Charting Choppy Seas: The World Economy and the Future of Growth and Trade

3rd JEF-DGAP International Symposium

ESCAPING THE LOW GROWTH TRAP

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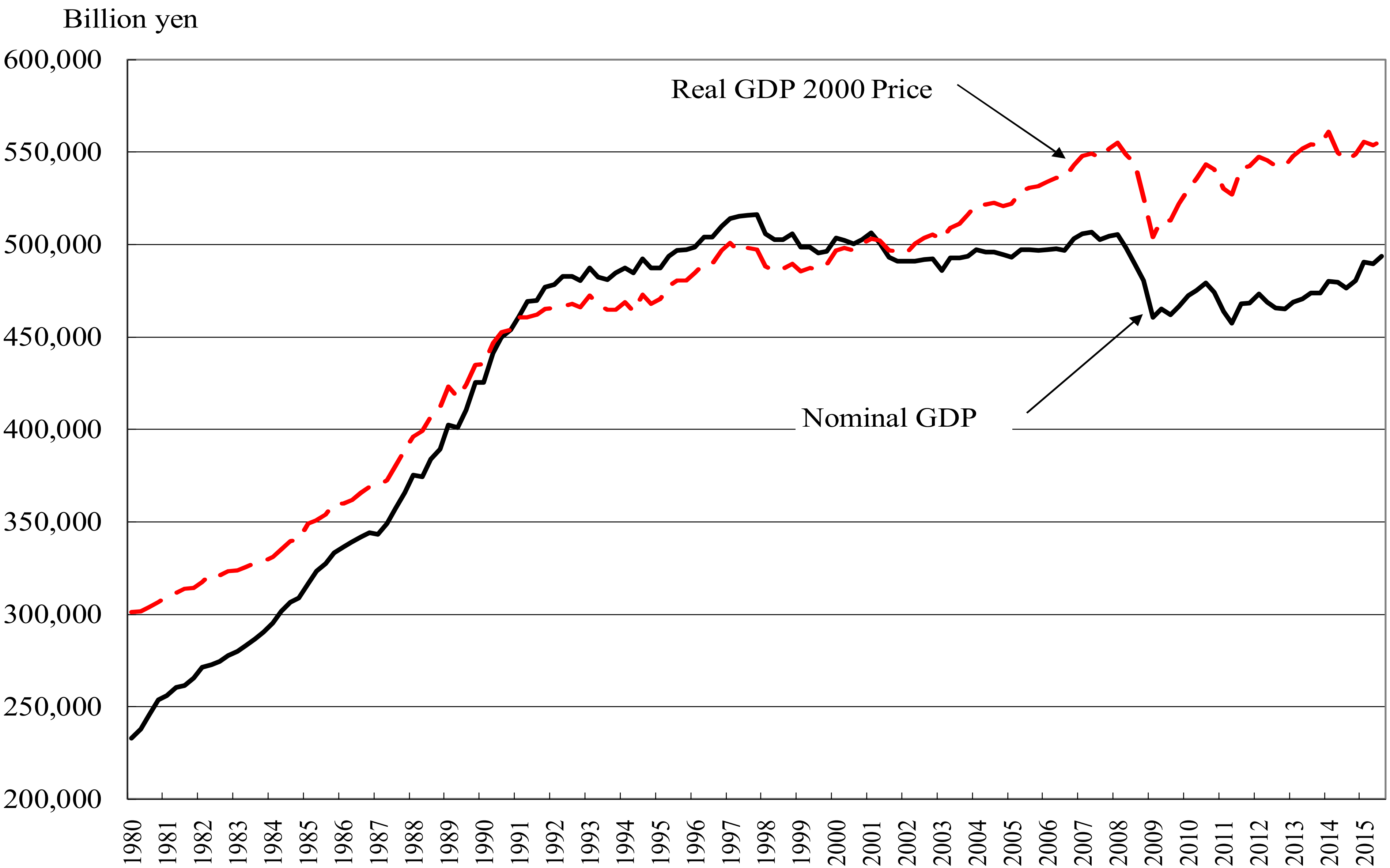
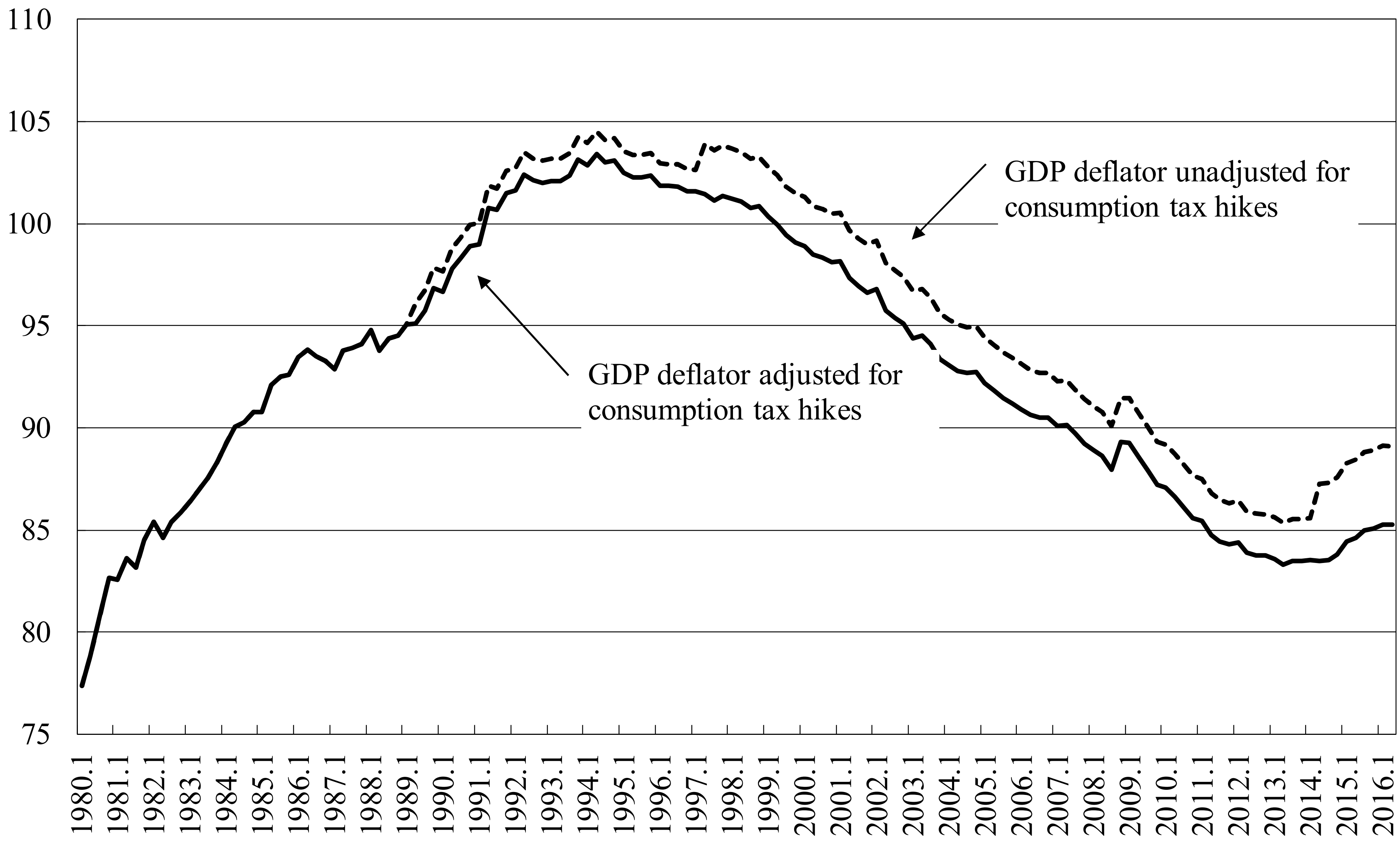
