A method used in seasonally adjusting to eliminate the effects of consumer tax rate change in April 2014

The Statistics Bureau publishes seasonally adjusted indices as well as unadjusted changes each month. Each year, with the release of the December CPI for Japan, seasonal adjustment factors are recalculated to reflect price movements from the just-completed calender year. Seasonal factors introduced into the 2014 December CPI were estimated after eliminating the effects of consumer tax rate change. It was derived by adding a regression variable which is Level Shift April 2014: ls2014.4.

A spec file used in X-12 ARIMA is following.

```
series{start=2005.01
span=(2005.1,2014.12)
period=12
decimals=0}                          Note1.
transform{function=log}
regression{ variables=(ls2014.4) }   Note2.
x11{
  sigmalim=(2 3)
  seasonalma=X11default
  appendfcst=yes
  save=(d10 d11)}
arima{model=(0 1 1)(0 1 1)}
estimate{  }
```

Note1. To calculate seasonal factors, original series are multiplied
       themselves by 10.
Note2. Consumer tax rate was changed in April 2014.