CATALYST
Strategic Solutions

Positioning the Balance Sheet for the next Economic Cycle

Positioning the Balance Sheet for the Next Economic Cycle

- How do we do that?

- That sounds fairly simple but not really…..
  - Where’s the crystal ball?
  - That sounds a bit overwhelming……
    What if I am wrong?

- Should I ask for help?
  - An ALCO consensus works

- So where do I (we) even start?

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Positioning the Balance Sheet for the Next Economic Cycle

- Again, where do I (we) even start?

- My thought/advice…..
  - Treat this as a research project:
    - ✓ Build a research foundation
    - ✓ Become a subject matter expert
    - ✓ Use your new knowledge to hedge and position the balance sheet
    - ✓ Maintain, adjust, modify and/or update your research foundation
    - ✓ Use your updated knowledge to position your balance sheet

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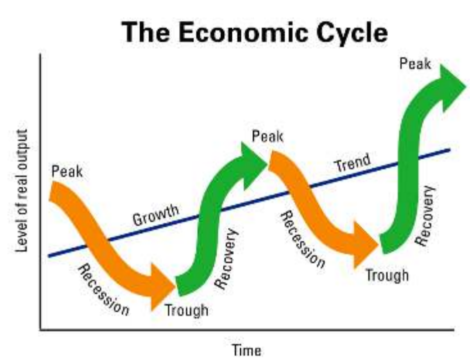
Positioning the Balance Sheet for the Next Economic Cycle

- OK, let's try this project together…..let's use the outline below

1. Understand the Economic (Credit) Cycle
2. Where are we in the Economic Cycle?
3. Economy - Data and People
4. Look at Rates – They Tell a Story
5. Position Your Balance Sheet



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Positioning the Balance Sheet for the Next Economic Cycle

➢ The Project: Position the Balance Sheet for the next economic phase and/or economic cycle:

1. Understand the Economic (Credit) Cycle
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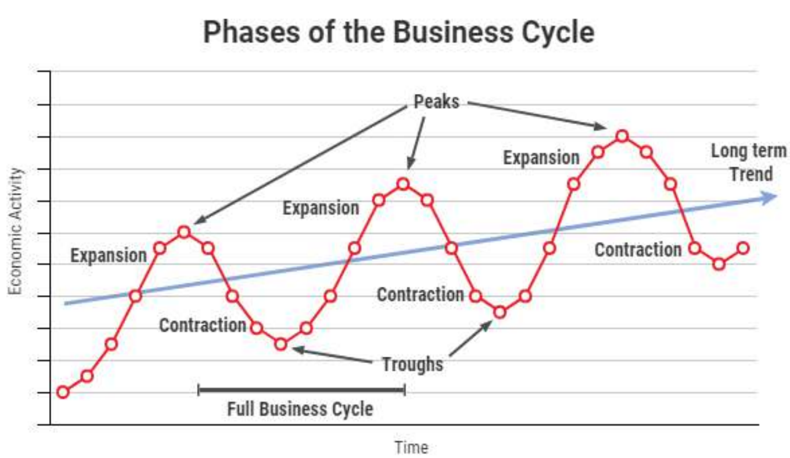
Understanding the Economic (Credit) Cycle



❖ ***Recovery/Expansion***: Healthy economic growth, low inflation, short rates are increasing and eventually peak as the Fed reduces accommodation, strong stock market, credit available, unemployment declines and consumer/business spending increase on increased confidence.

❖ ***Peak***: Economy peaks and is at full employment, policy is restrictive, rates are higher/capped out and the curve flattens and then usually inverts, stock market tops out, property prices rising, easy credit.

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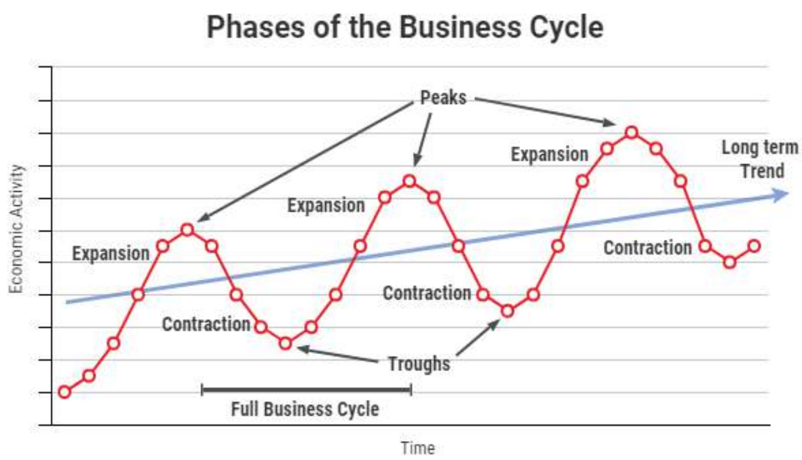
Understanding the Economic (Credit) Cycle



- ***Contraction to Recession***: Consumer confidence drops, spending declines, stock market (starts to) decline, easing policy and the curve returns to normal shape then steepens further, GDP declines, unemployment rises, property prices top out, credit begins to or is already tighter.
- ***Trough in Recession***: Factories operating below capacity, jobs difficult to find, confidence is weak, weaker property prices, accommodative Fed and rates fall until they trough in which the economy is in a recession, credit constrained.

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Positioning the Balance Sheet for the Next Economic Cycle

- The Project: Position the Balance Sheet for the next economic phase and/or economic cycle:

1. Understand the Economic (Credit) Cycle
2. Where are we in the Economic Cycle?
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4. Look at Rates – They Tell a Story
5. Position Your Balance Sheet for the Next Phase and/or Next Economic Cycle

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Current Economic Position

Turning Point Date	Peak or Trough	Announcement Date with Link
June 2009	Trough	September 20, 2010
December 2007	Peak	December 1, 2008
November 2001	Trough	July 17, 2003
March 2001	Peak	November 26, 2001
March 1991	Trough	December 22, 1992
July 1990	Peak	April 25, 1991
November 1982	Trough	July 8, 1983
July 1981	Peak	January 6, 1982
July 1980	Trough	July 8, 1981
January 1980	Peak	June 3, 1980