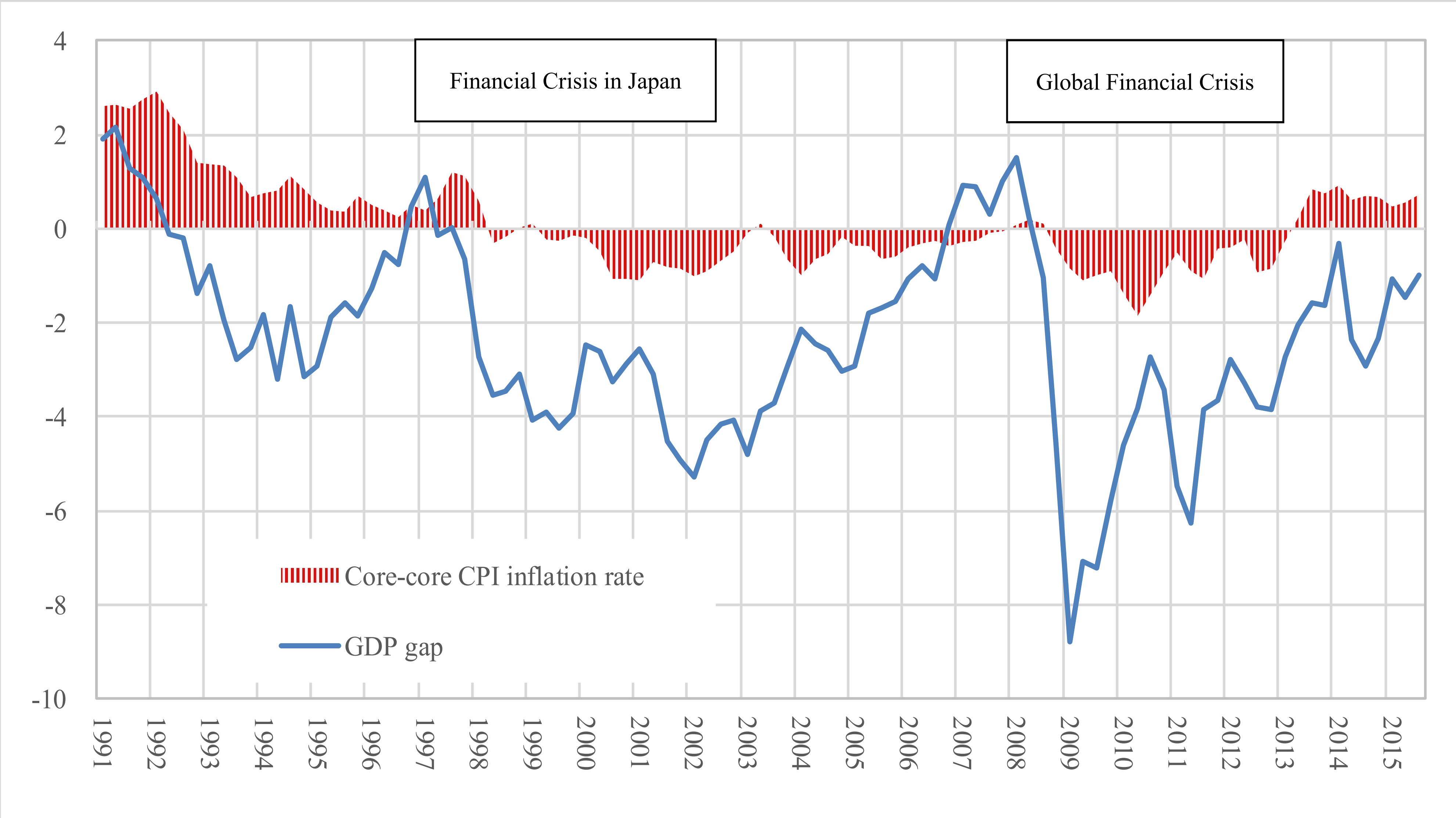
1. Japan's nominal GDP has been flat but real GDP has been growing.



