Life After Brexit

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See the end pages of this presentation for important disclosures.
Global performance: Disappointing but resilient

Figure 1: Global real GDP and forecast revision index (FRI)

% oya

Index of cumulative % pt chn in 4q rolling fcst; 1Q11=100

Source: J.P. Morgan
U.S. recovery has lagged prior cycles; even so, labor market is at full employment

Real GDP growth across expansions

Unemployment rate

Source: BEA

Source: BLS
U.S. potential growth slides to 1.4%

US labor supply and productivity

%ch at annual rate over 20 quarters

Total LFPR and simulations under alternative scenarios

% sa

LFPR for each age-sex group follows pre-2007 trends

Source: BLS, J.P. Morgan

Source: BEA

Source: BLS and J.P. Morgan

Source: J.P. Morgan
Labor share of income remains near secular lows, cyclical highs
Constrained: A dramatic global supply slide

Global: Okun's law

Real GDP less potential
Unemp rate (inverted)

Global population and old age share

Population
Age 65+

Labor productivity

Emerging
Developed

Growth forecast and productivity disappointments, Global

Productivity % deviation from trend at 2003-07 average growth
Forecast revision index (cumulative %pt chg in rolling 4qtr fcst)

Source: J.P. Morgan; United Nations
Source: J.P. Morgan; Excludes China, India.
Source: J.P. Morgan; United Nations
Source: J.P. Morgan

Global: Okun's law

%pt, 4qtr chg; both scales

Global population and old age share

%yoy

% of population

Labor productivity

Emerging

Developed

Growth forecast and productivity disappointments, Global

% yoy; estimated as real GDP growth less empl. growth

Source: J.P. Morgan; Excludes China, India.
Productivity slowdown is pervasive
Divergent: EM needs to unwind excesses, DM heals

Corporate profit margins
Profits as % of revenue, both scales (rolling monthly)

Developed
Emerging

Source: J.P. Morgan, MSCI; defined as 12m EPS/Sales per share

Broad private non-financial credit
% of GDP; both scales

EM (dashed is ex. China)
DM

Source: J.P. Morgan, BIS, IMF

Sovereign yields
%pa; both scales

GBI-EM (unhedged)
DM 10yr

Source: J.P. Morgan

Credit standards, as reported by banks
% balance; above zero indicates tightening

EM
G-4

Source: J.P. Morgan
Limited non-Euro growth impact from Brexit; model betas less applicable to idiosyncratic shock

Figure 2: Real GDP impact from Brexit, 3Q16-2Q17

Source: J.P. Morgan
Small transmission through trade channels

Figure 3: Merchandise exports to UK and Euro area
% of country GDP

Czech Republic 58.6%
Hungary 50.4%

Global = 7.4%

Source: J.P. Morgan, IMF
EMU recession as another regional shock

Figure 4: Real GDP impact from Euro area recession, 4Q11-1Q13
% deviation from potential

Source: J.P. Morgan
Context: signs of lift into mid-year

Figure 5: Global goods demand
%3m3m, saar; both scales

Source: J.P. Morgan; * Model based on global imports and G3 shipments of capital goods
Risk: global corporates look vulnerable

Figure 6: Global corporate profits and profitability

Source: J.P. Morgan
Manifested in falling business sentiment

Figure 7: Business confidence

Std dev from mean

Source: J.P. Morgan
Policy support is coming, but space is limited

Figure 9: G7 manufacturing and policy rates

Source: J.P. Morgan
Markets shrug off Brexit…for now

Figure 10: Global equities and G7 sovereign yields

Source: J.P. Morgan; MSCI
Bigger risk: accelerates protectionism and de-globalization
## Brexit: reading the tea leaves

