Debt Overhang and Secular Stagnation

Adair Turner
Senior Fellow
Institute for New Economic Thinking

Cass Business School
London, 25th March 2015
IMF Medium term growth projections

Source: IMF World Economic Outlook, October 2014
US Payroll employment monthly increases
December 2012 – December 2014

Nominal yield on 10-year Government Bonds

Source: Federal Reserve Bank of St. Louis and IMF data
Consensus commentary still fails to reflect how deep are the deflationary pressures created by

- Debt overhang and deleveraging

- Long-term secular trends
Private domestic credit as a % of GDP

Advanced economies 1950 – 2011

Share of real estate lending in total bank lending

Source: The Great Mortgaging, Professor Alan Taylor, University of California, Davis
Credit and asset price cycles: upswing

- **Increased credit extended**
- **Expectation of future asset price increases**
- **Increased asset prices**
- **Increased lender supply of credit**
- **Increased borrower demand for credit**
- **Favourable assessments of credit risk**
- **Low credit losses: high bank profits**
  - Confidence reinforced
  - Increased capital base

Institute For New Economic Thinking
Credit extension and house prices

House prices 2000 – 2007

Household debt as a % of GDP 2000 – 2007

Source: Ministry of Housing (Spain), S&P (US), DCLG

Source: BEA; ONS; ECB
Credit and asset price cycles: downswing

- Falling asset prices
- High credit losses: low bank profits
  - Confidence dented
  - Reduced capital base
- Cautious assessments of credit risk
- Restricted lender supply of credit
- Reduced borrower demand for credit
- Expectation of future asset price falls
- Less credit extended

Expectation of future asset price falls

- Reduced credit extended
- Restricted lender supply of credit
- Cautious assessments of credit risk
- High credit losses: low bank profits
  - Confidence dented
  - Reduced capital base
- Falling asset prices
Sectoral financial surpluses/deficits as % of GDP: Japan 1990 – 2012

Source: IMF, Bank of Japan Flow of Funds Accounts
Japanese government and corporate debt: 1990 – 2010

Source: BoJ Flow of Funds Accounts, IMF WEO database (April 2011), FSA calculations

Institute For
New Economic Thinking
Shifting leverage: Private and public debt-to-GDP

Source: OECD National Accounts
Developed economies – Debt to GDP

Global debt excluding financials

Emerging markets: total debt as % of GDP (excluding financial sector debt)

China: debt as % of GDP

Source: McKinsey Global Institute
China’s debt exposure to property

$ trillion

<table>
<thead>
<tr>
<th>Component</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household</td>
<td>1.8</td>
</tr>
<tr>
<td>Real estate</td>
<td>2.5-3</td>
</tr>
<tr>
<td>Real estate related</td>
<td>2-2.5</td>
</tr>
<tr>
<td>Government</td>
<td>2.2</td>
</tr>
<tr>
<td>Total exposure to property</td>
<td>8.5-9.5</td>
</tr>
</tbody>
</table>

As % of total non-financial debt

- Household: 8
- Real estate: 10-15
- Real estate related: 10-15
- Government: 10
- Total exposure to property: 40-45

Source: McKinsey Global Institute
Shifting leverage: Germany credit-driven growth

General Government primary deficit

% of GDP, average 2008-2013

- US: 7.2%
- UK: 6%
- Japan: 7.8%
- Eurozone: 1.6%

Source: International Monetary Fund Fiscal Monitor, October 2014
Nominal demand growth 2008 – 2014

Nominal GDP, 2008=100

Sources: (IMF WEO, WB WDI)

Domestic Demand (GDP - Net Exports)
2008=100

Net Exports as % of GDP

Institute For New Economic Thinking
Raising actual and potential growth must remain a priority. In advanced economies, this will require continued support from monetary policy.

