Ugly Baby Glasses and Global Competition

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Strategic Inflection Points Are Scary

“A strategic inflection point is a time in the life of a business [or a country] when its fundamentals are about to change. That change can mean an opportunity to rise to new heights. But it may just as likely signal the beginning of the end.”

Andy Grove, *Only the Paranoid Survive*
Everyone Needs Ugly Baby Glasses
This Is A Matter of “Concern”

The 20 countries with the highest public debt in 2014 in relation to the gross domestic product (GDP)

- Japan*: 245.05%
- Greece: 174.25%
- Lebanon*: 144.87%
- Jamaica*: 139.94%
- Italy*: 136.72%
- Portugal*: 131.26%
- Eritrea*: 124.95%
- Cyprus*: 117.41%
- Ireland*: 112.44%
- Grenada*: 111.29%
- Cape Verde*: 110.43%
- Bhutan*: 108.09%
- United States*: 105.62%
- Singapore*: 103.11%
- Barbados: 102%
- Belgium: 101.93%
- Spain: 98.64%
- Maldives: 98.3%
- Antigua and Barbuda: 97.19%
- France: 95.2%

Source:
IMF
© Statista 2015

Additional Information
Worldwide, IMF
Deficits Are a Non-Partisan Addiction

Annual Budget Deficit or Surplus
(1930 - 2016)

Source: OMB, National Priorities Project

nationalpriorities.org
Revenue and Spending - 2016

The president’s budget proposal
President Barack Obama submitted a budget proposal to Congress. The budget proposes almost $4 trillion in spending, and includes spending and revenue estimates for possible immigration reform.

Spending: $3.9 trillion

Revenue: $3.5 trillion

Deficit: $474 billion

Revenue

- Corporate tax: $473 billion
- Excise taxes: $112 billion
- Payroll taxes: $1.1 trillion
- Immigration reform: $2 billion
- Other: $179 billion
- Income tax: $1.6 trillion

Spending

- Mandatory spending
  - Immigration reform: $8 billion
  - Other: $662 billion
- Discretionary spending
  - Defense: $605 billion
  - Non-defense: $563 billion
- Interest on debt: $283 billion
- Social Security: $938 billion
- Medicare: $583 billion
- Medicaid: $351 billion

Source: White House

Graphic: Tribune News Service
The President’s Budget

President’s Proposed $4.1 Trillion Total Spending Budget (FY 2016)

- **Medicare & Health**: $1,106 billion - 27%
- **Military**: $634.2 billion - 16%
- **Interest on Debt**: $283 billion - 7%
- **Veterans’ Benefits**: $165.8 billion - 4%
- **Food & Agriculture**: $139.7 billion - 3%
- **Transportation**: $107.8 billion - 3%
- **Housing & Community**: $92.7 billion - 2%
- **Education**: $78.9 billion - 2%
- **Energy & Environment**: $52.1 billion - 1%
- **International Affairs**: $33.5 billion - 1%
- **Science**: $31.1 billion - 1%
- **Social Security, Unemployment & Labor**: $1,369.1 billion - 33%

Source: OMB, National Priorities Project
What Happens If . . .?

*Expected future yields on 3-month U.S. dollar deposits held in banks outside of the United States
Is America In A Bubble?

Chart 2: Median price/earnings multiple for U.S. stocks*
*Based on all NYSE stocks with positive earnings for the last fiscal year calculated in June of each year since 1951 through 2014
If the Yield Curve Inverts . . .

Will we see an inverted yield curve in 2015? The yield curve is one of the best predictors of recessions.

An inverted yield curve is a strong signal about a recession coming.

Source: FRB, Haver Analytics, DB Global Markets Research
<table>
<thead>
<tr>
<th>Year</th>
<th>Debt (Trillion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>$0.91</td>
</tr>
<tr>
<td>1990</td>
<td>$3.17</td>
</tr>
<tr>
<td>2000</td>
<td>$5.67</td>
</tr>
<tr>
<td>2004</td>
<td>$7.54</td>
</tr>
<tr>
<td>2008</td>
<td>$10.57</td>
</tr>
<tr>
<td>Today</td>
<td>$18.12</td>
</tr>
<tr>
<td>2019</td>
<td>$20.44</td>
</tr>
</tbody>
</table>

[www.usdebtclock.org](http://www.usdebtclock.org)
USA Owes China, Inc. $1.59 Trillion

