ERS

Public Agenda Item #2a

Review and Discussion of ERS' Asset Allocation Study
Featured Speaker on Asset Allocation

December 1, 2016

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Economic and Market Outlook

December 1, 2016

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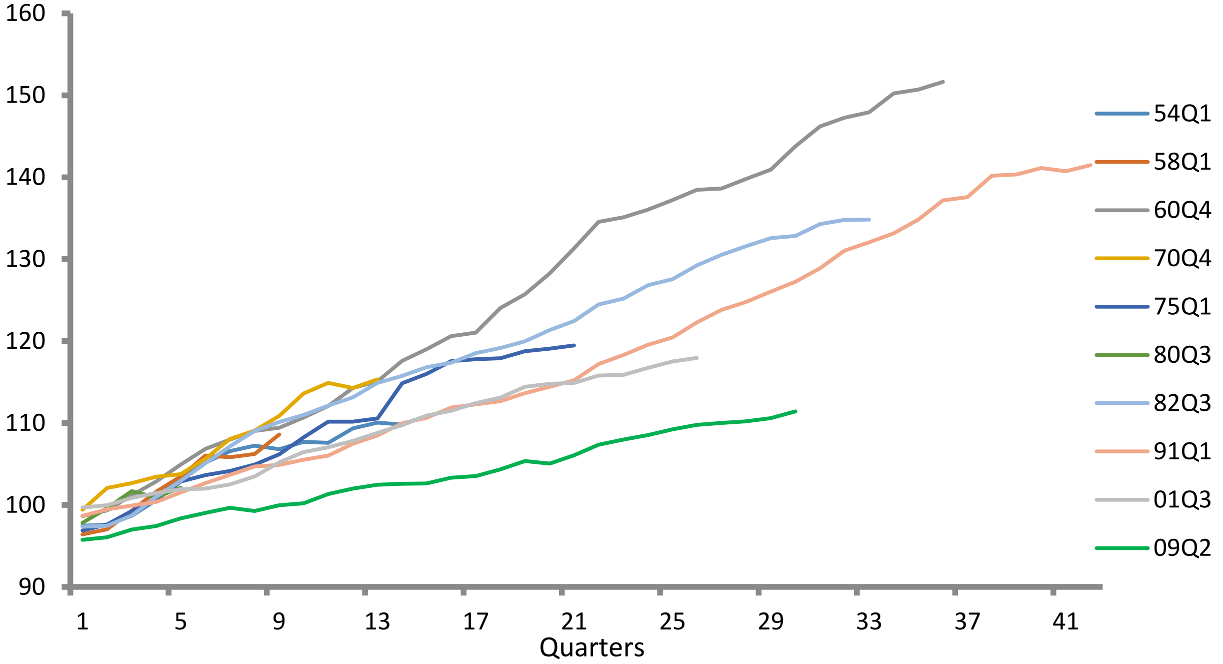
Short-term optimism, long-term caution

- The U.S. business cycle expansion is aging…
- …but does not yet seem ripe for recession
- A near-term tilt toward risk assets still makes sense
- Credit appears to lie at the sweet spot given current conditions
- Long-term growth prospects are muted, largely because of demographics
- Capital market return expectations have correspondingly slid
- Traditional balanced portfolios will likely struggle to meet return targets

Source: JPMAM GIM Multi-Asset Solutions

The level of activity is low given the length of the current cycle

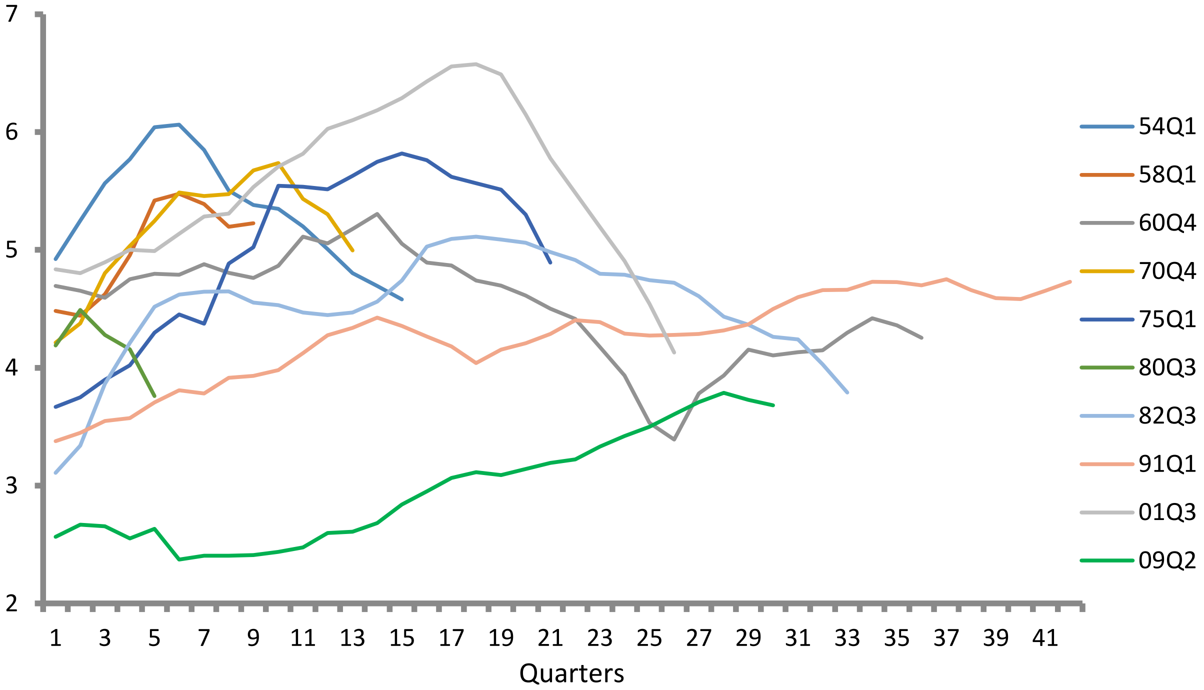
US real GDP by business cycle (previous peak = 100)



