US Economic Perspectives

Will personal saving rate upset forecasts?

Economics

Americas

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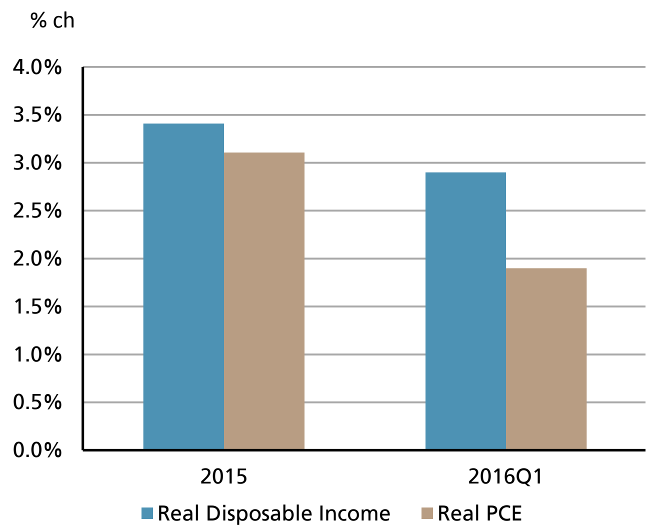
Too much saving?

Consumer spending recently has been growing slower than incomes. (See Figure 1) Does the accompanying increase in household savings represent a new trend that could upset economic forecasts of better economic growth after the recently very slow real GDP growth? To address this question, we have developed models of the personal saving rate. Our models identify declining gasoline prices and homeownership rates as major reasons why the saving rate recently has been rising. However, we do not think these factors will continue to further elevate savings. We expect the personal saving rate to average 5.0% in 2016 and 2017 versus its initial March reading of 5.4%.

Be aware of possible surprises in the personal saving rate

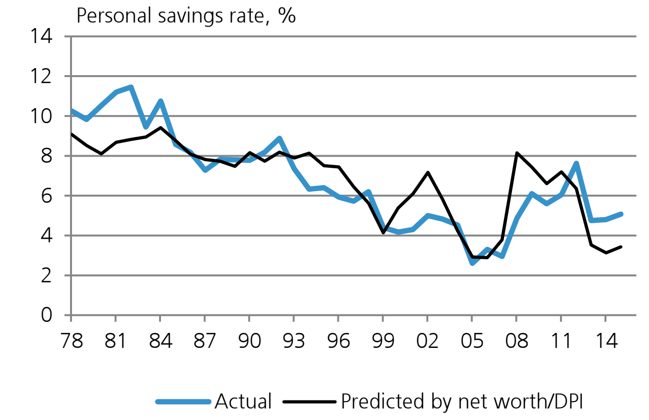
The personal saving rate can be quite volatile and sometimes out of line with key consumer balance sheet fundamentals. (See Figure 2) Thus, saving changes are a potential major source of surprise for economic forecasts. A relatively moderate 50 basis point saving rate change causes consumption to deviate by 50 basis points from income growth. Personal saving rate as a percentage of disposable personal income in 2015 rose by a modest 30 basis points from 4.8% to 5.1% of disposable personal income. However, by March of 2016 it had risen another 30 basis points to 5.4%. Could it rise much further? To address this question, we have used our models to estimate what types of changes in stock, home and gasoline prices, consumer confidence, interest rates, and home ownership could generate surprisingly large changes in the personal saving rate. Our consumer sector analysts have opined on the related industry effects. Also, our interactive models can be used to estimate the saving rate implications of various assumptions about saving rate drivers.

Figure 1: Recently consumption growth has been lagging behind income expansion as savings rose.



Source: UBS, Bureau of Economic Analysis

Figure 2: The saving rate in recent years has been surprisingly higher than predicted by its average historical relationship with household net worth.