**May 2008 (Billion $)**
- Japan = $575.3
- **China = $506.8**
- UK = $271.2
- Oil Exporters = $164.2
- **Brazil = $151.4**
- Caribbean Banking Centers = $104.5
- Luxembourg = $75.2
- Russia = $63.7
- **Hong Kong = $61.4**
- Taiwan = $38.9

**Nov. 2014 (Billion $)**
- China = $1,250.4
- Japan = $1,241.5
- Belgium = $355.7
- Carib Banks = $331.5
- Oil Exporters = $278.9
- **Brazil = $264.2**
- Switzerland = $183.8
- U.K. = $174.5
- **Taiwan = $170.6**
- Luxembourg = $167.3
- **Hong Kong = $165.6**

http://www.treas.gov/tic/mfh.txt
China is a Savings Machine

China’s Foreign Exchange Reserves

- January 1993: $20.138 Billion
- November 1996: $102.306 Billion
- October 2006: $1.0096 Trillion
- April 2009: $2.0089 Trillion
- March 2011: $3.047 Trillion
- January 2013: $3.440 Trillion
- January 2015: $4.010 Trillion

Total external financial assets = $5.94 trillion. State Administration of Foreign Exchange.
Any Questions?

China’s Foreign Exchange Reserves Doubled in Five Years

Sources: State Administration of Foreign Exchange and People’s Bank of China.
China’s forex hoard is bigger than the next six-largest holdings combined

**Foreign exchange reserves**

- **China**: $4 trillion
- **Japan**: 1.28
- **EU**: 0.737
- **Saudi Arabia**: 0.549
- **Russia**: 0.467
- **Switzerland**: 0.532
- **Brazil**: 0.373
- **Korea**: 0.326
- **India**: 0.313
- **Hong Kong**: 0.305

Quartz | qz.com
Data: International Monetary Fund; World Bank; State Administration of Foreign Exchange
China Will Soon Pass The US
Europe Views China As World's Leading Economic Power
Median view across EU nations* on the world's leading economic power

- U.S.
- China

<table>
<thead>
<tr>
<th>Year</th>
<th>U.S.</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>49%</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>48%</td>
<td>34%</td>
</tr>
<tr>
<td>2011</td>
<td>40%</td>
<td>38%</td>
</tr>
<tr>
<td>2012</td>
<td>49%</td>
<td>49%</td>
</tr>
<tr>
<td>2013</td>
<td>47%</td>
<td>42%</td>
</tr>
<tr>
<td>2014</td>
<td>34%</td>
<td>49%</td>
</tr>
</tbody>
</table>

*France, Germany, Poland, Spain, UK
Note: Respondents could also name Japan or the EU
Source: Pew Research Center
Look At The White Circle

There are more people living inside this circle than outside of it.
Each Color = 1 Billion People
Global population by continent as of mid-2014 (in millions)

- Asia: 4,351
- Africa: 1,136
- Europe: 741
- Latin America, Caribbean: 618
- North America: 353
- Oceania: 39

Source:
DSW
© Statista 2015

Additional Information
Worldwide: Several institutions

### National GDP in 2013 (purchasing power parity)

<table>
<thead>
<tr>
<th>Country</th>
<th>GDP</th>
<th>Real Growth %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. United States</td>
<td>$\text{16,720,000,000,000}$</td>
<td>1.6%</td>
</tr>
<tr>
<td>2. China</td>
<td>$\text{13,390,000,000,000}$</td>
<td>7.7%</td>
</tr>
<tr>
<td>3. India</td>
<td>$\text{4,990,000,000,000}$</td>
<td>3.2%</td>
</tr>
<tr>
<td>4. Japan</td>
<td>$\text{4,729,000,000,000}$</td>
<td>2.0%</td>
</tr>
<tr>
<td>5. Germany</td>
<td>$\text{3,227,000,000,000}$</td>
<td>0.5%</td>
</tr>
<tr>
<td>6. Russia</td>
<td>$\text{2,553,000,000,000}$</td>
<td>1.3%</td>
</tr>
<tr>
<td>7. Brazil</td>
<td>$\text{2,416,000,000,000}$</td>
<td>2.3%</td>
</tr>
<tr>
<td>8. United Kingdom</td>
<td>$\text{2,387,000,000,000}$</td>
<td>1.8%</td>
</tr>
<tr>
<td>9. France</td>
<td>$\text{2,276,000,000,000}$</td>
<td>0.3%</td>
</tr>
<tr>
<td>10. Mexico</td>
<td>$\text{1,845,000,000,000}$</td>
<td>1.2%</td>
</tr>
<tr>
<td>11. Italy</td>
<td>$\text{1,805,000,000,000}$</td>
<td>-1.8%</td>
</tr>
<tr>
<td>12. South Korea</td>
<td>$\text{1,666,000,000,000}$</td>
<td>2.8%</td>
</tr>
<tr>
<td>13. Canada</td>
<td>$\text{1,518,000,000,000}$</td>
<td>1.6%</td>
</tr>
<tr>
<td>14. Spain</td>
<td>$\text{1,389,000,000,000}$</td>
<td>-1.3%</td>
</tr>
</tbody>
</table>

