Consumer and Finance Outlook



UNDERSTANDING WHAT CONSUMPTION MEANS



THE BALANCE SHEET FOR U.S. CONSUMERS

Assets

- Very strong labor markets
- Very strong financial markets
- Tax cuts
- Moderating mortgage and credit card debt
- · Steady saving rate
- High levels of confidence

Liabilities

- Modest wage growth
- Rising income and wealth inequality
- Very poor retirement preparedness (private and public)
- Substantial student debt
- Risk of job disruption

CONSUMERS HAVE LED U.S. GDP GROWTH

- Consumers are driving this recovery
- •Their optimism is at record levels

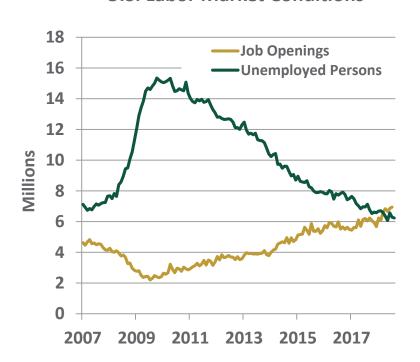
Contributions to GDP Growth Consumer Attitudes 6% 150 -Consumer Confidence 5% -Consumer Sentiment 125 4% 100 3% Net Exports 2% **■** Government **75** ■ Investment 1% 50 Consumption 0% 25 -1% -2% Q3 **Q3 Q2** 2006 2010 2014 2018 2017 2018

Sources: Bureau of Economic Analysis, University of Michigan, Conference Board

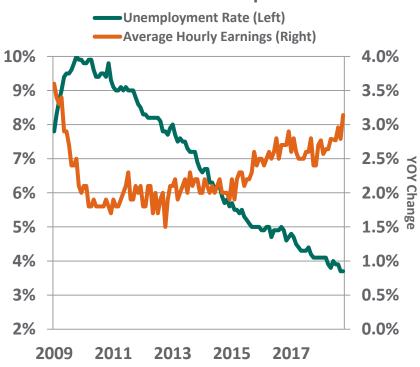
U.S. LABOR MARKET TIGHTENING

- Very low unemployment creates opportunities
- Is the Phillips Curve dead, or just resting?





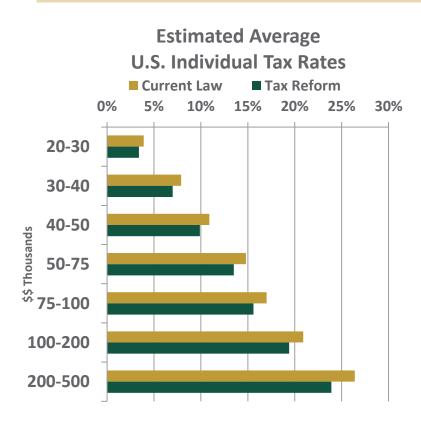
Joblessness and Compensation



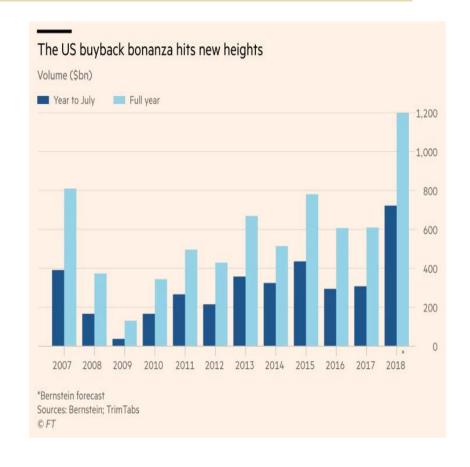
Sources: BLS, Haver Analytics

TALE OF THE TAPER

- U.S. marginal rates were been reduced across the board
- Reduced corporate rates prompted huge share repurchases