Source: Bureau of Economic Analysis, Federal Reserve Board and UBS

UBS Research THESIS MAP

PIVOTAL QUESTIONS

Q: Will a higher US personal saving rate derail UBS estimates for real GDP growth of 1.5% in 2016 and 2.5% in 2017?

This is not our base case. We expect that the personal saving rate will average around 5.0%--essentially unchanged from the 5.1% averaged in 2015 but under the 5.4% initially reported for March. Nevertheless, since the saving rate can be surprisingly volatile, we identify and model factors that could lead to unexpectedly sharp swings in the savings.

Q: What are the key drivers that could impact savings patterns in 2016-2017?

Our statistical research identifies key saving rate determinants being stock, home and gasoline prices, interest rates, consumer confidence and home ownership.

Q: What could cause the personal saving to sharply increase?

Some combination of reductions in stock, home and gasoline prices, consumer sentiment and the homeownership rate.

WHAT'S PRICED IN?

The consensus forecast is for a 5.3% personal saving rate in 2016 versus 5.1% in 2015.

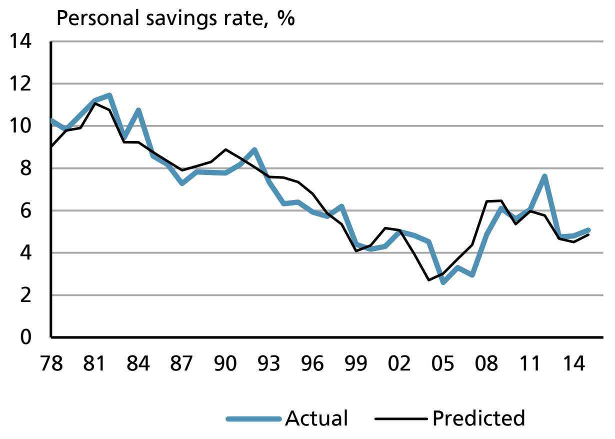
UBS VIEW

We foresee a 5.0% personal saving rate in 2016 and 2017 but believe investors should consider the potential for surprises in this sometimes volatile statistic.

EVIDENCE

The potential for larger than expected saving rate changes is addressed via our new proprietary saving rate model. It includes stock prices and housing wealth, home ownership, interest rates, consumer confidence and changes in gasoline prices. It has done well in explaining recent saving rate changes.

Figure 3: A model including housing and stock market wealth, gas prices, home ownership, consumer confidence and interest rates explains the recent saving rate.



Source: UBS, Bureau of Economic Analysis

Savings more than normal considering household balance sheets

The 2015 rise in the personal saving rate from 4.8% to 5.1% was surprising. It was much higher than what would have occurred if there had been a repetition of the average historical relationship between savings and household net worth, which improved last year. (See Figure 2 and Equation 1 in statistical Appendix.) Why?

Falling gasoline prices raised affluent families' savings in 2015

Falling gasoline prices were one factor raising the saving rate. Multiple regression equations reported in the statistical Appendix indicate an inverse relationship between the change in gasoline prices and the personal saving rate. We believe the reason for gas prices and savings to head in different directions is a disproportionate share (31%) of gasoline being consumed by families in the top fifth of the income distribution. (See Figure 4.) Such comparatively affluent families generally should not have their spending behaviour constrained by gas prices. Instead, when gasoline prices decline there should be an accompanying decrease in their current dollar expenditures and an associated rise in their personal savings—the difference between income and consumption in current dollars.

