Reconsidering the prospects of Japan’s Long-term Interest Rates

Masaki Kuwahara
Nomura Securities Co., Ltd.
Financial & Economic Research Center
Tel: +81-3-6703-1284
E-mail: masaki.kuwahara@nomura.com

November 2010
Historical relationship between long-term rates and government debt (1)

UK long-term interest rates and government debt

Japan long-term interest rates and government debt

Long-term rate (%)
National debt/nominal GDP ratio (%)

1858-1929
1930-2004
1946
1970-1989

Long-term rate (%)
Government debt/nominal GDP ratio (%)

FY1921-2009 (ex FY1938-44)
FY1938-44
FY1970-1989

Note: National debt is one form of central government debt.
Source: Nomura, based on measuringworth.com, UK Treasury and NRI/AURORA data

In the long-run, long-term interest rates and government debt/GDP ratio appear to be inversely correlated in the UK and Japan.

Source: Nomura, based on Japan Statistical Association, Ministry of Finance and BOJ data and Palgrave Macmillan’s International Historical Statistics
Historical relationship between long-term rates and government debt (2)

**US long-term interest rates and government debt**

Long-term interest rates and government debt/GDP ratio appear to be inversely correlated in the US. Long-term interest rates were high during the 70s and 80s.

**US long-term interest rates and fiscal balance**

Regression line excluding 1918, 1919, and 1942-45 data:

\[ y = 4.5 - 0.6x \]
Long-term rates and government debt in an international perspective

International relationship between long-term interest rates and government debt

Countries with high debt/GDP ratios do not necessarily have high long-term interest rates.

Source: Nomura, based on International Monetary Fund (IMF) and Organization for Economic Co-operation and Development (OECD) data
What determines the international long-term rate gap?

**International relationship between long-term interest rates and inflation**

![Graph showing the relationship between long-term interest rates and inflation](image)

**International relationship between long-term interest rates and inflation by decade**

![Graph showing the relationship between long-term interest rates and inflation by decade](image)

Source: Nomura, based on IMF and OECD data

Long-term interest rates tend to be high in those countries with high inflation rates.
Are household financial assets relevant for long-term rates?

International relationship between long-term interest rates and household financial assets

Note: Each point indicates the US, Canada, Japan, France, Germany, Italy, Netherlands, Spain, the UK, Denmark and Finland.
Source: Nomura, based on OECD

International comparison does not necessarily reveal any relationship between the amount of household assets and long-term rates.

Long-term interest rates and household financial assets net of government debt

Note: Each point indicates the US, Canada, Japan, France, Germany, Italy, Netherlands, Spain, the UK, Denmark and Finland.
Source: Nomura, based on OECD
Current account deficit = high interest rates?

International relationship between long-term interest rates and current account by decade

1980-89 average: slope of -0.76
1990-99 average: slope of -0.27
2000-09 average: slope of -0.13

Current account/nominal GDP ratio (%)
Long-term rate (%)

International relationship between inflation and current account by decade

1980-89 average: slope of -0.84
1990-99 average: slope of -0.09
2000-09 average: slope of -0.12

CPI-based inflation rate (%)
Current account/nominal GDP ratio (%)

Note: Each data point indicates a country (US, Canada, Australia, Japan, New Zealand, France, Germany, Italy, Netherlands, Spain, UK, Denmark, Finland)
Source: Nomura, based on IMF data

Current account deficit is not always associated with high interest rates. The association looked clear in 1980s but inflation was also high in deficit countries.
IMF supplied the UK with a contingency loan in 1977. The crisis was preceded by high inflation. Debt/GDP ratio was below 50% at the time of crisis.
Japan’s post-war inflation reached more than 100% at the end of 1945. In July 1946, the government decided to end all wartime compensation.

Source: Nomura, based on BOJ data

Source: Nomura, based on Japan Statistical Association, Ministry of Finance data and Palgrave Macmillan's International Historical Statistics
France’s fiscal crisis in the 1920s

Refinancing crisis in 1926 in France was preceded by high inflation. Debt/GDP ratio was in a declining trend.
Italy’s fiscal crisis in the 1920s

Italy's inflation in the 1920s

- Inflation started rising at the end of 1925, followed by a compulsory refinance of government debt by Mussolini in 1926.

