

MIT Enterprise Forum 2018 Business Forecast Luncheon

January 2018

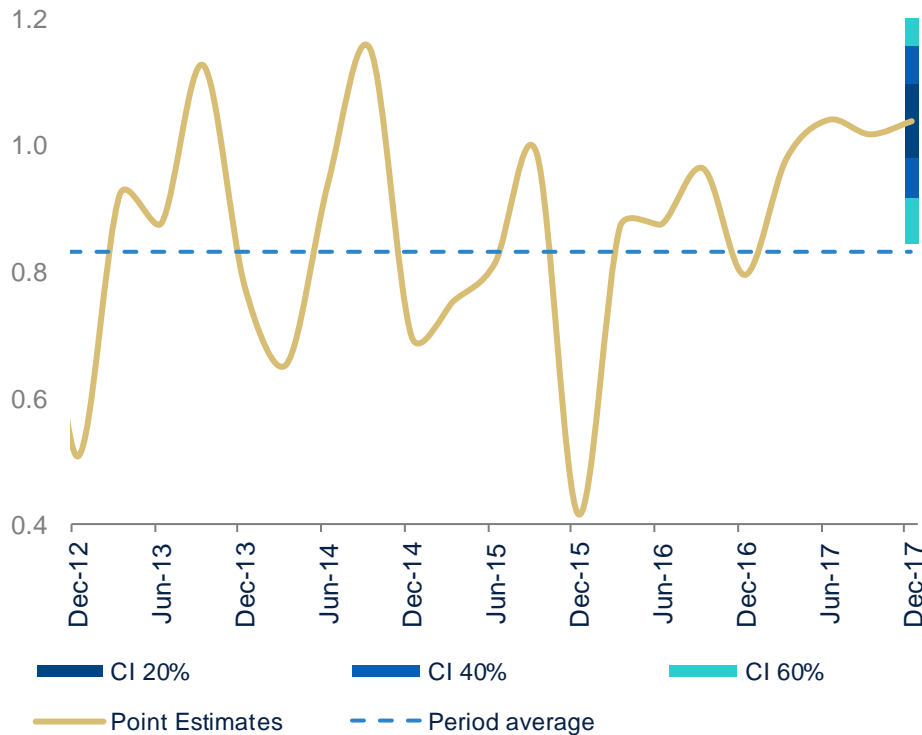
BBVA

Creating Opportunities



Stabilization in a more synchronized recovery

World Growth
(%, pp)



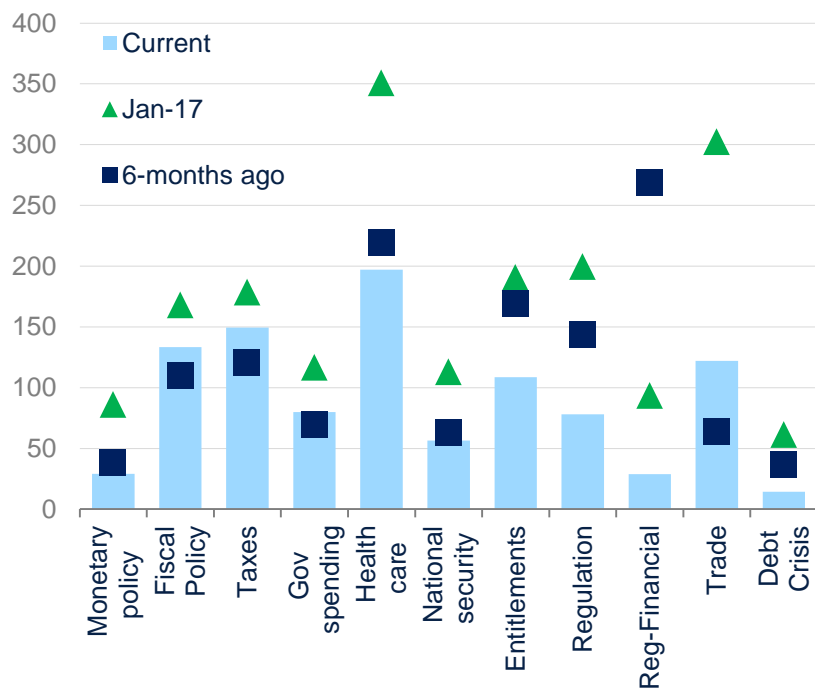
- ◆ Annualized global growth set to surpass 4.0% in 4Q17
- ◆ Inflation pressures remain contained with only moderate signs of upward pressures in Developed Markets
- ◆ Monetary policy to remain supportive despite initial efforts to remove accommodation
- ◆ Cyclical momentum and stronger U.S. suggests growth synchronicity sustainable in 2018
- ◆ Risks from geopolitical tensions in Middle East, Brexit, transition from growth to quality in China, elections in LATAM and commodities prices

U.S. Uncertainty & Optimism Elevated

Policy uncertainty elevated; optimism unwavering

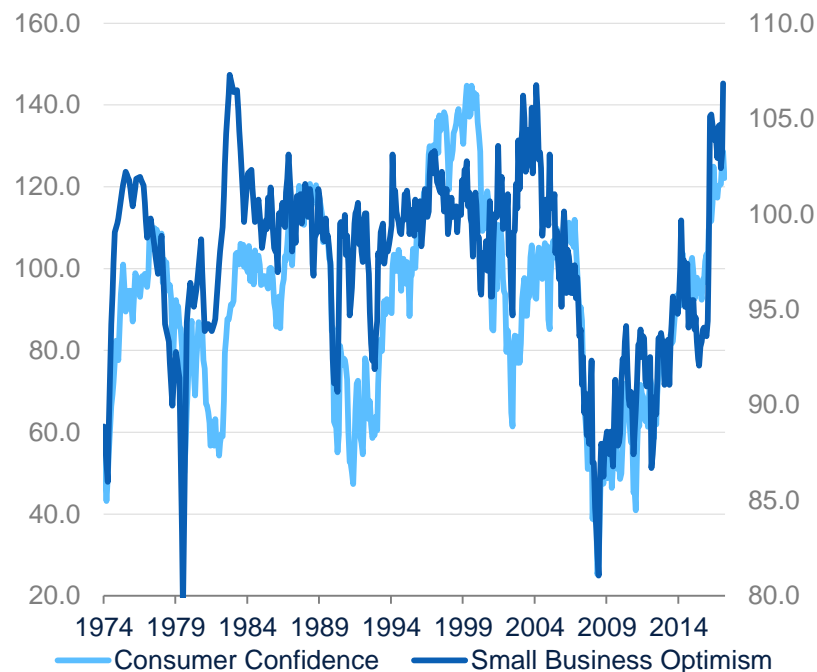
Categorical Policy Uncertainty

mean=100



Consumer & Small Business Optimism

1985=100



Source: BBVA Research & Baker et al

Source: BBVA Research, NBER & Haver

U.S. Economic Trends

U.S. Economic Indicator Heat Map

	1-year ago	6-months ago	3-months ago	1-month ago	Current
ISM Manufacturing	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue
ISM Nonmanufacturing	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue
Small Business Optimism	Light Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue
Capacity Utilization	Light Blue	Dark Blue	Light Blue	Dark Blue	Dark Blue
Industrial Production	Light Blue	Light Blue	Light Blue	Dark Blue	Dark Blue
IP-Manufacturing	Dark Blue	Light Blue	Light Blue	Dark Blue	Dark Blue
IP-Mining	Light Blue	Dark Blue	Light Blue	Dark Blue	Dark Blue
IP- Nonenergy High-Tech	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
Durable Goods New Orders	Light Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue
Capital Goods EX Aircraft	Light Blue	Light Blue	Dark Blue	Dark Blue	Dark Blue
Total Private Construction	Dark Blue	Light Blue	Light Blue	Light Blue	Light Blue
Building Permits	Light Blue	Light Blue	Dark Blue	Dark Blue	Light Blue
Core Logic Home Prices	Light Blue	Light Blue	Light Blue	Dark Blue	Dark Blue
Consumer Confidence	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue
Retail Sales	Light Blue	Light Blue	Light Blue	Dark Blue	Dark Blue
Retail Sales ex auto & gas	Light Blue	Light Blue	Light Blue	Light Blue	Dark Blue
Auto Sales	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
Unemployment Rate	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
Private Nonfarm Payrolls	Light Blue	Light Blue	Dark Blue	Dark Blue	Dark Blue
Chng Employment-to-Population	Dark Blue	Light Blue	Light Blue	Light Blue	Dark Blue
U6 Unemployment	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
Chng Prime Age Participation	Light Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue
PA- Marginally Attached	Dark Blue	Light Blue	Light Blue	Dark Blue	Dark Blue
Average Hourly Earnings	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
Real Disposable Income	Light Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue
Personal Savings Rate	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
Real Avg. Hourly Earnings	Light Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue
Productivity	Dark Blue	Dark Blue	Light Blue	Light Blue	Dark Blue

Below Average

Above Average

- Soft indicators continue to show strongest improvements
- Global growth supporting manufacturing and exports
- Labor market improves with nontrivial inflows of prime-age workers
- Moderate wage growth and gains in productivity
- 2Q & 3Q momentum sustainable?