Lower home ownership rate raises savings

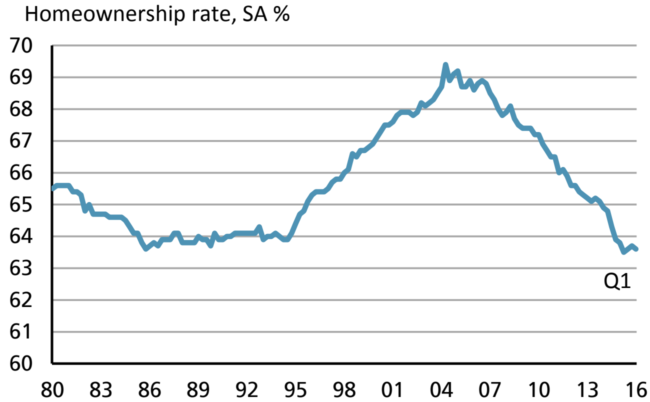
A declining home ownership rate is another factor explaining a higher personal saving rate. (See Figure 5.) Multiple regression models including the home ownership rate and gas price changes (see statistical Appendix) do a better job in explaining recent personal saving rates than models without these independent variables. (Compare Figures 1 and 3.) The inverse relationship between the home ownership rate and the personal saving rate reflects home ownership entailing more borrowing, which allows spending to exceed income.

Figure 4: Top fifth of incomes buys 31% of gasoline.

Income Quintiles (2013-14)	National Gasoline Expenditure Shares	After Tax Income Share	Average Annual After Tax Income
Top Fifth	31.20%	47.70%	$136,549
Second Highest Fifth	25.00%	23.60%	$66,839
Third Highest Fifth	20.70%	15.30%	$43,399
Second Lowest Fifth	14.50%	9.50%	$26,754
Lowest Fifth	9.20%	3.60%	$10,265

Source: Bureau of Labor Statistics and UBS

Figure 5: Homeownership helps explain saving swings.



Source: Bureau of Census and UBS

Higher interest rates would up savings just a bit

Interest rates affect savings incentives and via interest incomes the ability to save. Note the positive coefficient on the three-month Treasury bill rate in the various multiple regression models in the statistical Appendix. In the current setting, relatively low rates have helped to keep the saving rate lower than otherwise. We estimate that the saving rate would rise ¼ percentage point for each 100 basis point rise in short-term interest rates.

Real estate wealth affects savings more than stock market wealth

Real estate and stock market wealth are both inversely related to the saving rate. However, residential real estate wealth has more importance than stock market wealth in determining the personal saving rate. (Compare the regression coefficients in equations 3 and 4 in Statistical Appendix.) We estimate that each 10 percentage point rise in real estate wealth lowers the saving rate by approximately 1/3 of one percentage point, while each 10 percentage point rise in stock market wealth lowers the saving rate by approximately 1/5 of one percentage point.

Savings move in the opposite direction of consumer confidence

More confident consumers save less. We estimate that each 10 index point rise in the University of Michigan (UM) consumer sentiment index lowers the saving rate by between 1/3 and ½ of a percentage point. For instance, last year's 8.8 index point rise in the UM sentiment index is estimated to have lowered the saving rate by between around 0.3 to 0.4 percentage points.

How much might saving rate surprise upset consumer spending forecasts?

The April Blue Chip 2016 consensus forecast is for a 2.8% rise in real disposable personal income and a 2.6% gain in real personal consumption expenditures. That implies a 20 basis point rise from 5.1% in 2015. Since 2000 the mean average absolute change in the personal saving rate was 0.84 percentage point. Thus, there certainly is a decent possibility for the personal saving rate and therefore consumer spending growth to be either around 1.0 percentage more or one percentage point less than expected.

What events could cause the saving rate to surge?

A weaker than expected economy could "feed on itself" by causing the personal saving rate to rise. For instance, consider saving scenarios for a mild or a severe recession. (See Figure 6.) A combination of reductions in stock, home and gasolines prices, consumer sentiment and the homeownership rate work to raise the saving rate in the two recession scenarios. (See Figure 7.)

What events could cause the saving rate to materially decline?

Conversely, a stronger than expected economy also could be self-reinforcing by causing the saving rate to decline. That would be brought about by a combination of rising higher stock, home and gasoline prices, consumer sentiment and the homeownership rate. (See Figure 7.)