The extended period of monetary accommodation and the accompanying search for yields are leading to credit mispricing and asset price pressures, and increasing the chance that financial stability risks could derail the recovery.
Shifting leverage: back to private again

UK Public net debt as % of GDP: 2009 - 2019

UK Household gross debt as % of income: 2009 - 2020

Source: Office of Budget Responsibility, Economic and Fiscal Outlook, December 2014
Exchange rate depreciation

Yen and Euro versus US$

Source: IMF data and statistics
Debt and demand in the debt overhang trap

Debt does not go away: it simply shifts

From private to public, and then back
From one country to another

Currency devaluations do not stimulate global demand: they shift demand

From one country to another

Demand can only be stimulated (rather than shifted) by:

Fiscal deficits → more public debt
Domestic impact of ultra loose monetary policy → more private debt
Global debt excluding financials

Public debt to GDP: US and UK

National debt as % of GDP

Source: DMO, ONS
Ensuring long-term Japan debt sustainability: IMF scenarios

Required cyclical changes in adjusted primary balance % of GDP

<table>
<thead>
<tr>
<th>Year</th>
<th>November 2010 Fiscal Monitor</th>
<th>October 2014 Fiscal Monitor</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>-6.5</td>
<td>-6.0</td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td>+6.4</td>
</tr>
<tr>
<td>2020</td>
<td></td>
<td>+5.6</td>
</tr>
</tbody>
</table>

Continuous surplus thereafter to reach

- 80% net debt
- 200% gross debt
by 2030
Eurozone debt brake implications

Requirement: reduce debt to GDP each year by \( \frac{1}{20}\text{th} \) of the excess over 60% of GDP

Requires primary budget surpluses for 10+ years of:

- Spain: 4%
- Ireland, Italy & Portugal: 5%
- Greece: 7%

Source: Barry Eichengreen: *The Bond Markets’ Dance*, FT.com, 17 November 2014
Debt overhang: the unavoidable choice

- Debt write-off, default, restructuring
- Debt erosion via inflation, monetisation
- Sustained slow growth and low deflation
- Stimulating yet more credit
Debt overhang and deleveraging

Long-term secular trends
Real yields to maturity on UK indexed linked gilts

Source: Bank of England Statistics, Zero coupon real yields
Why did real rates fall so much even before the crisis?

Ex-ante savings
- Global imbalances?
- Inequality?
- Demographic effects?

Ex-ante investment
- Reduced investment needs?
  - In plant and machinery?
  - In advanced economy property and infrastructure?

Reduced investment needs?
- In plant and machinery?
- In advanced economy property and infrastructure?

Source: International Monetary Fund, World Economic Outlook Database, October 2014
Average income increases US (1980=100)

Source: US Census Bureau; World Top Incomes Database
Why did real rates fall so much even before the crisis?

**Ex-ante savings**
- Global imbalances?
- Inequality?
- Demographic effects?

**Ex-ante investment**
- Reduced investment needs?
  - In plant and machinery?
  - In advanced economy property and infrastructure?
Advanced economy investment as % of GDP

Source: International Monetary Fund, World Economic Outlook Database
### Wealth and employment in ICT businesses

<table>
<thead>
<tr>
<th>Market Value ($bn)</th>
<th>Employees (000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>330</td>
<td>~ 99,000</td>
</tr>
<tr>
<td>404</td>
<td>~ 50,000</td>
</tr>
<tr>
<td>170</td>
<td>~ 6,000</td>
</tr>
<tr>
<td>1*</td>
<td>~ 12</td>
</tr>
<tr>
<td>19*</td>
<td>55</td>
</tr>
</tbody>
</table>

*Paid by Facebook

We have over 1 million users per engineer and this number has been steadily increasing.