Source: JPMSL, JPMAM GIM Multi-Asset Solutions; data as of September 2016

Cyclical activity also remains subdued

US residential construction by business cycle (% of GDP)



Source: JPMSL, JPMAM GIM Multi-Asset Solutions; data as of September 2016

A business cycle scorecard suggests few traditional vulnerabilities

US cyclical economic activity graded by likely cycle phase

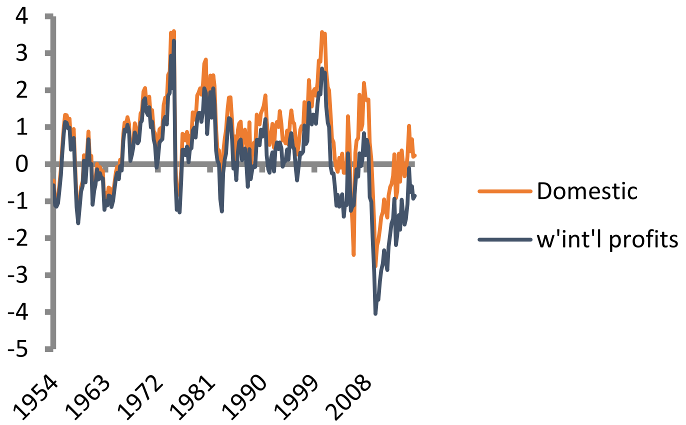
Economic metric	Early Cycle	Mid Cycle	Late Cycle	Recession
Overall economic output	Below potential, rising	**Near potential, rising**	Above potential, rising	Contracting
Consumption	Low, lagging income	**Recovering**	High, ahead of income	Falling
Capital investment	Low as % of GDP	**Rising, moderate as % of GDP**	High as % of GDP	Falling
Residential investment	Low as % of GDP	**Rising, moderate as % of GDP**	High as % of GDP	Contracting
Price inflation	Below central bank target, stable	**Below CB target, rising**	Above CB target	Falling
Wage inflation	Low, stable	**Moderate, rising**	High	Falling
Private credit formation	Low, starting to rise	Rising in line with output	**Rising faster than output**	Falling
Personal saving rate	High relative to income	**Starting to decline**	Low relative to income	Rising vs. income (excl. deep recession)
Unemployment	Well above NAIRU	Above NAIRU	**Around or below NAIRU**	Rising sharply
Consumer confidence	Low	**Recovering**	Exuberant	Falling

Source: JPMAM GIM Multi-Asset Solutions; assessments as of November 2016

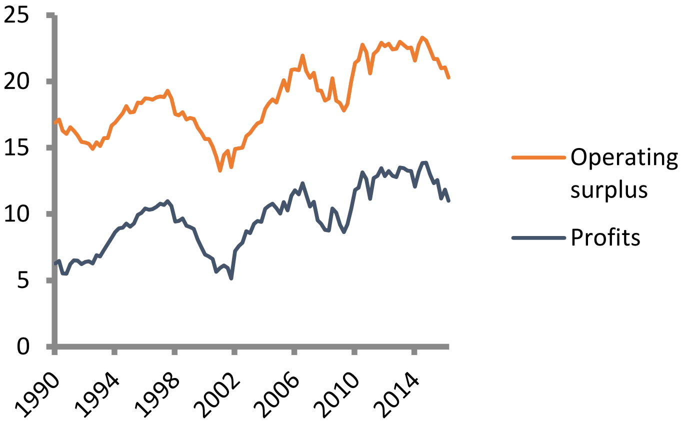
Context: U.S. business vulnerability had lessened somewhat

- Business behavior still looked like the Achilles heel for the economy, but risks had eased since 2015
- Adjustment to capex spending has improved the corporate financing gap, although downward pressure on margins has continued

U.S. corporate financing gap (% of GDP)



U.S. nonfinancial corporate margins (% of business value added)

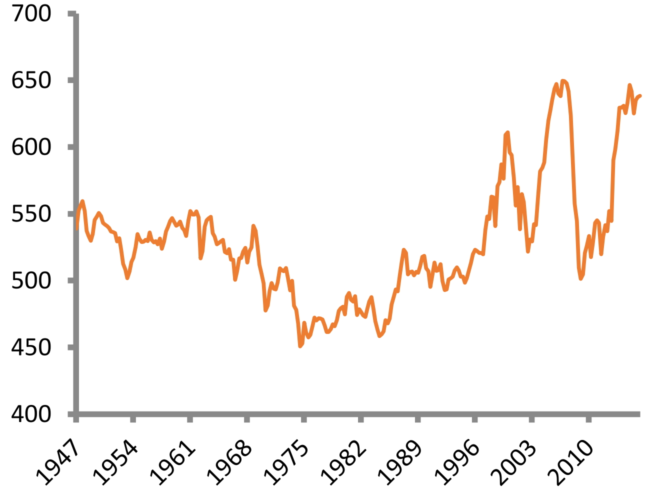


Source: Haver Analytics, BEA, JPMAM GIM Multi-Asset Solutions; data as of June 2016

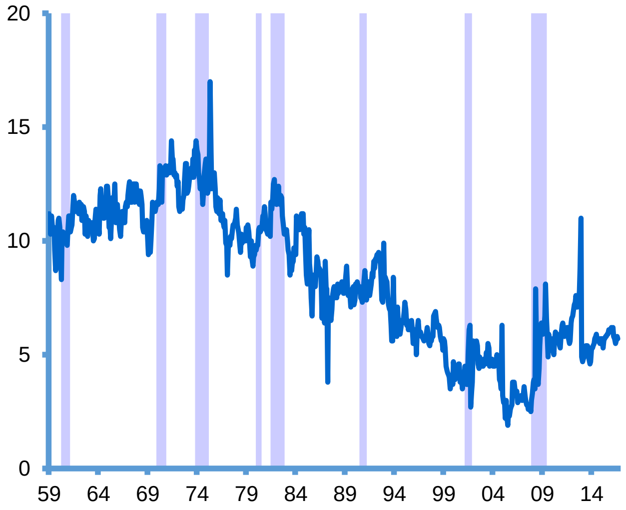
Context: U.S. consumer spending looks well-supported

