2019 ECONOMIC OUTLOOK

How Much Longer Can the Second Longest Economic Expansion on Record Last?

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TREASURY YIELDS GRIND HIGHER

10-YEAR TREASURY YIELD SLOWLY GRIND HIGHER UNTIL NOVEMBER, WHEN IT CAME PLUNGING BACK DOWN

VOLATILE MARKETS

- Tax Reform, Central Banks
- Fears: Inflation, Higher Rates
- Trade, Equity Volatility, Fed Dots
- Trade, Inflation Concerns
- Trade, Geopolitics (Italy)
- Solid Data, 4 Rate Hikes in ‘18, Trade

STABLE GROWTH

- Trade, Central Banks
- Emerging Markets

TRADE UNCERTAINTY

- Trade, Central Banks
- Emerging Markets

FISCAL POLICY

- Strong U.S. Data, Trade
- Higher Interest Rates

MONETARY POLICY

- U.S. Election, Brexit, Trade Fears
- Global Slowdown, Inverted Curve

GLOBAL HEADWINDS

- Steel and Aluminum Take Effect
- Italian Political Uncertainty
- Trade, Central Banks
- Trade, Emerging Markets

SUMMARY AND PROJECTIONS

- GDP
- 1Q 2.2%
- Expansion Becomes 2nd Longest In Modern History
- 2Q 4.2%
- 3Q 3.5%
- 4Q 2.6%

Cycle-Best Economic Metric
Core PCE Inflation Rounds to 2%
Trade-Related Headline
Geopolitical Uncertainties

Question #1:
SUMMARY AND PROJECTIONS
STOCKS SLIDE INTO YEAR-END

STOCKS SET NEW ALL-TIME HIGHS IN SEPTEMBER BEFORE IMPLODING INTO YEAR-END, PROVE INTEREST-RATE SENSITIVE

VOTILE MARKETS | STABLE GROWTH | TRADE UNCERTAINTY | FISCAL POLICY | MONETARY POLICY | GLOBAL HEADWINDS | SUMMARY AND PROJECTIONS
---|---|---|---|---|---|---
Tax Reform, Central Banks | Fears: Inflation, Higher Rates | Trade, Equity Volatility, Fed Dots | Trade, Inflation Concerns | Trade, Geopolitics (Italy) | Solid Data, 4 Rate Hikes in ‘18, Trade | Trade, Central Banks | Trade, Emerging Markets | Strong U.S. Data, Trade | Higher Interest Rates | U.S. Election, Brexit, Trade Fears | Global Slowdown, Inverted Curve

S&P 500

GDP

1Q 2.2% 2Q 4.2% 3Q 3.5% 4Q 2.6%
UNPRECEDENTED ACCELERATION

RECORD 10 CONSECUTIVE QUARTERS OF YEAR-OVER-YEAR GROWTH ACCELERATING; 2.9% GROWTH FOR FULL-YEAR 2018

Sources: BEA, Vining Sparks
LABOR MARKET REMAINS STRONG

PAYROLL GROWTH AVERAGED 220K IN 2018 AND THE UNEMPLOYMENT RATE DROPPED AS LOW AS 3.69%

Sources: BLS, FOMC SEP Projections, Vining Sparks
WAGE GROWTH IMPROVES

WHILE WAGE GROWTH HAS BEEN SLOW TO PICK UP, THE TREND IS POSITIVE AND IMPROVED IN LATE 2018

Wage Growth Tracker

Sources: BLS, BEA, Atlanta Fed, Vining Sparks
DEBT REMAINS MANAGEABLE

THIS ECONOMIC CYCLE HAS NOT SEEN THE EXCESSIVE HOUSEHOLD LEVERAGING OF THE PREVIOUS CYCLE

Sources: Federal Reserve, Vining Sparks
BUSINESS INVESTMENT SOFT

DESPITE TAX LAW CHANGES, INVESTMENT HAS SLOWED ACROSS ALL CATEGORIES, INCLUDING STRUCTURES

VOLATILE MARKETS ➞ STABLE GROWTH ➞ TRADE UNCERTAINTY ➞ FISCAL POLICY ➞ MONETARY POLICY ➞ GLOBAL HEADWINDS ➞ SUMMARY AND PROJECTIONS

Durable Goods Orders
(Quarterly Tracking)

Business Investment in Equipment
GDP Report (QoQ, SAAR)

