# A Gradual Acceleration in Global Growth

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>1.8</td>
<td>2.2</td>
<td>1.8</td>
<td>2.9</td>
<td>3.2</td>
<td>3.0</td>
</tr>
<tr>
<td>Japan</td>
<td>-0.6</td>
<td>2.0</td>
<td>0.9</td>
<td>1.3</td>
<td>0.7</td>
<td>1.2</td>
</tr>
<tr>
<td>Euro Area</td>
<td>1.5</td>
<td>-0.4</td>
<td>-0.2</td>
<td>0.9</td>
<td>1.3</td>
<td>1.5</td>
</tr>
<tr>
<td>Germany</td>
<td>3.1</td>
<td>0.9</td>
<td>0.7</td>
<td>1.9</td>
<td>2.1</td>
<td>2.2</td>
</tr>
<tr>
<td>France</td>
<td>1.7</td>
<td>0.1</td>
<td>0.0</td>
<td>0.6</td>
<td>1.2</td>
<td>1.5</td>
</tr>
<tr>
<td>Italy</td>
<td>0.6</td>
<td>-2.0</td>
<td>-0.8</td>
<td>0.6</td>
<td>0.9</td>
<td>1.2</td>
</tr>
<tr>
<td>Spain</td>
<td>0.4</td>
<td>-1.3</td>
<td>-1.7</td>
<td>-0.2</td>
<td>1.0</td>
<td>1.8</td>
</tr>
<tr>
<td>UK</td>
<td>0.9</td>
<td>0.0</td>
<td>1.4</td>
<td>2.0</td>
<td>2.3</td>
<td>2.6</td>
</tr>
<tr>
<td>China</td>
<td>9.3</td>
<td>7.8</td>
<td>8.2</td>
<td>8.4</td>
<td>8.3</td>
<td>8.2</td>
</tr>
<tr>
<td>India</td>
<td>7.5</td>
<td>5.4</td>
<td>6.5</td>
<td>7.2</td>
<td>7.2</td>
<td>7.5</td>
</tr>
<tr>
<td>Brazil</td>
<td>2.7</td>
<td>1.0</td>
<td>3.5</td>
<td>4.3</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Russia</td>
<td>4.3</td>
<td>3.4</td>
<td>3.8</td>
<td>4.8</td>
<td>4.3</td>
<td>3.1</td>
</tr>
<tr>
<td>Developed Markets</td>
<td>1.7</td>
<td>1.3</td>
<td>1.3</td>
<td>2.2</td>
<td>2.3</td>
<td>2.5</td>
</tr>
<tr>
<td>Emerging Markets</td>
<td>6.9</td>
<td>5.5</td>
<td>6.1</td>
<td>6.6</td>
<td>6.5</td>
<td>6.4</td>
</tr>
<tr>
<td>World</td>
<td>3.8</td>
<td>3.0</td>
<td>3.3</td>
<td>4.1</td>
<td>4.2</td>
<td>4.3</td>
</tr>
</tbody>
</table>

Source: GS Global ECS Research.
Spare Capacity in DM But Not EM

Output Gaps:
- EM
- DM
- World

Percent of GDP

Source: GS Global ECS Research.
Key US Economic Indicators: GS vs. Consensus

Growth (Real GDP)

Inflation (Core PCE)

Fed Funds Rate

Fed Securities Holdings

* Top 10 avg. - bottom 10 avg.

Actual Data

Growth consensus from Blue Chip Consensus Forecasts (February 2013)
Inflation consensus from Bloomberg
Fed consensus from Survey of Primary Dealers (December 2012)

Temperature Check
Current Activity Indicator Slows in January

Current Activity Indicator (CAI)

- Housing
- Employment
- Consumer
- Industry

Percent change, annual rate

* First principal component of 25 key weekly and monthly US economic indicators.
Source: GS Global ECS Research.
Temperature Check
Upside Data Surprises Have Stopped

US-MAP Surprise Index*

* Weighted index of US economic data surprises, linearly weighted 3-month average.
Source: GS Global ECS Research.
US Growth Outlook
Private Boost, Public Drag

