Citi Research
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North America

U.S. Economic Views

Bull Markets to Supermarkets? Wealth as a Driver of Consumer Spending

- Accelerating consumption spending is a key ingredient for above 3 percent GDP growth through 2015, which will be supported by the $15 trillion rise in household net worth over the past two years. Given the scale of this impetus to spending – as well as the pullback in equities in recent weeks – we provide an analysis of additional influences that may dampen the wealth effect as a driver of consumer expenditure over both the short- and long-term.

- Roughly two thirds of the recent increase in net worth reflects rising equity prices, the gains from which are unevenly distributed across the population. Higher income households have both higher exposure to the stock market and lower propensity to put their gains towards consumption spending. The combination of these factors plays a mitigating role in the pass-through of wealth gains to personal consumption expenditure (PCE) growth. Even accounting for this fact, however, we still expect sizable overall wealth effects in the coming quarters.

- A related fact is that net worth has accumulated disproportionately to households in the baby boom generation over the course of the 2000s. This correlation between net worth and age will act as a meaningful offset to the demographic-based drop off in consumer spending that is expected when this cohort retires over the next decade.

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See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

Bull Markets to Supermarkets? Wealth as a Driver of Consumer Spending

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We have argued previously that consumer spending will accelerate in the coming quarters, with PCE growth likely running at or above 3 percent. This projection marks a departure from the 2.5 percent average rate that has characterized much of the recovery from the Great Recession (**Figure 1**), and is driven in part by the $15 trillion rise in household net worth over the past two years. Given the scale of this impetus to spending – as well as the pullback in equity prices in recent weeks – below we discuss how changes in household wealth influence consumer expenditures over both the short- and long-term.

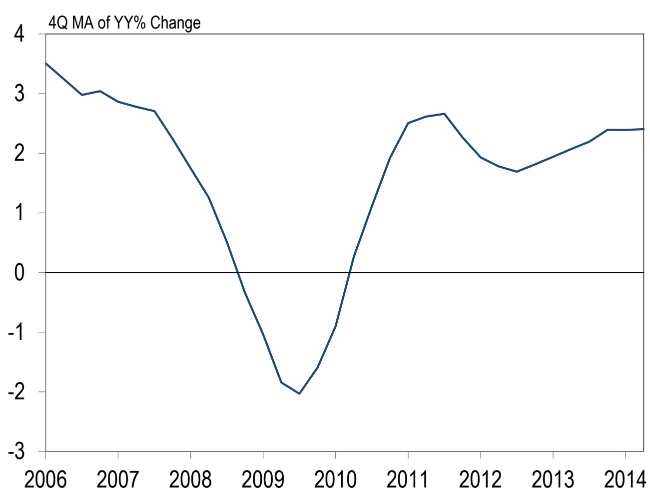
In the short-term, in spite of the fact that the recent upswing in household assets has been large (and the corresponding increase in consumer spending is thus expected to be large, as noted in Job Gains Drive Stronger Spending Ahead, October 3, 2014) the boost to consumption may be mitigated by the uneven distribution of equities across the population. That is, the driver of two thirds of the recent surge in household assets is disproportionately held by higher income households with a lower marginal propensity to spend.

Over the longer-term, the growth of wealth holdings among baby boomers likely will play a supportive role for consumer spending and we expect this cohort to spend relatively more as they move into retirement. There is compelling evidence that household net worth tends to be correlated with age. This means that older households are bringing an unprecedented level of wealth into retirement, which helps to mitigate the tendency to reduce spending by the elderly, as observed in life-cycle patterns in previous generations.

How do Swings in Equity Values Affect PCE?

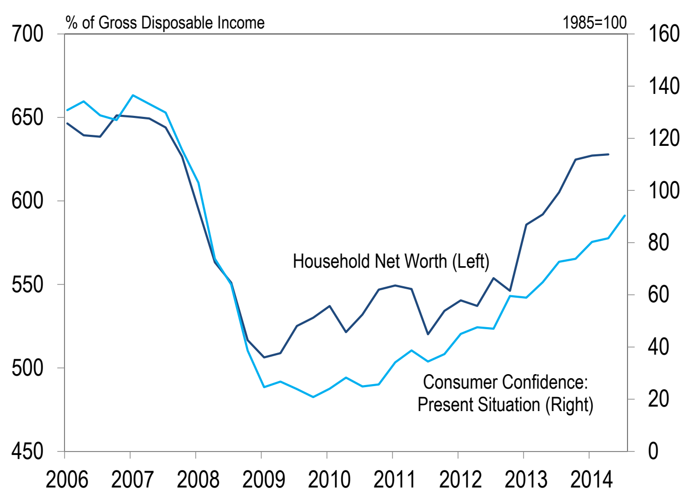
Notwithstanding the other factors affecting households' real income – namely, rising labor compensation, falling gasoline prices and dwindling fiscal restraint – the evolution of household net worth is generally closely aligned with consumer confidence (**Figure 2**). Rising net worth, in turn, has been driven disproportionately by the stock market, which is up roughly 35 percent since the beginning of 2013, while the other one third is mostly due to home price appreciation, up on average by 15 percent over that period.