2009-2012
Business Investment Driving Growth

2013-2016
Business Investment Absent from Growth

2017-Curr.
Driving Growth, but…

Sources: BEA, Vining Sparks
TRADE WEIGHS ON CONFIDENCE

SMALL BUSINESS CONFIDENCE DROPPED FROM BEST-IN-30-YEARS ON GROWING CONCERNS OF “OTHER” OBSTACLES

Small Business Confidence

Sources: NFIB, Vining Sparks
AFFORDABILITY HURTS HOUSING

DECLINING AFFORDABILITY, INCLUDING IMPACT OF HIGHER RATES, HAS DRAGGED HOUSING ACTIVITY LOWER

Sources: U.S. Census Bureau, NAR, NAHB, BEA, Freddie Mac MMS 30-Year Mortgage Rate, Vining Sparks
**Government Spending Boost**

**Government Turned Back Into a Positive Engine of Growth in 2018**

*Defense: +$165 Billion ($80B in ’18 / $85B in ’19)*
*Non-Defense: +$131 Billion ($63 B in ’18 / $68 B in ’19)*
*Disaster Relief: +$84.4 Billion*

**Government Spending Contribution to GDP**

Sources: BEA, Vining Sparks
INFLATION NEAR TARGET

CONSUMER PRICE INFLATION IS NOW RUNNING NEAR 2% BUT IS NOT EXPECTED TO SHOOT MATERIALLY HIGHER

Core CPI Inflation (YoY)
Core PCE Inflation (YoY)

Sources: BLS, BEA, Vining Sparks
INFLATION EXPECTATIONS TAME

INFLATION EXPECTATIONS FELL IN THE 4TH QUARTER AS OIL PRICES DROPPED AND GLOBAL GROWTH CONCERNS GREW

10-Year Implied Inflation Expectations

5-Year Implied Inflation Expectations

Sources: Bloomberg, Vining Sparks
### Trade Policy
- 2020 Fiscal Cliff
- Limitations on Future Fiscal Stimulus

### Fiscal Policy
- Monetary Policy Closer to “Neutral”, Possibly Already Restrictive
- Lagged Impact of Monetary Tightening

### Monetary Policy and Interest Rates

### Global Headwinds
- Net Quantitative Tightening
- Growth of Global Debt
- Slowing Global Economic Growth
TRADE POLICY - UNCERTAINTY

THE RISK OF TRADE NEGOTIATIONS HURTING ECONOMIC ACTIVITY HAVE GROWN AS THE THREATS HAVE INCREASED

Tariffs Enacted
Unaffected Import Balance

$253 Billion

Sources: Census Bureau, Peterson Institute for International Economics, Vining Sparks
TRADE POLICY - UNCERTAINTY

TRADE TENSIONS TOOK A TOLL ON THE MANUFACTURING OUTLOOK FOR EVERY MAJOR ECONOMY

Sources: ISM, Caixin, Markit, Vining Sparks
Federal Government Spending by Category (QoQ, SAAR)

Projected based on 2018 budget agreement

Non-Defense
Defense
Total Federal

Sources: BEA, Vining Sparks
FISCAL POLICY - LIMITATIONS

PROCYCLICAL FISCAL STIMULUS BALLOONING DEBT FURTHER – LIMITING FISCAL POLICYMAKERS’ OPTIONS IN FUTURE

Federal Deficit as % GDP

Unemployment Rate

Sources: BLS, BEA, CBO, Vining Sparks
FISCAL POLICY - LIMITATIONS

U.S. FEDERAL DEBT NOW UP TO $21.9 TRILLION WITH INTEREST EXPENSE PROJECTED TO ALMOST TRIPLE BY 2028

Sources: Federal Reserve, US Debt Clock.org, Bloomberg, Vining Sparks
THE 9 RATE HIKES SINCE 2015 HAVE PUSHED THE FED FUNDS RATE UP CLOSER TO NEUTRAL ESTIMATES

Fed’s Median Estimate of Longer Run Neutral Fed Funds Rate

Neutral Estimate Range: 2.50% to 3.50%
Neutral Estimate Central Tendency: 2.50% to 3.00%

Fed Funds Target Range and Midpoint

Sources: Bloomberg, Federal Reserve December SEP, Vining Sparks
FED POLICY – CLOSER TO NEUTRAL

