

## Economic Forecasting and Time Series Analysis

### Assignment 1

Due: 25th, Nov, 2019

Fall 2019

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Instructions: Solve all the questions and submit results with your work attached.

1. Replicate the work in the empirical part of Gali(1999): Follow the procedure in Gali (1999) and get the results. Discuss the results.  
(Jordi Gali (1999), "Technology, Employment, and the Business Cycle: Do Technology Shocks Explain Aggregate Fluctuations?", *American Economic Review*, 89(1), 249-271)
2. Using a single equation cointegration regression, test for the cointegration relation implied in the theory of purchasing power parity (PPP) between U.S. dollar and Canadian dollar and between U.S. dollar and Korean Won. Do the following three parts for data from 2010:M1 to 2019:M9, monthly.
  - (a) Test for a unit root for each of variables based on Phillips-Perron tests and Augmented Dickey-Fuller (ADF) tests.
  - (b) Test for a strong PPP based on Phillips-Perron tests and ADF tests.
  - (c) Test for a weak PPP.
3. Using Johansen's FIML estimation method, determine the number of cointegration relations for the data given in problem 3. Estimate the cointegration vector(s), if any. Test a weak PPP for the cointegration relation implied in PPP, if any.