2. Japan's GDP deflator had been declining since mid-1990s but it has started to rise in 2014.

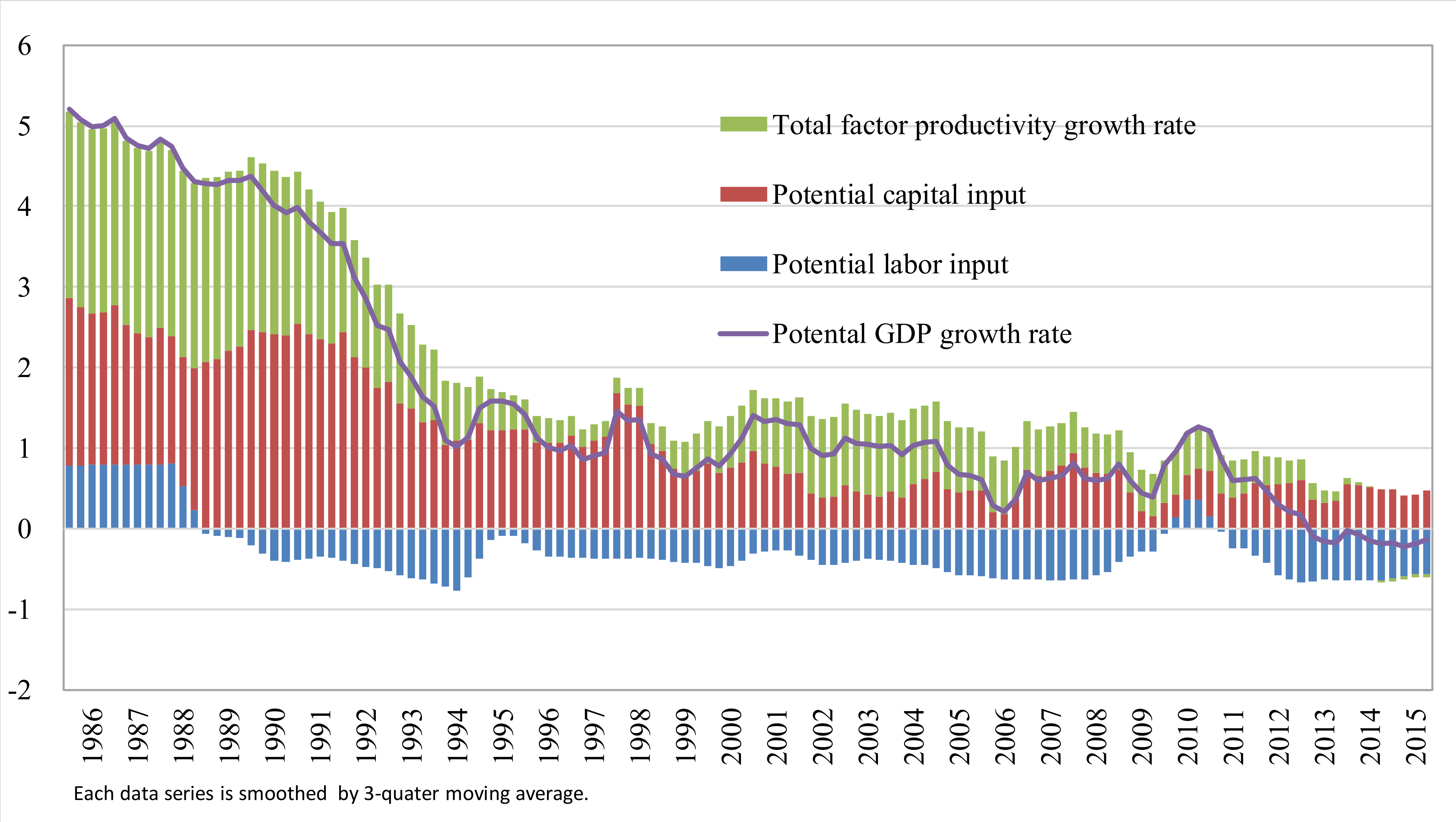


3. Japan's deflation was caused by a large negative GDP gap due to financial crises.



