Empirical Strategy Guidelines

This directory contains all (and only) the files that are necessary to conduct all the empirical analysis in Heathcote and Perri (2013). All the files in the directory are documented here. File names are in Bold.

Data for the cross sectional analysis

(Figures 2, 3, Tables 2 & 3). We need three sets of data:

1. Trade openess

2. Diversification

3. Covariance Ratios

1. and 2. are computed from data contained in the excel file: **annual_data.xlsx** which contains the following annual series:

- GDP, import, exports, investment (both in current local currency and in PPP dollars), population (from OECD), 1970-2011

- Foreign assets and liabilities, GDP in Dollars (from LMF), 1970-2007

- Capital output ratio, (from Dhareshwar and Nehru), 1960-1990

- Stock market capitalization both in dollars and as a percentage of GDP, From the World Bank WDI, 1988-2011 (raw data in the file **sm_capitalization.xlsx**)

- Stock market prices index (from MSCI Barra, Price index, in Dollars, Standard) (raw data in **MSCI_Prices_Annual.xlsx**)

An issue is that this data only goes until 2007 (which is actually the end sample we use in the paper) To extend our dataset until 2010 (latest available data, although in the paper we only use up until 2007) we extend the LMF dataset, using IMF data. For this reason the file annual_data.xlsx also contains (Row 70 and below) data on total assets and total liabilities from 2005 to 2011 from the IMF international investment position, which are used to extend (using growth rates) the LMF series. We also get exchange rate data to update the GDP in $ series. With this data we can compute for each country 5 time average measures

- Benchmark diversification (the one that uses perpetual inventory method)

- Alternative measure of diversification (which is the one described in the paper)

- Population

- GDP per capita

- Openesss

Out benchmark period is 1990-2007, although we experiment also with 1990-2005, 1990-2010, 1988-2010. Time averaging is done as follows, we copy the time averages from Excel, past them into the matlab file, **data_reshape.m** and the program directly saves them into the excel file **time_averages.xls**, where each time average is on a different sub-sheet.

These sheets are then read directly from the stata file **figs23_tab23.do** which, not surprisingly, does first figures 2 and table 2. Before we talk about figure 3 and table 3 we have to discuss how we compute covariance ratios.

Covariance Ratios

The raw data for computing the covariance ratio, that is the covariance between relative dividends and relative labor income , divided by the variance of relative dividend, then orthogonalized (i.e. figure 3 and table 3) are in two excel files **business_cycles2.xls** and **exchange_rates2.xls**.

These files contain for each country the following series GDP, Private Consumption, Govt. Consumption, Investment (all both nominal and real), stock price indexes (including dividends) in dollars from MSCI and exchange rates to the dollar from q1 1960 to q4 2011. These files are read from the eviews program **bcdata.prg.** The program has a bunch of options at the beginning, that specify sample, logs, methods for orthogonalization.

Our basic sample for computing covariance ratios is 1980.1-2007.4. The covariance ratios are then stored in the eviews matrix aaa_table_ba. In particular the two columns *cov_ratio_ortho* and *cov_ratio_orth_ stock returns* contain the covariance ratio computed using dividends (our benchmark definition) and using stock returns (which are reported in the letters to the referees.

These then need to be copied in the file **covratios.xls** which are read by stata.

Business Cycle Analysis

The file **bcdata.prg** also produces business cycle statistics that are reproduced in table F2 in the paper. In order to produce statistics it also loads data for imports and exports which are contained in the excel file **exports_imports.xls.** All the business cycles statistics (except the ones regarding employment) are then stored in the table *aaa_table_bc*. Employment data (only for the G7 countries) are contained in the eviews file **employment.wf1** and the statistics are generated by the program **emp_filt.prg.** Summary business cycle statistics are then reported in the excel file **bcstats.xlsx**

Data for panel analysis

The data for the panel analysis is contained in the file **panel.xlsx,** which is just the reshaped version of **annual_data.xlsx.** The data is accessed directly by the stata file **panel_regressions.do** which does the regressions reported in table