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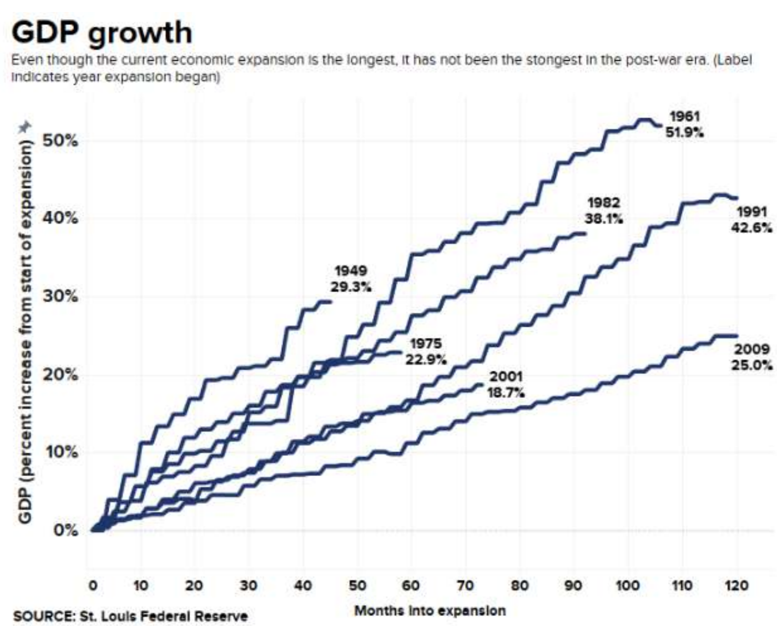
Current Economic Position



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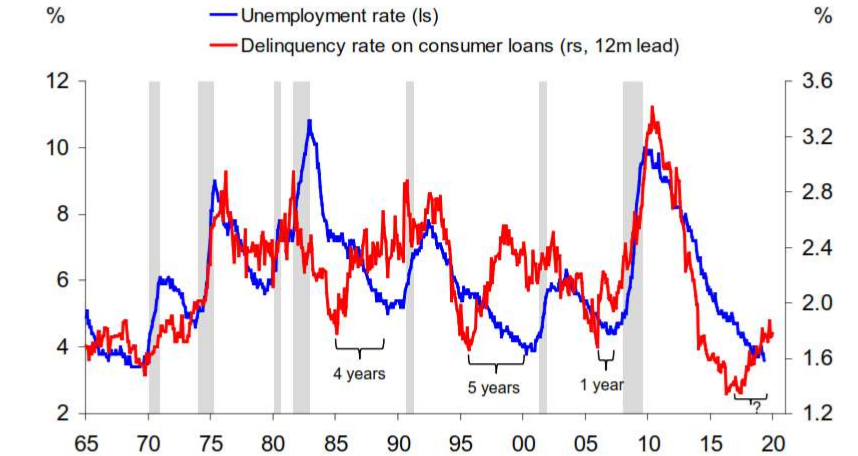
The credit cycle is leading the economic cycle. Economic slowdown risk is rising



Note: Composite consumer loans consists of eight loan types: personal, automobile direct & indirect, mobile homes, recreational vehicles, marine financing loans, property improvement and home equity and second mortgage loans.

Source: BLS, ABA, Haver Analytics, DB Global Research

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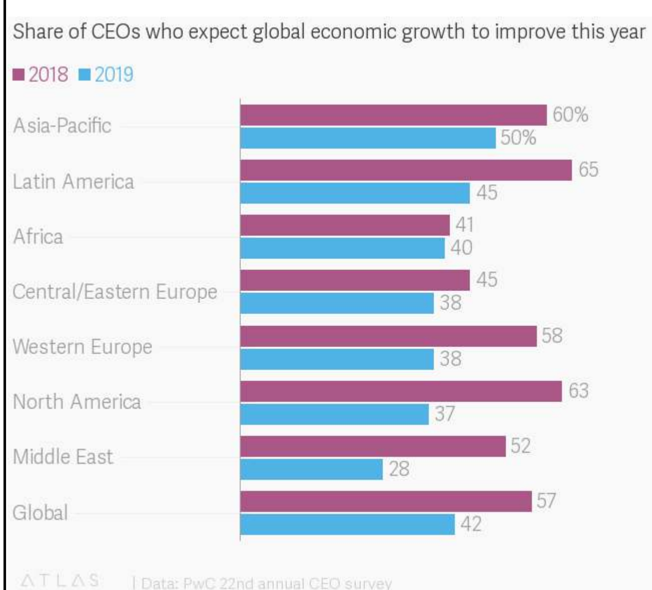
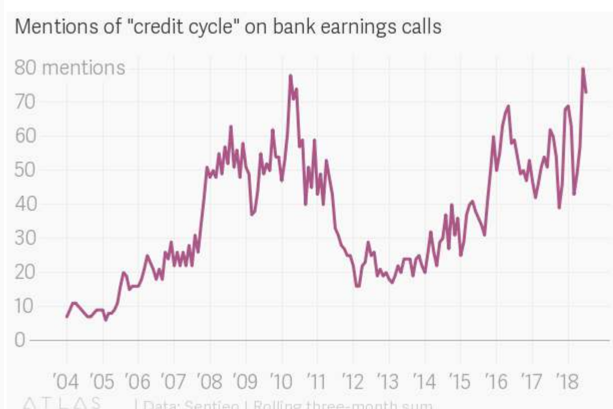
Current Economic Position





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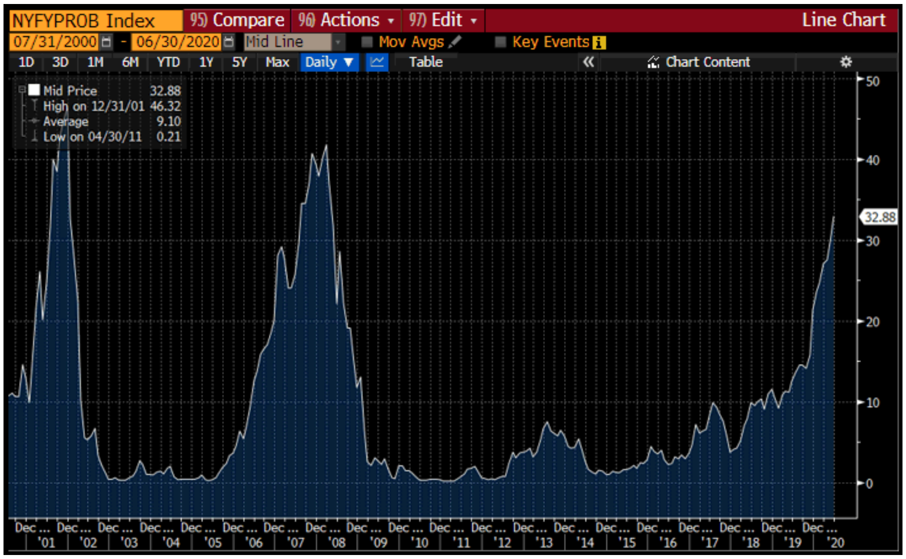
Current Economic Position