With only 32 engineers, one WhatsApp developer supports 14 million active users.
Output per capita and real wages in 19th century Britain

% Per annual change

1800 - 1830
0.6

1830 - 1860
1.1

1860 - 1900
1.6

Source: Engel’s Pause: Technical Change, Capital accumulation and Inequality in the British Industrial Revolution, R. C. Allen (2009)
Probability that computerisation will lead to job losses 2010 – 2030

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Probability (1=certain)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recreational Therapists</td>
<td>0.003</td>
</tr>
<tr>
<td>Personal Trainers</td>
<td>0.007</td>
</tr>
<tr>
<td>Firefighters</td>
<td>0.17</td>
</tr>
<tr>
<td>Economists</td>
<td>0.43</td>
</tr>
<tr>
<td>Machinists</td>
<td>0.65</td>
</tr>
<tr>
<td>Retail salesperson</td>
<td>0.92</td>
</tr>
<tr>
<td>Accountants &amp; auditors</td>
<td>0.94</td>
</tr>
<tr>
<td>Telemarketers</td>
<td>0.99</td>
</tr>
</tbody>
</table>

### US Jobs growth forecast, 2012 – 2022

<table>
<thead>
<tr>
<th>Occupational categories by speed of job growth</th>
<th>Forecast job growth (000s)</th>
<th>Median annual wage ($000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Personal care aids</td>
<td>580</td>
<td>20</td>
</tr>
<tr>
<td>2 Registered nurses</td>
<td>527</td>
<td>65</td>
</tr>
<tr>
<td>3 Retail sales persons</td>
<td>435</td>
<td>21</td>
</tr>
<tr>
<td>4 Home health aides</td>
<td>424</td>
<td>18</td>
</tr>
<tr>
<td>5 Food preparation and serving aides</td>
<td>422</td>
<td>30</td>
</tr>
<tr>
<td>6 Nursing aides</td>
<td>312</td>
<td>24</td>
</tr>
<tr>
<td>7 Secretaries and administrative assistants</td>
<td>308</td>
<td>32</td>
</tr>
<tr>
<td>8 Customer services reps</td>
<td>299</td>
<td>20</td>
</tr>
<tr>
<td>9 Janitors and cleaners</td>
<td>280</td>
<td>24</td>
</tr>
<tr>
<td>10 Construction labourers</td>
<td>260</td>
<td>30</td>
</tr>
<tr>
<td>19 Maids and house keeping cleaners</td>
<td>183</td>
<td>22</td>
</tr>
<tr>
<td>26 Software developers, applications</td>
<td>140</td>
<td>19</td>
</tr>
</tbody>
</table>

Growth in average wages and labour productivity

Developed economies, 1999 – 2013

Source: Global Wage Report 2014/15, International Labour Organisation
Labour income share in developed G20

Source: Global Wage Report 2014/15, International Labour Organisation
Labour income share in China

Source: Global Wage Report 2014/15, International Labour Organisation
### US population growth and job creation

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Population aged 20-69</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Millions)</td>
<td>178</td>
<td>189</td>
<td>200</td>
<td>209</td>
<td>214</td>
</tr>
<tr>
<td>Total in employment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Millions)</td>
<td>137</td>
<td>142</td>
<td>139</td>
<td>~148</td>
<td></td>
</tr>
<tr>
<td>Employment rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>77.8%</td>
<td>75.1%</td>
<td>69.5%</td>
<td>70.8%</td>
<td></td>
</tr>
</tbody>
</table>

Why did real rates fall so much even before the crisis?

**Ex-ante savings**
- Global imbalances?
- Inequality?
- Demographic effects?

**Ex-ante investment**
- Reduced investment needs?
  - In plant and machinery?
  - In advanced economy property and infrastructure?
Capital in France 1700 – 2010

Source: Capital in the Twenty First Century, T. Piketty (2013)
Deficient demand: secular and cyclical drivers

**The high-tech/high-touch economy**
- ICT, automation, robots and apps
- Network externalities, brands and design
- Wealth creation without investment
- Rising importance of irreproducible land
- Increasing inequality

**Secular demand deficiency?**
- Ex-ante $S >$ ex-ante $I$
- Deficient demand unless credit fuelled consumption
- Low equilibrium real interest rates
- Rising leverage – primarily against real estate/land

**Crisis and debt overhang**
- Excess leverage produces crisis
- Debt overhang, deleveraging, and chronic under-demand
- Equilibrium real interest rates still further reduced
What will happen

- No crisis, but big slowdown
- The helicopter money end game: no big deal?
- Playing with social and political fire
- OK but unbalanced growth
- Robust but not as good as hoped