MARKET SIGNALS - FLATTENING OF THE YIELD CURVE HAS RAISED THE RISKS TO A POLICY MISTAKE

SUMMARY AND PROJECTIONS

Sources: Bloomberg, NBER, Vining Sparks
LESSONS FROM YIELD CURVE

#1 MOST ACCURATE LEADING INDICATOR, #2 CAN BE A FALSE FLAG, #3 CAN REMAIN FLAT FOR AN EXTENDED PERIOD

VOLATILE MARKETS > STABLE GROWTH > TRADE UNCERTAINTY > FISCAL POLICY > MONETARY POLICY > GLOBAL HEADWINDS > SUMMARY AND PROJECTIONS


2Y / 10Y Spread
GDP (QoQ, SAAR)
Recession

Sources: Bloomberg, BEA, NBER, Vining Sparks
LESSONS FROM YIELD CURVE

#4 YIELD CURVE TENDS TO INVERT BEFORE THE ECONOMIC DATA TURN LOWER

Sources: Conference Board, NBER, Bloomberg, Vining Sparks
# Lessons from Yield Curve

## #4 Yield Curve Tends to Invert Before the Economic Data Turn Lower

### Summary and Projections

- **Global Headwinds**
- **Monetary Policy**
- **Fiscal Policy**
- **Trade Uncertainty**
- **Volatile Markets**
- **Stable Growth**

### Leading Economic Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Signal for Recession</th>
<th>1989</th>
<th>2000</th>
<th>2006</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>YoY Change</td>
<td>YoY Change Declines for Consecutive Months</td>
<td>-8.1%</td>
<td>-2.4%</td>
<td>-4.1%</td>
<td>+0.2%</td>
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<tr>
<td>Hours Fall below 40.8</td>
<td></td>
<td>41.1</td>
<td>41.5</td>
<td>40.9</td>
<td>42.0</td>
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<tr>
<td>YoY Change Declines</td>
<td></td>
<td>+5.4%</td>
<td>+2.3%</td>
<td>+1.6%</td>
<td>+1.1%</td>
</tr>
<tr>
<td>YoY Change Declines for 3+ Consecutive Months</td>
<td></td>
<td>+6.2%</td>
<td>-2.3%</td>
<td>+3.3%</td>
<td>+2.2%</td>
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<tr>
<td>YoY Change Declines</td>
<td></td>
<td>+11.6%</td>
<td>-1.6%</td>
<td>+1.8%</td>
<td>+0.5%</td>
</tr>
<tr>
<td>YoY Change Declines</td>
<td></td>
<td>+1.4%</td>
<td>+11.4%</td>
<td>+6.7%</td>
<td>+0.8%</td>
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<tr>
<td>Index Falls below 47.2</td>
<td></td>
<td>57.3</td>
<td>56.2</td>
<td>58.9</td>
<td>55.5</td>
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<tr>
<td>YoY Change Declines</td>
<td></td>
<td>+14.8%</td>
<td>+11.4%</td>
<td>+5.2%</td>
<td>-3.6%</td>
</tr>
</tbody>
</table>

### Yield Curve

| 2-Year / 10-Year Treasury (Spread) | Signal for Recession | 19 Mos | 13 Mos | 26 Mos | 0.17% |

**Sources:** Conference Board, NBER, Bloomberg, Vining Sparks
LESSONS FROM YIELD CURVE

#5 FED TENDS TO CONTINUE HIKING AFTER CURVE FIRST INVERTS, AND #6 YIELDS ARE LIKELY NEAR THEIR CYCLE-PEAK

10-Year Treasury
2-Year Treasury

Inversion First Occurs

Longer yields immediately decline, but wait 6 months before moving below 6.00% pre-inversion trend.

Recession officially begins 13 months later

Fed hikes continue 4 months post-inversion, 100 bps
Fed cuts rates 10 months post-inversion

Sources: Federal Reserve, Bloomberg, NBER, Vining Sparks
#7 ECONOMIC BACKDROP WHICH PUSHES FED TO HIKE THROUGH LONGER RATES INCLUDES FEAR OF RISING INFLATION

**LESSONS FROM YIELD CURVE**

**SUMMARY AND PROJECTIONS**

<table>
<thead>
<tr>
<th>VOLATILE MARKETS</th>
<th>STABLE GROWTH</th>
<th>TRADE UNCERTAINTY</th>
<th>FISCAL POLICY</th>
<th>MONETARY POLICY</th>
<th>GLOBAL HEADWINDS</th>
<th>SUMMARY AND PROJECTIONS</th>
</tr>
</thead>
</table>