- Household balance sheets have fully recovered from the financial crisis, and net worth stands at an elevated level by long-term standards
- Amid month-to-month volatility (and large revisions), the saving rate has held steady during the gasoline price plunge, and it looks fairly high relative to balance sheet conditions

U.S. household net worth (% of disposable income)



US personal saving rate (% of disposable income)



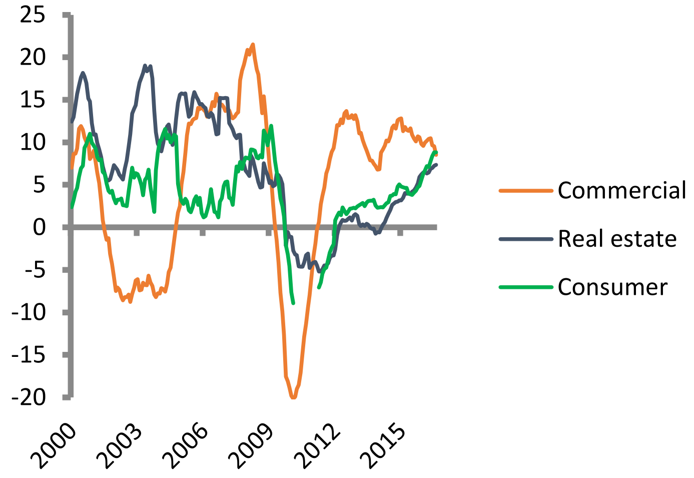
Source: JPMSL, Federal Reserve, Haver Analytics, JPMAM Multi-Asset Solutions; data and forecasts as of June 2016 (left), September 2016 (right)

Context: U.S. policy already stimulative

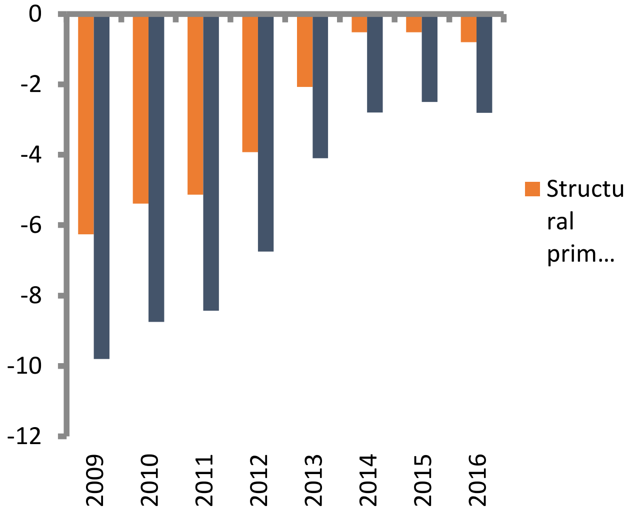
- Easy monetary policy manifests itself in a variety of ways, including via strong bank credit growth, especially to corporates, with mortgage and consumer lending now also picking up

- The intense fiscal drag of 2012-14 has turned into a slightly easy stance, ahead of possible additional stimulus after the presidential election

U.S. bank credit (% y/y)



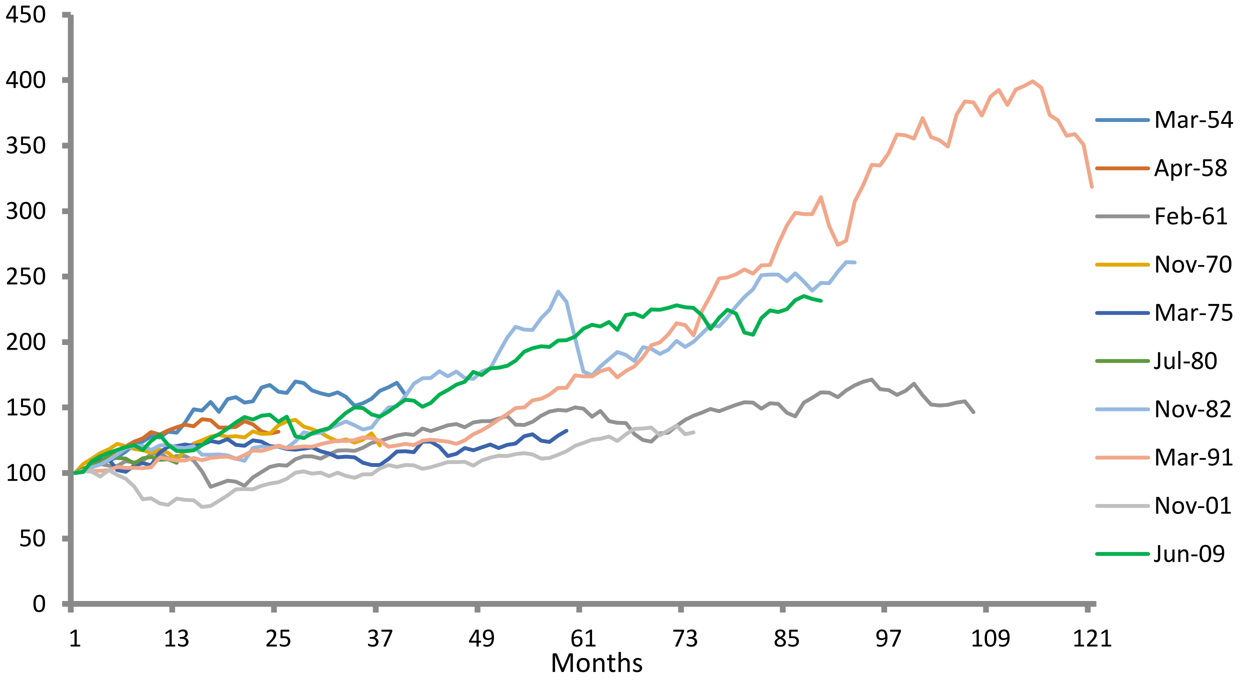
U.S. federal government balance (% of GDP, fiscal years)



Source: JPMSL, Congressional Budget Office, JPMAM Multi-Asset Solutions; data as of September 2016 (left), data and forecasts as of June 2016 (right)