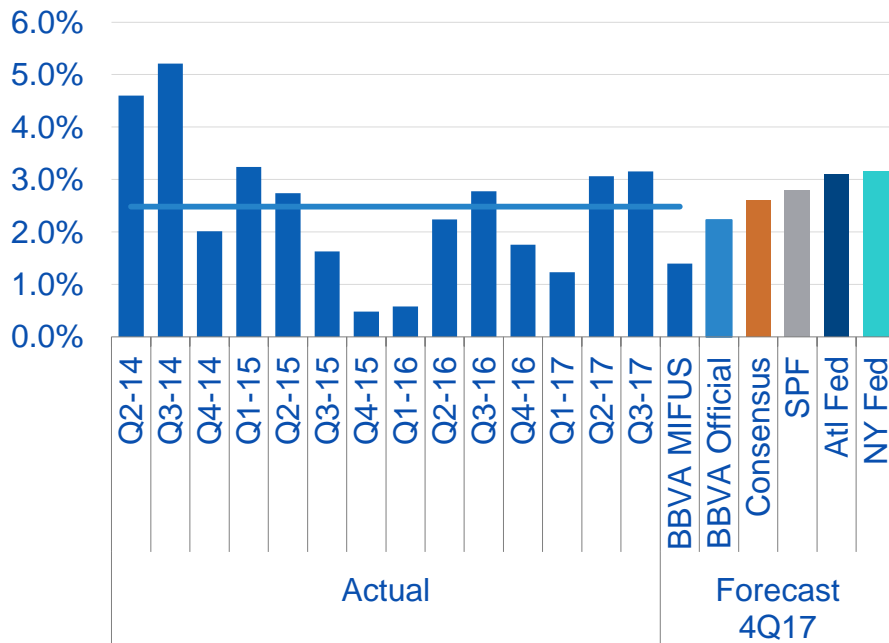
U.S. Economic Trends

Risk balance tilted to the upside due to cycle and global growth

Fiscal policy (tax reform) could push growth to decades highs

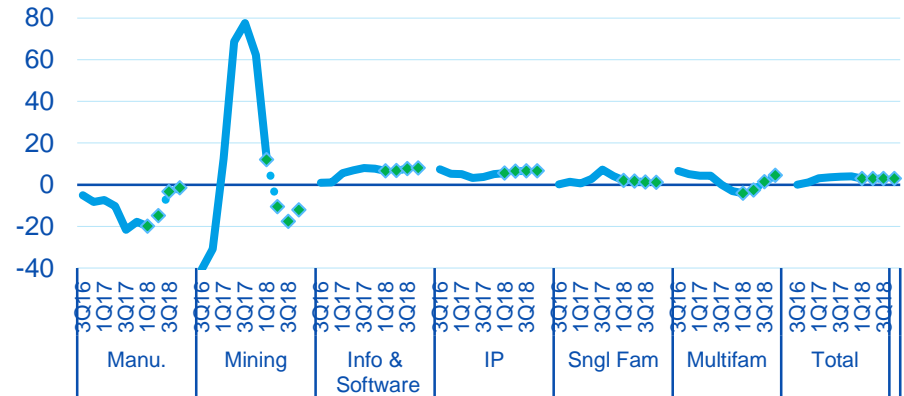
Real GDP Growth

QoQ SAAR, %



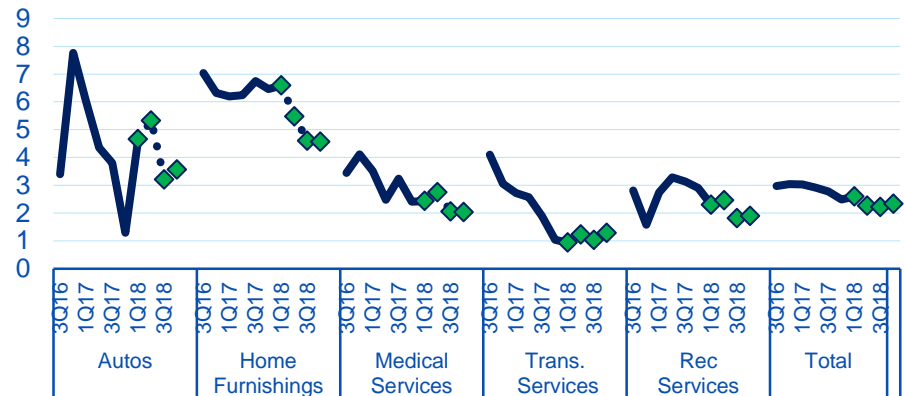
Real Private Fixed Investment

Year-over-year %, 2009\$



Real Personal Consumption

Year-over-year %, 2009\$



Cyclical Momentum: Labor Market

Alternative measures of slack approaching historical norms

Labor market momentum to ease as labor force slows and cycle ages

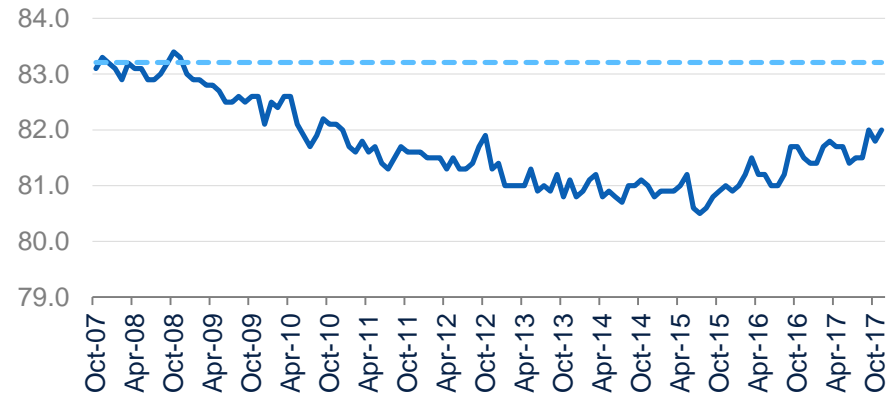
Labor Market Momentum*

	3-months ago	2-months ago	1-month ago	Current
Unemployment Rate	Light Blue	Light Blue	Light Blue	Light Blue
Private Nonfarm Payrolls	Light Blue	Light Blue	Light Blue	Light Blue
Employment to Population	Light Blue	Dark Blue	Light Blue	Light Blue
U6 Unemployment	Light Blue	Light Blue	Dark Blue	Light Blue
Prime Age Participation	Light Blue	Dark Blue	Dark Blue	Light Blue
PA- Marginally Attached	Dark Blue	Light Blue	Light Blue	Light Blue
Average Hourly Earnings	Light Blue	Dark Blue	Light Blue	Light Blue
Real Disposable Income	Light Blue	Light Blue	Light Blue	Light Blue
Personal Savings Rate	Light Blue	Light Blue	Light Blue	Light Blue
Real Avg. Hourly Earnings	Light Blue	Light Blue	Light Blue	Light Blue
Productivity	Light Blue	Light Blue	Light Blue	Light Blue



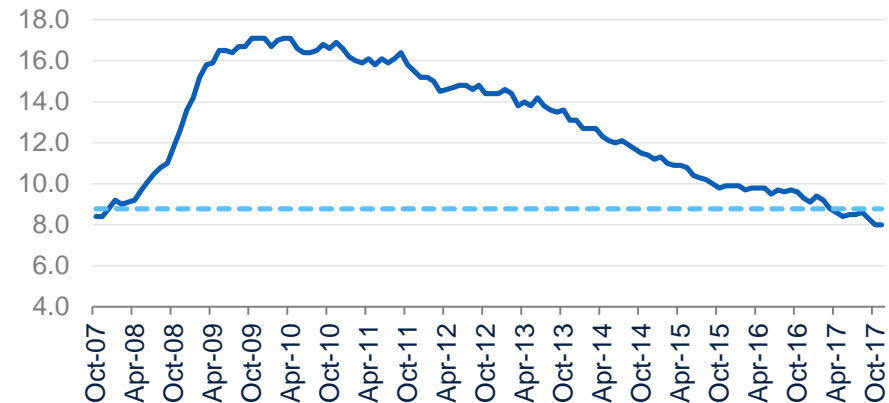
Prime-Age Participation

25-54, %



Labor Underutilization-U6

%



Source BBVA Research & Haver Analytics

*Acceleration in monthly change

Cyclical Momentum: Investment

Bubbles absent from major U.S. industries

Small business optimism has potential drive investment cycle

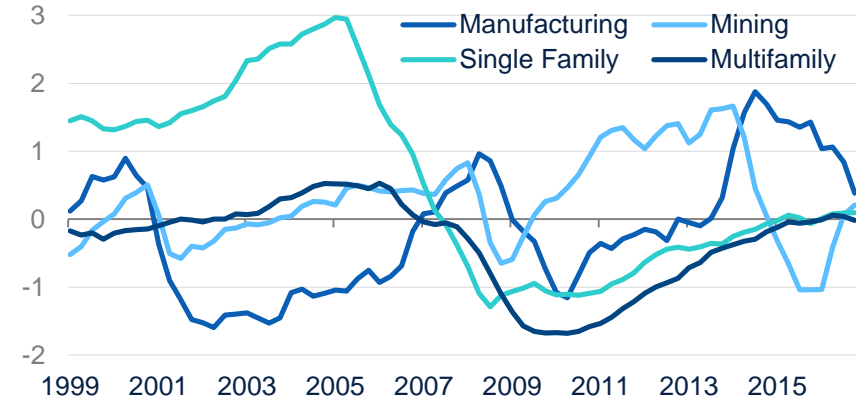
Industry Momentum*

	3-months ago	2-months ago	1-month ago	Current
ISM Manufacturing	Dark Blue	Dark Blue	Light Blue	Light Blue
ISM Nonmanufacturing	Dark Blue	Dark Blue	Light Blue	Light Blue
Small Business Optimism	Light Blue	Light Blue	Dark Blue	Dark Blue
Capacity Utilization	Light Blue	Light Blue	Dark Blue	Dark Blue
Industrial Production	Light Blue	Light Blue	Dark Blue	Light Blue
IP-Manufacturing	Light Blue	Light Blue	Dark Blue	Light Blue
IP-Mining	Light Blue	Dark Blue	Light Blue	Dark Blue
IP- Nonenergy High-Tech	Light Blue	Light Blue	Dark Blue	Light Blue
Durable Goods New Orders	Light Blue	Light Blue	Dark Blue	Light Blue
Capital Goods EX Aircraft	Light Blue	Light Blue	Dark Blue	Light Blue
Total Private Construction	Light Blue	Light Blue	Dark Blue	Light Blue
Building Permits	Dark Blue	Light Blue	Dark Blue	Light Blue
Core Logic Home Prices	Light Blue	Light Blue	Dark Blue	Dark Blue
Consumer Confidence	Light Blue	Light Blue	Dark Blue	Light Blue
Retail Sales	Light Blue	Dark Blue	Light Blue	Light Blue
Retail Sales ex auto & gas	Light Blue	Light Blue	Dark Blue	Light Blue
Auto Sales	Light Blue	Dark Blue	Light Blue	Light Blue