### The way the UK voted in the EU referendum

<table>
<thead>
<tr>
<th></th>
<th>Remain</th>
<th>Leave</th>
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</thead>
<tbody>
<tr>
<td><strong>Result</strong></td>
<td>48</td>
<td>52</td>
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<tr>
<td><strong>Gender</strong></td>
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<td></td>
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<tr>
<td>Male</td>
<td>47</td>
<td>53</td>
</tr>
<tr>
<td>Female</td>
<td>49</td>
<td>51</td>
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<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-24</td>
<td>71</td>
<td>29</td>
</tr>
<tr>
<td>25-49</td>
<td>54</td>
<td>46</td>
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<tr>
<td>50-64</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>65+</td>
<td>36</td>
<td>64</td>
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<td><strong>Education level</strong></td>
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<td>GCSE or lower</td>
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<td>70</td>
</tr>
<tr>
<td>A-Level or equiv.</td>
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<td>50</td>
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<tr>
<td>Degree</td>
<td>68</td>
<td>32</td>
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<tr>
<td><strong>Household income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;£20,000</td>
<td>38</td>
<td>62</td>
</tr>
<tr>
<td>£20,000-£39,999</td>
<td>47</td>
<td>53</td>
</tr>
<tr>
<td>£40,000-£59,999</td>
<td>58</td>
<td>42</td>
</tr>
<tr>
<td>&gt;£60,000</td>
<td>65</td>
<td>35</td>
</tr>
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</table>

Source: YouGov
Exports were a key driver of EM growth

Source: CEIC, J.P. Morgan calculations
India: modes of transmission from Brexit

Channels

- Sudden stop of Portfolio flows
- Retrenchment of Cross Border Banking Claims
- Slowing of FDI flows
- Near terms hit to exports to UK/Euro
- Hit from increased de-globalization

Source: Bloomberg
India: excess are reined in after the taper-tantrum

Source: Bloomberg, J.P. Morgan calculations
Underpinned by sound fiscal and monetary policies

Fiscal adjustment (2013 to 2015)

% of GDP, positive = fiscal consolidation

India, South Africa, Indonesia, Brazil

Real policy rate

% deflated by CPI IW

Source: Bloomberg, J.P. Morgan calculations
Manifested best in the balance of payments

<table>
<thead>
<tr>
<th>India: Balance of Payment</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17F</th>
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<tr>
<td>US$ billion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Current a/c balance</strong></td>
<td>-88</td>
<td>-30</td>
<td>-28</td>
<td>-22</td>
<td>-30</td>
</tr>
<tr>
<td>% of GDP</td>
<td>-4.8</td>
<td>-1.6</td>
<td>-1.3</td>
<td>-1.1</td>
<td>-1.4</td>
</tr>
<tr>
<td>Merchandise trade balance</td>
<td>-196</td>
<td>-146</td>
<td>-144</td>
<td>-130</td>
<td>-141</td>
</tr>
<tr>
<td>% of GDP</td>
<td>-10.7</td>
<td>-7.8</td>
<td>-7.5</td>
<td>-6.3</td>
<td>-6.4</td>
</tr>
<tr>
<td>Exports</td>
<td>307</td>
<td>318</td>
<td>317</td>
<td>266</td>
<td>276</td>
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<tr>
<td>Imports</td>
<td>502</td>
<td>464</td>
<td>461</td>
<td>396</td>
<td>417</td>
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<tr>
<td>Oil imports</td>
<td>164</td>
<td>165</td>
<td>138</td>
<td>83</td>
<td>94</td>
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<tr>
<td>Non-oil imports</td>
<td>338</td>
<td>299</td>
<td>323</td>
<td>314</td>
<td>323</td>
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<tr>
<td>Net Invisibles</td>
<td>107</td>
<td>115</td>
<td>116</td>
<td>108</td>
<td>111</td>
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<tr>
<td><strong>Capital a/c balance</strong></td>
<td>89</td>
<td>49</td>
<td>90</td>
<td>41</td>
<td>30</td>
</tr>
<tr>
<td>% of GDP</td>
<td>4.9</td>
<td>2.6</td>
<td>4.7</td>
<td>2.0</td>
<td>1.4</td>
</tr>
<tr>
<td>Net FDI</td>
<td>20</td>
<td>22</td>
<td>33</td>
<td>36</td>
<td>40</td>
</tr>
<tr>
<td>Portfolio investment</td>
<td>27</td>
<td>5</td>
<td>41</td>
<td>-4</td>
<td>-8</td>
</tr>
<tr>
<td>Loans</td>
<td>31</td>
<td>8</td>
<td>3</td>
<td>-5</td>
<td>-8</td>
</tr>
<tr>
<td>Banking capital</td>
<td>17</td>
<td>25</td>
<td>12</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td><strong>Overall BOP</strong></td>
<td>3.8</td>
<td>17.6</td>
<td>61</td>
<td>18</td>
<td>0</td>
</tr>
<tr>
<td>% of GDP</td>
<td>0.2</td>
<td>0.9</td>
<td>3.2</td>
<td>0.9</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Source: RBI, JPM calculations
External balance sheet has become stronger