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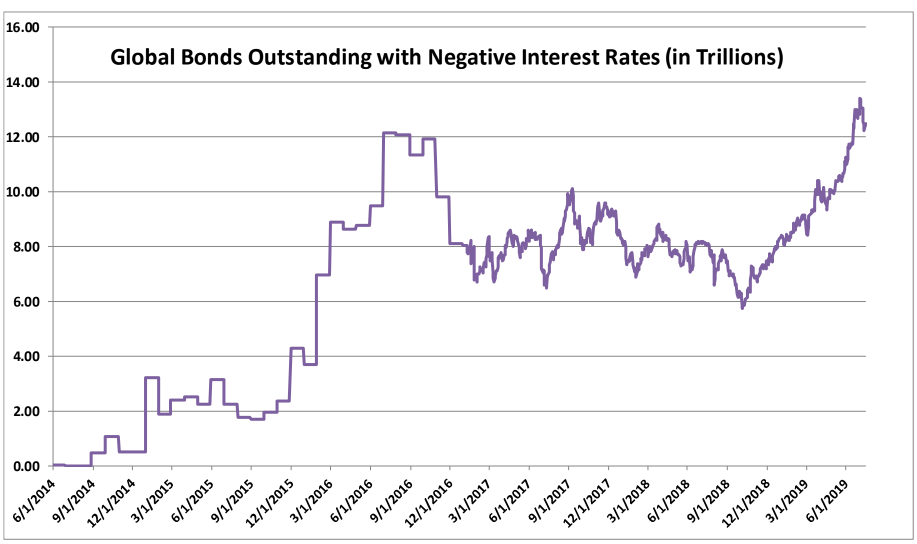
Source: Bloomberg

This is somewhat new....



Source: Bloomberg

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Repositioning the Balance Sheet for the Next Economic Cycle

➢ The Project: Position the Balance Sheet for the next economic phase and/or economic cycle:

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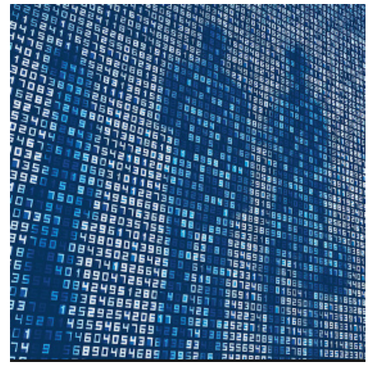

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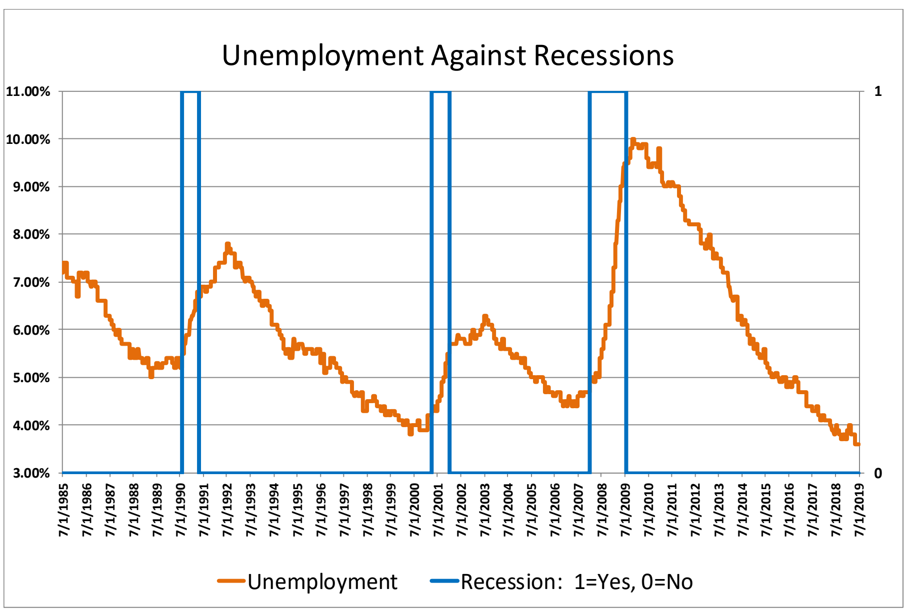
Economy - Data and People: Fed Mandate - Jobs



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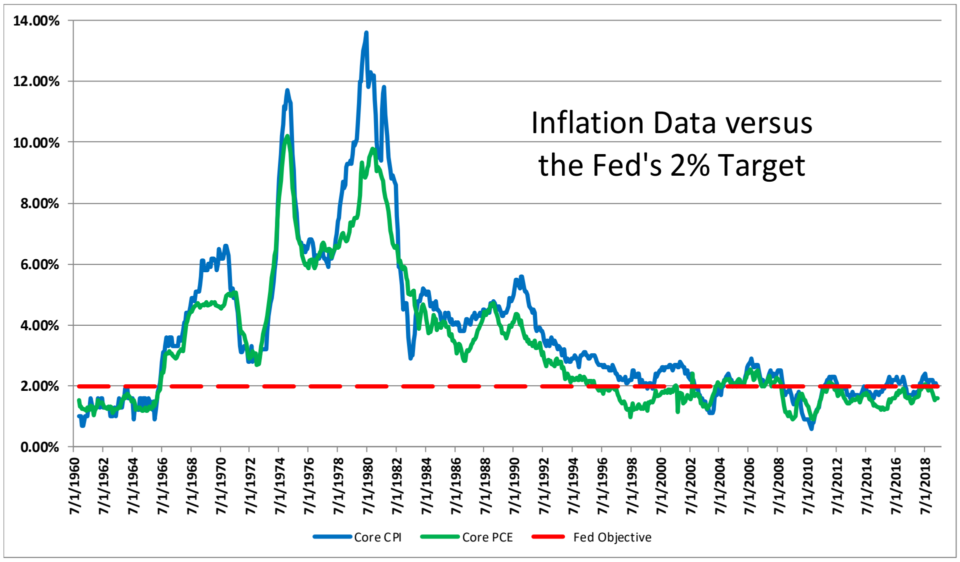
Source: Bloomberg

Economy - Data and People: Fed Mandate - Prices



Source: Bloomberg

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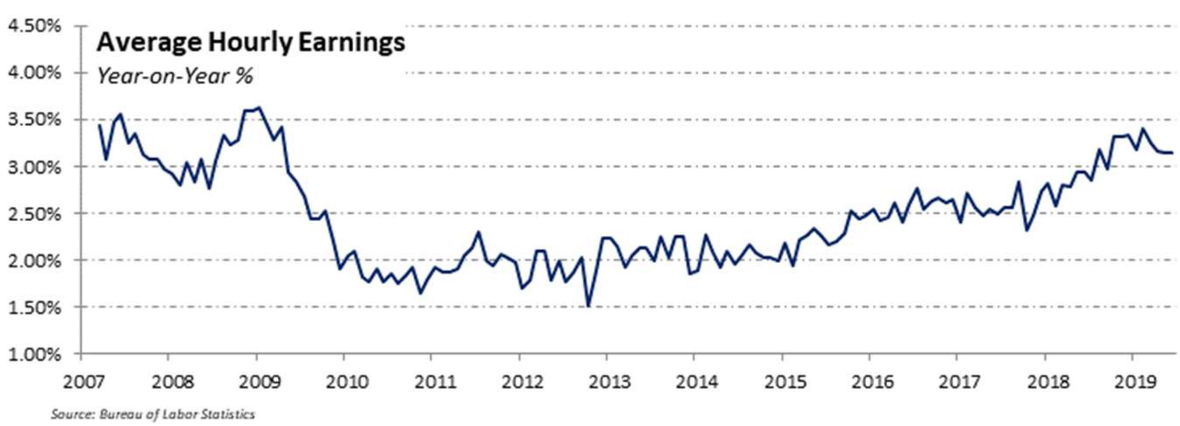
Economy - Data and People: Fed Mandate - Prices