Source: Department of Commerce. GS Global ECS Research.
US Growth Outlook
Fiscal Drag Peaks in Mid-2013

Impact of Federal Fiscal Policy on Real GDP Growth:
- Tax
- Spending (Ex Sequester)
- Sequester

Source: GS Global ECS Research.
US Growth Outlook
Capital Spending Looks Very Profitable

Source: Department of Commerce.
US Growth Outlook
Homebuilding Has a Long Way to Rise

* Assumed demolition rate of 300,000 per year.
Source: Department of Commerce. GS Global ECS Research.
US Growth Outlook
Excess Housing Supply Has Fallen Sharply

Homeowner Vacancy Rate*

* Vacant homes for sale in percent of housing stock for owner occupation.
Source: Department of Commerce.

1980-2005
Average = 1.6%
Labor Market Slack and Its Implications
Employment Still Far Below Potential

Source: Department of Labor. GS Global ECS Research.
Labor Market Slack and Its Implications
Wages and Unit Labor Costs Still Weak

- Average Hourly Earnings
- Employment Cost Index*
- Unit Labor Costs**

* Private industry workers. ** Nonfarm business sector.
Source: Department of Labor.
**Labor Market Slack and Its Implications**

Implication #1: Profit Margins Expand

---

**Corporate Profit Margins**:  
- **Actual**  
- **Forecast**

**After-tax adjusted profits as percent of GDP.**

**Source:** Department of Commerce. GS Global ECS Research.

---
Implication #2: Low Core Inflation

Core PCE Inflation:
- Actual
- Fed Forecast
- GS Forecast

Fed Inflation Target = 2.0%

Source: Department of Commerce. Federal Reserve Board.
Fed Policy Stays Easy
Visualizing the Shifts in Fed Policy

Liftoff from Funds Rate = 0

Optimal Control Approach
Pre-Crisis Taylor Rule
Current Threshold Guidance

Unemployment (%) vs. Inflation (%)

Source: GS Global ECS Research.
A Gradual Increase in Bond Yields
The Bond Term Premium…

*As estimated by the Kim-Wright Term Structure Model.

Source: Federal Reserve Board. GS Global ECS Research.
A Gradual Increase in Bond Yields
...Is Unlikely to Rise Quickly as QE Persists

Total Portfolio Balance Effect on 10yr Yield Term Premium:
- QE3+Mid-2015
- Twist 2
- 2014 Fwd Guidance
- Twist
- 2013 Fwd Guidance
- QE2
- Reinvest MBS
- QE1

Note: Assumes no change in expectations between announcements.
Source: GS Global ECS Research.
The Truth about the Deficit
Deficit Should Decline in Coming Years

Source: CBO. GS Global ECS Research.
The Truth about the Deficit
Healthcare Holds the Key

Source: Congressional Budget Office.
Where Shale Matters
Energy Supply Gets More Elastic

![Graph showing oil price versus oil demand/supply with labels for Global oil supply, pre-shale (SS₀), increased global demand, Global oil demand (DD₀), Global oil supply, post-shale (SS₁), and SS₂.]
Where Shale Matters
A Big Supply Boost in Absolute Terms...

Source: GS Global ECS Research.
Where Shale Matters

...But a Much Smaller One Relative to US GDP

5-year Increase in Oil Production

Source: GS Global ECS Research.
The European Crisis
ECB Addresses Part of the Vicious Cycle

Fiscal Crisis

Bank Solvency & Liquidity Concerns → LTRO

Expected Bailout Costs → ESM & OMT

Lower Tax Receipts

Fiscal Austerity

Loan Losses

Banking Crisis

Economic Crisis

Reduced Loan Supply
The European Crisis
ECB Has Reduced Spillover Risk

* Wt avg of riskless int rates, spreads, equities, FX and house prices, based on effects on 1-yr fwd US GDP growth.
** First principal component of European bank stocks, bank CDS, svrgn CDS, and EUR/USD cross-currency basis spread.
Source: GS Global ECS Research.
The European Crisis
Periphery FCIs Only a Bit Easier