Figure 1. Real Consumption Spending



Source: Bureau of Economic Analysis and Citi Research

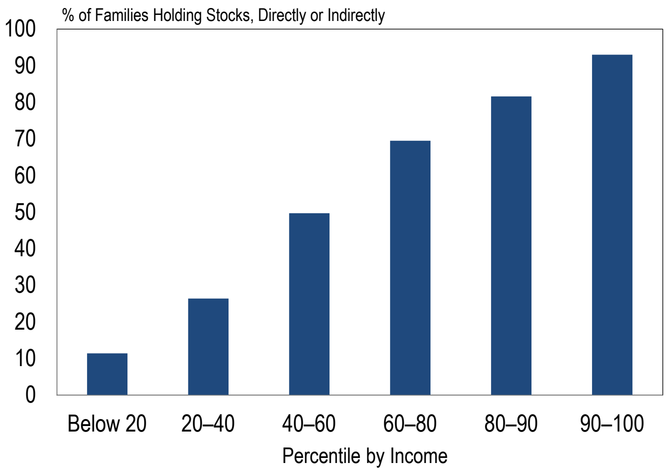
Figure 2. Household Wealth Gains and Rising Consumer Confidence



Source: Federal Reserve Board, Conference Board and Citi Research

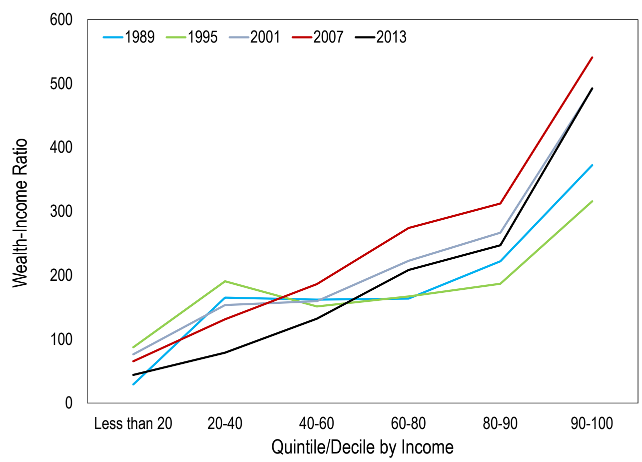
Making the case that the wealth effects operating through equity holdings will be relatively moderate requires two steps. The first step is to demonstrate that equity appreciation – and the recent accrual of wealth more generally – is predominantly affecting the upper echelons of the income distribution. This point is rather uncontroversial. The percentage of U.S. families holding equities rises steadily from 10 percent in the bottom quintile of the income distribution to over 90 percent in the top decile (**Figure 3**). Moreover, the long-term trend in families' wealth-to-income ratios even prior to 2014's equity gains was for increases in the upper quintiles of the income distribution and stagnation or slight decline in the bottom quintiles **(Figure 4)**.

Figure 3. Equity Holdings by Income Percentile (2013)



Source: Federal Reserve Board and Citi Research

Figure 4. Wealth-to-Income Ratio by Income Percentile



Source: Federal Reserve Board and Citi Research

The second step is to demonstrate that higher income households have higher average savings rates and lower marginal propensities to consume. In other words, the equity increases proffered on those families would provide a smaller boost to consumption than they would for lower-income, higher-propensity-to-consume families.

This idea is somewhat less obvious from the standpoint of economic theory, and ultimately requires empirical evidence. The academic literature, on balance, favors the idea that savings rates rise with income and wealth.[1] This pattern of savings behavior, in turn, implies lower pass-through of wealth accumulation to consumer spending.

To put these ideas into quantitative context, the average elasticity of consumer expenditures to housing wealth has been estimated to be on the order of 0.15, while the elasticity to non-housing wealth is lower, around 0.06.[2] The FRB/US macro model used by the Federal Reserve has a marginal propensity to consume out of net tangible assets ranging between 5-10 cents on the dollar. The small impact of recent stock market gains to current consumption implies that these elasticities should be viewed as an upper bound for their likely wealth effects. As noted in our earlier work, Job Gains Drive Stronger Spending Ahead (October 3, 2014), even at

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[1] For example, in Karen E. Dynan, Jonathan Skinner and Stephen P. Zeldes (2006), "Do the Rich Save More?" *Journal of Political Economy*, 112:2, savings in the bottom income quintile is roughly zero compared to over 25 percent of income in the highest quintile.