CIA World Factbook – January 30, 2015
China’s Growth is Slowing

China: growth rate of real gross domestic product (GDP) from 2009 to 2019

GDP year-on-year change

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP Growth Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>9.21%</td>
</tr>
<tr>
<td>2010</td>
<td>10.45%</td>
</tr>
<tr>
<td>2011</td>
<td>9.3%</td>
</tr>
<tr>
<td>2012</td>
<td>7.65%</td>
</tr>
<tr>
<td>2013*</td>
<td>7.67%</td>
</tr>
<tr>
<td>2014*</td>
<td>7.54%</td>
</tr>
<tr>
<td>2015*</td>
<td>7.29%</td>
</tr>
<tr>
<td>2016*</td>
<td>6.97%</td>
</tr>
<tr>
<td>2017*</td>
<td>6.76%</td>
</tr>
<tr>
<td>2018*</td>
<td>6.63%</td>
</tr>
<tr>
<td>2019*</td>
<td>6.52%</td>
</tr>
</tbody>
</table>
Can India Make This Happen?

Next year growth will be higher in India than in China

IMF WEO January 2015 GDP growth forecasts

Source: IMF WEO, DB Global Markets Research
Can India Make a Move Now?

**The Markets Global CEOs Are Most Optimistic About**

Worldwide markets with the best growth/business prospects in 2015, rated by CEOs*

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>38%</td>
</tr>
<tr>
<td>China</td>
<td>34%</td>
</tr>
<tr>
<td>Germany</td>
<td>19%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>11%</td>
</tr>
<tr>
<td>Brazil</td>
<td>10%</td>
</tr>
<tr>
<td>India</td>
<td>9%</td>
</tr>
<tr>
<td>Japan</td>
<td>8%</td>
</tr>
<tr>
<td>Russia</td>
<td>6%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>6%</td>
</tr>
<tr>
<td>Australia</td>
<td>6%</td>
</tr>
</tbody>
</table>

* rated by 1,300 CEOs, excluding the country where each CEO is based

Source: PWC Global CEO Survey
### A Tale of Two Countries

<table>
<thead>
<tr>
<th></th>
<th>China</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Per Capita GDP</strong></td>
<td>$9,800</td>
<td>$4,000</td>
</tr>
<tr>
<td><strong>Population Growth Rate</strong></td>
<td>0.44%</td>
<td>1.25%</td>
</tr>
<tr>
<td><strong>Infant Mortality</strong></td>
<td>14.79 per 1,000</td>
<td>43.19 per 1,000</td>
</tr>
<tr>
<td><strong>Literacy</strong></td>
<td>95.1%</td>
<td>62.8%</td>
</tr>
<tr>
<td><strong>Male</strong></td>
<td>97.5%</td>
<td>75.2%</td>
</tr>
<tr>
<td><strong>Female</strong></td>
<td>92.7%</td>
<td>50.8%</td>
</tr>
</tbody>
</table>
The 20 countries with the highest growth of the gross domestic product (GDP) in 2014 (compared to the previous year)

<table>
<thead>
<tr>
<th>Country</th>
<th>GDP Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turkmenistan</td>
<td>10.12%</td>
</tr>
<tr>
<td>Chad</td>
<td>9.64%</td>
</tr>
<tr>
<td>Mongolia</td>
<td>9.1%</td>
</tr>
<tr>
<td>Congo</td>
<td>8.63%</td>
</tr>
<tr>
<td>Côte d'Ivoire</td>
<td>8.5%</td>
</tr>
<tr>
<td>Myanmar</td>
<td>8.5%</td>
</tr>
<tr>
<td>Mozambique</td>
<td>8.34%</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>8.2%</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>8%</td>
</tr>
<tr>
<td>China</td>
<td>7.38%</td>
</tr>
<tr>
<td>The Gambia</td>
<td>7.37%</td>
</tr>
<tr>
<td>Lao P.D.R</td>
<td>7.37%</td>
</tr>
<tr>
<td>Tanzania</td>
<td>7.21%</td>
</tr>
<tr>
<td>Cambodia</td>
<td>7.18%</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>7%</td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>7%</td>
</tr>
<tr>
<td>Nigeria</td>
<td>6.97%</td>
</tr>
<tr>
<td>Mauritania</td>
<td>6.8%</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>6.67%</td>
</tr>
<tr>
<td>Panama</td>
<td>6.61%</td>
</tr>
</tbody>
</table>