Below Average Above Average

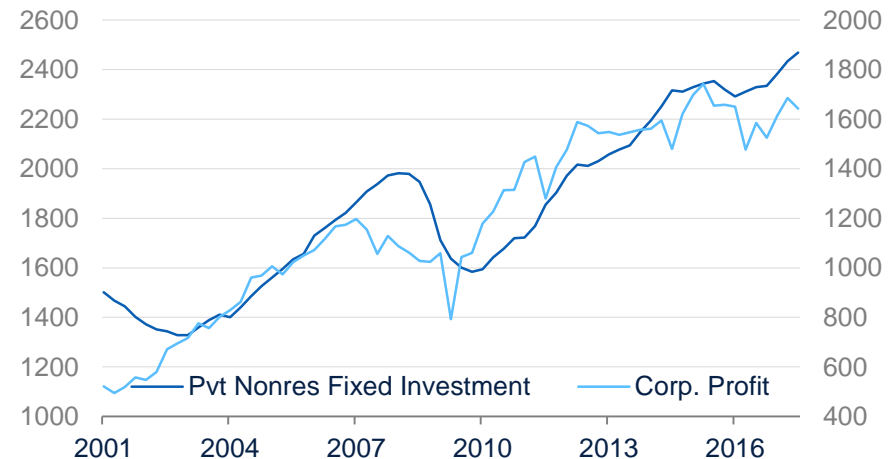
Industry Business Cycles

Mean=0, SD=1



Corp. Profits & Private Nonresidential Fixed Investment

Bil US\$



Source BBVA Research & Haver Analytics

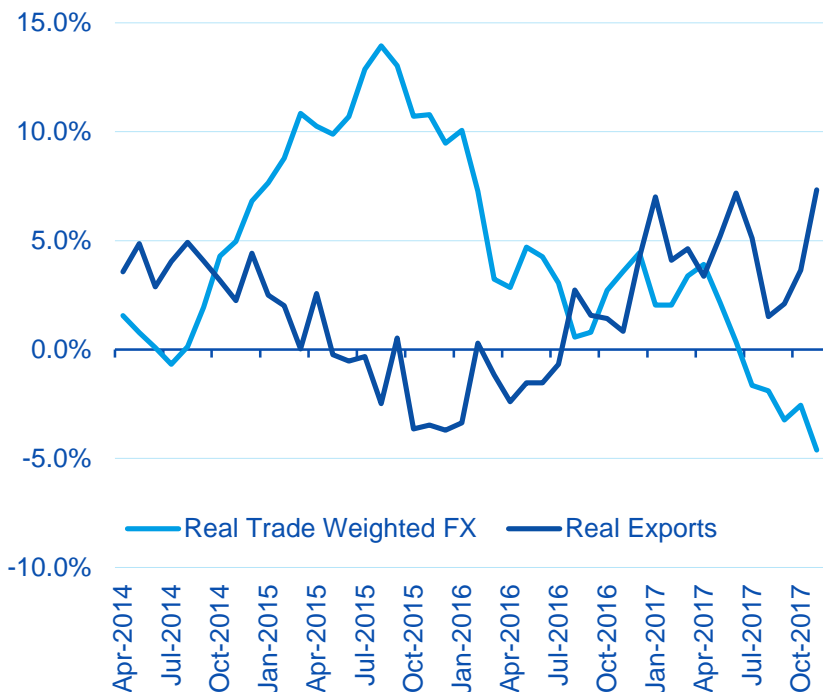
*Acceleration in monthly change

Cyclical Momentum: Global Growth and Exports

Global growth momentum and FX movements should continue to bolster exports

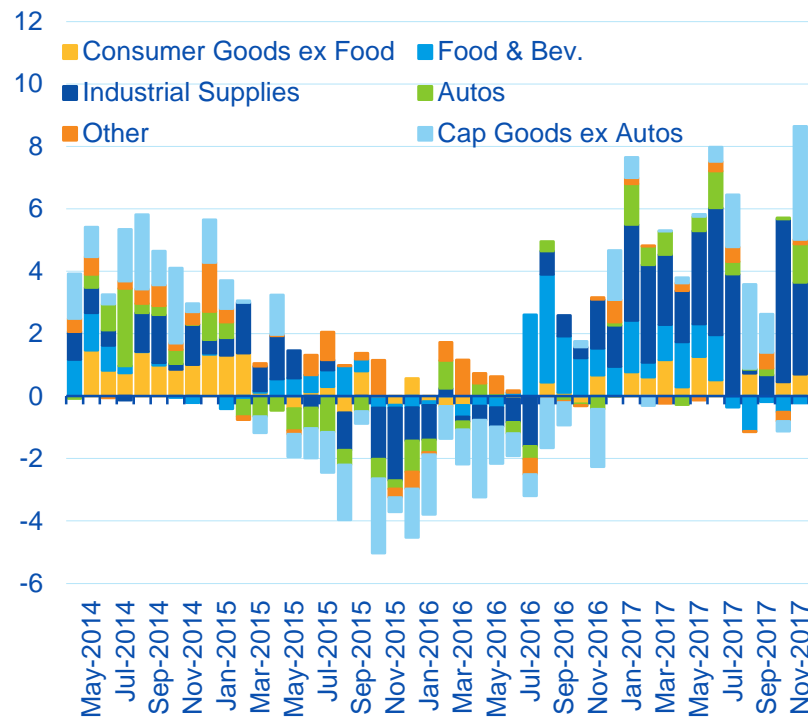
Real Exchange Rates and Exports

Year-over-year %



Real Exports

Contribution to year-over-year %

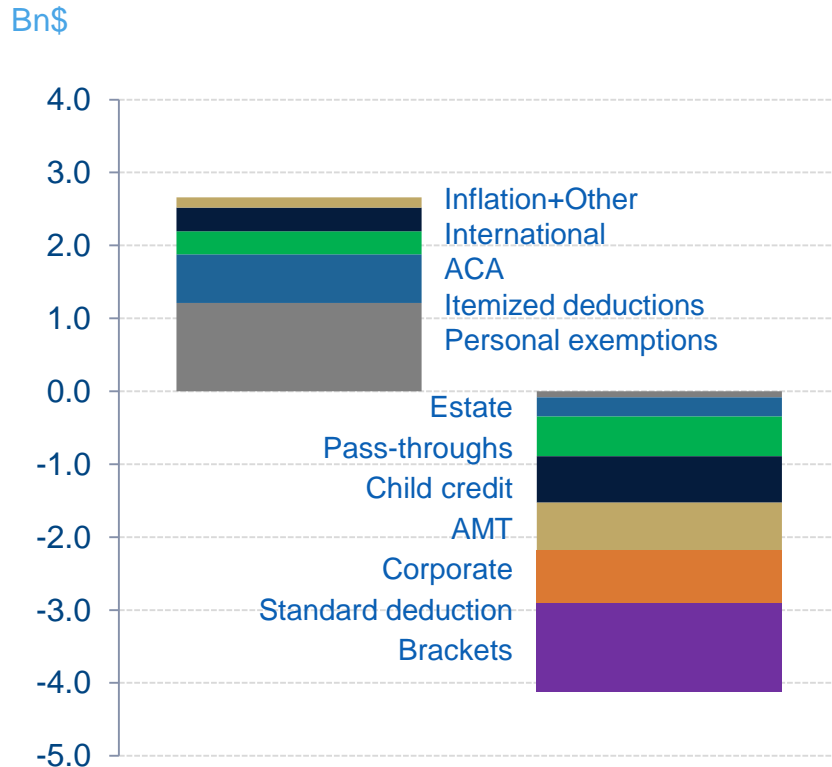


Source: BBVA Research, FRB and BEA

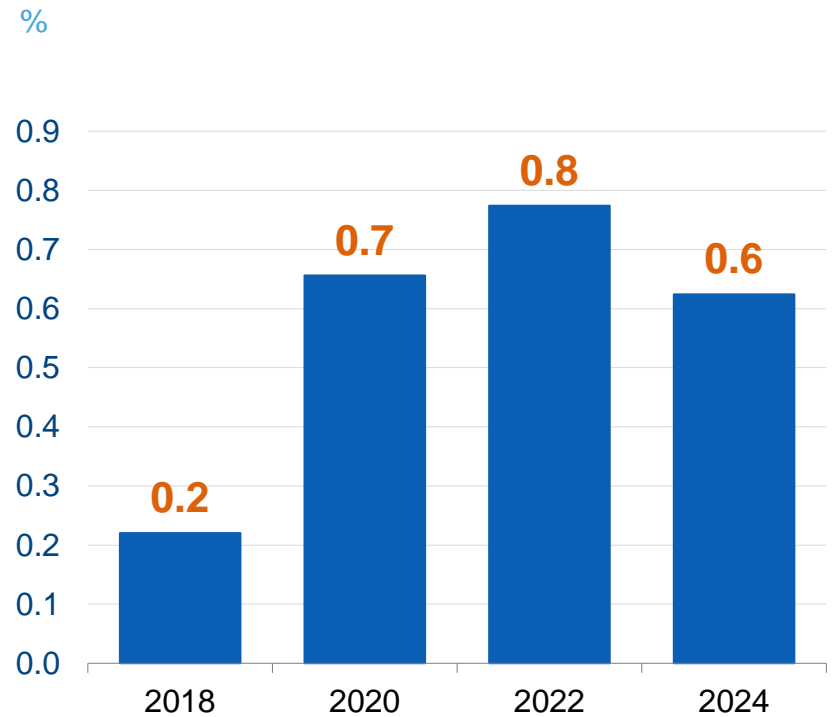
Tax Reform: Impact

Tax reform to boost GDP 0.8% by 2022

Revenue Impact From Tax Reform



Tax Reform Impact on GDP

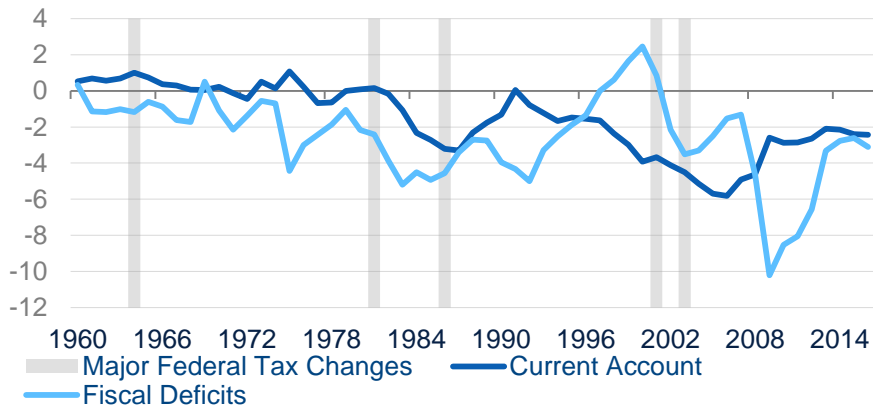


Source: BBVA Research & JCT

Tax Reform: Shadow Costs

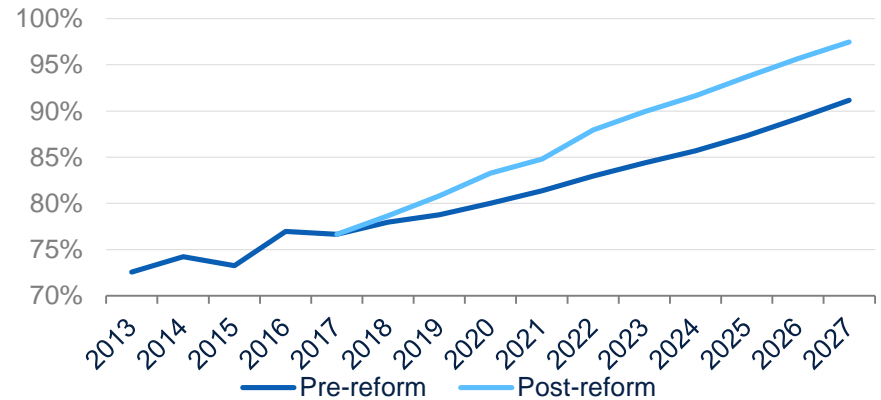
Current Account Balance & Fiscal Deficits