[2] An excellent summary is provided in Iacoviello, Matteo (2011): "Housing Wealth and Consumption," Board of Governors of the Federal Reserve System International Finance Discussion Papers #1027.

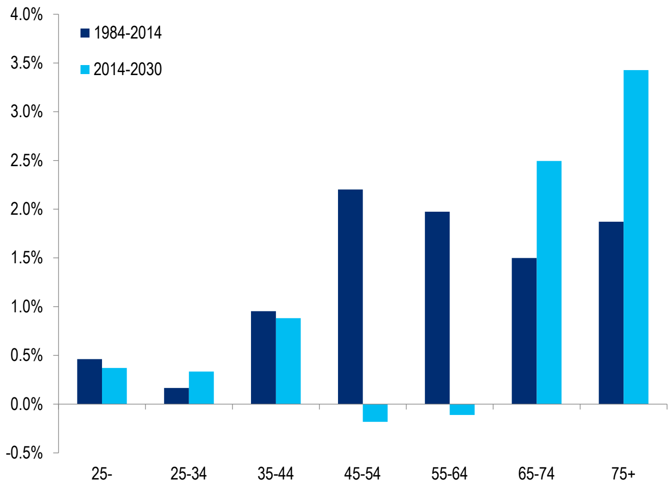
a marginal propensity of 2 cents on the dollar, recent wealth gains would still add about 1 percentage point to GDP growth over the coming year, everything else equal.

In summary, while consumer spending will enjoy a boost from higher equity prices, the distribution of those gains generates substantial moderating effects. One possible silver lining to the recent pullback in equities is that those same distributional effects may also offset their adverse effects on consumption in the coming quarters.

Wealth as an Antidote to Demographic Drag on PCE[3]

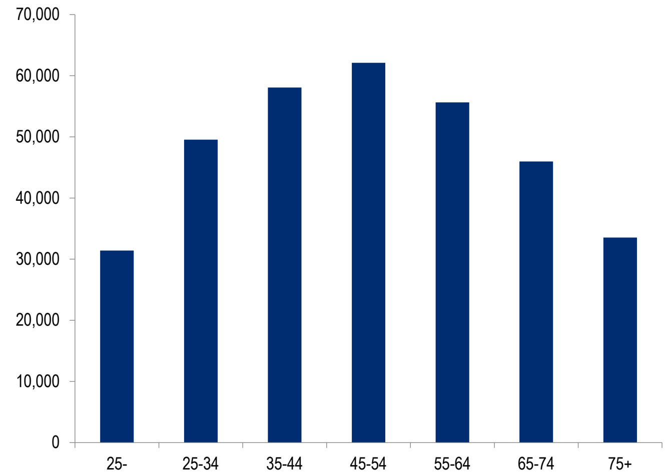
The aging of the US population presents a challenge to the continued robust growth of consumer spending, as older cohorts tend to spend less relative to middle-aged and younger cohorts. Through 2013, the growth of the middle-aged cohort – loosely defined as 45-64 years old – will collapse to less than zero percent, and the populations of the 65-74 and 75+ groups will accelerate to 2.5 and 3.4 percent per year, respectively (**Figure 5**). Indeed, a full two thirds of US population growth will be accounted for by people aged 65 and above, with the 65+ population going from 12 percent of the total U.S. population in 1984 to 20 percent in 2030.

Figure 5. Annual Population Growth by Age Group



Source: United Nations and Citi Research

Figure 6: Annual Per Capita Expenditure by Age Group (2012)



Source: Bureau of Labor Statistics and Citi Research

Further, as of 2012, average annual consumption expenditures of a person above 75 years old was $33.5 thousand, roughly half that of a person aged 45-54 (**Figure 6**). This is the crux of the demographic problem: between 2014 and 2030, the elderly population (the low spenders) will increase by almost 30 million people while the 45-64 population (the high spenders) will decrease by about 2 million people. Cumulatively through 2030, we estimate that the evolution of demographics will subtract $360 billion from total consumer spending (or a cumulative decline of 1.5 percent). This is tantamount to a drag on *annual* PCE growth of 0.2 percentage point, compounding each year over that period.