Source: Joint Committee on Taxation



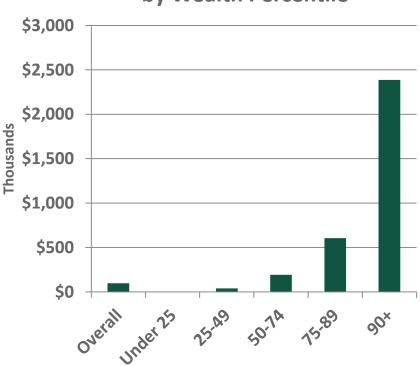
WEALTH IS GROWING BUT NOT SPREADING

- Net worth continues to grow
- Gains have not accumulated evenly

Total Household Net Worth

\$120,000 \$100,000 \$80,000 \$40,000 \$20,000 \$0 2006 2010 2014 2018

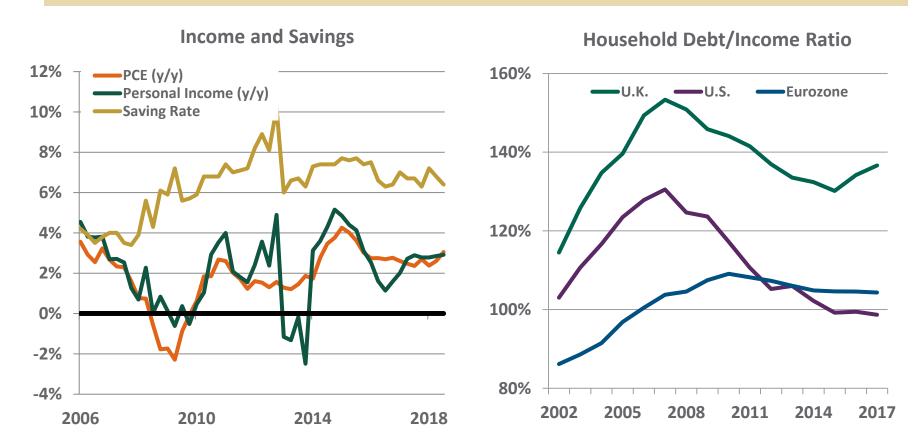
Median Family Net Worth, by Wealth Percentile



Sources: BEA, Federal Reserve, Haver Analytics

RENEWED FRUGALITY

- Spending and income have become better aligned
- Household leverage is under better control

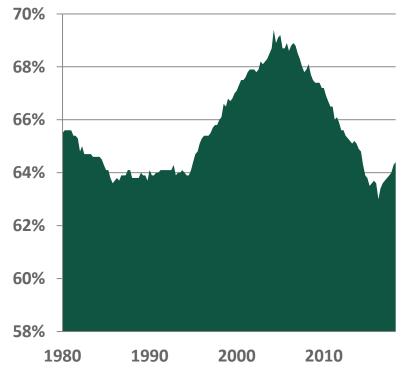


Sources: BEA, Haver Analytics, World Bank

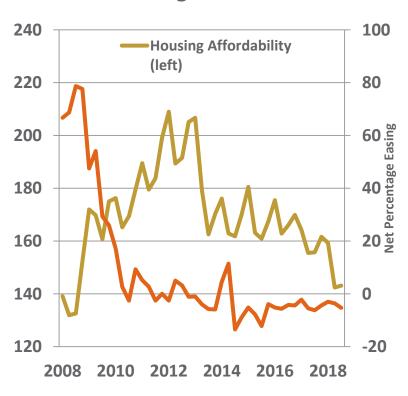
HOUSING

- Housing has only recovered modestly
- A number of headwinds have held the sector back





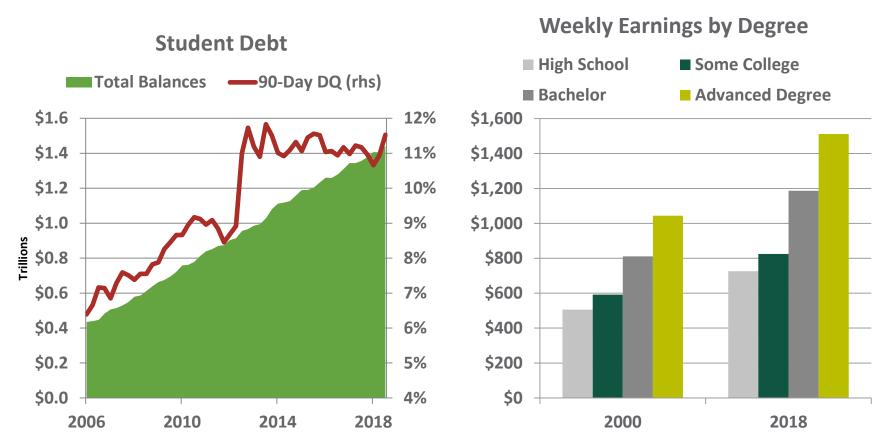
Housing Conditions



Sources: Census Bureau, National Association of Realtors, Federal Reserve, Haver Analytics