## 2s10s Yield Curve Inversions

<table>
<thead>
<tr>
<th>Labor</th>
<th>1989</th>
<th>2000</th>
<th>2006</th>
<th>Current</th>
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</thead>
<tbody>
<tr>
<td><strong>Unemployment Rate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year-over-Year Change in Unemployment Rate</td>
<td>-0.5%</td>
<td>-0.3%</td>
<td>-0.4%</td>
<td>-0.1%</td>
</tr>
<tr>
<td><strong>Nonfarm Payroll Growth</strong> (6M Average)</td>
<td>276k</td>
<td>266k</td>
<td>218k</td>
<td>231k</td>
</tr>
<tr>
<td>Year-over-Year Change in Nonfarm Payroll Growth (6M Average)</td>
<td>+2k</td>
<td>+13k</td>
<td>+82k</td>
<td>+59k</td>
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</tbody>
</table>

## Inflation and Inputs

<table>
<thead>
<tr>
<th></th>
<th>1989</th>
<th>2000</th>
<th>2006</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PCE Inflation</strong> (Year-over-Year)</td>
<td>4.2%</td>
<td>2.2%</td>
<td>2.9%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Year-over-Year Change in Core PCE Inflation</td>
<td>+0.5%</td>
<td>+1.2%</td>
<td>-0.1%</td>
<td>+0.3%</td>
</tr>
<tr>
<td><strong>Wage Growth</strong> (Year-over-Year)</td>
<td>3.3%</td>
<td>3.6%</td>
<td>2.9%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Year-over-Year Change in Wage Growth (YoY)</td>
<td>+0.3%</td>
<td>-0.2%</td>
<td>+0.5%</td>
<td>+0.4%</td>
</tr>
<tr>
<td><strong>Oil Price</strong> (Year-over-Year)</td>
<td>-17%</td>
<td>+117%</td>
<td>+17%</td>
<td>-10%</td>
</tr>
<tr>
<td><strong>Commodity Prices</strong> (Year-over-Year)</td>
<td>+8%</td>
<td>-3%</td>
<td>-3%</td>
<td>-8%</td>
</tr>
<tr>
<td><strong>10-Year TIPS Breakeven Inflation Rate</strong></td>
<td>N/A</td>
<td>2.4%</td>
<td>2.4%</td>
<td>2.0%</td>
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<tr>
<td>Year-over-Year Change in TIPS-Implied Inflation Rate</td>
<td>N/A</td>
<td>+1.5%</td>
<td>Unch.</td>
<td>-0.2%</td>
</tr>
</tbody>
</table>

## FOMC Concerns (As Described in Official Communications)

| N/A | Heightened inflation risk | Risks for faster inflation | Risks appear roughly balanced |

Sources: BLS, BEA, Bloomberg, Thomson Reuters, Vining Sparks
FED POLICY – CLOSER TO NEUTRAL
MARKET SIGNALS – MARKET TEMORS HAVE ILLUSTRATED THE HEIGHTENED FRAGILITY IN TODAY’S ENVIRONMENT

VOLATILE MARKETS   STABLE GROWTH   TRADE UNCERTAINTY   FISCAL POLICY   MONETARY POLICY   GLOBAL HEADWINDS   SUMMARY AND PROJECTIONS

Worst December Since Great Depression for S&P 500

Sources: S&P 500 Index, Vining Sparks
POTENTIAL RISK

POTENTIAL BUBBLES – STOCK VALUATIONS CONTINUE TO APPEAR INFLATED EVEN WITH RECENT SELL-OFF

Total Stock Market Capitalization as a Percentage of GDP

Sources: Wilshire 5000 Stock Market Capitalization, BEA, Vining Sparks

138%
Feb. 28, 2019
Changes in monetary policy have historically had a 12- to 24-month lagged effect on economic activity. Real interest rates falling indicate easier financial conditions, while rising interest rates indicate tighter conditions. The chart shows the 12-month real treasury bill yield and real GDP growth over time, highlighting periods of volatile markets and stable growth.

Sources: Federal Reserve, BEA, Bloomberg, Vining Sparks
GLOBAL WEAKNESS TO SLOW U.S.

AS GLOBAL ECONOMIC GROWTH SLOWS, U.S. ACCELERATION WILL BE INCREASINGLY CHALLENGING

GLOBAL HEADWINDS

VOLATILE MARKETS > STABLE GROWTH > TRADE UNCERTAINTY > FISCAL POLICY > MONETARY POLICY

SUMMARY AND PROJECTIONS

GLOBAL WEAKNESS TO SLOW U.S.