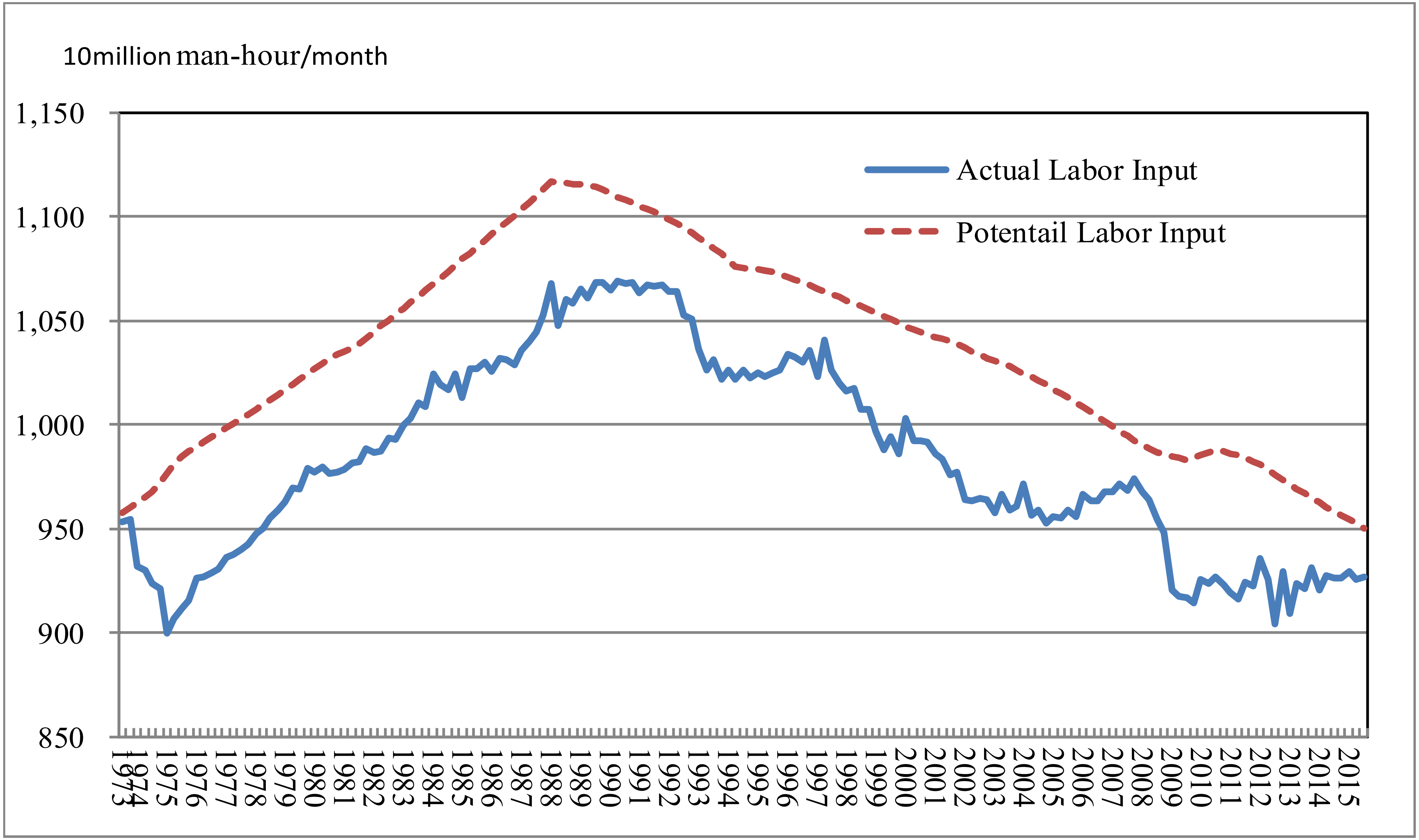
Japan's core-core CPI excludes all food items and energy items and roughly corresponds to US core CPI.
Annualized CPI inflation rate is smoothed by 3-quater moving average.