Market cycles end when business cycles do

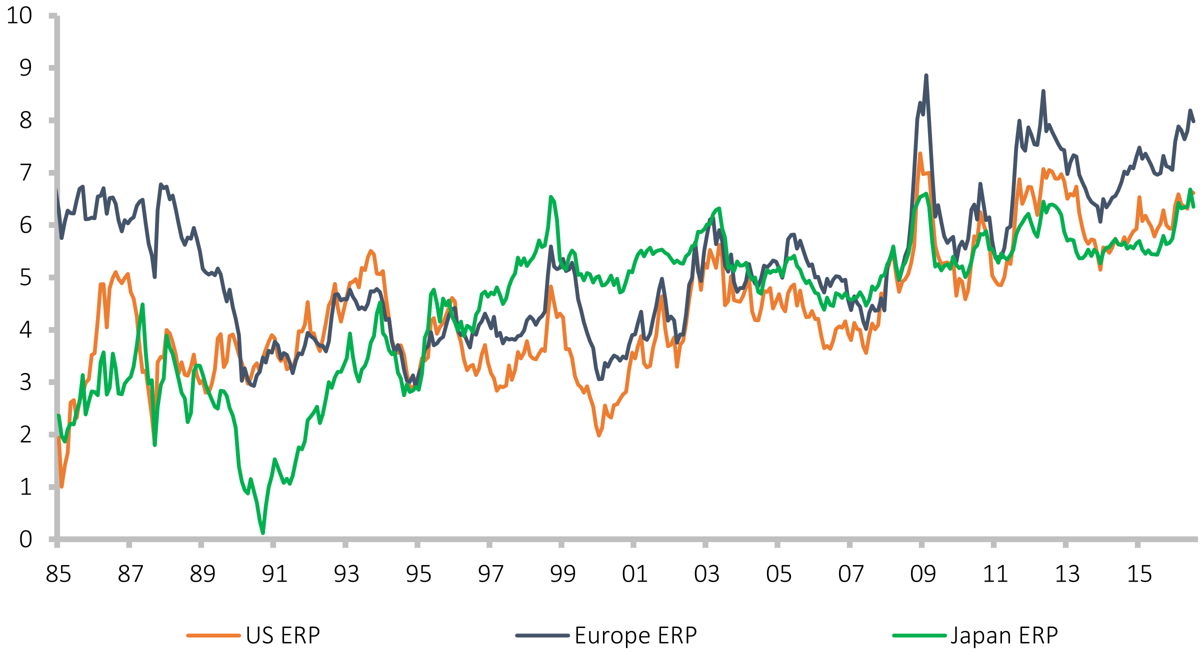
S&P 500 index by business cycle (first month of expansion = 100)



Source: JPMSL, JPMAM GIM Multi-Asset Solutions; data as of October 2016

Equities not cheap in absolute terms, but fine relative to government bonds…

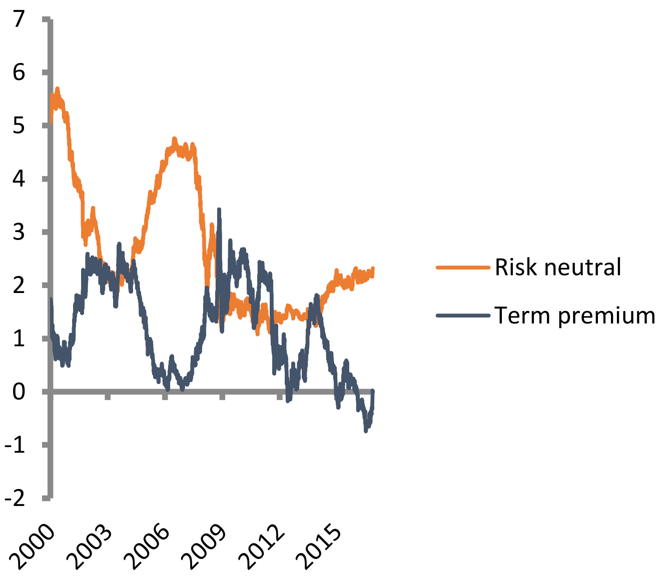
Developed market equity risk premia (equity earnings yield minus government bond yield)



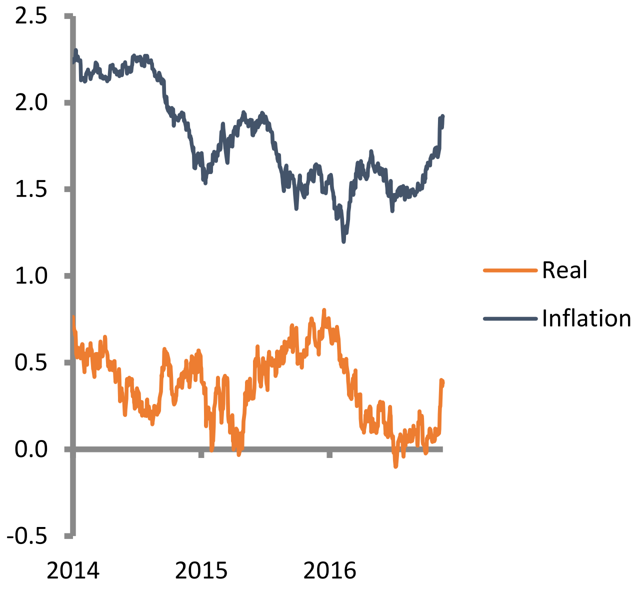
Source: Thomson Reuters Datastream, JPMAM GIM Multi-Asset Solutions; data as of September 2016

…which look expensive by any measure, if less so than a few weeks ago

U.S. Treasury 10-year risk-neutral rate and term premium (%)



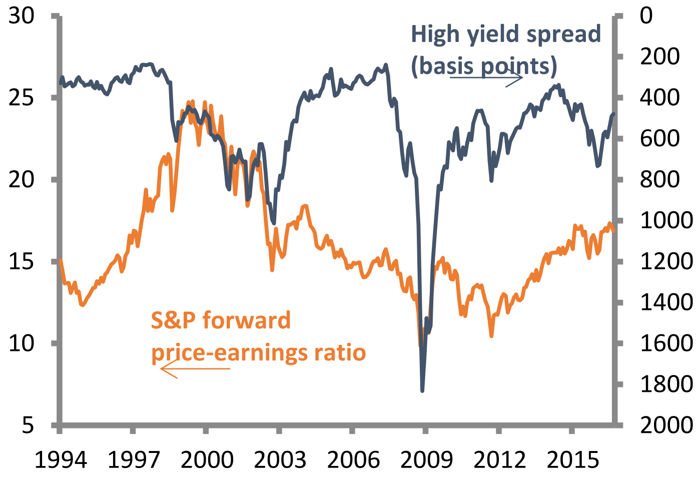
U.S. Treasury 10-year real yield and implied inflation (%)