Why do we expect a slight decline in the personal saving rate?

Our 2016 forecasts for a 2.6% rise in real personal consumption expenditures and a 2.5% gain in real disposable personal incomes implies a minor 0.1 percentage point saving rate decline to 5.0%. That forecast reflects the interaction of some key countervailing factors. Likely rising short-term interest rates should work to bolster savings. Savings could also be raised by a further fall in the home ownership rate. However, rising stock market and housing wealth are factors lowering savings. If gasoline prices rise, that would also contribute to a lower saving rate.

Interactive model allows simulating saving rate for different scenarios

Of course, there are a variety of possible changes in stock and housing wealth, interest rates, home ownership, consumer confidence and gas prices that could affect the saving rate. Our multivariate saving rate model includes these variables for simulation purposes. (See interactive model on page 7.)

Figure 6: Selected Saving Rate Scenarios

Scenario	Saving Rate	Real Consumption	Real Income
(Subjective Probability)			
Base Case (70%)	5.0%	2.5%	2.5%
Mild Recession (10%)	6.5%	0.0%	1.5%
Severe Recession (5%)	8.0%	-2.5%	0.5%
Boom (15%)	3.5%	4.5%	3.0%

Source: UBS

Figure 7: Saving Rate Determinants In Selected Scenarios

Scenario	T-bill %	Stock Market Wealth As % of DPI(1)	Real Estate Wealth As % of DPI(2)	Gas Prices % Change	Consumer Sentiment	Homeownership Rate
Base Case	1.00	163%	162%	-25%	92.9	63.8%
		(flat)	(flat)			
Mild Recession	0.10	132%	162%	-33%	69.5	62.8%
		(-18%)	(flat)			
Severe Recession	0.00	115%	150%	-50%	60.0	62.0%
		(-29%)	(-9.3%)			
Boom	2.00	179%	165%	50%	95.5	64.1%
		(9.8%)	(1.90%)			

1. Note: Numbers in parentheses represent percent changes in stock prices.
2. Note: Numbers in parentheses represent percent changes in home prices.

Source: UBS

Figure 8: Personal Saving Rate Model Detail

Statistical Appendix—Personal Saving Rate Models									
				Independent Variables					
Estimation Period	R2	Constant	Net Worth/ DPI	Stock Market Wealth/DPI	Housing Wealth/DPI	3-month T-Bill	Consumer Sentiment	%Chg Gasoline Prices	Homeownership Rate
1. 1978-2015	.67	26.32	-0.036						
		(11.56)	(-8.64)						
2. 1978-2015	.88	43.56	-0.015			0.297	-0.051	-0.015	-0.391
		(6.30)	(-3.84)			(5.46)	(-3.73)	(-1.25)	(-3.50)
3. 1978-2015	.90	27.71		-0.020	-0.029	0.248	-0.036	-0.016	-0.188
		(3.59)		(-3.66)	(-3.47)	(4.21)	(-2.60)	(-1.41)	(-1.49)
4. 1978-2015	.89	16.36		-0.022	-0.036	0.254	-0.032	-0.021	
		(12.47)		(-4.15)	(-5.45)	(4.23)	(-2.30)	(-1.98)	

Source: Note: T-statistics appear in parentheses below regression response coefficients.

Statistical Notes

-Correlations among the independent variables mean that estimated regression response coefficients are sensitive to model specifications.

-The estimated response coefficient for the % change in gasoline prices is much more statistically significant in the item number 4 model that excludes the home ownership rate.

-The estimated response coefficient for the homeownership rate is more statistically significant in the item number 2 model utilizing net worth instead of the stock market and housing wealth variables utilized in the item number 3 model.