STUDENT LENDING

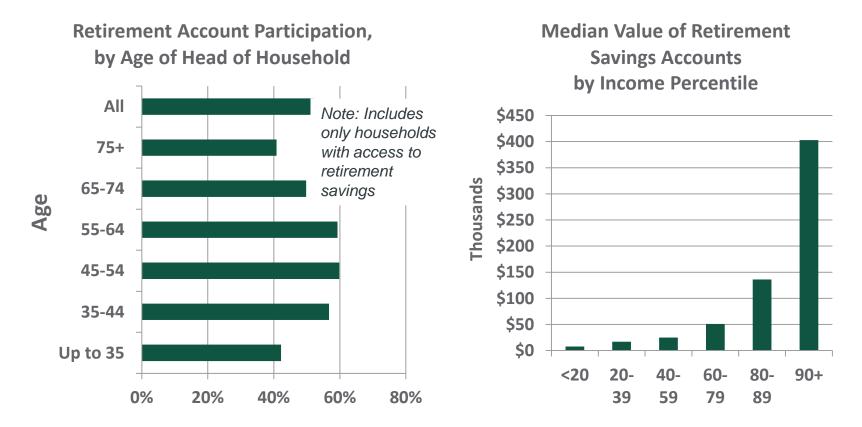
- Substantial increase in balances; almost a third in deferral or default
- Gains to education are still positive for those who finish



Sources: Federal Reserve Bank of New York, BLS

ARE SAVING LEVELS SUFFICIENT?

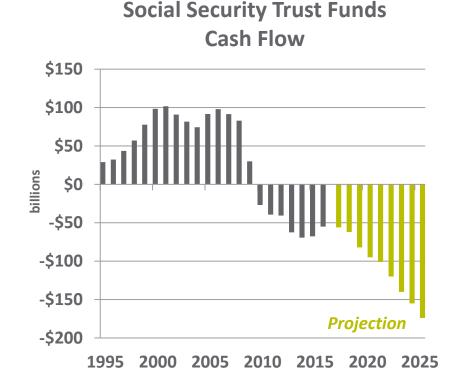
- The data on retirement preparedness are scary
- A majority of households will have to watch consumption carefully



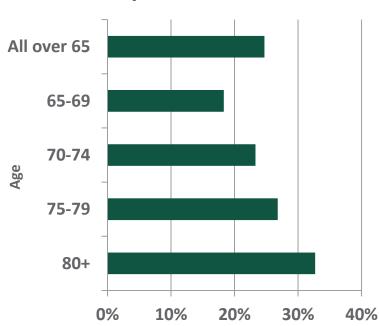
Sources: Federal Reserve Board Survey of Consumer Finances, Haver Analytics

PUBLIC BACKSTOP

- Demographics are taking a toll on Social Security
- Reliance on Social Security will make reform discussions difficult



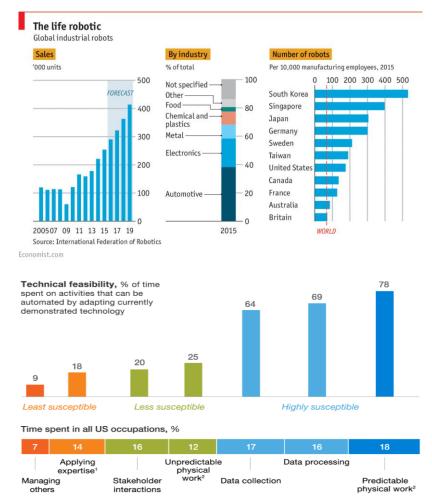
Households Reliant on Social Security for 90% of Income



Sources: Social Security Administration, Government Accountability Office, Bureau of Economic Analysis, Haver Analytics

AUTOMATION AND ANXIETY

- Man's love/hate relationship with machines is entering a new chapter
- How far and how fast will change occur?



Catalogue of fears

Probability of computerisation of different occupations, 2013 (1 = certain)

Job	Probability
Recreational therapists	0.003
Dentists	0.004
Athletic trainers	0.007
Clergy	0.008
Chemical engineers	0.02
Editors	0.06
Firefighters	0.17
Actors	0.37
Health technologists	0.40
Economists	0.43
Commercial pilots	0.55
Machinists	0.65
Word processors and typists	0.81
Real-estate sales agents	0.86
Technical writers	0.89
Retail salespeople	0.92
Accountants and auditors	0.94

Source: "The Future of Employment: How Susceptible are Jobs to Computerisation?", by C. Frey and M. Osborne (2013)