Source: FTN

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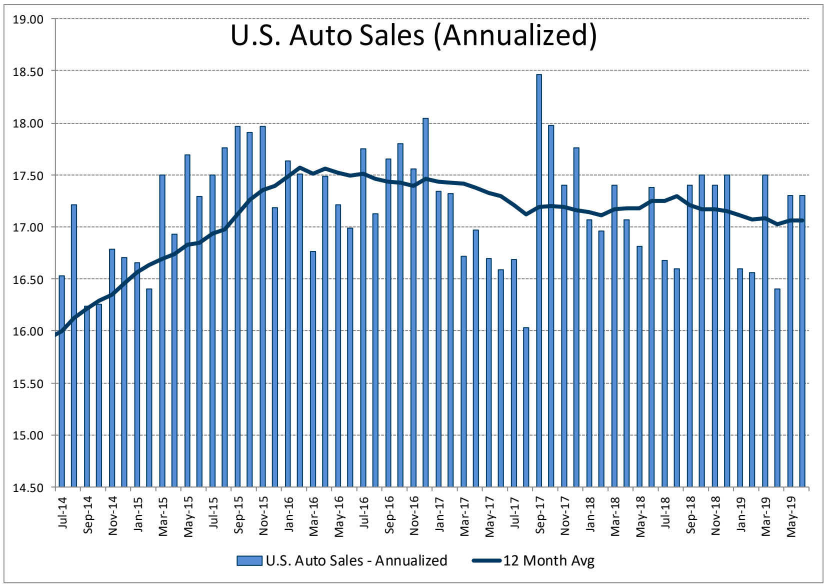
Economy - U.S. Auto Sales (in millions)



Source: Bloomberg

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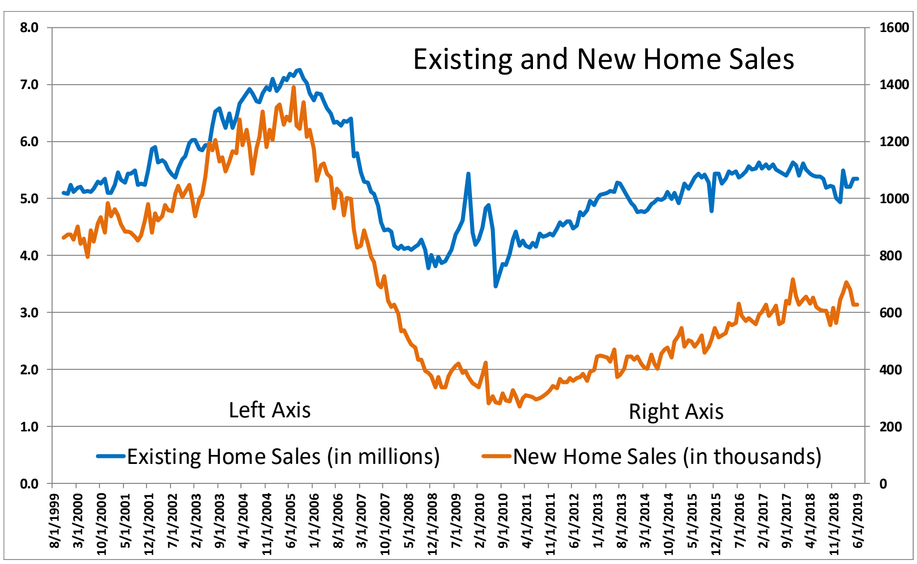
Economy - Housing Market



Source: Bloomberg

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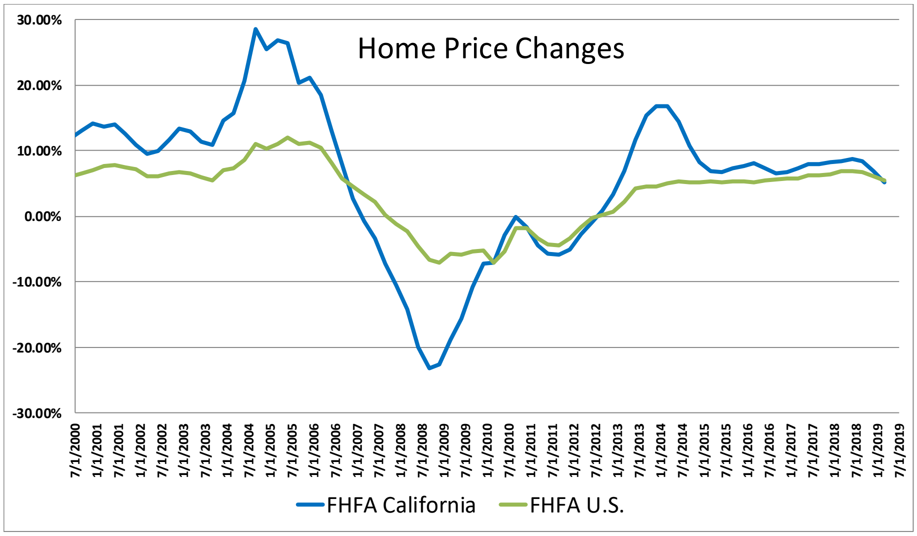
Economy - Housing Market



Source: Bloomberg

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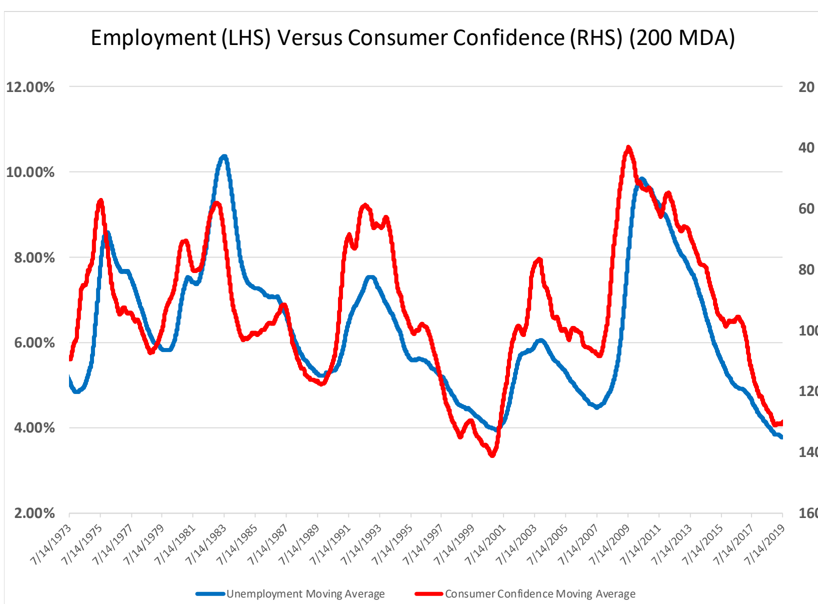
Economy – Data and People