Source: IMF
© Statista 2015
Indians and Chinese will = 50% in 50
A Swarm of Inflection Points

India - Total Trade

Japan - Total Trade

China - Total Trade

India - Total Trade

Dr. P. Konana, McCombs Business School, University of Texas at Austin
THE GROWING IMPORTANCE OF CHINA’S ECONOMY
China’s rapid ascent has seen it become a driving force across several markets

China is a large driver of various global indicators (China as % of global)

Note: *Luxury goods include fashion ready to wear, shoes, handbags, watches, and fine jewellery **ex Macau and HK. *Contribution of Chinese demand to global oil demand growth is forecast at 41% in 2013

Source: Global Insight, Haver Analytics, IMF, McKinsey, UN Populations Division, Deutsche Bank Research
Say Hello to the New Players

Domestic Vendors Stand Strong in China's Smartphone Market
% of smartphone shipments in China in Q1 2014

- Samsung (18%)
- Lenovo (12%)
- Oppo (3%)
- HTC (6%)
- Huawei (8%)
- ZTE (6%)
- Apple (10%)
- Coolpad (11%)
- Others (21%)

Source: Counterpoint
Enter Alibaba

There's an Alibaba for that

<table>
<thead>
<tr>
<th>Alibaba Entity</th>
<th>Deals in</th>
<th>Is kind of like</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alipay</td>
<td>Online payments</td>
<td>PayPal</td>
</tr>
<tr>
<td>Aliyun</td>
<td>Cloud services</td>
<td>Amazon web services</td>
</tr>
<tr>
<td>Aliyun App Store</td>
<td>Mobile apps</td>
<td>Google Play</td>
</tr>
<tr>
<td>Aliyun OS</td>
<td>Mobile OS</td>
<td>Google Maps</td>
</tr>
<tr>
<td>AutoNavi</td>
<td>Maps and navigation</td>
<td>JCPenney</td>
</tr>
<tr>
<td>InTime</td>
<td>Retail outlets</td>
<td>Groupon</td>
</tr>
<tr>
<td>Juhuasuan</td>
<td>Group buying</td>
<td>Dropbox</td>
</tr>
<tr>
<td>Kanbox</td>
<td>Cloud storage</td>
<td>WhatsApp</td>
</tr>
<tr>
<td>Laiwang</td>
<td>Mobile messaging</td>
<td>Uber</td>
</tr>
<tr>
<td>Lyft, Kuaidie</td>
<td>Car service, ride sharing</td>
<td>eBay</td>
</tr>
<tr>
<td>Taobao</td>
<td>C2C e-commerce</td>
<td>Orbitz</td>
</tr>
<tr>
<td>Taobao Travel</td>
<td>Online travel booking</td>
<td>Amazon.com</td>
</tr>
<tr>
<td>Tmall</td>
<td>B2C e-commerce</td>
<td>Kaplan</td>
</tr>
<tr>
<td>TutorGroup</td>
<td>E-learning</td>
<td>Twitter</td>
</tr>
<tr>
<td>Weibo</td>
<td>Microblogging</td>
<td>Spotify</td>
</tr>
<tr>
<td>Xiami</td>
<td>Music streaming</td>
<td>Hulu</td>
</tr>
<tr>
<td>Youku Tudou</td>
<td>Streaming video</td>
<td>DIRECT</td>
</tr>
<tr>
<td>Yu’e Bao</td>
<td>Money-market funds</td>
<td>ING</td>
</tr>
</tbody>
</table>

Quartz | Nikhil Sonnad
China’s Nicaraguan Canal

**Planned Nicaragua Canal**

- Construction: 2014 to 2019
- Planned costs: €50 bil.
- Length: 287 km.
- Depth (minimum): 27.6 m.
- Maximum container capacity (TEU): 25,000

**Panama Canal post-expansion**

- Expansion: 2007 to 2016
- Planned costs: €5.2 bil.
- Length: 82 km.
- New Pacific entrance: 6.1 km.
- Depth (minimum): 18.3 m.
- Maximum container capacity (TEU): 13,000

Ships per year:
- **Planned Nicaragua Canal**: 5,100
- **Panama Canal post-expansion**: ca. 14,000

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Accurate or Over the Top?

