data do not include certain payments such as Medicare premiums paid for dual eligibles. For this reason, the MSIS data likely understate dual eligibles’ share of total expenditures. Also, the MSIS categories are slightly different from those in figure 1. However, virtually all “cash recipients” over age 65 are those receiving SSI and virtually all “poverty related” individuals over age 65 are dual eligibles.

⁵Sheltered workshops are organizations that provide employment to people with disabilities (Sheltered Workshops, Inc, 2011).

⁶In addition to food stamps, the exempt categories include income that is set aside toward an approved plan for achieving self support (used by the blind and disabled to pay off educational or vocational costs), and certain types of assistance for home energy needs.

⁷The remainder of this section utilizes overviews by Stone (2002), Walker and Accius (2010), and the Kaiser Commission on Medicaid and the Uninsured (2010).

⁸Prior to the passage of the Omnibus Budget Reconciliation Act in 1993, it was acceptable to place extra income in a self-created discretionary fund to acquire Medicaid coverage. Since 1993, apart from limited trusts such as the Miller or Qualified Income trusts, most discretionary trust funds are treated as countable income or assets and may restrict people from obtaining Medicaid (see Goldfarb, 2005).

⁹The mandate is in the 2000 House Bill 1111, Section 11.445, which specifies that an individual eligible for or receiving nursing home care must be given the opportunity to have those Medicaid dollars follow them to the community and to choose the personal care option in the community that best meets their needs (Niesz, 2002).

¹⁰This raises the possibility of a discontinuity in coverage. An individual whose income is \$1 above the categorically needy limit may need to spend a considerable amount to qualify under the Medically Needy provision. However, in practice the discontinuity in coverage is unimportant in most cases because institutionalized Medicaid recipients must spend almost all of their income on their care. The median cost of nursing home care was \$5,550 per month in 2010. Whether an individual’s income is slightly more or less than 300 percent of the SSI limit ($\$674 \times 3 = \$2,022$), Medicaid will still provide a nursing home, but all of their income must be put toward the cost of the nursing home.

¹¹If a spouse or dependent resides in the house, the equity limits do not apply (ElderLawNet, Inc., 2011).

¹²The inclusion of housing in the asset tests for institutionalized individuals applies to the categorically needy as well as the medically needy. Most categorically needy individuals, however, do not hold significant housing equity (U.S. Department of Health and Human Services, 2005c).

¹³States do not have to pursue an estate if they determine pursuit would not be cost-effective. The definition of “cost-effective,” not surprisingly, varies across states (U.S. Department of Health and Human Services, 2005d).

¹⁴For example, New Hampshire and Michigan limit 1915(c) waivers for the aged to those who are also disabled. Only two states, Arizona and Vermont, do not offer HCBS waivers, and Arizona offers a similar program.

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