Source: Bloomberg

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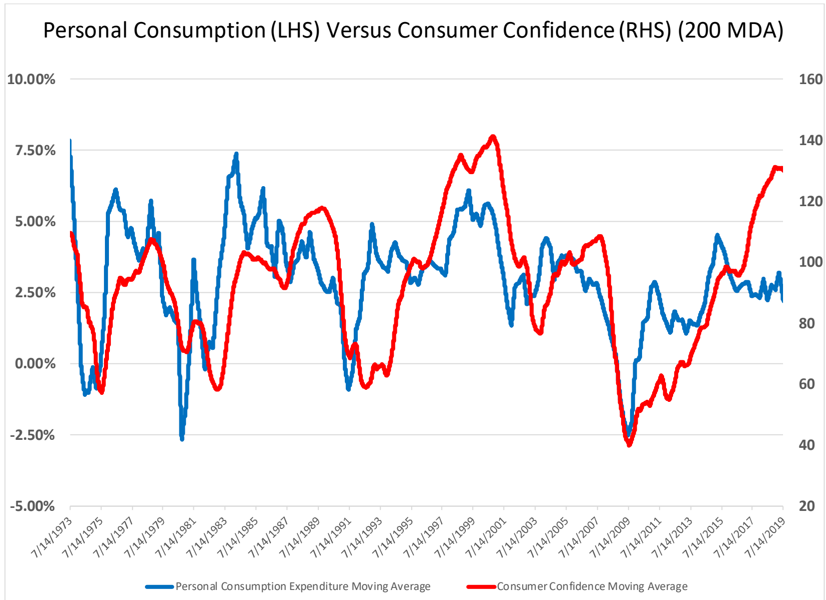
Economy – Data and People



Source: Bloomberg

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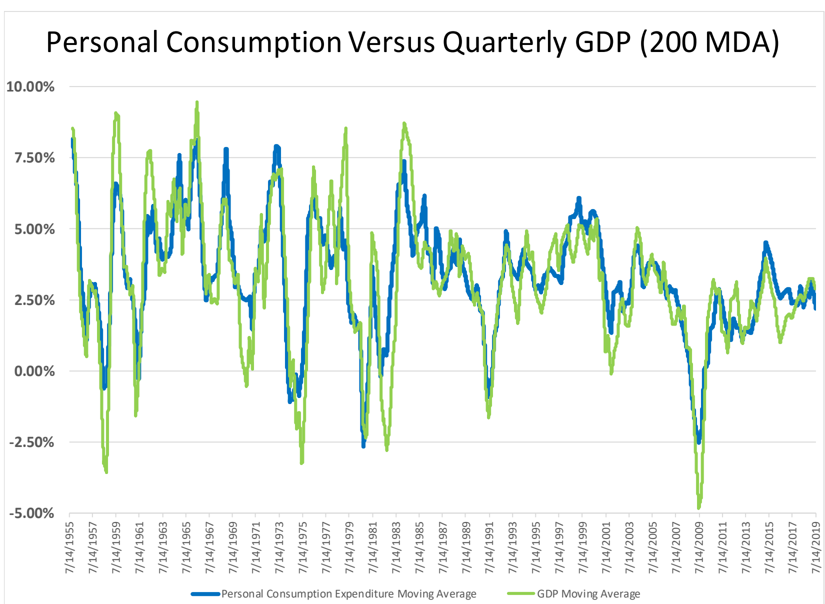
Economy – Data and People



Source: Bloomberg

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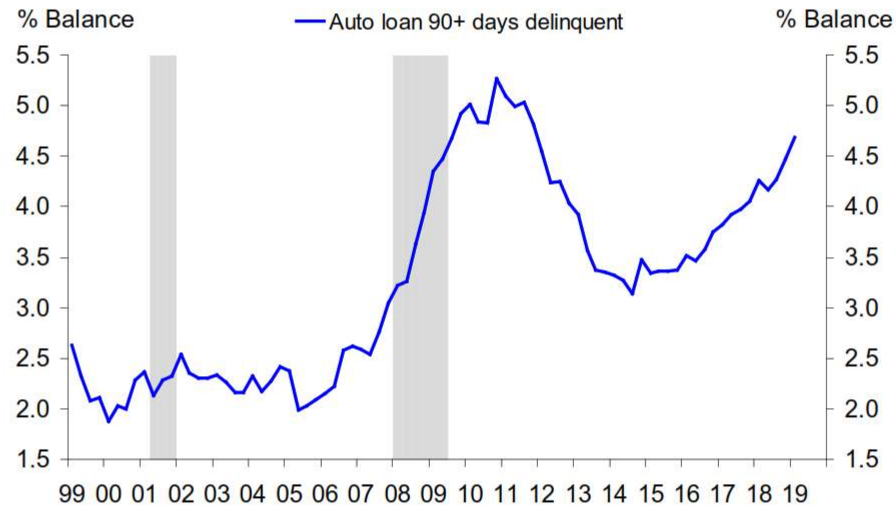
Economy – Data and People



Source: FRBNY Consumer Credit Panel, Equifax, Haver Analytics, DB Global Research

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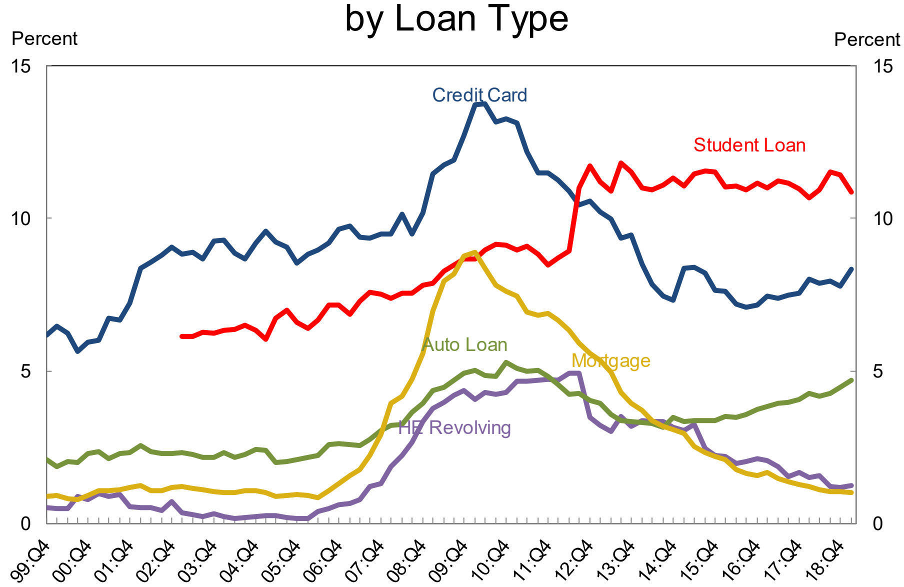
Percent of Balance 90+ Days Delinquent by Loan Type