Share of GDP, %

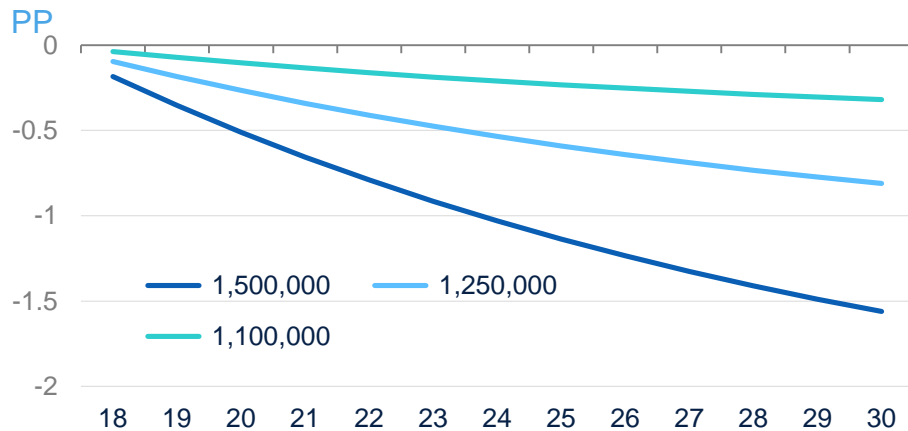


Federal Debt

Share of GDP, %

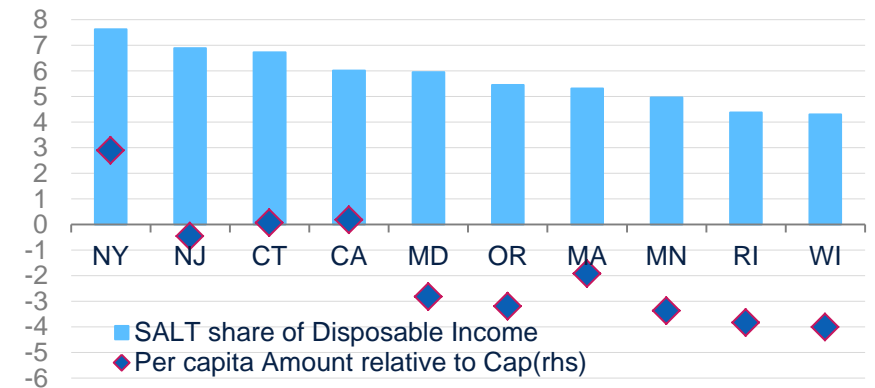


Impact of Cap on Mortgage Interest Deduction on Home Prices*



SALT Impact on State and Local Personal Income

%, K\$

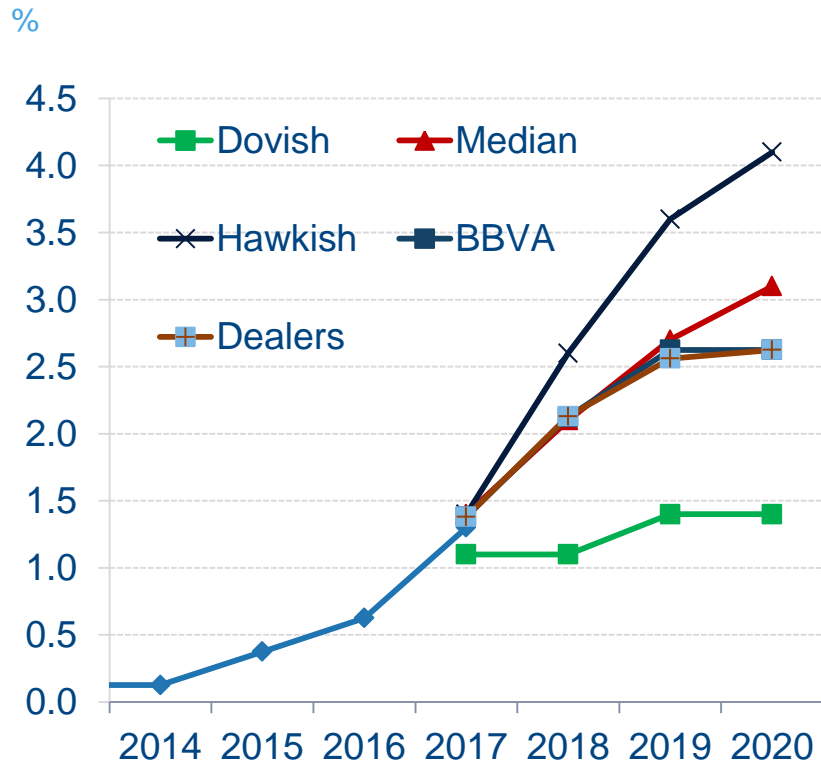


Source: BBVA Research, BEA, CBO, IRS & Haver Analytics

Monetary Policy

Fed willing to give the benefit of the doubt on tax reform

Fed Funds Expectations



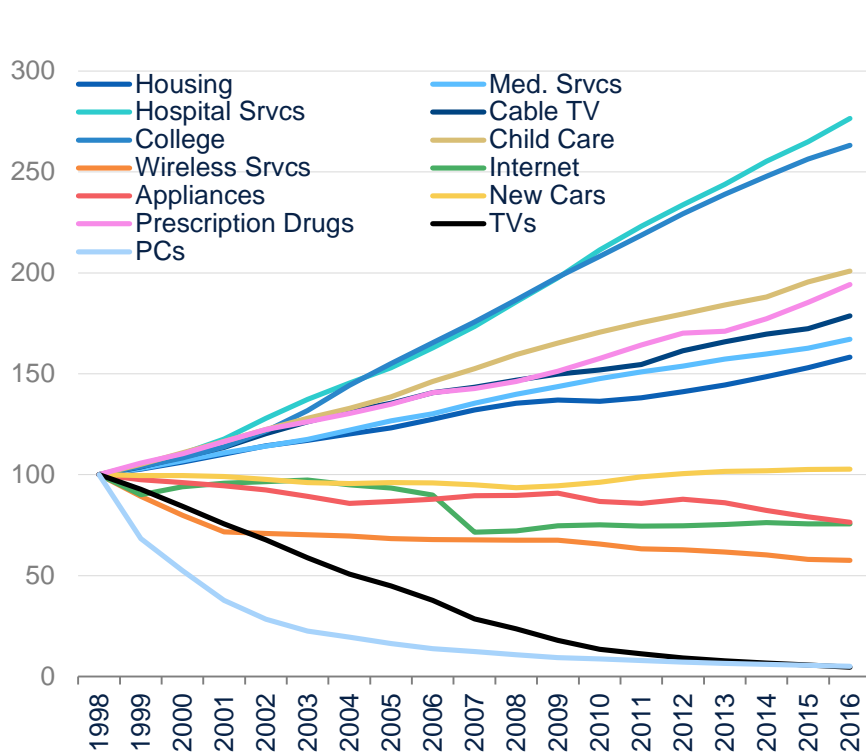
- Improving economic conditions
- Supply-side effects boost to potential
- Transitory downward price pressures expected to fade away
- Accommodative financial conditions
- However, some members remain cautious:
 - *Uncertain impact from tax reform*
 - *Low inflation could last longer than expected*
 - *Asset price reversal would have negative effects*
 - *Careful approach as yield curve inversion becomes more likely*

Fed: Inflation Dilemma

Fed appetite to influence structural inflationary headwinds uncertain

Personal Consumption Expenditures Contributions to First Principal Components*

1998=100



Rank	2014-2017	Average Growth	1960-2017	Average Growth
1	Health Care	1.1	Food Svcs & Accommodations	4.3
2	Housing & Utilities	2.9	Furnishings & Household Equip	1.3
3	Other Durable Gds	-0.7	Recreation Services	3.7
4	Gasoline & Other Energy Gds	-8.9	Transportation Services	4.0
5	Recreation Services	2.1	Other Services	4.1
6	Transportation Services	1.0	Health Care	5.5
7	Clothing & Footwear	-0.4	Other Nondurables	3.5
8	Finance & Insurance	4.6	Housing & Utilities	3.9
9	Electricity and Gas	0.8	Recreational Gds & Vehicles	-1.8
10	Alcohol Off-Premise	0.6	Other Durable Gds	2.5
11	Other Nondurables	1.4	Electricity and Gas	4.1
12	Final Consumptn Exps of Nonprofit	3.9	Alcohol Off-Premise	2.6
13	Other Services	1.3	Motor Vehicles & Parts	2.3
14	Furnishings & Household Equip	-2.8	Food & Nonalc Bev (Off-Premises)	3.6
15	Food Svcs & Accommodations	2.6	Clothing & Footwear	1.3
16	Recreational Gds & Vehicles	-4.7	Finance & Insurance	3.9
17	Food & Nonalc Bev (Off-Premises)	0.4	Final Consumptn Exps of Nonprofit	1.3
18	Motor Vehicles & Parts	-0.5	Gasoline & Other Energy Gds	6.1

Source: BBVA Research

*Results base on 17-factor PCA for PCE

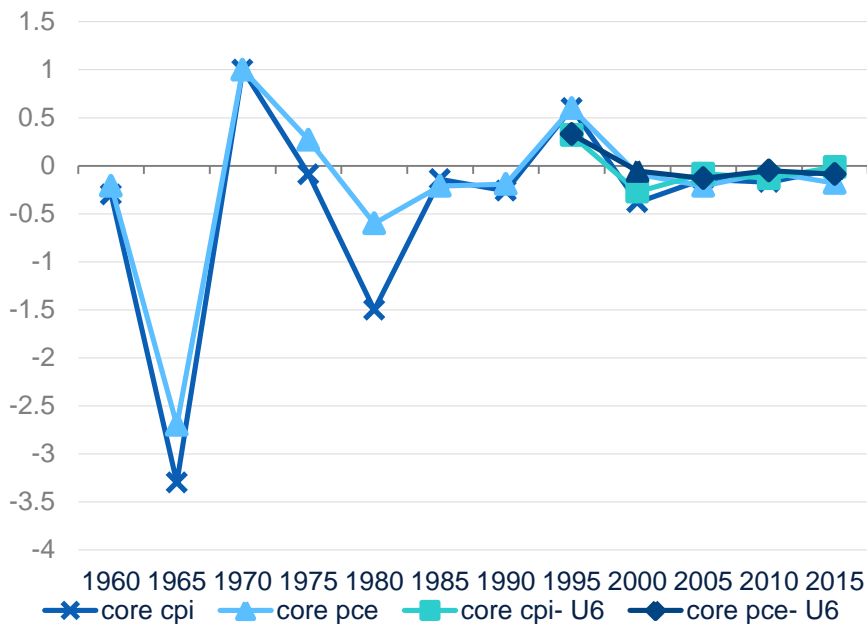
Fed: Phillips Curve Conundrum

Mixed empirical evidence of Phillip's Curve relationship

Links between labor productivity and wages also tenuous

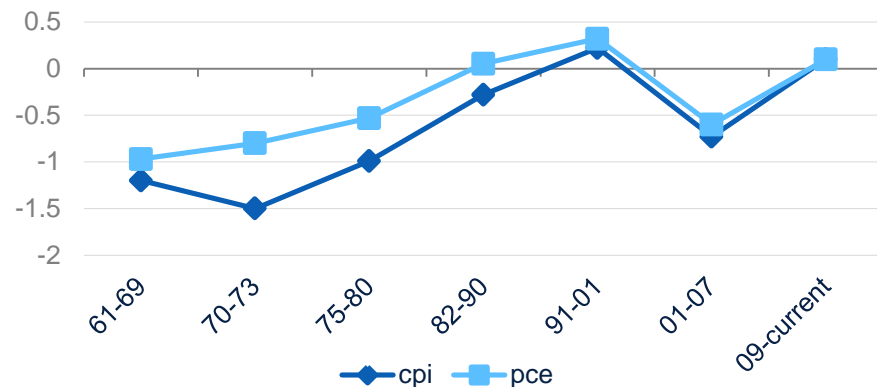
Core Inflation & Unemployment (U-3 and U-6)

Rolling 5-year slope of fitted regression



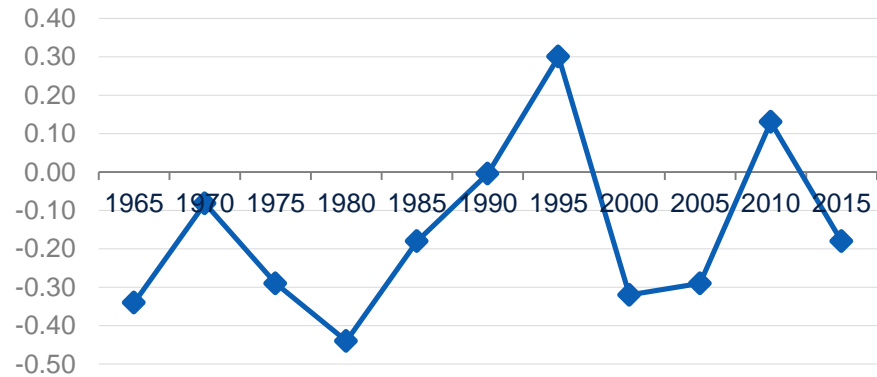
UR & Inflation in Expansion Cycles

Slope of fitted regression



Wages & Productivity

Rolling 5-year slope of fitted regression

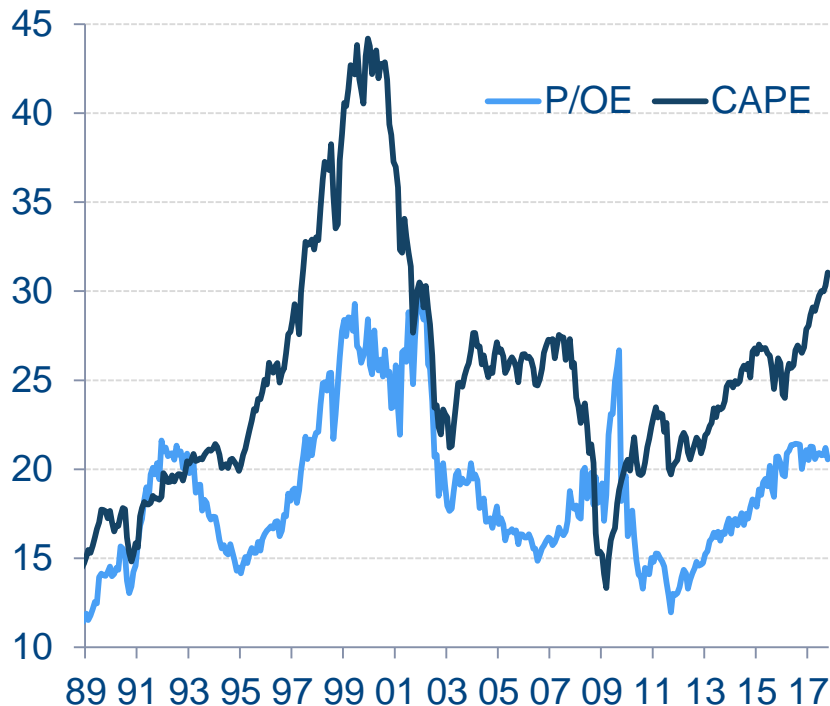


Fed: Asset Prices & Financial Conditions

Risk management strategy to the test: financial markets, asset prices and expansionary fiscal policy

S&P 500 P/E Ratio

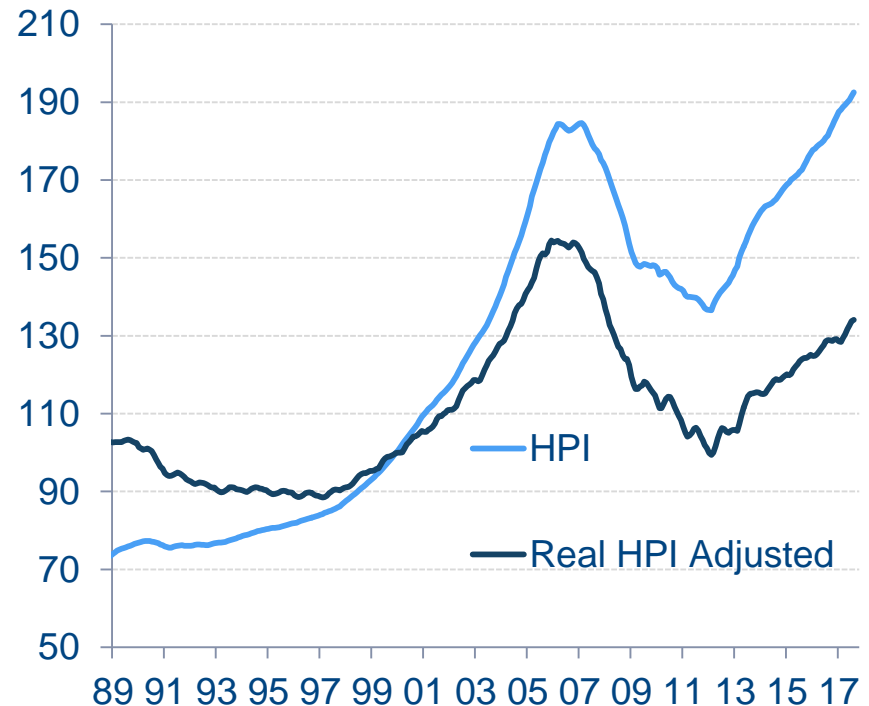
Ratio, P/Operating Earnings and P/E Cyclically Adjusted



