**Four centuries of return predictability**

**Matlab codes – January 2017**

This document outlines matlab codes for the main empirical results. To replicate a specific figure or table, please run the code with the corresponding name. The data are saved in subfolder ‘Data’.

**Data**

Data for different subperiods is in separate Excel files: Data\_Netherlands\_UK\_1602\_1812, Data\_UK\_1813\_1870, and Data\_US\_1871\_2015. The variables are defined as: P\_nom (index level nominal), D\_nom (annual dividends nominal), P\_real (index level real), D\_real (index level real), CPI (CPI index or equivalent), Recession (a dummy variable taking 1 for a recession, and 0 otherwise; 10 denotes a missing observation, applies before 1700). Two additional files contain average risk-free rate per period (Rf\_per\_period) and the ratio of dividends-to-earnings (Dividends\_earnings).

**Codes**

All linear regression models are based on olsnw.m. Codes from Spatial econometrics toolbox are needed only for the ADF test in Table 1.

**Main tables:**

* Table\_1.m: Summary statistics for annual data (set a=0 for nominal and a=2 for real data)
* Table\_2.m: Basic return and dividend growth regressions
* Table\_3.m: Further analysis of return and dividend growth predictability
* Table\_4.m: Longer horizon regressions
* Table\_5.m: Out-of-sample forecasts
* Table\_6.m: Summary statistics for business cycle variation
* Table\_7.m: Estimates for business cycle variation

**Main figures:**

* Figure\_1.m: Plots the main variables (and Figure OA.1)
* Figure\_2\_Panel\_A\_C.m: Plots DP along with recessions and 5-year ahead returns or dividend growth rates
* Figure\_2\_Panel\_B.m: Plots in-sample fit for predicting returns
* Figure\_2\_Panel\_C.m: Plots in-sample fit for predicting dividend growth rates
* Figure\_3.m: Plots out-of-sample fit for predicting returns
* Figure\_4.m: Plots the ratio of dividends-to-earnings