4. Japan's low real GDP growth rate has been caused by declining labor supply.



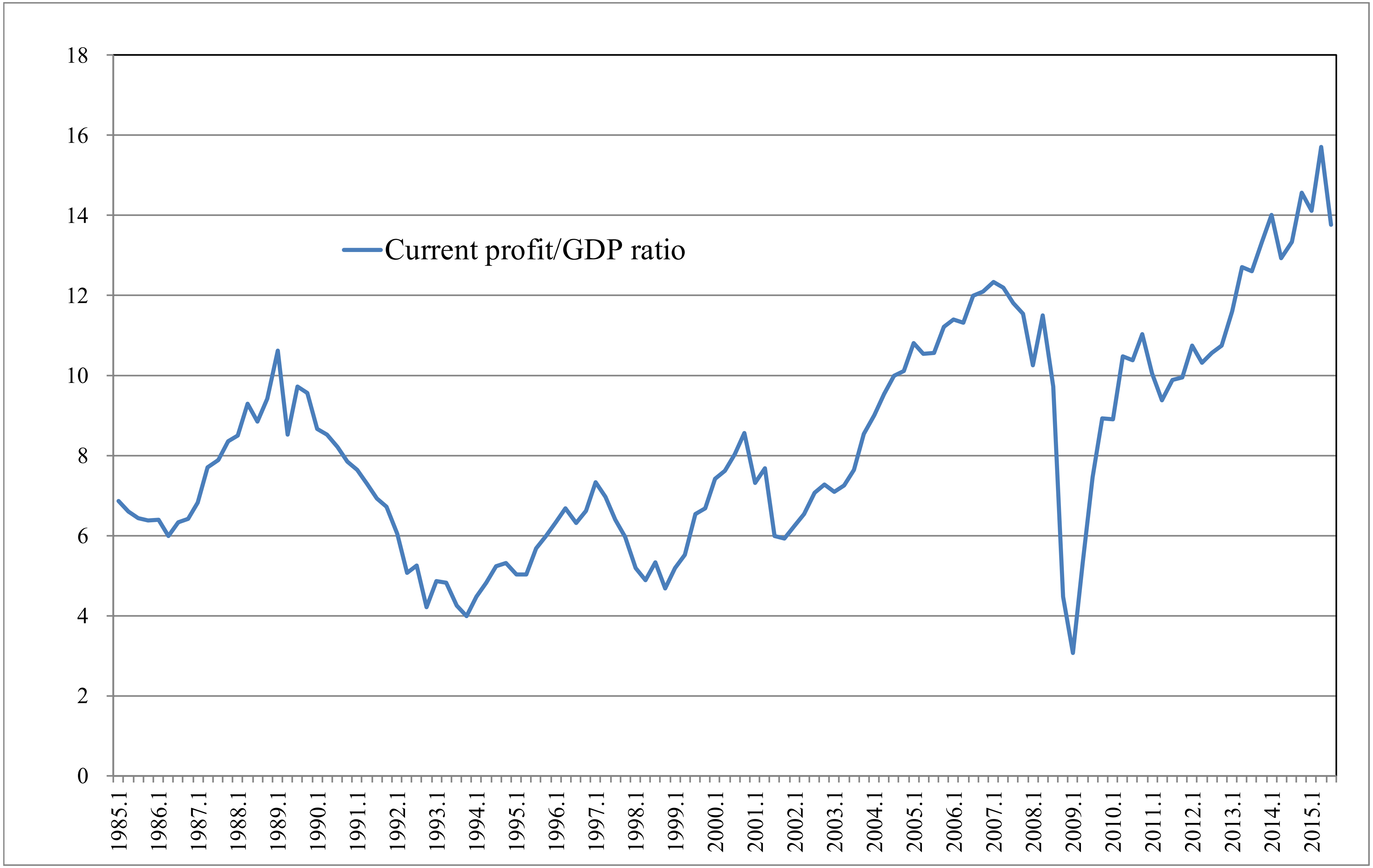
The TFP is calculated as a smoothed residual of Cobb-Douglas production function for Japan. The production function is estimated with man-hour based labor input and operating-ratio adjusted capital input.