Financial Conditions Index:
- Germany
- France
- Italy
- Spain

Source: GS Global ECS Research.
The European Crisis
Fiscal Drag Intensifies in Spain and France

Fiscal Drag on Real GDP Growth:

<table>
<thead>
<tr>
<th>Country</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>-1.8</td>
<td>-1.6</td>
<td>-1.4</td>
</tr>
<tr>
<td>France</td>
<td>-1.2</td>
<td>-1.0</td>
<td>-0.8</td>
</tr>
<tr>
<td>Italy</td>
<td>-1.4</td>
<td>-1.2</td>
<td>-1.0</td>
</tr>
<tr>
<td>Spain</td>
<td>-1.8</td>
<td>-1.6</td>
<td>-1.4</td>
</tr>
</tbody>
</table>

Source: GS Global ECS Research.
The European Crisis
ULCs Have Only Adjusted Partially

Index (2000Q1=100)

Unit Labor Costs:
- Germany
- France
- Ireland
- Italy
- Spain
- Greece
- Portugal

### Key Numbers in the US Economic Outlook

**OUTPUT AND SPENDING**

<table>
<thead>
<tr>
<th>Year</th>
<th>2011 (f)</th>
<th>2012 (f)</th>
<th>2013 (f)</th>
<th>2014 (f)</th>
<th>2015 (f)</th>
<th>2016 (f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real GDP</td>
<td>1.8</td>
<td>2.2</td>
<td>1.8</td>
<td>3.2</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>Consumer Expenditure</td>
<td>2.5</td>
<td>1.9</td>
<td>1.7</td>
<td>2.5</td>
<td>2.7</td>
<td>2.5</td>
</tr>
<tr>
<td>Residential Fixed Investment</td>
<td>-1.4</td>
<td>11.9</td>
<td>13.7</td>
<td>14.8</td>
<td>13.4</td>
<td>12.5</td>
</tr>
<tr>
<td>Business Fixed Investment</td>
<td>8.6</td>
<td>7.7</td>
<td>5.7</td>
<td>9.0</td>
<td>7.5</td>
<td>5.8</td>
</tr>
<tr>
<td>Structures</td>
<td>2.8</td>
<td>9.6</td>
<td>2.5</td>
<td>7.0</td>
<td>5.9</td>
<td>5.0</td>
</tr>
<tr>
<td>Equipment &amp; Software</td>
<td>11.0</td>
<td>6.9</td>
<td>6.9</td>
<td>9.8</td>
<td>8.1</td>
<td>6.1</td>
</tr>
<tr>
<td>Federal Government</td>
<td>-2.8</td>
<td>-2.2</td>
<td>-5.3</td>
<td>-5.9</td>
<td>-2.5</td>
<td>-1.2</td>
</tr>
<tr>
<td>State and Local Government</td>
<td>-3.4</td>
<td>-1.3</td>
<td>0.1</td>
<td>1.2</td>
<td>1.8</td>
<td>2.0</td>
</tr>
<tr>
<td>Net Exports ($bn, '05)</td>
<td>-408</td>
<td>-406</td>
<td>-393</td>
<td>-411</td>
<td>-433</td>
<td>-445</td>
</tr>
<tr>
<td>Inventory Investment ($bn, '05)</td>
<td>31</td>
<td>45</td>
<td>42</td>
<td>49</td>
<td>57</td>
<td>57</td>
</tr>
<tr>
<td>Industrial Production, Mfg</td>
<td>4.3</td>
<td>4.1</td>
<td>0.9</td>
<td>2.8</td>
<td>3.7</td>
<td>3.1</td>
</tr>
</tbody>
</table>