There are a number of reasons for reduced consumption spending in old age, most notably: (i) precautionary savings, as older people hedge against the possibility of outliving their wealth, (ii) bequest motives to bolster transfers to children, and (iii) an

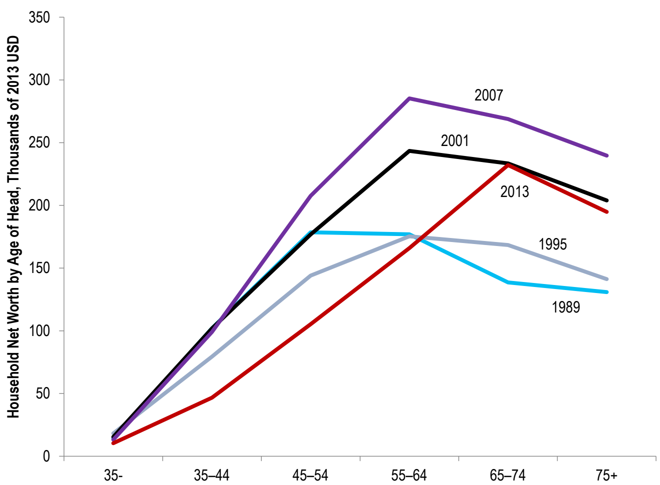
[3] See How Demography is Transforming Consumer Spending: Evidence from the United States (4 September 2014) for a more detailed treatment of the data and results in this section.

inability to smooth consumption from earlier, higher-income periods. The empirical evidence tends to support precautionary savings and bequest motives; even for owned housing, where a highly developed capital markets exists to smooth spending over time, consumption drops off by a half between the ages of 45 and 75.

An important difference between the current cohort of retirees and previous generations is that the baby boomer generation is much wealthier than preceding elderly cohorts. Stated differently, the changing distribution of wealth over the past 20 years has disproportionately favored the baby boomer generation and, as a result, that group of people will likely have more resilient consumption spending patterns in retirement.

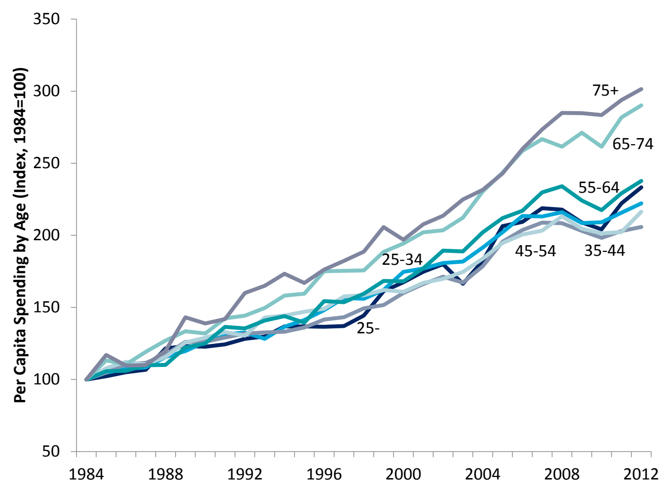
The large shifts in the distribution of net worth across age groups have been dramatic, notwithstanding the fluctuations in wealth associated with the global financial crisis (**Figure 7**). The change in the shape of the age distribution of wealth implies that asset values of older households – specifically the baby boomers over the course of the 2000s – have risen faster relative to those of younger households, and in a manner that did not generate an offsetting decline in the value of their savings. Baby boomers are thus carrying radically higher levels of wealth into retirement age. These higher levels of wealth among older households, in turn, have been associated with faster growth in consumer spending by those householders relative to younger ones (**Figure 8**).