Source: S&P, Shiller & Haver

Home Price Index

Jan-00=100, S&P Core Logic CS HPI



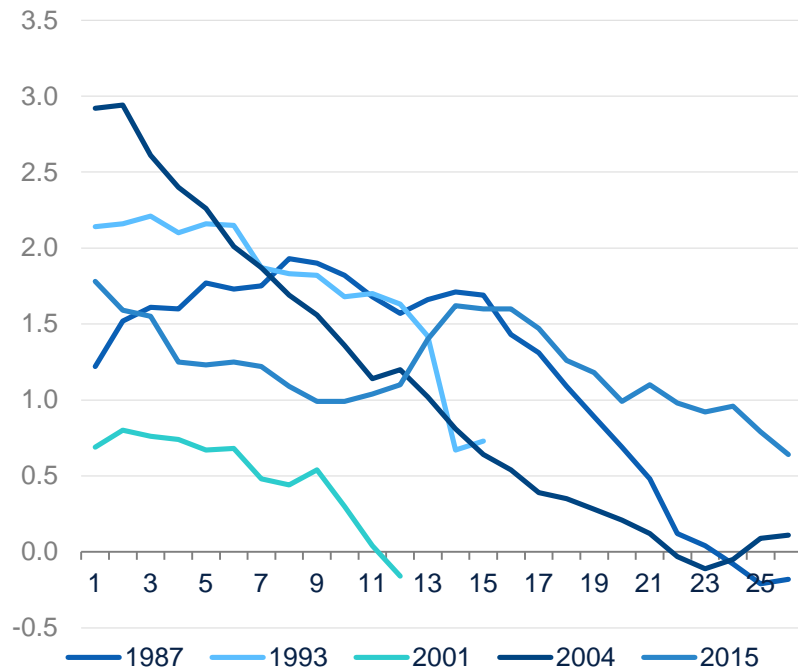
Source: FRB, BEA & Haver

Fed: Yield Curve Inversion

Modern Fed tightening cycles associated with negative yield curve slopes, which is a historical predictor of recessions

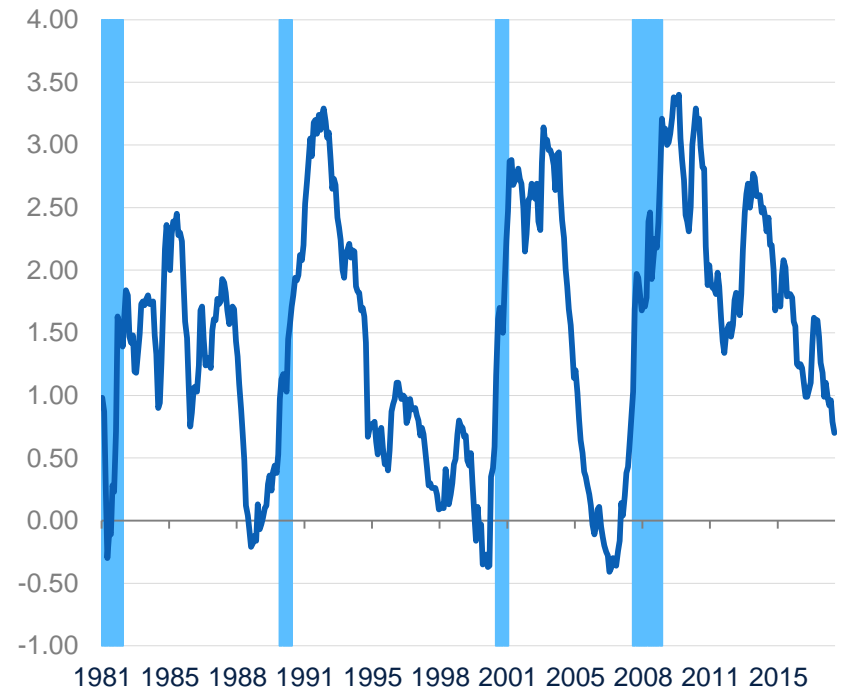
Yield Curve Slope & Fed Tightening Cycles

10YR-1YR, %



Yield Curve Slope and Recessions

10YR-1YR, %



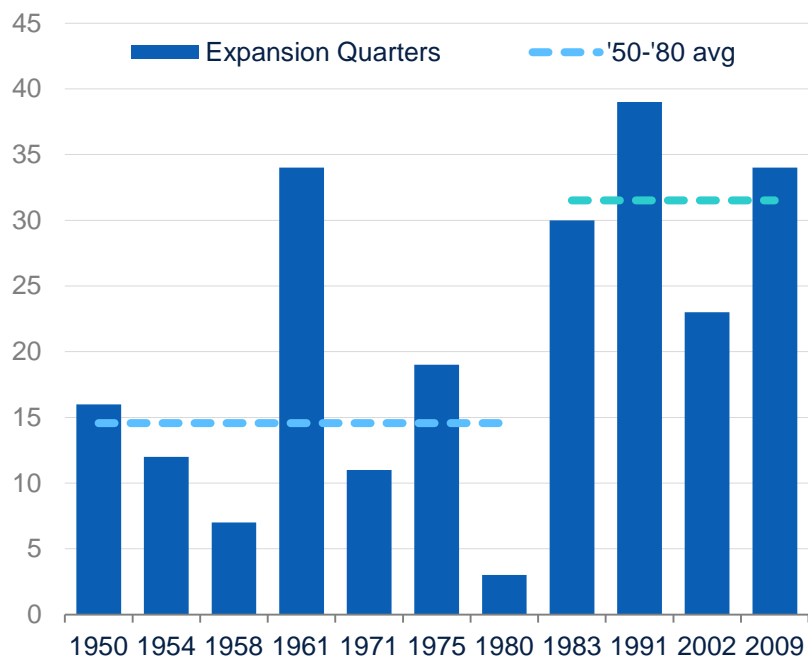
Source: BBVA Research

Fed: Cycle Risk

One of the longest expansions; on average, recessions start 4 to 5 quarters after the unemployment rate hits bottom

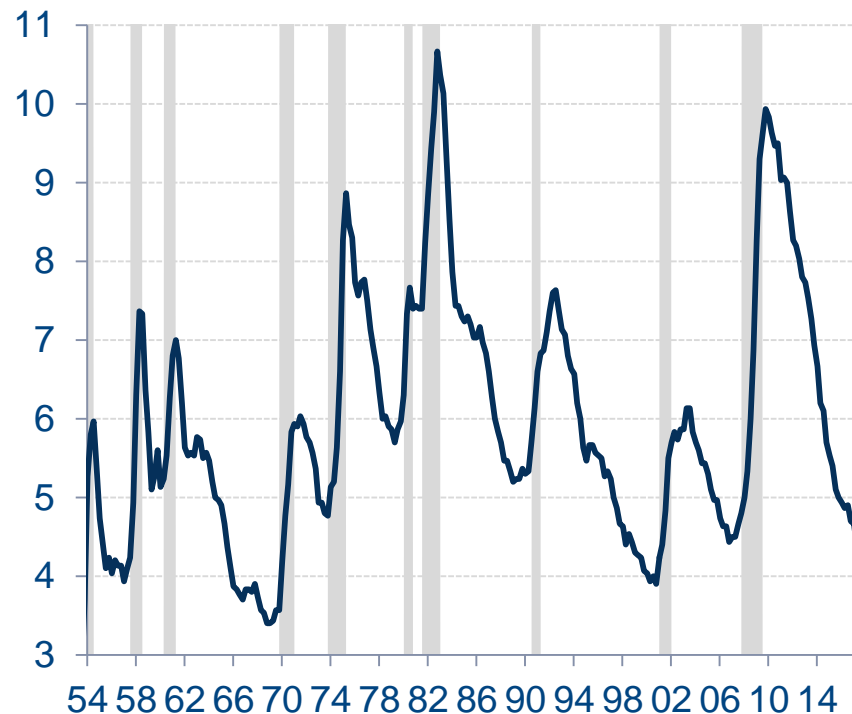
Duration of Expansion Cycles

Months



Unemployment Rate and Recessions

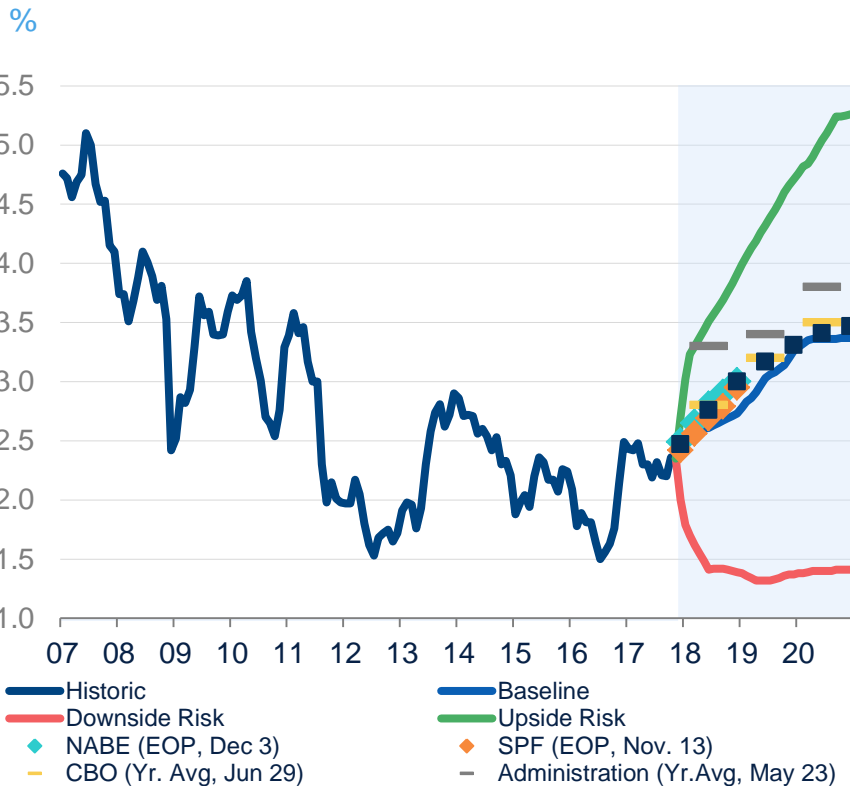
%



Treasury Yields

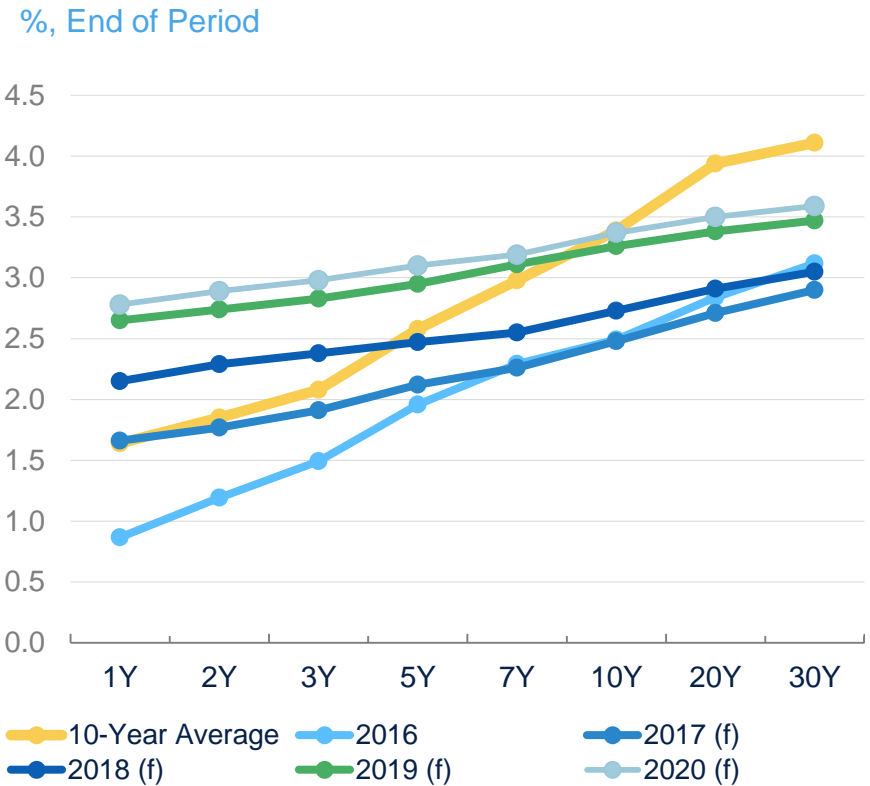
Further flattening of the yield curve as the short end rises