**INFLATION (% ch, yr/yr)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Price Index (CPI)</td>
<td>3.1</td>
<td>2.1</td>
<td>1.7</td>
<td>1.8</td>
<td>2.0</td>
<td>2.1</td>
</tr>
<tr>
<td>Core CPI</td>
<td>1.7</td>
<td>2.1</td>
<td>1.7</td>
<td>1.8</td>
<td>1.9</td>
<td>2.1</td>
</tr>
<tr>
<td>Core PCE*</td>
<td>1.4</td>
<td>1.7</td>
<td>1.3</td>
<td>1.5</td>
<td>1.6</td>
<td>1.8</td>
</tr>
<tr>
<td>Unit Labor Costs</td>
<td>1.9</td>
<td>0.6</td>
<td>1.2</td>
<td>1.5</td>
<td>1.7</td>
<td>2.1</td>
</tr>
</tbody>
</table>

**LABOR MARKET**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployment Rate (%)</td>
<td>8.9</td>
<td>8.1</td>
<td>7.7</td>
<td>7.3</td>
<td>6.7</td>
<td>6.3</td>
</tr>
</tbody>
</table>

**FINANCIAL SECTOR**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Funds** (%)</td>
<td>0.00</td>
<td>0.00</td>
<td>0.13</td>
<td>0.13</td>
<td>0.13</td>
<td>1.25</td>
</tr>
<tr>
<td>3-Month LIBOR (%)</td>
<td>0.07</td>
<td>0.16</td>
<td>0.30</td>
<td>0.30</td>
<td>0.30</td>
<td>1.50</td>
</tr>
<tr>
<td>Treasury Yield Curve** (%)</td>
<td>0.07</td>
<td>0.16</td>
<td>0.30</td>
<td>0.30</td>
<td>0.30</td>
<td>1.50</td>
</tr>
<tr>
<td>2-Year Note</td>
<td>0.56</td>
<td>0.31</td>
<td>0.40</td>
<td>0.60</td>
<td>1.50</td>
<td>2.00</td>
</tr>
<tr>
<td>5-Year Note</td>
<td>0.26</td>
<td>0.26</td>
<td>1.20</td>
<td>1.75</td>
<td>2.50</td>
<td>3.00</td>
</tr>
<tr>
<td>10-Year Note</td>
<td>0.89</td>
<td>0.70</td>
<td>2.20</td>
<td>2.75</td>
<td>3.25</td>
<td>3.75</td>
</tr>
<tr>
<td>30-Year Bond</td>
<td>1.98</td>
<td>1.72</td>
<td>3.25</td>
<td>3.65</td>
<td>4.00</td>
<td>4.25</td>
</tr>
</tbody>
</table>

**FOREIGN SECTOR**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Account (% of GDP)</td>
<td>-3.1</td>
<td>-3.0</td>
<td>-2.9</td>
<td>-3.2</td>
<td>-3.5</td>
<td>-3.8</td>
</tr>
<tr>
<td>Euro ($/€)**</td>
<td>1.32</td>
<td>1.31</td>
<td>1.40</td>
<td>1.40</td>
<td>1.35</td>
<td>1.25</td>
</tr>
<tr>
<td>Yen (¥/$)**</td>
<td>78</td>
<td>84</td>
<td>87</td>
<td>87</td>
<td>100</td>
<td>110</td>
</tr>
</tbody>
</table>

* PCE = Personal consumption expenditures. ** Denotes end of period. *** Profits are after taxes as reported in the national income and product accounts (NIPA), adjusted to remove inventory profits and depreciation distortions.

NOTE: Published figures are in bold.
Disclosure Appendix

I, Jan Hatzius, hereby certify that all of the views expressed in this report accurately reflect my/our personal views, which have not been influenced by considerations of the firm’s business or client relationships.

Global product; distributing entities
The Global Investment Research Division of Goldman Sachs produces and distributes research products for clients of Goldman Sachs on a global basis. Analysts based in Goldman Sachs offices around the world produce equity research on industries and companies, and research on macroeconomics, currencies, commodities and portfolio strategy. This research is disseminated in Australia by Goldman Sachs Australia Pty Ltd (ABN 21 006 797 897); in Brazil by Goldman Sachs do Brasil Corretora de Títulos e Valores Mobiliários S.A.; in Canada by Goldman, Sachs & Co. regarding Canadian equities and by Goldman, Sachs & Co. (all other research); in Hong Kong by Goldman Sachs (Asia) L.L.C.; in India by Goldman Sachs (India) Securities Private Ltd.; in Japan by Goldman Sachs Japan Co., Ltd.; in the Republic of Korea by Goldman Sachs (Asia) L.L.C., Seoul Branch; in New Zealand by Goldman Sachs New Zealand Limited; in Russia by OOO Goldman Sachs; in Singapore by Goldman Sachs (Singapore) Pte. (Company Number: 19860216SW); and in the United States of America by Goldman, Sachs & Co. Goldman Sachs International has approved this research in connection with its distribution in the United Kingdom and European Union.