Figure 7. Median Household Net Worth by Age Group



Source: Federal Reserve Board and Citi Research

Figure 8. Per Capita Spending Growth by Age Group



Source: Bureau of Labor Statistics and Citi Research

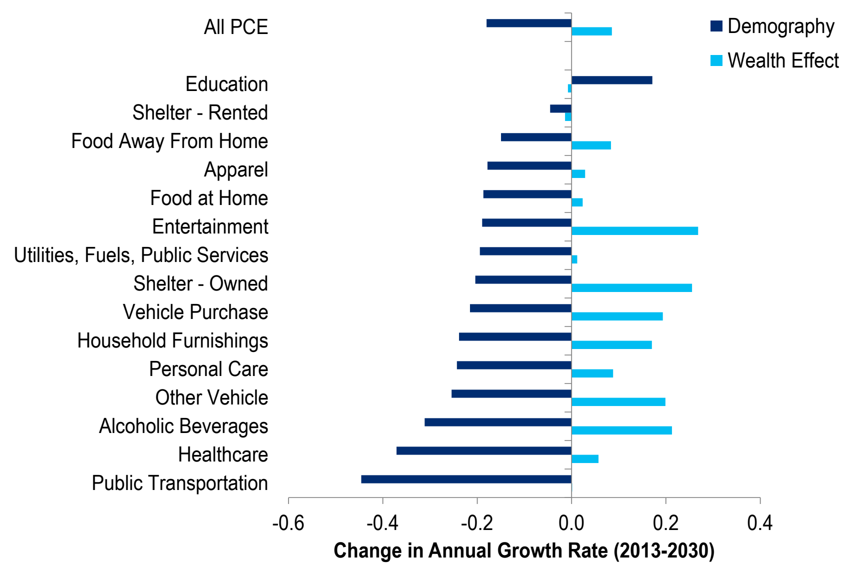
Should the trend toward faster consumption spending by older households continue, it will provide a substantial offset to the decline in aggregate spending associated with aging. By our calculations, a continuation of age-specific spending growth implies a 0.1 percentage point increase to *annual* consumer spending growth in 2030 compared to 2013, relative to a scenario where everyone's spending grew at the younger households' rate. This means that the 1.5 percentage point cumulative slowdown in PCE growth brought about by the demographic transition may be cut in half if wealth gains continue to accrue to older households.

Furthermore, as discussed in detail in How Demography is Transforming Consumer Spending: Evidence from the United States (September 4, 2014), these wealth effects are likely to be very diverse across sectors in the economy (**Figure 9**). While demography is a headwind to spending in nearly every sector, gains and losses due to wealth effects vary considerably.

The size of the demographic effect in a given sector – which is the deceleration in spending between now and 2030 – is determined by the downgrade in consumer spending when entering the 65+ age groups; this downgrade, in turn, is relatively large for public transportation, alcoholic beverages, personal care and certain vehicle expenses. Healthcare is also among the most negatively affected by demography, as ramping up of healthcare spending levels takes place at the 45-55 age group. Hence, the gains to healthcare spending *growth* from the aging baby boomers have already materialized, with future growth effects due to be lower.[4]

What determines whether a given sector will be a winner or loser from wealth effects is where the sector falls on the luxury-necessity spectrum: necessities have relatively small per capita spending growth differences across age groups, and hence smaller wealth effects, whereas luxury sectors stand to benefit from continued wealth gains by older households.

Figure 9: Contributions of Demography and Wealth Effects on Sector PCE Growth



Source: United Nations, Bureau of Labor Statistics and Citi Research

The overall winners and losers among spending sectors are presented in the table below. Overall winners – those with relatively mild demographic effects and large wealth effects through 2030 – include owned shelter and entertainment. For each of these sectors, the net effect of aging on PCE growth (i.e., the combined demography and wealth effect) is estimated to be positive. In contrast, the losers – with large demographic effects and modest wealth effects – include public transportation and healthcare, for which net growth is expected to slow by 0.3 and 0.4 percentage point, respectively.

The other sectors shown in the table below are characterized by a mix of large and small demographic and wealth effects. Of these sectors, utilities, fuels and public services, food at home, apparel and personal care will be the most negatively affected by aging, though the net effects on these sectors is rather modest.

[4] Additionally, other measures of healthcare spending – including increased public expenditures on Medicare – may accelerate as baby boomers enter into the 65+ age groups, which would provide a partial offset to the consumption effects on GDP growth that we document here.

	Large Demographic Effect	Small Demographic Effect
Large Wealth Effect	• Vehicle Purchase (-0.02) • Other Vehicle (-0.06) • Household Furnishings (-0.07) • Alcoholic Beverages (-0.10) • Personal Care (-0.15)	• Entertainment (0.08) • Shelter – Owned (0.05)
Small Wealth Effect	• Healthcare (-0.31) • Public Transportation (-0.44)	• Education (0.16) • Shelter – Rented (-0.06) • Food Away From Home (-0.07) • Apparel (-0.15) • Food at Home (-0.16) • Utilities, Fuels, Public Services (-0.18)

Note: Value in parentheses is the net change in 2030 PCE growth relative to 2013, i.e., the sum of demography and wealth effects.

Investment and Trade Boost Third Quarter Growth

The economy likely grew at a solid pace in the third quarter, once again led by an outsized rise in investment spending **(Figure 10)**. Apart from the weather distorted first quarter, the economy has grown consistently above 3 percent since summer 2013. While we expect those figures overstated the trend because they included the bounce backs from the tax hikes in 2013 and the bad weather earlier this year, the solid readings indicate that the economy nevertheless has fundamental support.