Italy’s government debt in 1914-24

Note: Shows annual average data for 1925–26, due to unavailability of monthly data.
Source: Nomura, based on John Parke Young's European Currency and Finance (1925), Palgrave Macmillan's International Historical Statistics

Inflation started rising at the end of 1925, followed by a compulsory refinance of government debt by Mussolini in 1926.
German experience in the 1920s

Reparation of DM132bn was set in May 1921, followed by high inflation in Germany. Debt/national income ratio, including reparation, was close to 400%.

Germany’s wholesale price index after World War I

- 19/6: Germany signs Treaty of Versailles
- 20/3: Income and wealth taxes increased
- 21/5: London Conference final communique (request for DM 132bn of reparations)
- 23/1: French troops occupy the Ruhr when Germany suspended reparation payments

Source: Nomura, based on Young’s European Currency and Finance (1925) and Rogers’ The Process of Inflation in France, 1914–1927 (1929) data

Germany’s government debt in the 1910s

Note: It is assumed national income in 1921 was DM40bn The level of national income from 1914 to 1920 was linearly interpolated using the actual figure for 1913 and the assumed figure for 1921.

Source: Nomura, based on Palgrave Macmillan’s International Historical Statistics and Young’s European Currency and Finance (1925)
Estimates for future of Japanese government finances

Projections for national, local-government primary balance

Note: (1) Assumes no increase in consumption tax. (2) Assumes consumption tax raised by 1ppt each year for five years from 2014. (3) Assumes consumption tax raised by 1ppt each year for six years from 2019. (4) Assumes consumption tax raised by 1ppt each year for seven years from 2014. (5) Assumes scenario (2) plus 1ppt increase in long-term interest rates from 2012.

Source: Nomura, based on MOF, Ministry of Internal Affairs and Communications (MIAC), Cabinet Office data

Projections for national, local government debt

Note: (1) Assumes no increase in consumption tax. (2) Assumes consumption tax raised by 1ppt each year for five years from 2014. (3) Assumes consumption tax raised by 1ppt each year for six years from 2019. (4) Assumes consumption tax raised by 1ppt each year for seven years from 2014. (5) Assumes scenario (2) plus 1ppt increase in long-term interest rates from 2012.

Source: Nomura, based on MOF, Ministry of Internal Affairs and Communications, Cabinet Office data

Japan’s debt/GDP ratio may reach 400% without fiscal consolidation.
Voters’ attitudes toward consumption tax hike

Yomiuri Shimbun public opinion poll results

Question:
There is the view that a rise in the consumption tax is unavoidable to fund pensions and the social security system overall. Would you agree or disagree?

Yomiuri Shimbun opinion poll results:
11-12 February 2006

Note: (1) “Agree” data in graph is the total for respondents answering “agree” or “probably agree”; “disagree” is the total for “disagree” and “probably disagree.” (2) Response options were “support” or “oppose,” not “agree” or “disagree,” up until January 2004. (3) The latest five polls include fiscal consolidation as a purpose of consumption tax hike, not only social security system.

Source: Nomura, based on Yomiuri Shimbun data

Yomiuri opinion poll shows an increasing support for consumption tax hike.
NIKKEI opinion poll shows that approval rates for the current government were not necessarily low around the last upper election.
How to achieve consumption tax hike

Opinion polls by newspaper companies

<table>
<thead>
<tr>
<th>Time of survey</th>
<th>Flexible modification of manifesto</th>
<th>Consumption tax hike</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>Nikkei</td>
<td>Aug. 27–29</td>
<td>45</td>
</tr>
<tr>
<td>Mainichi</td>
<td>Aug. 28–29</td>
<td>70</td>
</tr>
<tr>
<td>Yomiuri</td>
<td>Aug. 28–29</td>
<td>79</td>
</tr>
<tr>
<td>Yomiuri</td>
<td>Sep. 3–5</td>
<td>71</td>
</tr>
<tr>
<td>Asahi</td>
<td>Sep. 4–5</td>
<td>63</td>
</tr>
<tr>
<td>Nikkei</td>
<td>Sep. 4–15</td>
<td></td>
</tr>
</tbody>
</table>

Note: Details of questions differ by newspapers.
Source: Nomura, based on newspapers listed in the table

Yomiuri opinion poll, which specifies the usage of consumption tax, shows higher support for consumption tax hike.