Interactive Model

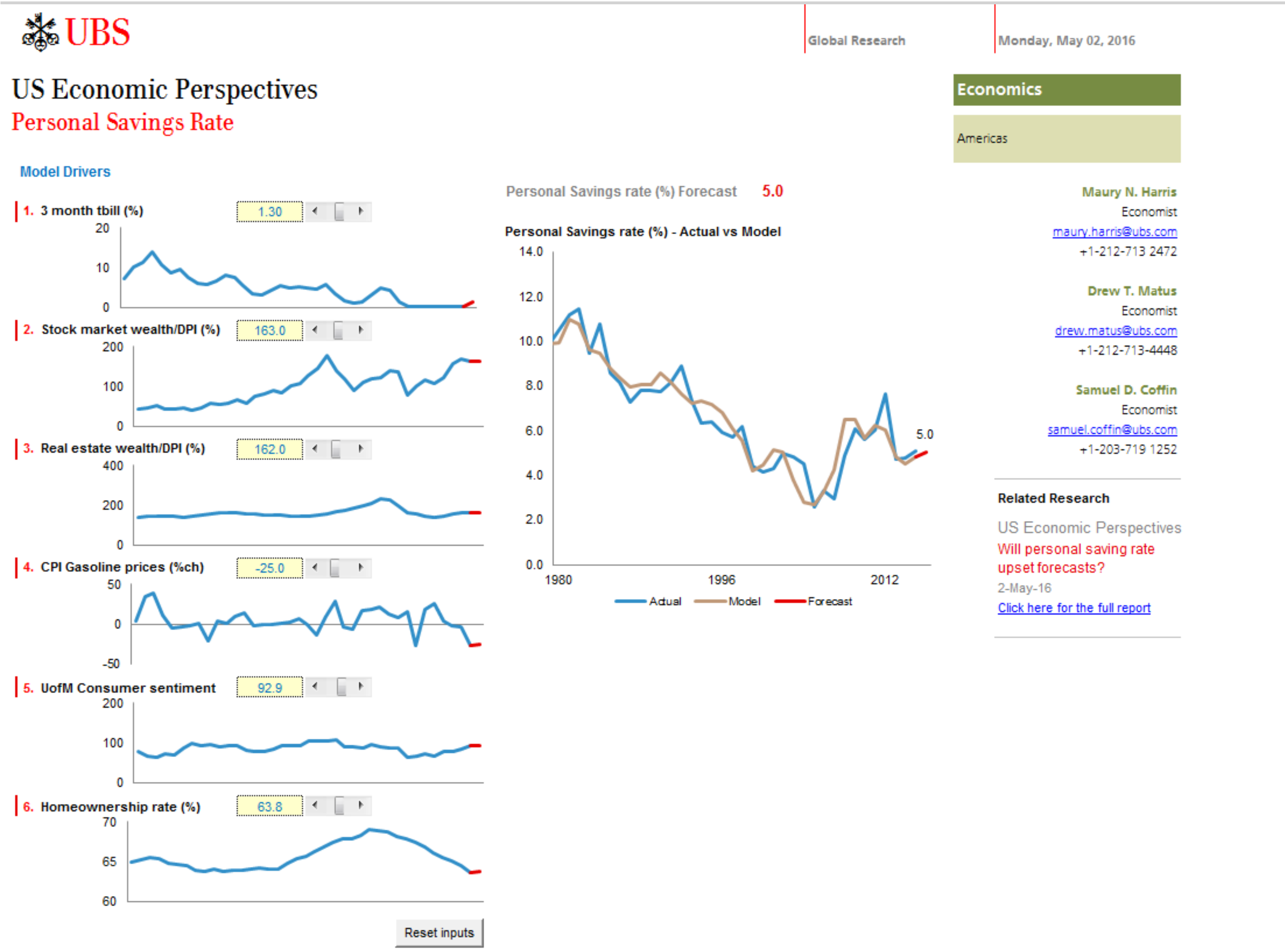
Interactive model allows simulating saving rate for different scenarios

Of course, there are a variety of possible changes in stock and housing wealth, interest rates, home ownership, consumer confidence and gas prices that could affect the saving rate.