Source: New York Fed Consumer Credit Panel/Equifax

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Economy – Data and People

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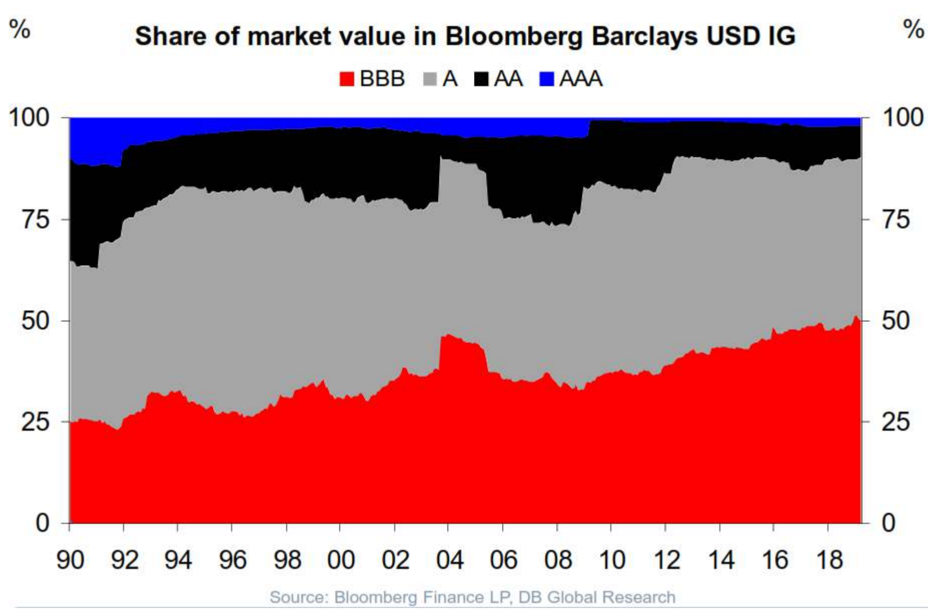
50% of the IG index is BBB



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Summary Points

- The record setting expansion continues.
- Did the expansion take a breather? Perhaps we could be closer to the peak? Did the economy already peak?
- The market loves to talk about the economy heading into a recession but does the Fed still have a chance to undo what they always do? Overtighten…..

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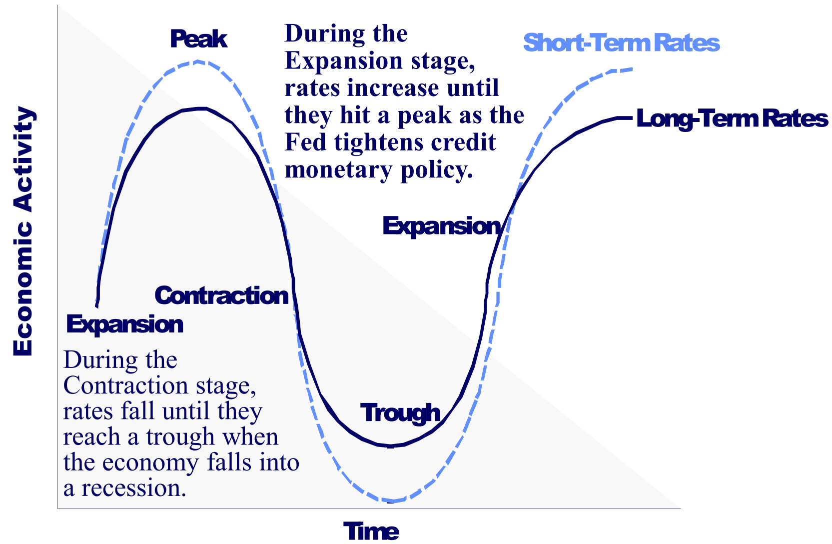
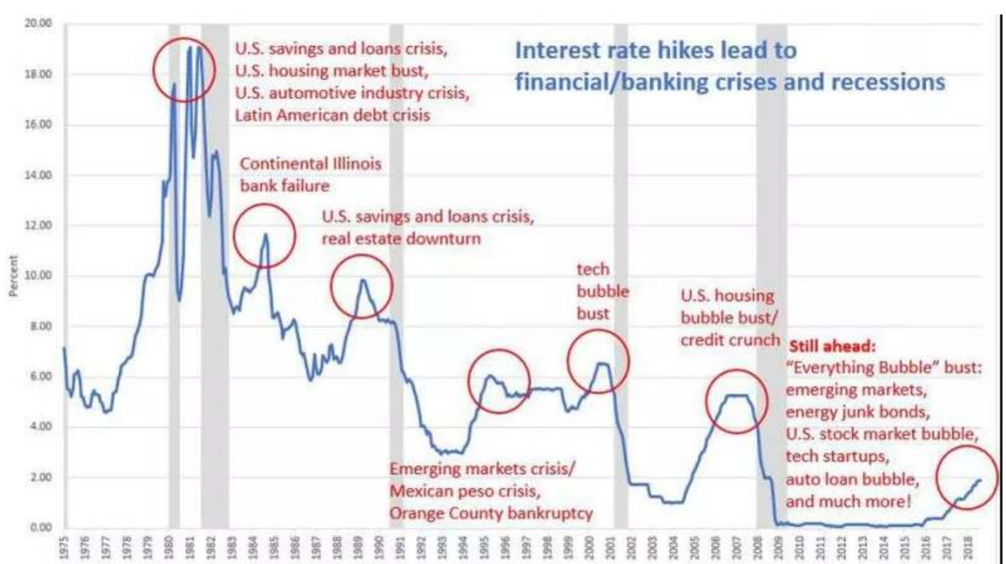
Understanding the Economic (Credit) Cycle

Interest rates and yield curve shape are fairly well correlated with the Economic Cycle.