Figure 10. GDP Growth (Percent Change at Annual Rate Unless Noted)

	2014			2013	
	3QA E	**2Q**	**1Q**	**4Q**	**3Q**
Real GDP	**3.3 %**	4.6 %	-2.1 %	3.5 %	4.5 %
GDP Price Index	**1.2**	2.1	1.3	1.5	1.7
Final Domestic Demand	**2.7**	3.4	0.7	2.7	2.3
Composition of Final Sales:					
Consumer Spending	**2.0**	2.5	1.2	3.7	2.0
Housing	**2.8**	8.8	-5.3	-8.5	11.2
Business Investment	**8.3**	9.7	1.6	10.4	5.5
Government	**0.8**	1.7	-0.8	-3.8	0.2
Exports	**7.5**	11.1	-9.2	10.0	5.1
Imports	**-0.2**	11.3	2.2	1.3	0.6
Contributions to GDP:					
Inventory Change	**-0.4**	1.4	-1.2	-0.3	1.5
Net Exports	**0.9**	-0.3	-1.7	1.1	0.6

Sources: Bureau of Economic Analysis and Citi Research.

We have been especially impressed with the bounce back in investment spending this year. Based on the estimated 14 percent third quarter rise (annualized) in capital equipment shipments, we estimate that business equipment investment posted another solid gain in the third quarter. However, it has been hard to see the improvement because durable goods orders have been distorted since July by a giant aircraft order. The wide swings in headline orders have no growth implications and should finally be complete with next week's September release **(Figure 11)**.

The trade sector also added significantly to third quarter GDP – we estimate that there was roughly a percentage point contribution to growth. Exports continued to expand at a healthy clip while imports stalled. This rise could be short-lived, however. We have conducted simulations showing that the rise in the dollar could take a bite out of net exports in coming quarters (Market Turmoil Risks Delaying Fed Tightening).

Meanwhile, the third quarter rise in consumer spending was modest, and represents a downside risk to our outlook. Although we anticipate a pickup in spending in the coming quarters from the rapid rise in wealth, the September reading is likely to be soft. Based on the retail sales report, we expect only a small uptick in spending **(Figure 12)**.

Figure 11. Durable Goods Orders (Percent Change)

	Sep E	Aug	Jul
New Orders Total	**-1.7** %	-18.4 %	22.5 %
Excl. Transportation	**0.3**	0.4	-0.6
Excl. Defense	**-1.9**	-19.2	24.9
Transportation Equip.	**-6.0**	-42.2	73.3
Civilian Aircraft	**-22.0**	-74.3	315.6
Motor Vehicles	**-1.7**	-6.5	10.0
Defense	**1.8**	3.7	-20.5
Nondefense Capital Goods	**-3.9**	-36.4	60.9
Excl. Aircraft	**0.2**	0.4	-0.1
Core Capital Goods Shipments	**0.2**	0.1	2.0

Sources: Department of Commerce and Citi Investment and Research Analysis.

Figure 12. Personal Income and Spending (Percent Change)

	Sep E	Aug	Jul	Jun
Personal Income	**0.3 %**	0.3 %	0.2 %	0.5 %
Wages and Salaries	**0.3**	0.4	0.2	0.3
Disposable Personal Income, 2000 $	**0.2**	0.3	0.1	0.3
Personal Spending	**0.2**	0.5	0.0	0.5
Personal Spending, 2000 $	**0.1**	0.5	-0.1	0.3
Saving Rate	**5.4**	5.4	5.6	5.4
Core PCE Chain Price Index	**0.1**	0.1	0.1	0.2
Core PCE (12-Month Percent Change)	**1.5**	1.5	1.5	1.5

Sources: Bureau of Economic Analysis and Citi Research.

Nevertheless, we continue to believe that consumer spending growth is on a rising track, which should show through now that the distortions from weather and health care have passed. As we noted above, although wealth gains are becoming more skewed to the wealthier cohorts, we still expect the massive rise in net worth over the past two years to provide substantial lift to consumption. Meanwhile, additional support should come from healthy payroll related income growth.

In addition, we believe consumer spending will be supported further in the fourth and first quarter of 2015 by the recent decline in energy prices. Low income consumers benefit the most from declines in energy prices because gasoline and heating fuels take up such a large share of their income. This group tends to spend energy savings quickly.