10-Year U.S. Treasury Yield Forecast



Source: BBVA Research and Federal Reserve Board

Treasury Yield Curve Baseline Forecast



Source: BBVA Research and Federal Reserve Board

Economic Scenarios

Probability (%)	Current	Previous
Upside	30	10
Baseline	60	70
Downside	10	20

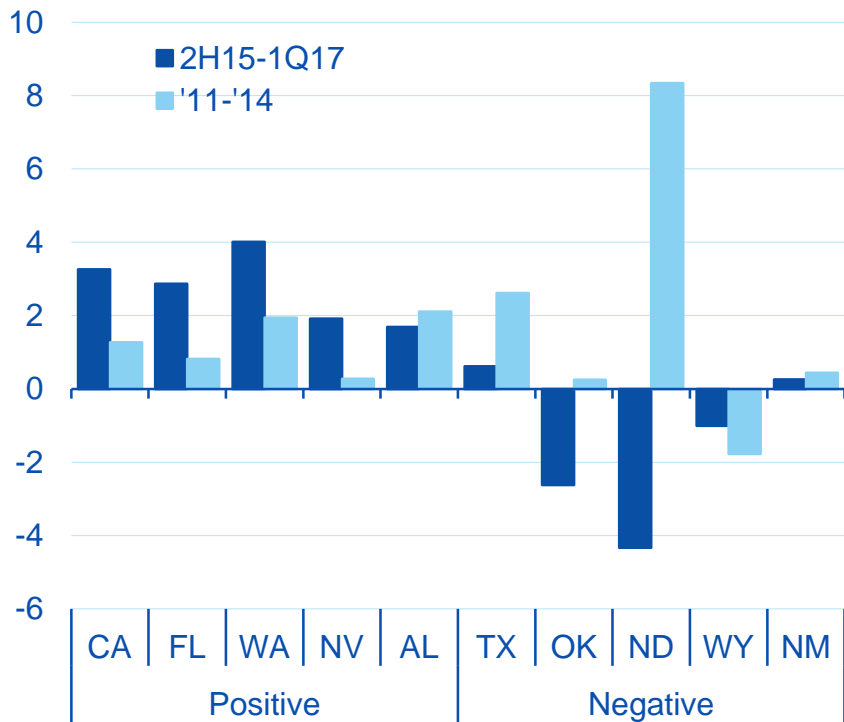
Macro Scenarios									
	2013	2014	2015	2016	2017	2018	2019	2020	2021
GDP	1.7	2.6	2.9	1.5	2.2	2.6	2.5	2.3	2.2
Upside	1.7	2.6	2.9	1.5	2.4	3.1	3.0	2.7	2.5
Downside	1.7	2.6	2.9	1.5	2.1	1.4	-0.2	1.6	1.8
UR	7.4	6.2	5.3	4.9	4.4	3.8	3.7	4.0	4.3
Upside	7.4	6.2	5.3	4.8	4.4	3.5	3.0	3.2	3.5
Downside	7.4	6.2	5.3	4.8	4.4	5.5	5.8	5.1	4.6
CPI	1.5	1.6	0.1	1.3	2.1	2.2	1.9	1.9	2.0
Upside	1.5	1.6	0.1	1.2	2.3	3.1	3.4	2.8	2.7
Downside	1.5	1.6	0.1	1.2	1.4	1.1	0.8	0.5	0.6
Fed[eop]	0.25	0.25	0.5	0.75	1.5	2	2.5	2.75	2.75
Upside	0.25	0.25	0.5	0.75	1.5	2.5	4.5	5.5	5.5
Downside	0.25	0.25	0.5	0.75	1.5	1.25	0.25	0.25	0.25

Regional Outlook: Stable Energy Prices Suggest Convergence

Tailwinds from rising energy prices should lift growth in energy producing areas

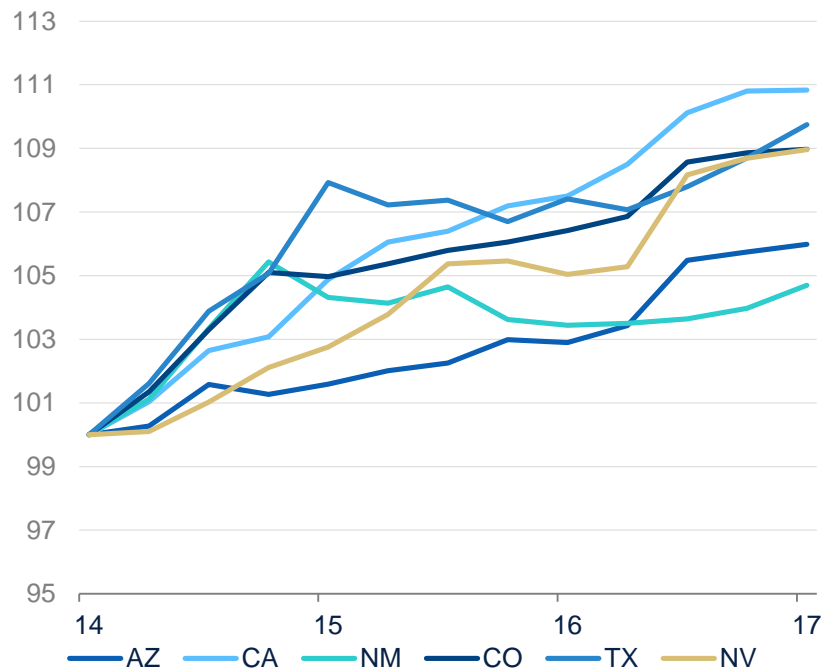
State Growth Rebalancing

Average Annual Growth, %



Real GDP Growth

Index, 3Q14=100



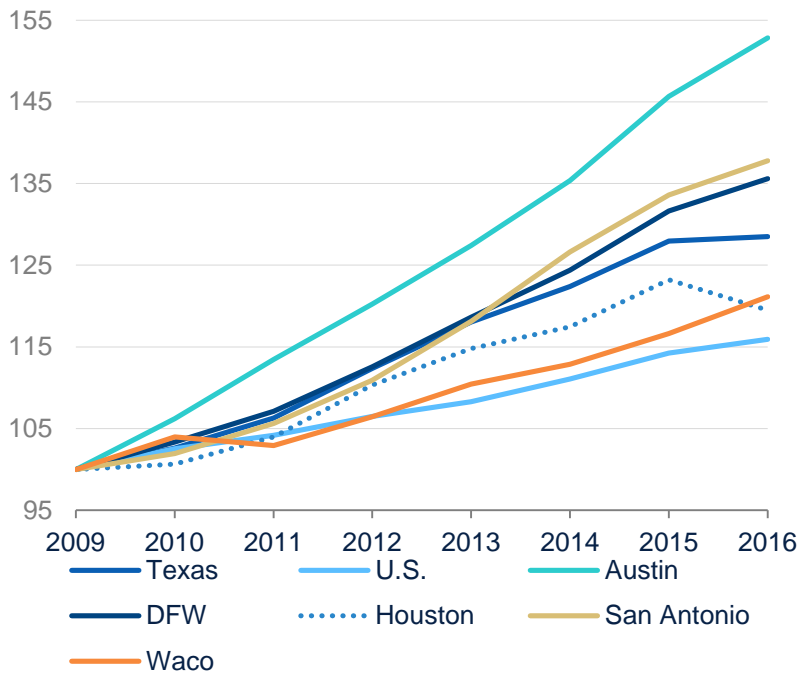
Source: BBVA Research & Haver Analytics

Texas: recovery from crisis unparalleled

Since 2007 Texas has accounted for 1/5th of U.S. growth

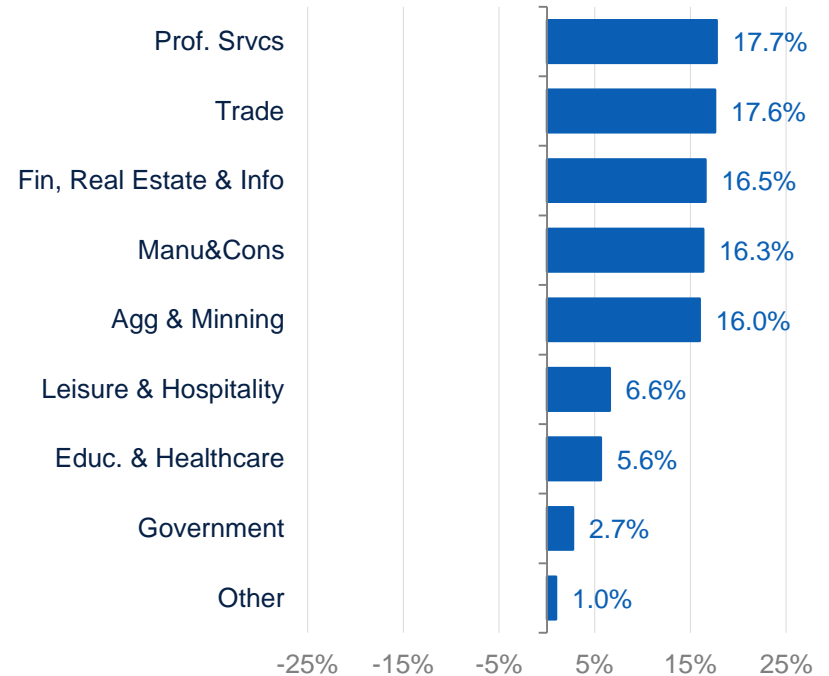
Real GDP

Index, 2009=100



Contribution to Real GDP '09-'16

Growth %

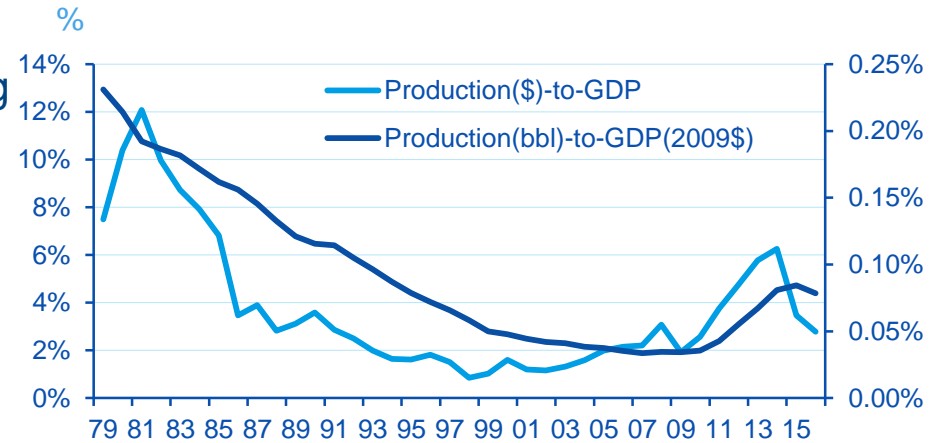


Source: BBVA Research & Haver Analytics

Shaking off effects of oil price shock

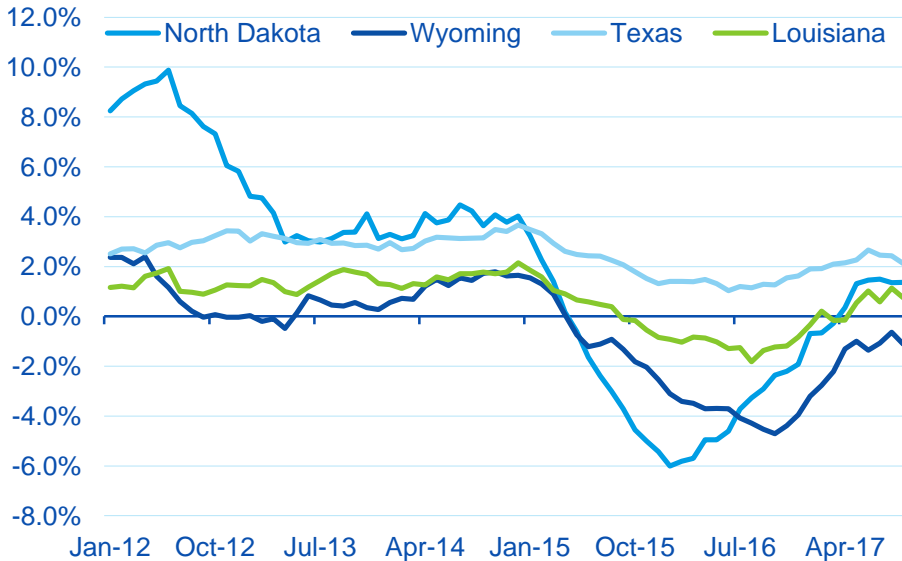
- Oil-dependent MSAs fully recovered from oil shock
- Stable prices should contribute to strengthening in oil dependent areas
- Non-commodity related factors having outsized impact on state and local growth (Harvey)