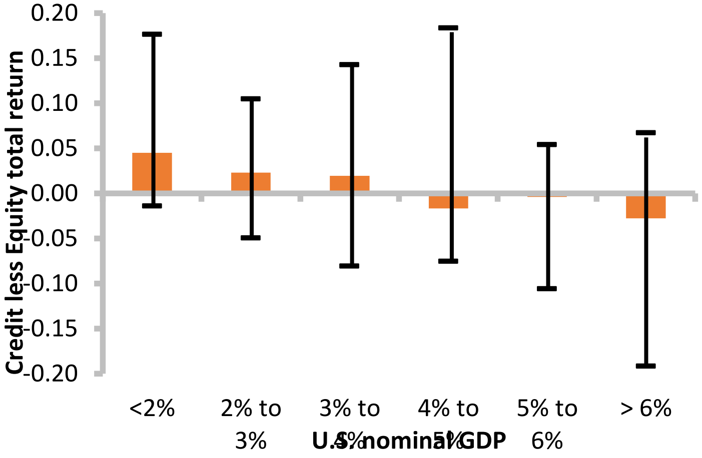
Source: Haver Analytics, Bloomberg, JPMAM GIM Multi-Asset Solutions; data as of November 2016

Credit looks like the sweet spot given the moderate economic expansion

Equity and credit valuations



Credit vs. equity return by nominal GDP environment

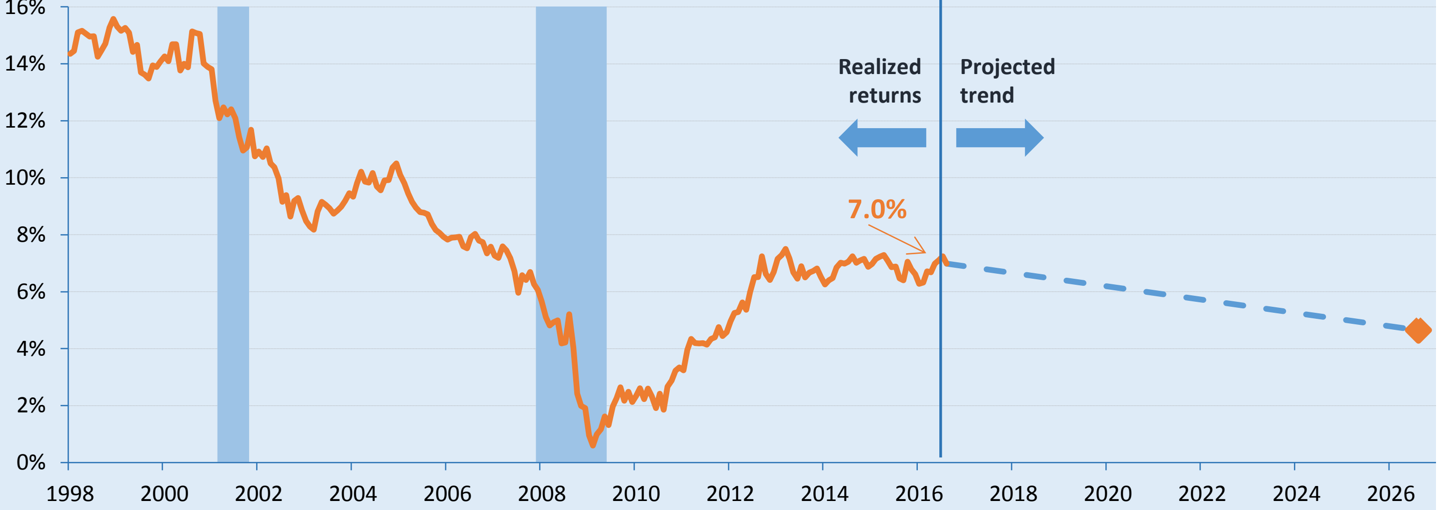


Source: Bloomberg, Haver Analytics, Datastream, JPMAM GIM Multi-Asset Solutions; data as of October 2016

Full valuations, low yields set a long-term challenge

Ten-year rolling returns (CAGR) from a balanced 60/40 U.S. stock-bond portfolio are meaningfully lower post-GFC

Historical and projected 10-year rolling 60/40 stock bond returns (recession periods shaded)

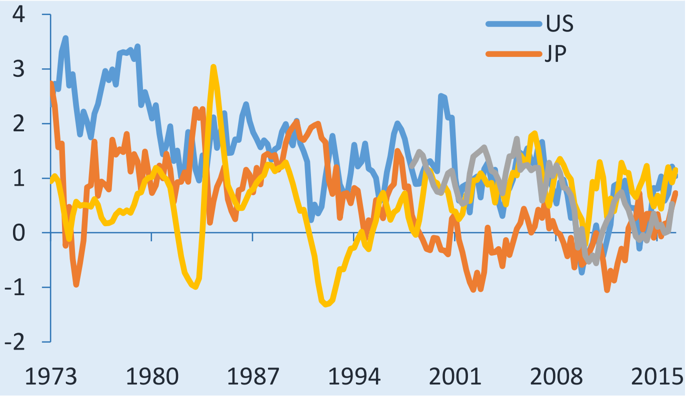


Source: Bloomberg, J.P. Morgan Asset Management; data as of October 14, 2016; CAGR = Compound Annual Growth Rate. Opinions and statements of financial market trends that are based on current market conditions constitute our judgment and are subject to change without notice. There can be no guarantee they will be met.