European Union: Goldman Sachs International, authorized and regulated by the Financial Services Authority, has approved this research in connection with its distribution in the European Union and United Kingdom; Goldman Sachs AG and Goldman Sachs International Zweigniederlassung Frankfurt, regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht, may also distribute research in Germany.

General disclosures
This report is for our clients only. Other than disclosures relating to Goldman Sachs, this research is based on current public information that we consider reliable, but we do not represent it is accurate or complete, and it should not be relied on as such. We seek to update our research as appropriate, but various regulations may prevent us from doing so. Other than certain industry reports published on a periodic basis, the large majority of reports are published at irregular intervals as appropriate in the analyst's judgment.

Goldman Sachs conducts a global full-service, integrated investment banking, investment management, and brokerage business. We have investment banking and other business relationships with a substantial percentage of the companies covered by our Global Investment Research Division. Goldman, Sachs & Co., the United States broker dealer, is a member of SIPC (http://www.sipc.org).

Our salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to our clients and our proprietary trading desks that reflect opinions that are contrary to the opinions expressed in this research. Our asset management area, our proprietary trading desks and investing businesses may make investment decisions that are inconsistent with the recommendations or views expressed in this research.

The analysts named in this report may have from time to time discussed with our clients, including Goldman Sachs salespersons and traders, or may discuss in this report, trading strategies that reference catalysts or events that may have a near-term impact on the market price of the equity securities discussed in this report, which impact may be directionally counter to the analysts' published price target expectations for such stocks. Any such trading strategies are distinct from and do not affect the analysts' fundamental equity rating for such stocks, which rating reflects a stock's return potential relative to its coverage group as described herein.

We and our affiliates, officers, directors, and employees, excluding equity and credit analysts, will from time to time have long or short positions in, act as principal in, and buy or sell, the securities or derivatives, if any, referred to in this research.

This research is not an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. It does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Clients should consider whether any advice or recommendation in this research is suitable for their particular circumstances and, if appropriate, seek professional advice, including tax advice. The price and value of investments referred to in this research and the income from them may fluctuate. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. Fluctuations in exchange rates could have adverse effects on the value or price of, or income derived from, certain investments.

Certain transactions, including those involving futures, options, and other derivatives, give rise to substantial risk and are not suitable for all investors. Investors should review current options disclosure documents which are available from Goldman Sachs sales representatives or at http://www.theocc.com/about/publications/character-risks.jsp. Transaction costs may be significant in option strategies calling for multiple purchase and sales of options such as spreads. Supporting documentation will be supplied upon request.

In producing research reports, members of the Global Investment Research Division of Goldman Sachs Australia may attend site visits and other meetings hosted by the issuers the subject of its research reports. In some instances the costs of such site visits or meetings may be met in part or in whole by the issuers concerned if Goldman Sachs Australia considers it is appropriate and reasonable in the specific circumstances relating to the site visit or meeting.

All research reports are disseminated and available to all clients simultaneously through electronic publication to our internal client web sites. Not all research content is redistributed to our clients or available to third-party aggregators, nor is Goldman Sachs responsible for the redistribution of our research by third-party aggregators. For all research available on a particular stock, please contact your sales representative or go to http://860.gs.com. Disclosure information is also available at http://www.gs.com/research/hedge.html or from Research Compliance, 200 West Street, New York, NY 10282.

© 2013 Goldman Sachs.

No part of this material may be (i) copied, photocopied or duplicated in any form by any means or (ii) redistributed without the prior written consent of The Goldman Sachs Group, Inc.