Upcoming Releases of Economic Indicators

Date	Time	Report	Citi	Median	Low	High	Prior Report	2 Periods Ago
10/28	8:30	Durable Goods Orders (Sep)	**-1.7%**	0.3%	-1.7%	6.4%	-18.4%	22.5%
		Ex Transportation	**0.3%**	0.5%	-0.5%	1.5%	0.4%	-0.6%
	10:00	Consumer Confidence (Oct)	**89.0**	87.0	82.0	90.0	86.0	93.4
10/30	8:30	Initial Jobless Claims (October 25)	**290K**	281K	273K	290K	266K	287K
		Beneficiaries (October 18)	**2.41M**	2.36M	2.34M	2.41M	2.35M	2.39M
		Real GDP (3Q 14A)	**3.3%**	3.0%	2.6%	4.0%	4.6%	-2.1%
		Chain Price Index	**1.2%**	1.4%	1.0%	1.8%	2.1%	1.3%
10/31	8:30	Employment Cost Index (3Q)	**0.5%**	0.5%	0.4%	0.6%	0.7%	0.3%
		Personal Income (Sep)	**0.3%**	0.3%	0.0%	0.5%	0.3%	0.2%
		Consumption	**0.2%**	0.1%	-0.1%	0.3%	0.5%	0.0%
	9:45	Chicago Business Barometer (Oct)	**59.0**	60.0	55.0	62.5	60.5	64.3
	9:55	Reuters/Michigan Sentiment Index (Oct)	**87.0**	86.4	84.0	87.0	86.4	84.6
Events								
10/28		Federal Reserve FOMC meeting begins.						
10/29	14:00	FOMC meeting ends, policy rate decision released.						
10/30	9:00	Fed Chair Yellen to give welcoming remarks to a National Summit on Diversity in the Economics Profession.						

Sources: Bloomberg and Citi Research.

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U.S. Economics Weekly: Market and Policy Comments — Previous Essays

	Publication Date
Market Turmoil Risks Delaying Fed Tightening	17 October 2014
Fed Minutes Highlight Dollar Risk: Labor Index Proves Uninformative	10 October 2014
US Monetary Tightening Starts Without the Fed	8 October 2014
Job Gains Drive Stronger Spending Ahead	3 October 2014
Fed Focuses on Payrolls…up to a Point	26 September 2014
Wanted by the Fed: Above-Trend Growth	19 September 2014
FOMC Stands Pat But Reveals Its "Tell"	18 September 2014
Stronger Q2 GDP May Not Shift Fed Timing	12 September 2014
Spending and Jobs Are Better Than You Think	5 September 2014
Our Fed Call: Fed Poised For On-Time Or Early Liftoff?	15 August 2014
The Impending Acceleration in U.S. Business Investment	8 August 2014
GDP 4 Point 0 Reassures Fed Is On Track	1 August 2014
Fed Creates Maginot Line to Defend Against Financial Instability	25 July 2014
Potential Growth Slump Is Likely Temporary	18 July 2014
Fed Chiefs Debate Monetary Normalization While Yellen Passes Off Financial Stability	11 July 2014
Bright Outlook Leaves Fed On Schedule Despite Dark Q1	27 June 2014
Gradual Fed Exit Discounted By Markets	20 June 2014
Pick Your Horse: Fed Prognostication or Investment Stagnation	13 June 2014
Receding Turbulence Clears Way for Growth Without Inflation	6 June 2014
No Pressure From Wages	30 May 2014
NY Fed Views On Revised Exit Strategy and Long-term Unemployed	23 May 2014
Housing Worries May be Policy Induced	16 May 2014
Fed's Employment Mandate: Cyclical and Structural Forces Clash	9 May 2014
Shifting Focus to Rebounding Growth	2 May 2014
Strong Economic Bounce Sets Stage For Future Fed Moves	25 April 2014
Labor Costs Put a Floor Under Inflation	11 April 2014
Back On Track, No More Excuses	4 April 2014

Global Economics View — Previous Essays

How Will The New Fed Exit Strategy Work?	16 June 2014
The Long-Run Decline in Advanced-Economy Investment	12 June 2014
How Could The EM Turmoil Affect The Advanced Economies?	17 March 2014
Policy Uncertainty and Investment—How Much Lower Must Real Interest Rates Go?	3 February 2014
Secular Stagnation: Only If We Really Ask For It	13 January 2014
Debt Limit—Indecision Raises Long-Term Risks	10 October 2013