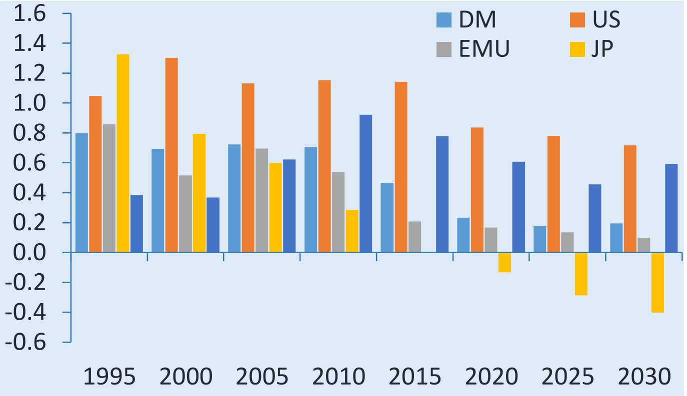
Economic assumptions: Demographics weigh on growth

- Labor force growth has generally displayed a slowing trend in developed economies over the past few decades as populations have aged, though cyclical swings and policy changes also drive shorter-term fluctuations
- Population projections suggest that this demographic dial will continue turning gradually against DM growth

Labor force growth (% year-on-year)



Working-age population growth (% per year, 5-year intervals)

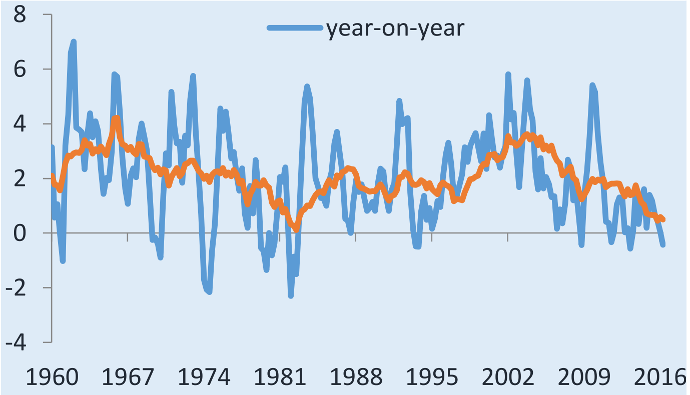


Source: United Nations, JPMorgan Securities LLC, JP Morgan Asset Management; data through June 2016 (left), data and forecasts as of 2015 (right)

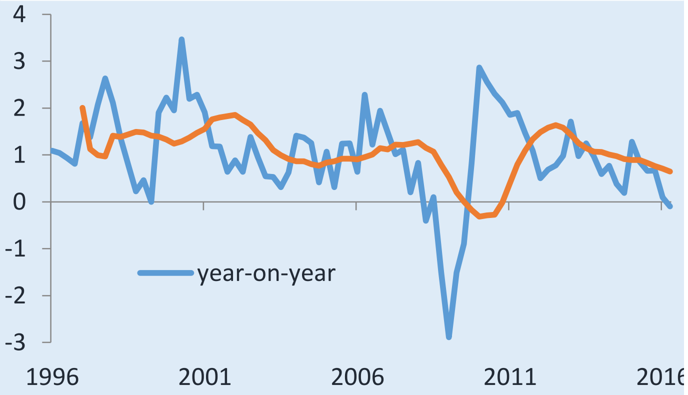
Economic assumptions: The productivity question

- Very weak productivity gains have weighed on DM growth since the global financial crisis; we expect some improvement, as happened following previous dry spells, but the extended nature of the slump suggests a structural component
- Euro area productivity growth has lagged, and the region may benefit from ongoing reform efforts

U.S. labor productivity (%)



Euro area labor productivity (%)



Source: Haver Analytics, JPMorgan Securities LLC, JP Morgan Asset Management; data through June 2016

Economic assumptions: 2017 vs. 2016

Compound 10–15 Year GDP Growth and Inflation (%)

	DM	U.S.	Europe	U.K.	Japan
2017 LTCMAs					
Real GDP	1.50	1.75	1.25	1.25	0.50
Inflation	1.75	2.25	1.50	2.00	1.00
2016 LTCMAs					
Real GDP	1.75	2.25	1.50	1.50	0.50
Inflation	2.00	2.25	1.50	2.25	1.50

	EM	China	India	Brazil	Russia
2017 LTCMAs					
Real GDP	4.50	5.25	7.00	2.75	2.25
Inflation	3.75	3.00	5.00	5.25	5.50
2016 LTCMAs					
Real GDP	5.00	6.00	7.25	3.00	2.75
Inflation	3.75	3.00	5.00	5.25	5.50