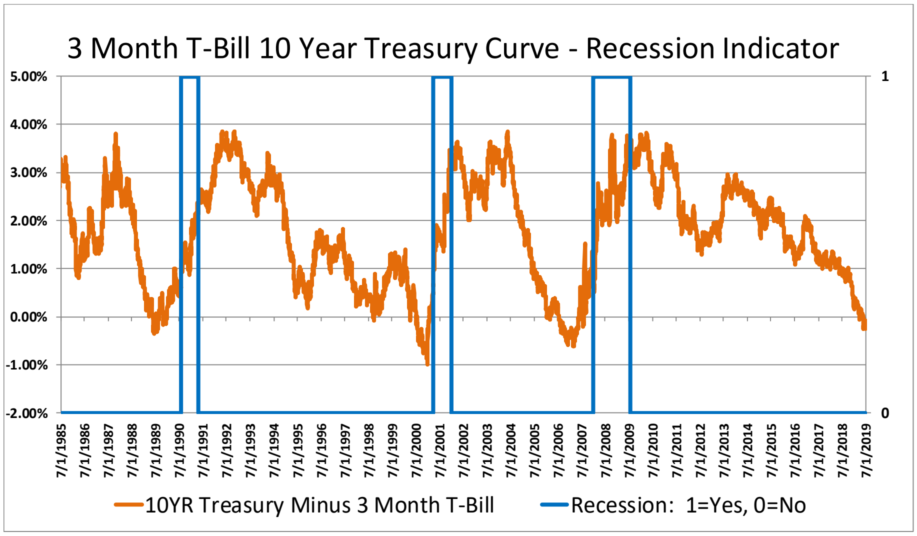


Fed Funds Rate - Recessions in Gray – Fed overtightening



Source: St. Louis Fed

The U.S. Yield Curve is a strong Recession Indicator



Source: Bloomberg

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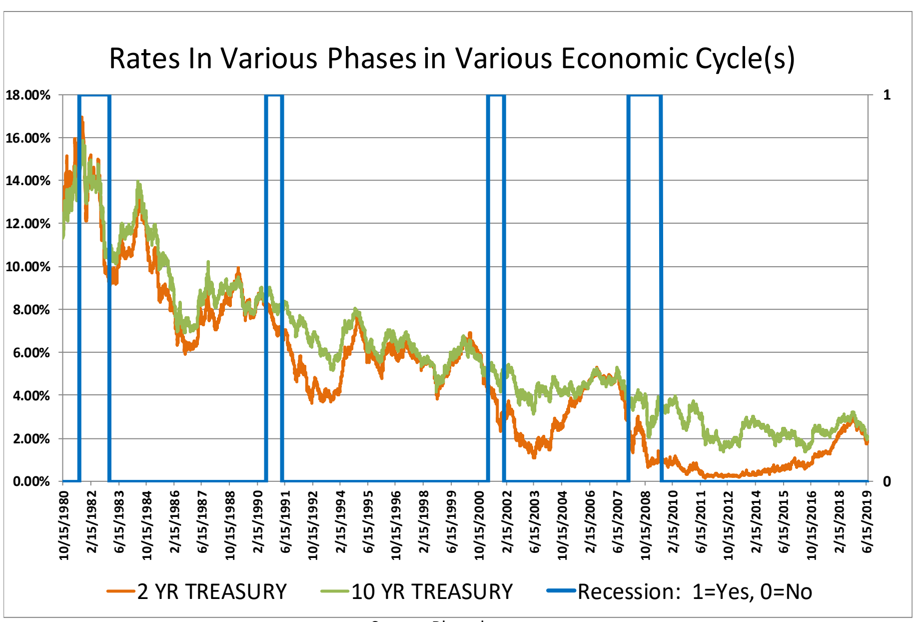

Source: Bloomberg

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The U.S. Yield Curve is a Strong Recession Indicator

Yield Curve – is a leading economic indicator bit there is more noise these days with the global economy, foreign buying of Treasuries, regulation, etc.

Normal Yield Curve – upward sloping where the longer maturities compensate for the length of time you are borrowing/lending/inflation. Generally reflective of an expanding economy.

Steep Yield Curve – long term yields rising faster than short term yields and historically indicates the ***START*** of an expansionary economic period.

Flat Yield Curve – usually occurs when there is a transition between a normal yield curve and an inverted yield curve. Does it signal equilibrium in the economy without much inflationary threat or fears? Thing about it, if you are willing to accept 2% for 6 months or for 8 years, you probably are not too worried about inflation eating into your cash flows.

Inverted Yield Curve – expectation that shorter yields will fall in the future and can be reflective of a decline or lack of inflation and is a leading indicator of an economic downturn.

Humped Yield Curve – medium yields are higher than both short term and long term yields. Usually indicative of slowing economic growth. This is transitory like a flat curve as we know the natural rate is hard to peg as the Fed always over tightens.

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Time to Position or Hedge Your Balance Sheet

- What did we learn? The economy is most likely still expanding; we may be close to the peak; we may have already reached the peak or could we revisit it?
- So what is are the next steps?
  - **Micro Level** - we can use a **What-if Analysis** to evaluate our **Net Economic Value (NEV)** and your **Net Interest Income (NII)**
    - We can use our knowledge to anticipate (educated guess) where rates may go next
    - Based on our educated guess, we can add or shed interest earning assets or liabilities. **OR** the balance sheet may be fine where it is currently positioned for our anticipated interest rate move.

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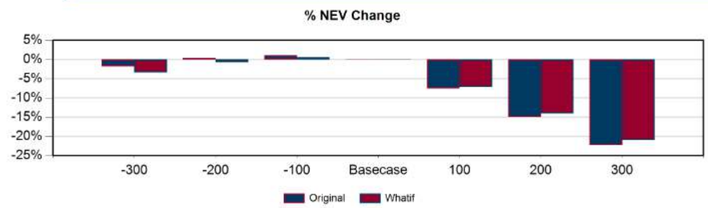
Positioning Your Balance Sheet – Expanding/Peak

Net Economic Value Original

	Book Value	-300	-200	-100	Basecase	+100	+200	+300
Total Assets	$37,549	$39,254	$38,593	$37,898	$37,157	$36,424	$35,688	$34,979
Total Liabilities	$34,253	$34,314	$33,548	$32,816	$32,130	$31,775	$31,408	$31,070
Total Equity	$3,296	$4,939	$5,045	$5,082	$5,027	$4,649	$4,279	$3,909
$ Change		($88)	$18	$54		($378)	($748)	($1,118)
% Change		*-1.75 %*	*0.35 %*	*1.08 %*		*-7.52 %*	*-14.88 %*	*-22.24 %*
NEV Ratio	8.78 %	12.58 %	13.07 %	13.41 %	13.53 %	12.76 %	11.99 %	11.18 %

Net Economic Value What-If

	Book Value	-300	-200	-100	Basecase	+100	+200	+300
Totals Assets	$37,549	$39,168	$38,537	$37,868	$37,151	$36,442	$35,726	$35,039
Total Liabilities	$34,253	$34,314	$33,548	$32,816	$32,130	$31,775	$31,408	$31,070
Total Equity	$3,296	$4,854	$4,989	$5,052	$5,021	$4,667	$4,318	$3,969
$ Change		($167)	($32)	$31		($354)	($703)	($1,052)
% Change		*-3.33 %*	*-0.65 %*	*0.61 %*		*-7.06 %*	*-14.01 %*	*-20.95 %*
NEV Ratio	8.77 %	12.39 %	12.95 %	13.34 %	13.52 %	12.81 %	12.09 %	11.33 %



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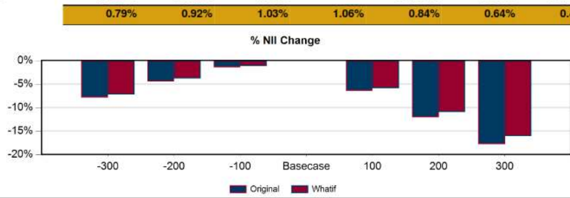
Positioning Your Balance Sheet – Expanding/Peak