Economist.com

Source: McKinsey

The Deleveraging Myth



REFLECTIONS ON THE FINANCIAL CRISIS

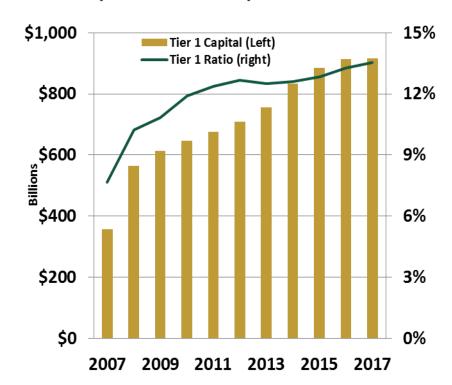




SHORING UP FINANCE

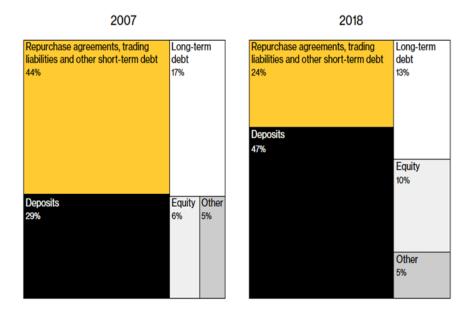
- Banks have much better capital positions
- Reduced use of volatile short-term funding

Capital Position: Top 10 U.S. Banks



More Stable Funding

Big banks have reduced reliance on short-term funding that fled during the last crisis, replacing it with deposits

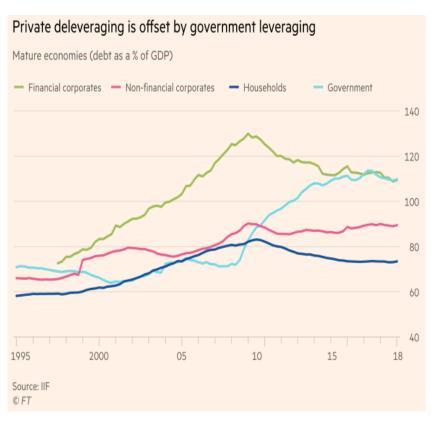


Note: Aggregate data for the liabilities of JPMorgan, Citigroup, Bank of America, Goldman Sachs and Morgan Stanley Source: Company filings

Sources: FRB, SNL, Bloomberg

THE EVOLUTION OF INDEBTEDNESS

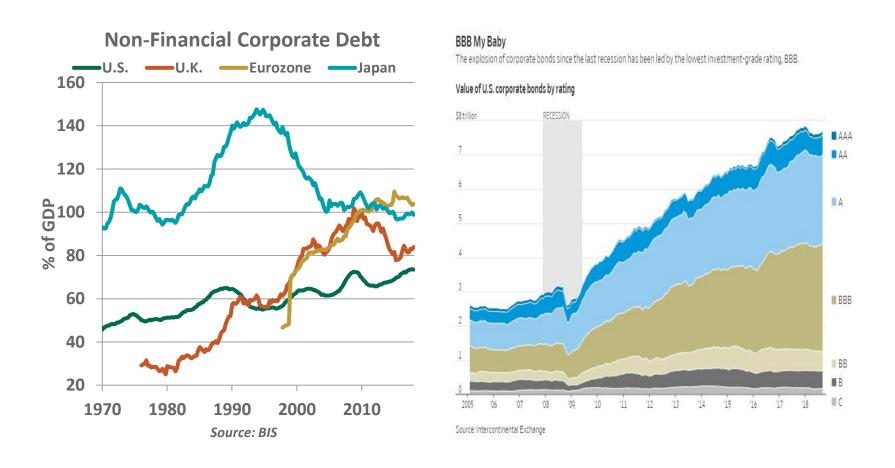
Credit creation has moved from the private sector to the public sector,
and from developed countries to China





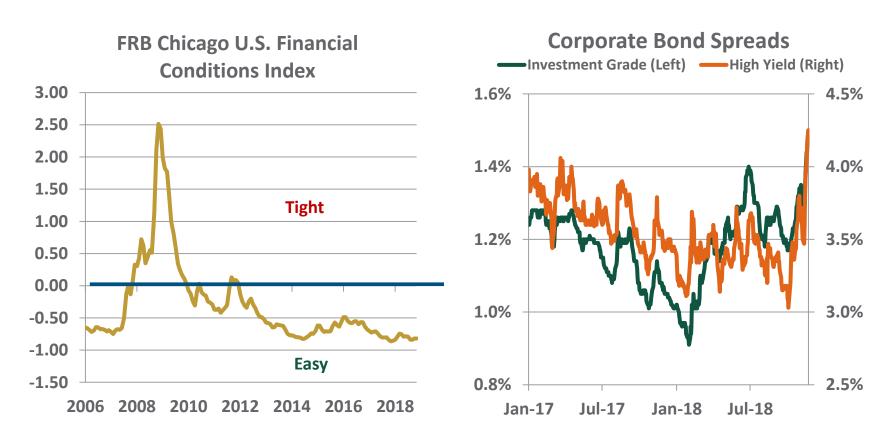
CORPORATE DEBT

- In most places, corporate debt has risen sharply
- The bulk of new issues are just above investment grade