Texas Oil Production



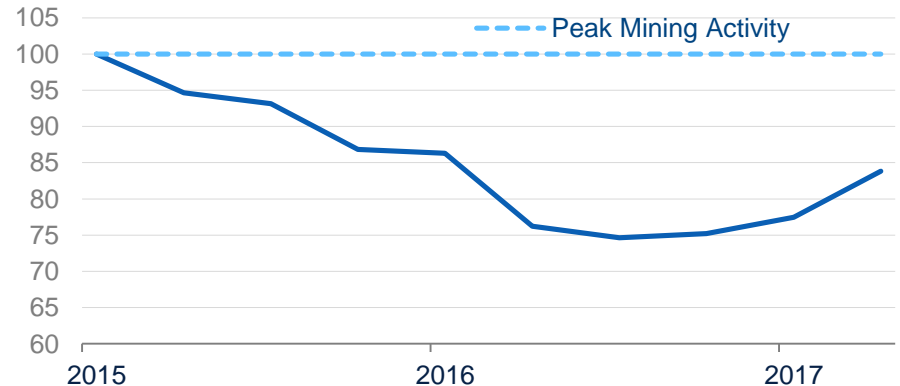
Employment Growth

Year-over-year %



Mining Industry Real GDP

January 2015=100

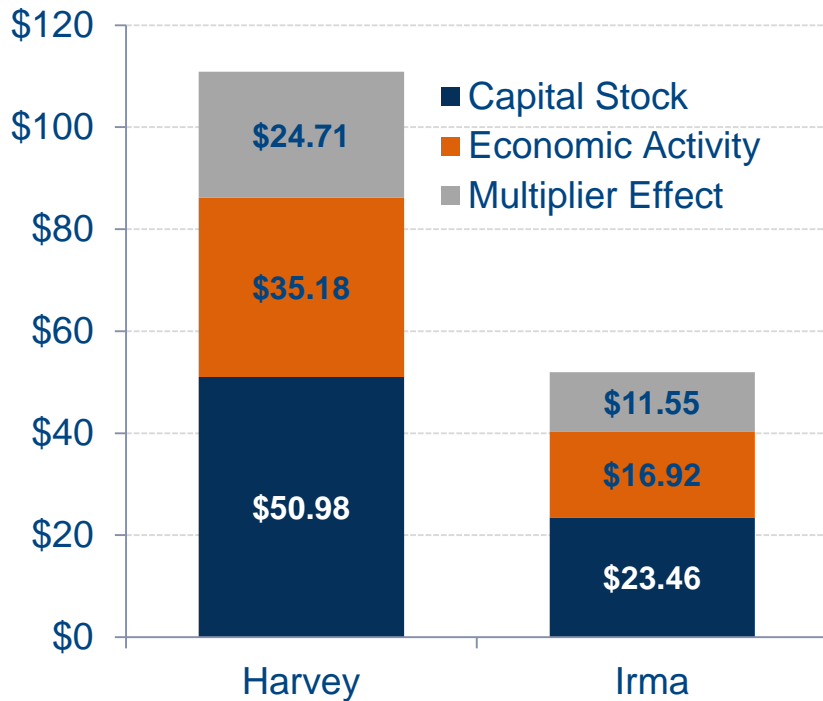


Harvey and Irma

Although the negative effects will be large at first, they will be offset by reconstruction efforts

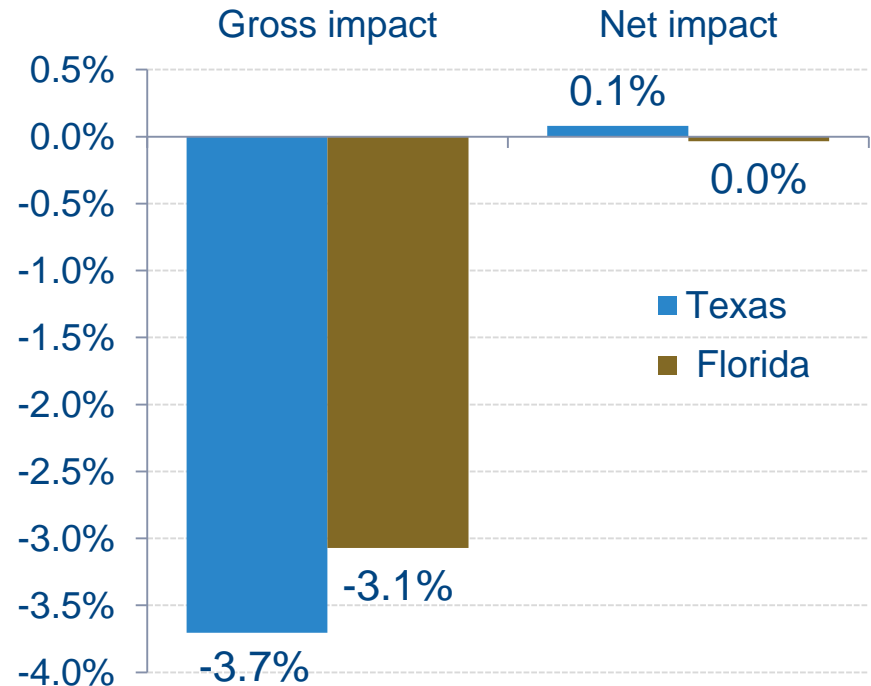
Economic Cost

US \$bn



Impact on GDP

%



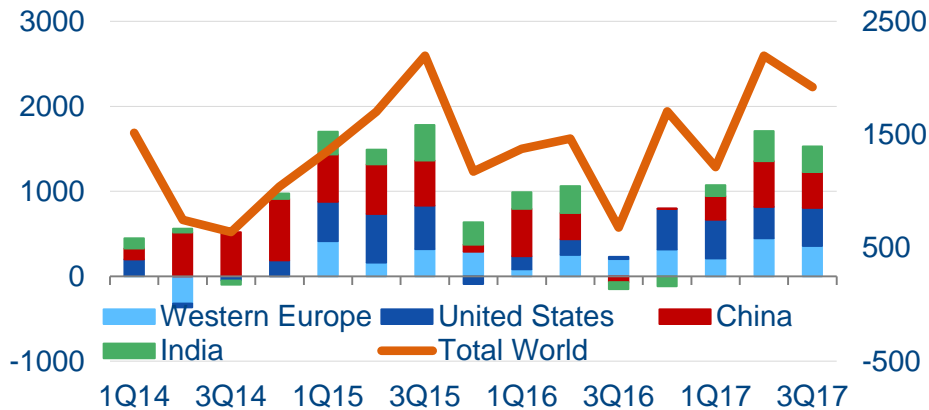
* Harvey's impact only considers Texas. Irma's impact only considers Florida. Figures valid as of Sept 15, 2018; subject to change without notice

