Master 2
Financial Econometrics:
Homework 1

Due date: April 14, 2025 at 6 pm (Send a pdf file to nour.meddahi@tse-fr.eu)

Remarks:

- You can do the work in a team of three persons.
- There is no need to include the programs.
- You can use any software; you can program yourself the program when it is needed.
- You do not need to type the responses. You can scan a hand written document.

The project: Forecasting macroeconomic and financial variables with many variables.

You have to do a work like in Stock and Watson (2002). Examples in the case of financial variables are Ludvigson and Ng (2007 and 2009). You should compare with other methods of reduction of dimensionality like Lasso and other methods; see Carrasco and Rossi (2016).

Data: Take the data of an advanced country. FRED is a good provided of data.

References:

Carrasco, M., and Rossi, B. (2016). In-sample inference and forecasting in misspecified factor models. Journal of Business and Economic Statistics, 34(3), 313-338.
Ludvigson, S. C., and Ng, S. (2007). The empirical risk-return relation: A factor analysis approach. Journal of financial economics, 83(1), 171-222.
Ludvigson, S. C., and Ng, S. (2009). Macro factors in bond risk premia. The Review of Financial Studies, 22(12), 5027-5067.
Stock, J. H., and Watson, M. W. (2002). Macroeconomic forecasting using diffusion indexes. Journal of Business and Economic Statistics, 20(2), 147-162.