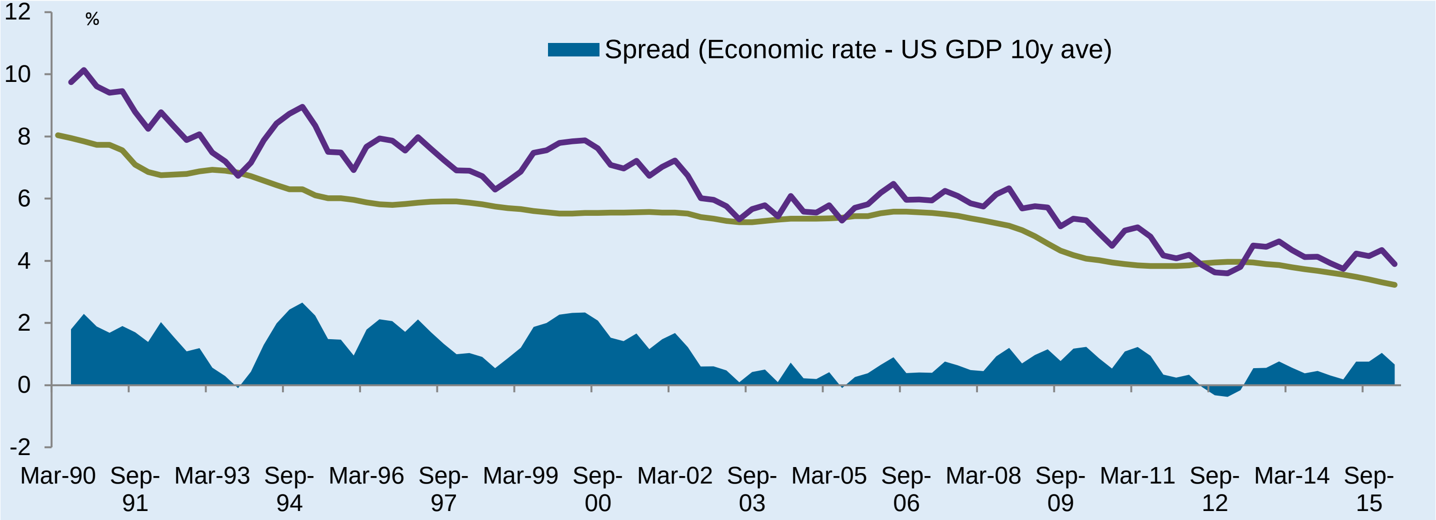
GROWTH FORECASTS TRIMMED AGAIN

- **Population** – aging populations continue to weigh on the growth potential across most developed market economies
- **Productivity** – persistently weak global productivity creates further downside pressure on growth
- **Inflation** – we expect most central banks to come close to hitting inflation targets, but normalization will be slow – especially in Europe and Japan

Source: J.P. Morgan Asset Management, as of September 30, 2016.

Equilibrium interest rates will continue to track nominal GDP

Economy-wide borrowing cost and nominal GDP growth



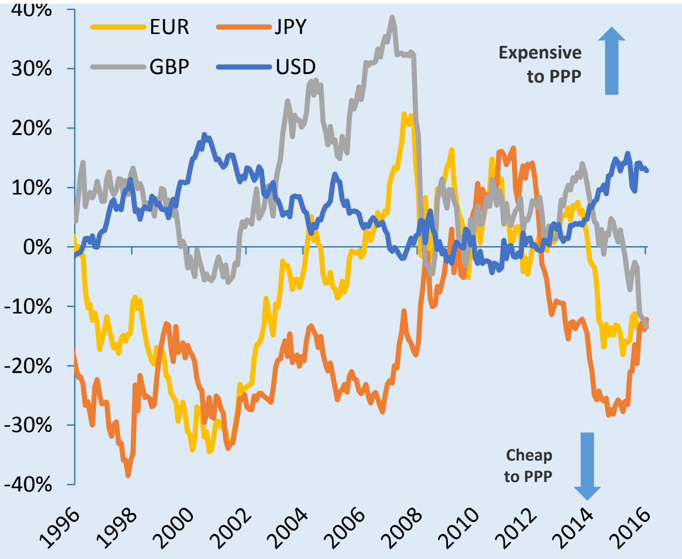
Source: Bloomberg, Haver Analytics, *Estimated borrowing cost is approximated from 0.2 *Treasury yield + 0.4 * mortgage rate + 0.4 * corporate yield; GDP = Gross Domestic Product

Relatively overvalued USD to weaken, currency is key

LTCMA foreign exchange assumptions, 2017 vs. 2016

	EUR	JPY	CHF	GBP	CAD	AUD	BRL	MXN
Spot vs. USD on Sept 30, 2016								
	1.12	101	0.97	1.30	1.31	0.77	3.26	19.44
2017 LTCMA FX forecast								
% annual change from current level	+1.25%	-1.00%	-0.75%	+1.25%	-1.25%	-0.25%	+1.50%	-1.25%
Terminal spot rate assumption (10-15 yr)	1.31	89	0.88	1.52	1.12	0.74	3.94	16.65
2016 LTCMA FX forecast								
	1.34	110	0.92	1.60	1.15	0.70	4.13	18.00

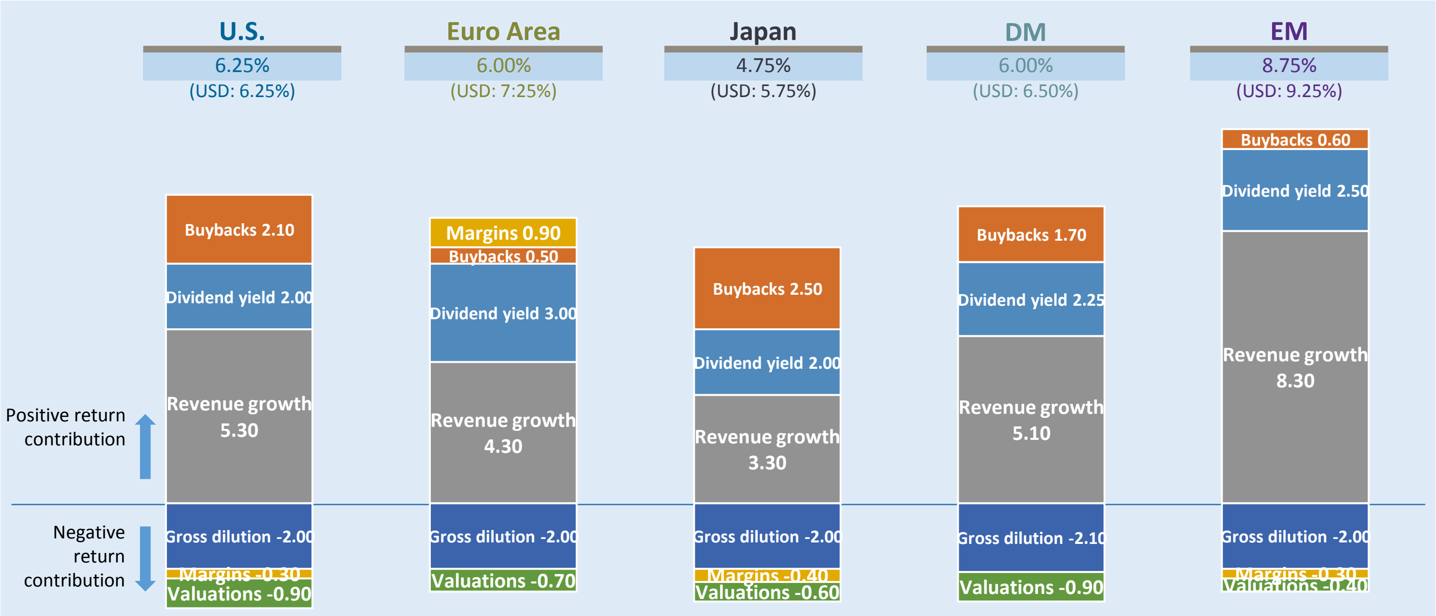
U.S. dollar is expensive relative to other major currencies on a purchasing power parity basis



Source: J.P. Morgan Asset Management; estimates as of September 30, 2015 and September 30, 2016.