Source: BBVA Research

Oil Prices: Overshooting possible in short-run

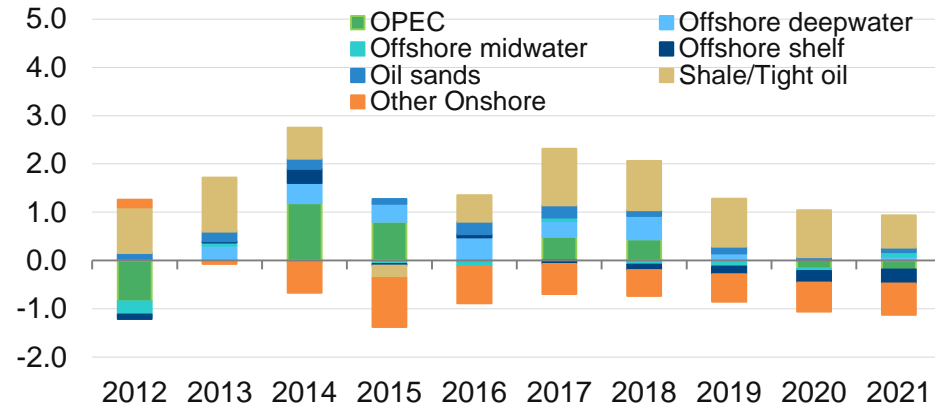
Oil Product Demand

YoY % change, million barrels per day



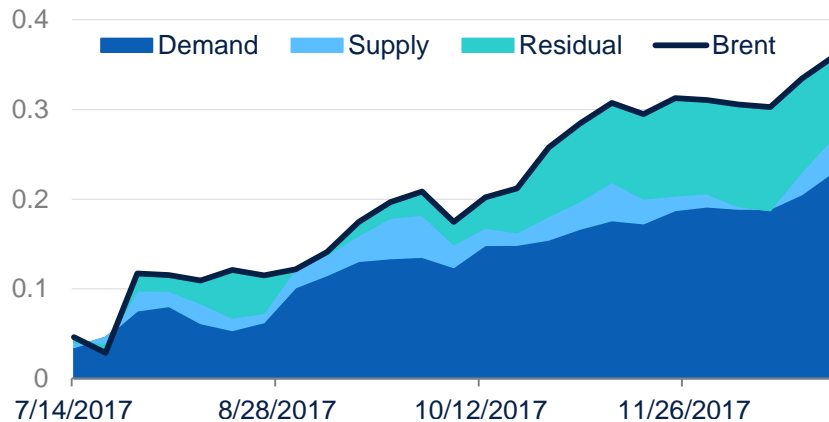
Net Additions In Crude Oil Supply

By segment group, yoy change in million barrels per day



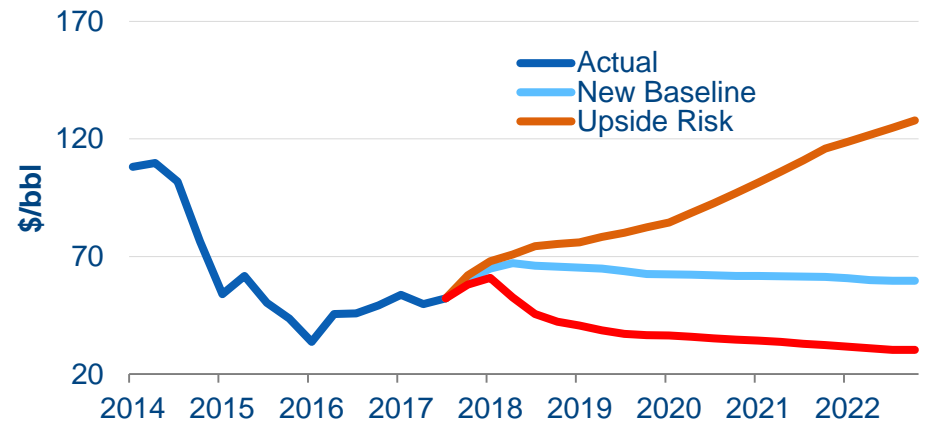
Cumulative Weekly Price Decomposition

Brent %, Jul 07- Dec-2017



Crude Oil Prices Forecast

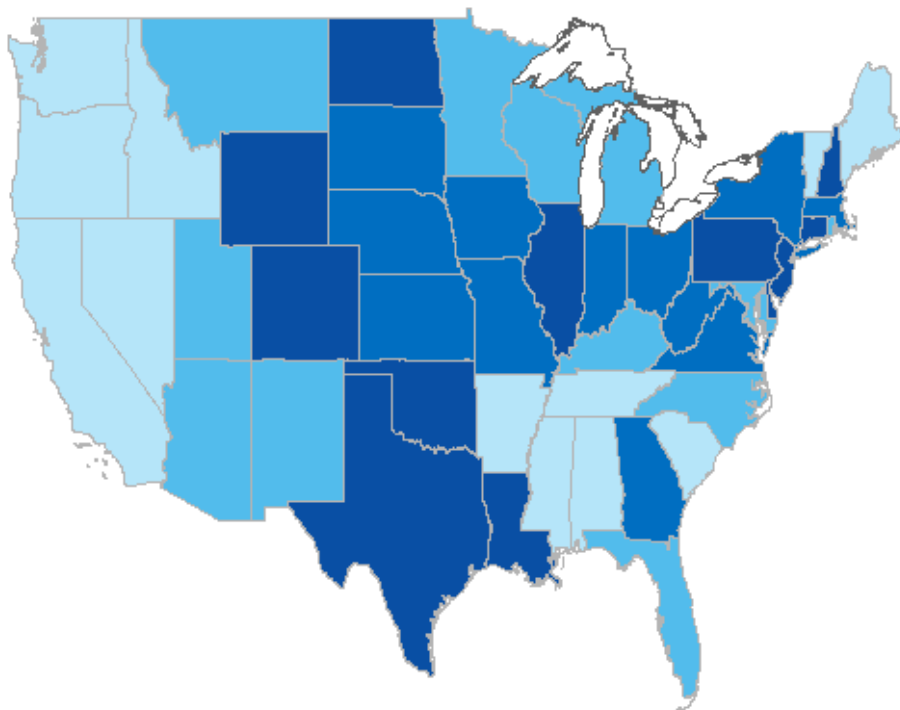
Brent, \$ per barrel, avg.



Policy Uncertainty and Regional Risks

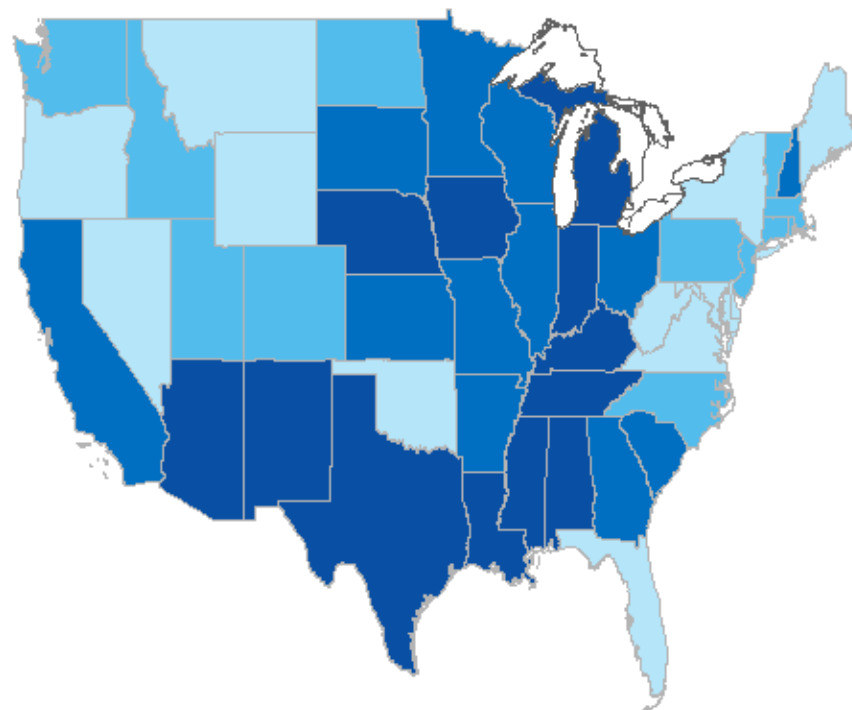
Movement on taxes suggests policy risks positively skewed

Regional Bias from Positive Policies*



Exports to Mexico

Share of GDP, %



Source: BBVA Research

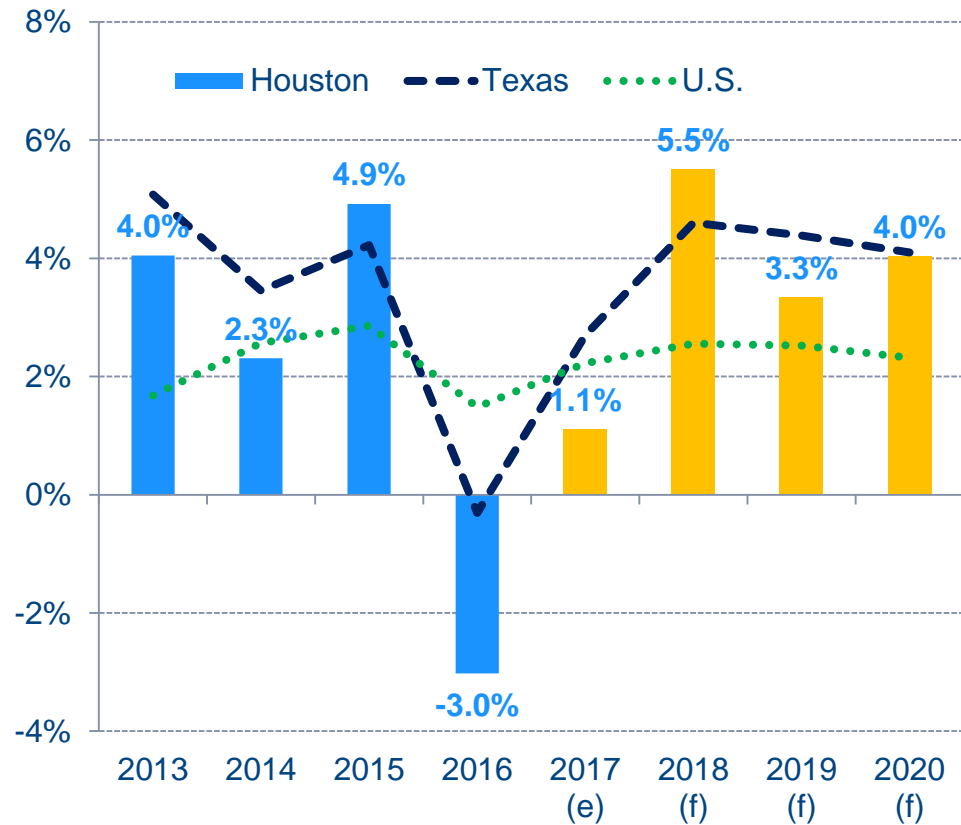
*Based on state Industry mix & exposure to positive elements of tax reform

Houston (Strong) Economic Outlook

- Harvey bounce, oil prices and policy mix to boost Texas GDP growth to highest level in 5 years
- Downside risks muted in 2018
- Houston’s economic headwinds fading with post-Harvey recovery and increasing oil prices
- Growth in Houston to exceed 5% in 2018 due to temporary shocks
- Medium-term outlook remains upbeat for The Lone Star State

Houston & Texas GDP Growth Outlook

(Chained \$2009)



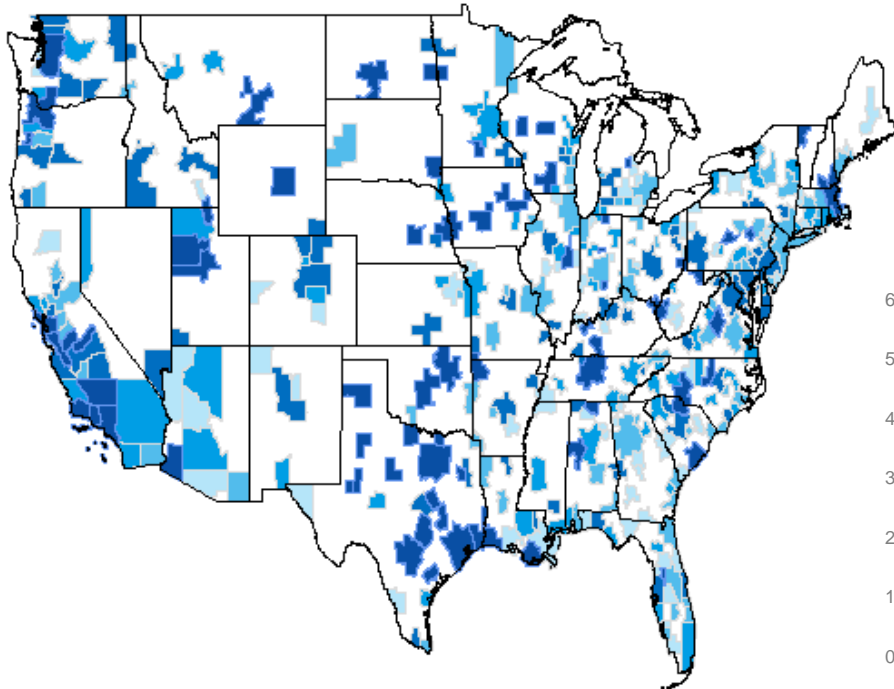
Houston Market Potential

Houston one of the most productive MSAs in country

Diversity, demographics and workforce underlie city's attractiveness

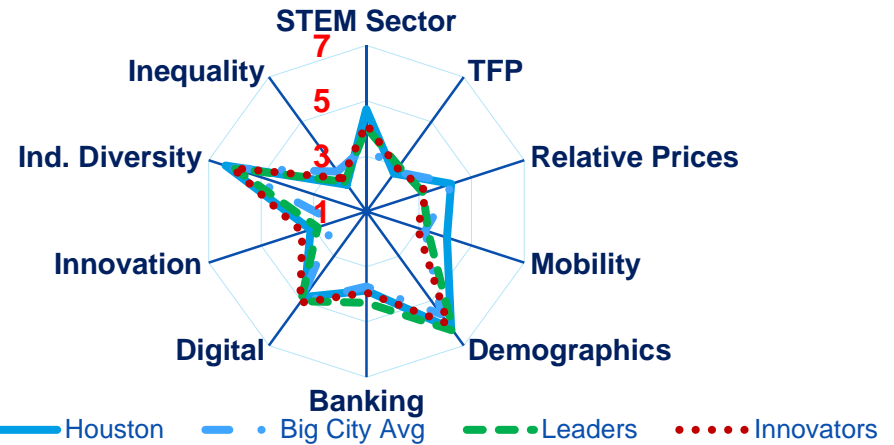
TFP Contribution to Growth

%



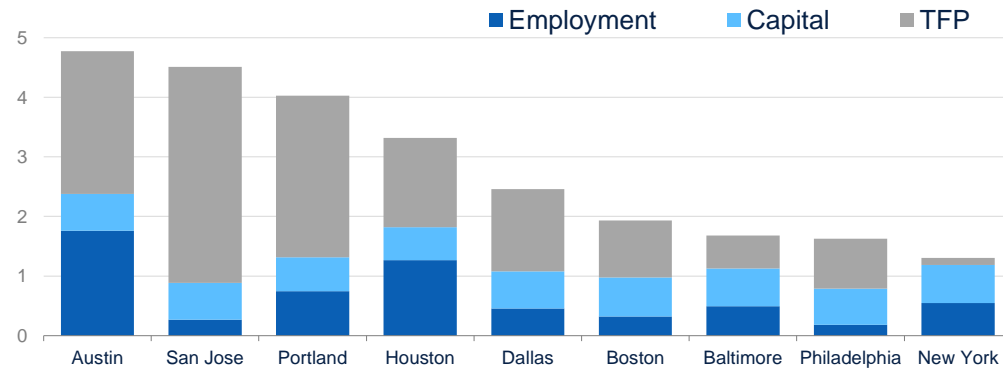
MSA Attractiveness Ranking

Score 1=Lowest, 7=Highest



MSA Potential GDP

%



MIT Enterprise Forum 2018 Business Forecast Luncheon

January 2018

BBVA

Creating Opportunities