**Foreign currency assets**
USD bn

**External debt (2015)**

% of GDP

**Short term debt by reserves (residual maturity)**
% of forex reserves

Source: Bloomberg, J.P. Morgan calculations
Trade credits at risk, but reduced risk over time

Source: Bloomberg, RBI, BIS

J.P. Morgan
Exposure from Euro banks has been falling over time

**International claims on India**

% of total claims

<table>
<thead>
<tr>
<th>Year</th>
<th>EU</th>
<th>UK</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>3.5</td>
<td>0.8</td>
<td>4.6</td>
</tr>
<tr>
<td>China</td>
<td>0.7</td>
<td>0.7</td>
<td>2.4</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>16.0</td>
<td>0.8</td>
<td>2.0</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>15.5</td>
<td>20.4</td>
<td>70.4</td>
</tr>
<tr>
<td>Hungary</td>
<td>16.2</td>
<td>0.6</td>
<td>3.4</td>
</tr>
<tr>
<td>India</td>
<td>1.4</td>
<td>0.9</td>
<td>4.8</td>
</tr>
<tr>
<td>Indonesia</td>
<td>1.6</td>
<td>1.3</td>
<td>8.8</td>
</tr>
<tr>
<td>Poland</td>
<td>17.3</td>
<td>0.7</td>
<td>3.6</td>
</tr>
<tr>
<td>Russia</td>
<td>3.9</td>
<td>0.5</td>
<td>2.3</td>
</tr>
<tr>
<td>Singapore</td>
<td>16.5</td>
<td>14.4</td>
<td>51.6</td>
</tr>
<tr>
<td>South Africa</td>
<td>2.8</td>
<td>1.7</td>
<td>5.3</td>
</tr>
<tr>
<td>Thailand</td>
<td>0.8</td>
<td>0.6</td>
<td>8.3</td>
</tr>
<tr>
<td>Turkey</td>
<td>14.8</td>
<td>2.5</td>
<td>5.7</td>
</tr>
</tbody>
</table>

Source: BIS, Bloomberg
FDI from U.K. has also fallen over time

Inbound FDI to India (last 15 years)

- Mauritius: 33%
- EU ex UK: 19%
- Singapore: 16%
- UK: 8%
- Japan: 7%
- US: 6%

Inbound FDI to India from UK

- FY14: 14%
- FY15: 12%
- FY16: 6%

Source: Bloomberg, FIPB
As have trade shares

Source: Ministry of commerce
Though textile sector could be at risk

India exports to UK

% share

- Textile, 20.4%
- Leather prod, 5.4%
- Jewellery, 6.1%
- Capital goods, 7.8%
- Vehicles, 6.0%
- Pharma, 5.2%
- Others, 49.1%

India: Export

% share

Source: Ministry of commerce
Limited growth impact, for now

**Global growth**

% oya

2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3.0

2014 2015 2016F 2017F

Pre-Brexit

Post-brexit

**Growth impact of Brexit on India:**

- Reduction in Global growth forecast post Brexit: 0.3%
- Elasticity to India exports to global growth: 4.8
- Direct Impact on Indian exports due to Brexit (ex re-exports): 1.2%
- % share of exports in GDP: 20%
- **Impact on GDP (% oya)**: 0.2%

*Source: Bloomberg, J.P. Morgan research*
Bigger concern is de-globalization in the medium term

Source: Bloomberg, J.P. Morgan research

Global demand drives the exports

India: except for BPO price elasticity of other exports is insignificant
More open than you think

India: more open than you think

Source: CEIC, J.P. Morgan calculations
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