In order to account for all these variations, we created a multivariate Personal Savings Rate model that allows you to flex the different model drivers, in order to simulate various outcomes. The 6 model drivers are:

1. 3 month tbill (%)
2. Stock market wealth/DPI (%)
3. Real Estate Wealth/DPI (%)
4. CPI Gasoline priced (%ch)
5. UofM Consumer Sentiment
6. Homeownership rate (%)

Figure 9: Screenshot of Personal Savings Rate Interactive Model



Source: UBS

From Macro to Micro: What Sectors are Most Exposed?

We surveyed our retail, transportation, leisure, and homebuilder teams to gauge a representation of the sectors most levered to shifts in the personal savings rate.

We used the estimates in Figure 10 as a framework for different scenarios in order to evaluate what a shift of 150bps to the savings rate, either up or down, would mean for the different sectors under coverage.

Figure 10: Selected Saving Rate Scenarios

Scenario	Saving Rate	Real Consumption	Real Income
(Subjective Probability)			
Base Case (70%)	5.0%	2.5%	2.5%
Mild Recession (10%)	6.5%	0.0%	1.5%
Severe Recession (5%)	8.0%	-2.5%	0.5%
Boom (15%)	3.5%	4.5%	3.0%

Source: UBS

Impact on Sectors

We provide feedback from our Analysts teams to help gain sector level insights about how these potential shifts translate to select sectors.

Softlines Retail

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An increase to the Savings Rate would likely pressure markdown levels and gross margins for discretionary categories. Mall traffic may decrease, further pressuring the specialty retail space (vs destination retailers). With consumer spending already shifting from categories like apparel to services and experiences, consumers may be more likely to cut back on those experiences/luxuries versus basic apparel.

Hardlines Retail

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In an increasing savings rate scenario, discretionary purchases within the Home Improvement, Home Furnishings, and Consumer Electronics categories would probably be most impacted, while retailers for core purchases would likely be least impacted including Dollar Stores and Mass Merchants.

HPC and Beverages

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In a boom scenario (where the Savings Rate would decrease), CPG spending goes up modestly as people trade up and more discretionary categories like Beauty accelerate. In a recession scenario (where the Savings Rate would likely remain flat or increase), CPG spending goes down modestly (people trade down/buy less).

Restaurants

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Lower commodity costs have inspired a rash of deep discount value offers from the industry (particularly limited service brands), which were compounded by favorable weather conditions early in the year. Consumers have apparently responded through an increase in restaurant spending, again particularly at limited service brands.

US Consumer Foods

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An increase to the personal Savings Rate would marginally limit pricing power for US Food products and would create a modest headwind for sales and gross margins (and vice versa if the Savings Rate were to decrease by a similar amount).

Autos & Auto Parts

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A higher savings rate would negatively impact demand as Autos are discretionary purchases. The sector does have some ability to mitigate these effects, as historically over 80% of auto sales are replacement demand (scrappage). Supplier risk is partially mitigated by better global profit diversification, and dealer profits are offset by servicing income which is not materially impacted by savings rates.

Homebuilders & Building Products

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Given the cyclical nature of the sector, building products and homebuilding companies would likely be similarly impacted by a higher savings rate as it relates to less investment in housing overall. More specifically, weaker consumption in terms of lower repair and remodel expenditures (for larger and smaller ticket items) would be a negative for the building products manufacturers. That said, if the increased savings ultimately end up improving consumers' creditworthiness and are applied to down payments for home purchases, it could be positive for the sector over time.

Leisure, Lodging and Gaming

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The leisure sector is subject to competitive pressures and the strength of the underlying economy. End demand in terms of leisure spend could be affected by fluctuations in wages and savings rates. To the extent that savings rate meaningfully impacts discretionary spend, this could affect booking levels and pricing for the leisure names (and less for Lodging where corporate profitability is a more significant driver of growth).

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