October-November 2014

Monday	Tuesday	Wednesday	Thursday	Friday
20 Auction 3 & 6 Mth. Bills: $54.0B	**21** **Existing Home Sales** Aug 5.05M, Sep 5.17M Auction 1 Mth. Bill: $34.0B	**22** Mortgage Applications **Consumer Price Index** Total: Aug -0.2%, Sep 0.1% ExF&E: Aug 0.0%, Sep 0.1% Real Earnings (Sep)	**23** **Jobless Claims 10/18** 283 Thous FHFA (Aug) **Leading Indicators** Aug 0.0%, Sep 0.8% Ann. 2-Yr. FRN: $15.0B Ann. 2-Yr. Note: $29.0B Ann. 5-Yr. Note: $35.0B Ann. 7-Yr. Note: $29.0B Auction 30-Yr TIPS(r): $7.0B	**24** **New Home Sales** Aug 466K, Sep 467K
27 Pending Home Sales (Aug) Auction 3 & 6 Mth. Bills: $54.0B(E)	**28** **Durable Goods** Total: Aug -18.4%, Sep(E) -1.7% ExTrans: Aug 0.4%, Sep(E) 0.3% S&P/CaseShiller (Aug) **Consumer Confidence** Sep 86.0, Oct(E) 89.0 **FOMC Meeting** Auction 2-Yr. Note: $29.0B(E) Auction 1 Mth. Bill: $36.0B(E)	**29** Mortgage Applications **FOMC Meeting** Auction 2-Yr. FRN: $15.0B(E) Auction 5-Yr. Note: $35.0B(E)	**30** **Jobless Claims 10/25** 290 Thous(E) **GDP** 2Q14F 4.6%, 3Q14A(E) 3.3% **Chain Price Index** 2Q14F 2.1%, 3Q14A(E) 1.2% Auction 7-Yr. Note: $29.0B(E)	**31** **Employment Cost index** 2Q14 Q/Q 0.7% 3Q14 Q/Q(E) 0.5% 2Q14 Y/Y 2.1% 3Q14 Y/Y(E) 2.1% **Personal Income** Aug 0.3%, Sep(E) 0.3% **Consumption** Aug 0.5%, Sep(E) 0.2% **Chicago Barometer** PMI: Sep 60.5, Oct(E) 59.0 Prices: Sep 67.2, Oct **Reuters/Michigan Sentiment** OctP 86.4, OctF(E) 87.0 Farm Prices (Oct)
Nov 3 **Construction PIP** Aug -0.8%, Sep(E) **ISM Manufacturing** PMI: Sep 56.6, Oct(E) Prices: Sep 59.5, Oct(E) **Total Vehicle Sales** Sep 16.3M, Oct(E) Auction 3 & 6 Mth. Bills: $54.0B(E)	**4** **International Trade Balance** Aug -40.1%, Sep(E) **Factory Orders** Ord: Aug -10.1%, Sep(E) Inv: Aug 0.1%, Sep(E) **Election Day** Auction 1 Mth. Bill: $38.0B(E)	**5** Mortgage Applications ADP Employment (Sep) **ISM Non-Manufacturing** PMI: Sep 58.6, Oct(E) Prices: Sep 55.2, Oct(E) Ann. 3-Yr. Note: $27.0B(E) Ann. 10-Yr. Note(r): $24.0B(E) Ann. 30-Yr. Bond(r): $16.0B(E)	**6** **Jobless Claims 11/1** **Nonfarm Productivity** Prod: 2QP 2.3%, 3QP(E) ULC: 2QP -0.1%, 3QP(E)	**7** **Employment** Payrolls: Sep 248K, Oct(E) Unem. Rate: Sep 5.9%, Oct(E) Avg Hrly Earn: Sep 0.0%, Oct(E) Priv. Wrkwk:Sep 34.6H, Oct(E) **Consumer Credit** Aug $13.5B, Sep(E)
10 **Veteran's Day** Mortgage Delinq. (3Q) Auction 3-Yr. Note: $27.0B(E) Auction 3 & 6 Mth. Bills: $54.0B(E)	**11** Small Business (Oct) Auction 1 Mth. Bill: $40.0B(E)	**12** Mortgage Applications **Wholesale Inventories** Aug 0.7%, Sep(E) Auction 10-Yr. Note: $24.0B(E)	**13** **Jobless Claims 11/8** **Federal Budget Balance** Oct 13 -$90.6B ; Oct 14(E) Ann. 10-Yr TIPS(r): $13.0B(E) Auction 30-Yr. Bond(r): $16.0B(E)	**14** **Import Price Index** Total: Sep -0.5%, Oct(E) ExPetro; Sep -0.2%, Oct(E) **Retail Sales** Total: Sep -0.3%, Oct(E) ExAuto: Sep -0.2%, Oct(E) **Reuters/Michigan Sentiment** OctF(E) 87.0, NovP(E) **Business Inventories** Aug 0.2%, Sep(E)

(E) Indicates Citigroup estimates. (A) Advance. (P) Preliminary. (F) Final. (UNCH) Unchanged. (R) Revised. Contributors: Martha Berasain and Cathy Gaeta.

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