5. Declining labor supply has been depressing the real growth rate.

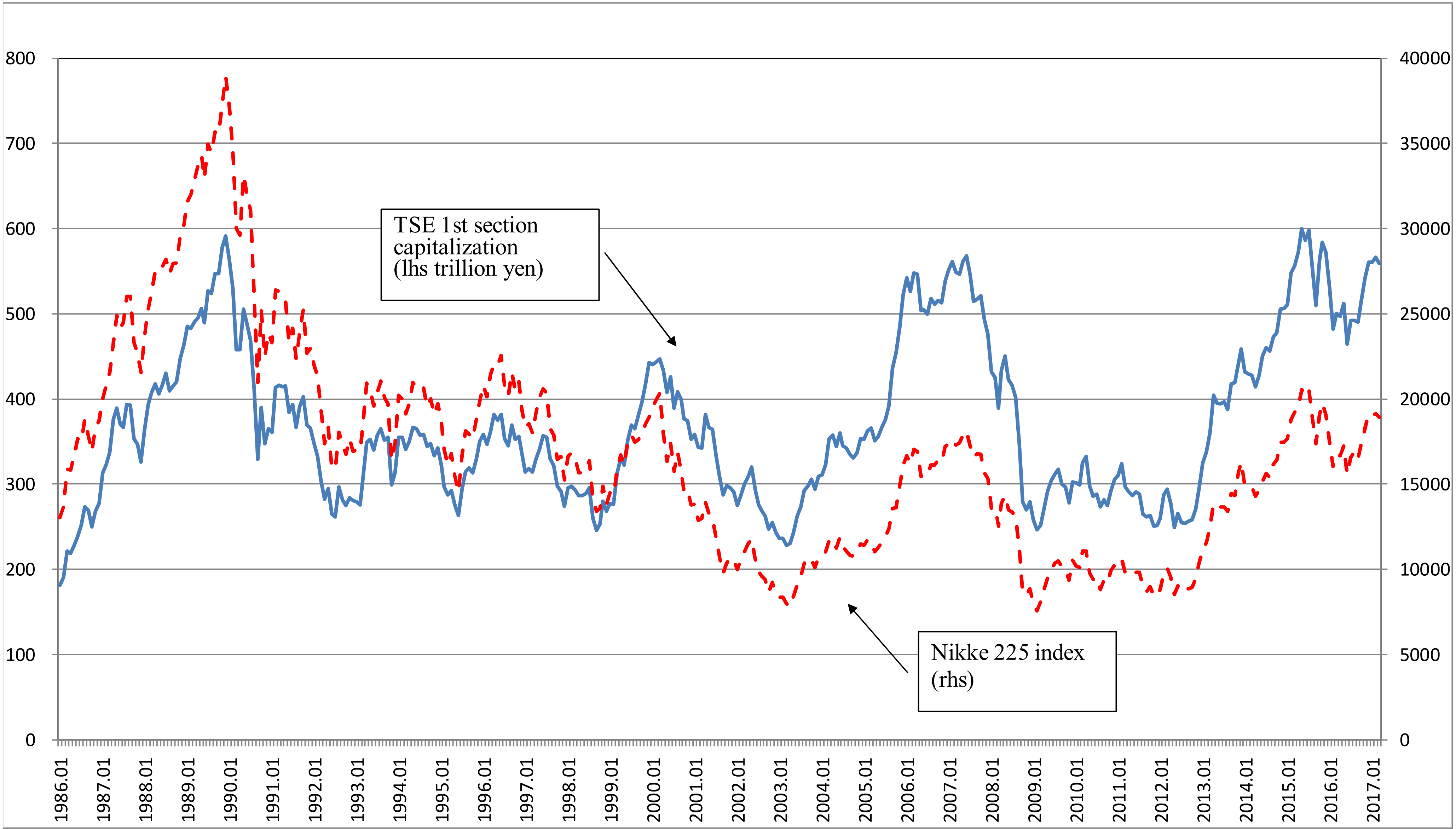


Potential labor input is estimated by connecting the peaks of labor participation rates, overtime working hours, normal working hours, for male and female age groups.

6. The current profit of Japanese companies is much higher than the bubble period in the late 1980s.



7. Although Nikkei 225 index is low, market capitalization of stock prices are also high



8. Conclusions

(1) Japan showed no **nominal** growth since early 1990s due to mild deflation.

(2) Japan's deflation is mainly due to large deflationary gap under two financial crises.

(3) More recently, Japan has closed deflationary gap and inflation rate has become positive.

(4) Despite this cyclical recovery, the **real** grow rate remains low due to declining labor input.

(5) Female labor participation rate is rising but not enough to overturn the declining working hour per worker.

(6) Only way to improve the growth perspective of Japan is allow more inward immigration. The current total inward immigration has been about 70,000 per year.