Equities: Building blocks

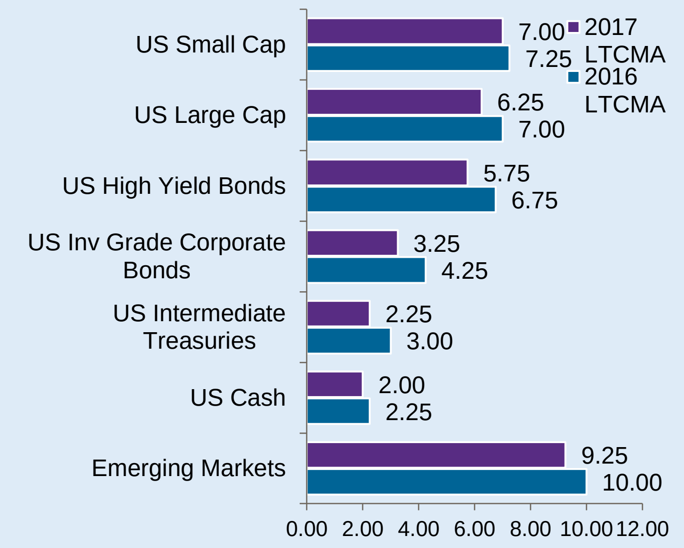
Local currency total returns; rounded to nearest 25bps*



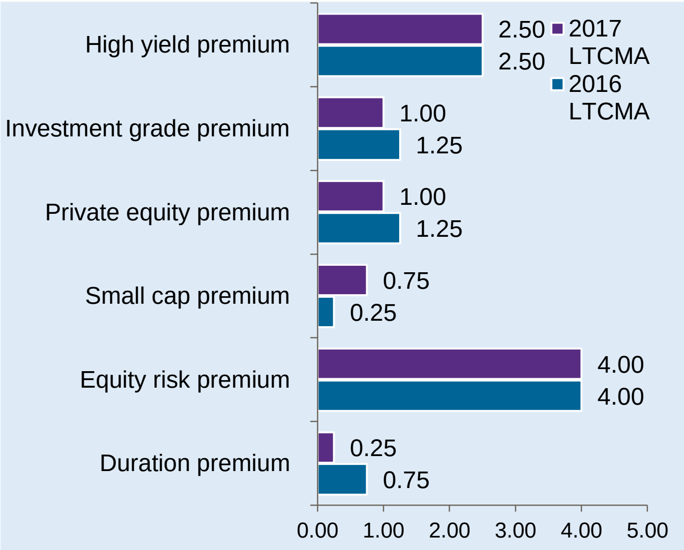
Source: J.P. Morgan Asset Management as of September 2016. Note that final return assumptions are rounded to nearest 25bps, and sum of building blocks will therefore differ slightly. Opinions, estimates, forecasts, projections and statements of financial market trends that are based on current market conditions constitute our judgment and are subject to change without notice. There can be no guarantee they will be met. * Note: totals may not sum due to rounding

Risk premia: Little change from 2016

Expected returns (%)



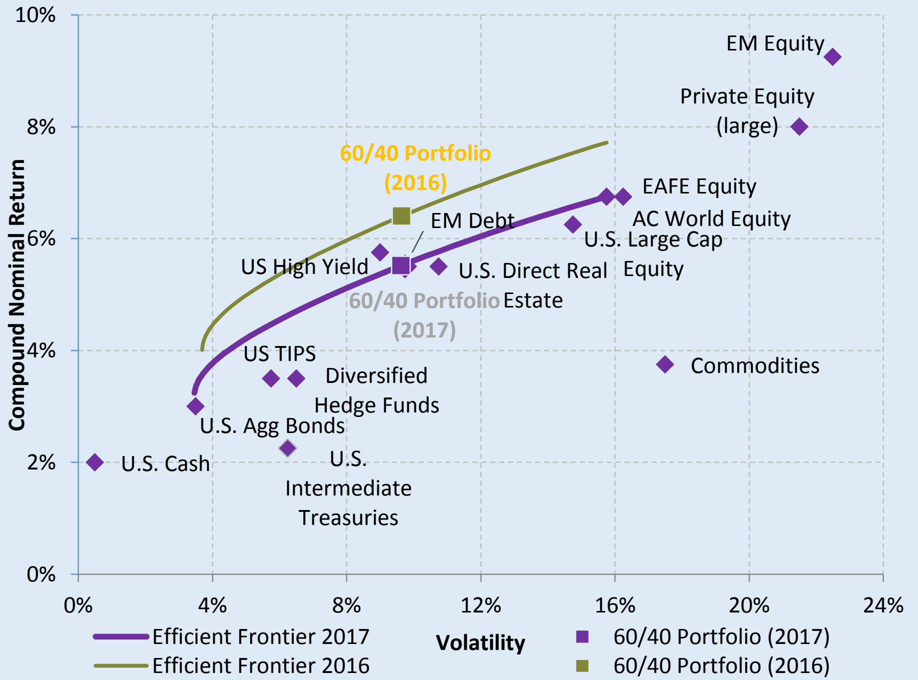
Risk premia (%)



Source: J.P. Morgan Asset Management; estimates as of September 30, 2016.

Slow growth and vanishing term premium to weigh on returns

Efficient frontiers: 2017 vs. 2016 assumptions (USD)



KEY PORTFOLIO CONSIDERATIONS

- 60/40 stock-bond returns down 75 basis points – static balanced allocation has run out of road
- Credit and TIPs are bright spots in fixed income
- Emerging markets equity, high yield bonds and EM debt still attractive
- Real assets relatively more attractive than last year
- Currency a key driver of returns as US dollar overvaluation reverses

Source: J.P. Morgan Asset Management; estimates as of September 30, 2015 and September 30, 2016

Important disclaimers

Questions?