Income Simulation Original

	-300	-200	-100	Basecase	+100	+200	+300
Int Income	$1,488	$1,547	$1,607	$1,664	$1,717	$1,768	$1,819
Int Expense	$109	$117	$132	$168	$316	$453	$589
NII	$1,379	$1,430	$1,475	$1,496	$1,400	$1,315	$1,230
$ Change	($117)	($66)	($21)		($96)	($181)	($266)
% Change	*-7.80 %*	*-4.39 %*	*-1.40 %*		*-6.39 %*	*-12.07 %*	*-17.79 %*
Net Operating Exp	($1,074)	($1,074)	($1,074)	($1,074)	($1,074)	($1,074)	($1,074)
Net Income	$305	$356	$401	$422	$326	$241	$156
$ Change	($117)	($66)	($21)		($96)	($181)	($266)
% Change	*-27.67 %*	*-15.56 %*	*-4.97 %*		*-22.66 %*	*-42.80 %*	*-63.08 %*
ROA	0.81%	0.95%	1.07%	1.12%	0.87%	0.64%	0.42%

Income Simulation What-If

	-300	-200	-100	Basecase	+100	+200	+300
Int Income	$1,474	$1,532	$1,587	$1,639	$1,702	$1,763	$1,824
Int Expense	$109	$117	$132	$168	$316	$453	$589
NII	$1,365	$1,415	$1,455	$1,471	$1,385	$1,310	$1,235
$ Change	($106)	($56)	($16)		($86)	($161)	($236)
% Change	*-7.19 %*	*-3.78 %*	*-1.08 %*		*-5.82 %*	*-10.92 %*	*-16.06 %*
Net Operating Exp	($1,074)	($1,074)	($1,074)	($1,074)	($1,074)	($1,074)	($1,074)
Net Income	$291	$341	$381	$397	$311	$236	$161
$ Change	($106)	($56)	($16)		($86)	($161)	($236)
% Change	*-26.64 %*	*-14.02 %*	*-4.02 %*		*-21.58 %*	*-40.48 %*	*-59.53 %*
ROA	0.79%	0.92%	1.03%	1.06%	0.84%	0.64%	0.43%



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Time to Position or Hedge Your Balance Sheet

- What did we learn? The economy is most likely still expanding; we may be close to the peak; we may have already reached the peak or could we revisit it?
- So what is the next steps?
  - **Macro Level** - we can evaluate inherent balance sheet (interest rate) risk at a macro level by analyzing **Duration of Equity (DOE)**. DOE tells us if we have more interest rate sensitivity to assets or liabilities or neither if the DOE is zero.
    - We can use our knowledge to anticipate (educated guess) where rates may go next.
    - Based on our educated guess, we can add or shed interest earning assets or liabilities. **OR** the balance sheet may be fine where it is currently positioned for our anticipated interest rate move.

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Positioning Your Balance Sheet – Macro Level

- What is your current Duration of Equity (DOE)?
  - Duration of Equity GAP Analysis - compares the duration of a credit union's assets with the duration of the credit union's liabilities and examines how the duration gap will change when interest rates change.
  - When the weighted average duration of assets is greater than the weighted average duration of liabilities, asset values will change more than liability values when rates move and vice-versa.
  - Positive Duration of Equity Gap - when interest rates rise (fall), assets will fall proportionately more (less) in value than liabilities and duration gap will fall (rise).
  - Negative Duration of Equity Gap - when interest rates rise (fall), assets will fall proportionately less (more) in value than liabilities and the duration gap will rise (fall).

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Positioning Your Balance Sheet – Expanding/Peak

Duration Gap Summary							Current and Estimated Cycle - Hedge or Repositioning								
Duration Gap	Change in Interest	Assets		Liabilities		Equity	Current Cycle	Estimated Cycle	Estimated Rate Move	Duration Gap Goal	Hedge/ Position	Duration Gap Goal	Hedge/ Position	Duration Gap	Hedge/ Position
Positive	Increase	Decrease	>	Decrease	→	Decrease									
Positive	Decrease	Increase	>	Increase	→	Increase	Expansion to Peak	Contraction to Trough	Decrease to Flat	Increase Gap	Do Nothing	Gap Unchanged	Shed Duration	Shorten Gap	Shed Duration
Negative	Increase	Decrease	<	Decrease	→	Increase									
Negative	Decrease	Increase	<	Increase	→	Decrease	Expansion to Peak	Contraction to Trough	Decrease to Flat	Increase Gap	Add Duration	Gap Unchanged	Add Duration	Shorten Gap	Do Nothing
Zero	Increase	Decrease	=	Decrease	→	None									
Zero	Decrease	Increase	=	Increase	→	None	Expansion to Peak	Contraction to Trough	Decrease to Flat	Increase Gap	Add Duration	Gap Unchanged	Do Nothing	Shorten Gap	Shed Duration

- Consider adding duration based on your educated guess:
  - Investments: Agency MBS – careful on underlying WAC, Agency Bullets, Agency CMBs – more defined cash flows, terms CDs
  - Loans: Fixed rate Auto Loans and Mortgages – careful on the credit on both if the next stop is a recession/contraction. Lighten up on unsecured
  - Non-maturity deposits or floating rate debt

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Positioning Your Balance Sheet – Contraction/Trough

Duration Gap Summary							Current and Estimated Cycle - Hedge or Repositioning								
Duration Gap	Change in Interest	Assets		Liabilities		Equity	Current Cycle	Estimated Cycle	Estimated Rate Move	Duration Gap Goal	Hedge/ Position	Duration Gap Goal	Hedge/ Position	Duration Gap	Hedge/ Position
Positive	Increase	Decrease	>	Decrease	→	Decrease	Contraction to Trough	Expansion to Peak	Flat to Increase	Increase Gap	Add Duration	Gap Unchanged	Add Duration	Shorten Gap	Do Nothing
Positive	Decrease	Increase	>	Increase	→	Increase									
Negative	Increase	Decrease	<	Decrease	→	Increase	Contraction to Trough	Expansion to Peak	Flat to Increase	Increase Gap	Do Nothing	Gap Unchanged	Shed Duration	Shorten Gap	Shed Duration
Negative	Decrease	Increase	<	Increase	→	Decrease									
Zero	Increase	Decrease	=	Decrease	→	None	Contraction to Trough	Expansion to Peak	Flat to Increase	Increase Gap	Add Duration	Gap Unchanged	Do Nothing	Shorten Gap	Shed Duration
Zero	Decrease	Increase	=	Increase	→	None									

- Consider reducing duration based on your educated guess:
  - Investments: Let some cash flows mature to increase cash, sell investments
  - Loans: Let some loans mature to increase cash, sell loans
  - Issue term deposits. Let's discuss non-maturity deposits
- CONCLUSION: Manage your balance sheet through an ongoing assessment of the economy, interest rates and your ALM position.

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CATALYST
Strategic Solutions

Questions?

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