MEASURES OF FINANCIAL CONDITIONS

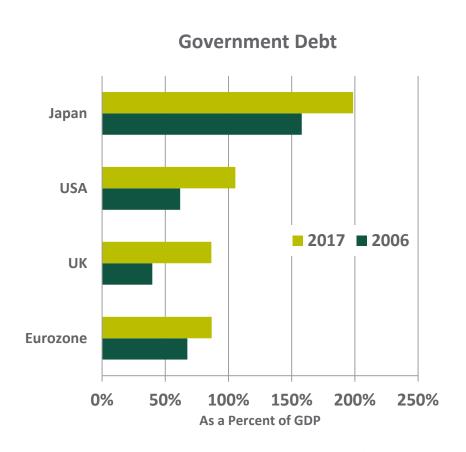
- Access to capital is not difficult for most borrowers
- Bond spreads have widened of late, but remain modest

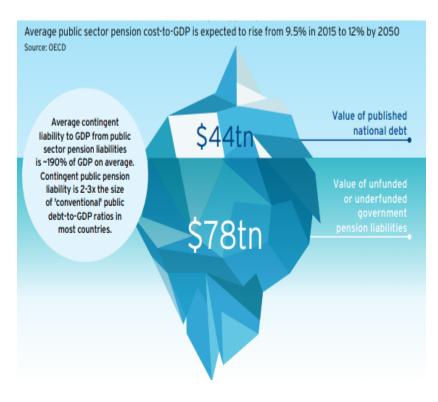


Sources: Federal Reserve Bank of Chicago, Barclay's, Bloomberg

THE LIMITS OF GOVERNMENT LEVERAGE

- Public sector debt has grown quickly since the crisis
- Unfunded pension obligations are immense



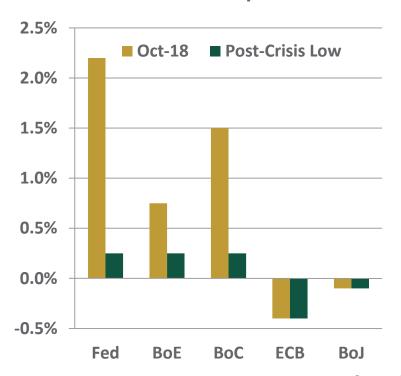


Sources: Haver Analytics, Citigroup

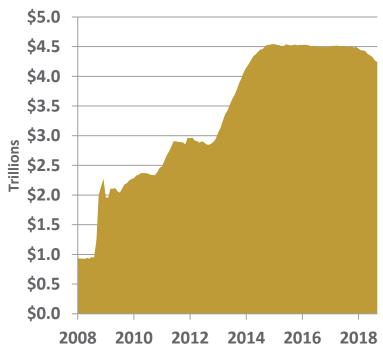
MONETARY NORMALIZATION

- Crisis-era accommodation is being unwound
- The Fed has initiated "qualitative tightening"

Central Bank Deposit Rates



Federal Reserve Total Assets



Source: Bloomberg

CENTRAL BANK INDEPENDENCE UNDER THREAT?



....The United States should not be penalized because we are doing so well. Tightening now hurts all that we have done. The U.S. should be allowed to recapture what was lost due to illegal currency manipulation and BAD Trade Deals. Debt coming due & we are raising rates - Really?

ECB's Draghi warns central banks' independence under threat

7:51 AM - Jul 20, 2018

China's central bank to pump US\$110 billion into economy as US trade war intensifies

India risks a high stakes fight with its central bank

Erdogan Expands Clout Over Central Bank, as He Promised

PARTING THOUGHTS

Household finances are improved, but may need further repair

Retirement preparedness is a problem for many

Student debt will require enlightened attention

Human capital accumulation should be stressed, but not at all costs

Financial stability surveillance is imperative

Risks of a "Minsky Moment" are rising

Central banking is becoming more difficult

Political pressure for easy money is rising

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