“Extraordinary. . . French delves into the lives of some of the one million-plus Chinese migrants he says are now building careers in Africa . . . and the stories he tells are fascinating.” — The New York Times Book Review

Howard W. French
China’s Second Continent
How a Million Migrants Are Building a New Empire in Africa
America’s EB-5 Visa Program

Number of EB-5 visas issued by the U.S. each year

Annual cap 10,000

8 thousand

85% China

Note: Fiscal year ends Sept. 30
Source: State Department
The Wall Street Journal
Steel is Another Growth Indicator

Number Of Years Of Steel Production Above 500 kg/Capita

- US – 30 years
- Japan – 44 years (continuing)
- Germany – 45 years (continuing)
- Korea – 27 years (continuing)
- China – 0 years

Source: Rio Tinto
Will China Grow Old Before It Grows Rich?

Age Dependency Ratios: Asia’s Demographic Waves

Source: UN Population Database, 2010 Revision, E=UN estimates, Morgan Stanley Research
The World’s largest untapped energy source are our Oceans
Tidal Power
Very Straight Forward Technology

This tidal electricity generation works as the tide comes in and again when it goes out. The turbines are driven by the power of the sea in both directions.
If The French Can Do It . . .
1,320 MW Incheon Tidal Power Station built around islands west of Incheon. Plant will be completed in June 2017. Will generate 2.41 TWh annually.
Chinese Tide-Driven Turbine Farm

How it works:
Farms of sea-bed turbines in areas with strong tidal currents generate electricity. When the tide changes direction, the turbines swivel.

Levelized energy cost*: Not available

Energy capacity:
1.5-megawatt turbines producing a total of 398 megawatts

Timing:
First power will be generated off the coast of Scotland in 2015; full 398-megawatt project due to be completed in 2020

*Cost of electricity production over the expected lifespan of the project

Sources: Atlantis Resources (turbine farm); Power consortium (tidal-power wall); Lockheed Martin (thermal energy)
Simon Hall, Joe Shoulak/The Wall Street Journal
Chinese Dynamic Tidal-Power Wall

How it works:
Twenty-mile wall across shallow sea with hundreds of underwater openings (1) houses turbines (2) that generate power from the ebb and flow of the tides (3).

Levelized energy cost*:
10-16 cents per kilowatt-hour

Energy capacity:
8,000 megawatts

Timing:
Feasibility studies are under way in China; construction is unlikely to start before 2024

*Cost of electricity production over the expected lifespan of the project
Sources: Atlantis Resources (turbine farm); Power consortium (tidal-power wall); Lockheed Martin (thermal energy)
Simon Hall, Joe Shoulak/The Wall Street Journal
Another Take on Hydro
Chinese Ocean Thermal-Energy Conversion

How it works:
Warm surface water (1) heats ammonia, produces vapor (2) and drives a turbine (3). Cold, deep water condenses the vapor (4), producing a constant flow of electricity.

Levelized energy cost*:
15 cents per kilowatt-hour

Energy capacity:
10 megawatts, possibly upscaled to 100 megawatts

Timing:
Site selection in Asia by June; 10-megawatt plant expected to be operational in mid-2017

*Cost of electricity production over the expected lifespan of the project
Sources: Atlantis Resources (turbine farm); Power consortium (tidal-power wall); Lockheed Martin (thermal energy)
Simon Hall, Joe Shoulak/The Wall Street Journal
Ocean Energy for Fresh Water

CETO TECHNOLOGY

25-50 meters water depth

Wave-driven pumps → Pipelines deliver high pressure water ashore → Directly driving standard desalination equipment

© Carnegie Wave Energy Limited

McCOMBS SCHOOL OF BUSINESS
This is the Holy Grail

[Diagram with labeled components: Power Generation, Desalination, Irrigation for Agricultural Enhancement, Onshore OTEC Plant Potential Uses]
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Treasure: Make a donation to McCombs

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Please use response code KTG

Online survey link: https://mccombs.qualtrics.com/SE/?SID=SV_5mut9TsRMu4lwXz
Send me your feedback -- alumni@mccombs.utexas.edu