U.S. GDP (YoY)

EU GDP (YoY)

China GDP (YoY)

Sources: ISM, Markit, BEA, NBSC, Eurostat, Bloomberg, Vining Sparks
NET QUANTITATIVE TIGHTENING

FED REMAINS ONLY CENTRAL BANK ALLOWING PORTFOLIO TO SHRINK, NOW ECB HAS ENDED PORTFOLIO PURCHASES

Central Bank Assets (BoE, Fed, ECB, and BoJ)

Bank of England (% of GDP)
Federal Reserve (% of GDP)
European Central Bank (% of GDP)
Bank of Japan (% of GDP)

Sources: BoE, BoJ, ECB, Federal Reserve, Bloomberg, Vining Sparks
GLOBAL DEBT BINGE
GOVERNMENT AND CORPORATE DEBT LEVELS HAVE GROWN PERILOUSLY LARGE WITH UNKNOWN CONSEQUENCES

Total Country Debt as Percentage of GDP (All Sources)

371% Japan (+54%)
314% France (+77%)
294% Greece (+72%)
280% U.K. (+31%)
261% E.U. (+32%)
255% Italy (+30%)
253% China (+115%)
249% U.S. (+9%)
174% Germany (-11%)

Sources: Bank for International Settlements, Vining Sparks
### Summary

Economy stable for now, markets begin questioning durability of expansion amidst growing headwinds.

### Tailwinds

- Strong U.S. Consumer
- Trade Deal Could Unleash Business Investment
- One More Year of Fiscal Boost
- Mild Inflation Likely to Persist

### Headwinds / Risks

- Tax-Cut Benefits Fade over Time
- Fiscal Boost to Fade
- Housing to Remain Sluggish
- Potential Trade Policy Misstep
- Fed Policy Error More Likely as Rates Near Neutral
- Assets Prices Still Appear High
- Slowing Global Growth
- Higher Global Debt Loads
- Aging U.S. Population

### Interest Rates

- Slower Pace of Gradual (0-1 Hike)
- Likely Near Peak for Rate Cycle
## Economic and Interest Rate Projections

### Vining Sparks Projections

<table>
<thead>
<tr>
<th></th>
<th>Q119</th>
<th>Q219</th>
<th>Q319</th>
<th>Q419</th>
<th>Q120</th>
<th>Q220</th>
<th>2019</th>
<th>2020</th>
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<tbody>
<tr>
<td><strong>GDP (QoQ, SAAR)</strong></td>
<td>1.5</td>
<td>2.8</td>
<td>2.3</td>
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<td>1.0</td>
<td>1.9</td>
<td>2.4</td>
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<td><strong>Headline CPI (YoY)</strong></td>
<td>2.1</td>
<td>2.0</td>
<td>1.9</td>
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<td>2.0</td>
<td>1.9</td>
<td>1.9</td>
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<tr>
<td><strong>Core PCE (YoY)</strong></td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
<td>2.0</td>
<td>2.0</td>
<td>1.9</td>
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<tr>
<td><strong>Unemployment Rate</strong></td>
<td>3.8</td>
<td>3.7</td>
<td>3.8</td>
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<td>3.9</td>
<td>3.9</td>
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<tr>
<td><strong>Nonfarm Payrolls (Monthly)</strong></td>
<td>175</td>
<td>155</td>
<td>155</td>
<td>150</td>
<td>140</td>
<td>130</td>
<td>167</td>
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<th></th>
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<th>Q219</th>
<th>Q319</th>
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<th>Q120</th>
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<tr>
<td><strong>Fed Funds Target</strong></td>
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<tr>
<td><strong>2-Year Treasury Yield</strong></td>
<td>2.55</td>
<td>2.60</td>
<td>2.65</td>
<td>2.65</td>
<td>2.65</td>
<td>2.50</td>
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<tr>
<td><strong>10-Year Treasury Yield</strong></td>
<td>2.75</td>
<td>2.90</td>
<td>2.90</td>
<td>2.85</td>
<td>2.75</td>
<td>2.70</td>
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<tr>
<td><strong>30-Year Treasury Yield</strong></td>
<td>2.82</td>
<td>3.00</td>
<td>2.98</td>
<td>2.92</td>
<td>2.78</td>
<td>2.77</td>
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<td><strong>Prime Rate</strong></td>
<td>5.50</td>
<td>5.50</td>
<td>5.75</td>
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<tr>
<td><strong>30-Year Mortgage Rate</strong></td>
<td>4.40</td>
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<td>4.40</td>
<td>4.35</td>
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Source: Vining Sparks February 2019 Economic Outlook Projections
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