Description of Exchange Rate Regime Coding from Klein Shambaugh (Nature of Exchange Rate Regimes)

The basis of our coding a country as having a fixed or a floating (i.e. not a fixed) exchange rate is a modification of the classification scheme used by Shambaugh (2004) who, in turn, closely followed the method employed by Obstfeld and Rogoff (1995). In this paper, we considered a country as having a fixed exchange rate in a given calendar year, with its currency pegged to the currency of a base country, if its month-end official bilateral exchange rate stays within a +/- 2% band both each month and over the course of that year.¹ This requires that a currency is within the same +/- 2% band at the end of each month for the full year, not simply that the change in the exchange rate between January and December is less than 2%. The coding is annual and, therefore, the peg must last for a full calendar year for a country to be classified as pegged for that year. Pegs that last less than a full year are classified as nonpegs.² An advantage of such a procedure, as opposed to looking at relative volatility benchmarks is that this definition of a peg (within a 2% band) is clear, invariant over time, and matches the historical definitions of pegs such as the gold points in the Gold Standard, the bands in Bretton Woods and the EMS.

The base country is determined through the pegging history of a given country as well as through tests against a variety of countries, the declared intent of the country, and readings of various currency histories. For the purpose of comparative bilateral volatility tests, we need a “base” country for countries when they have a floating exchange rate. In these cases, the base is the country to which the country with the floating exchange rate pegged in the past, or a major industrial country with which it has a prominent economic relationships (for details see Shambaugh 2004). We drop from our sample countries with a population of less than 400,000 in 1999. We also drop observations that represent currency unions (but for the members of the single

¹ Results are not sensitive to the defined width of the band. Most of the pegged observations stay within an even tighter band, but 2% is consistent with bands used in Bretton Woods, the EMS, and in Obstfeld and Rogoff (1995).
² For example, a country with a peg lasting from June 2001 to May 2005 would be classified as floating in 2001 and 2005 and pegged from 2002 – 4. By including in the float sample years of partial pegging, this should bias against finding any difference between pegs and floats. While there may be pegs, or attempted pegs, shorter than one year, our view is that for the time spans less than one year it becomes increasingly likely that the stability one would find in the data is an accident and not a peg – false positives would rise. Also, we posit that market participants will not have detected or believed a peg until it has lasted more than a few months.
currency in Europe from 1999 onwards) in order to keep these episodes from biasing the sample towards long-lasting fixed exchange rate pegs. The United States is not included in the data set.

While one might be concerned that a country/year observation is being classified as a peg simply due to a lack of shocks, Calvo and Reinhart show that the probability that the bilateral exchange rate during classic floats like the US dollar/DM rate, the US dollar/yen rate or the US dollar/Australia dollar rate had a monthly change of less than 2.5% was roughly 60-70%. This means that the probability of 12 straight months of changes smaller than 2.5% (in either direction) is between 0 and 1%. In addition, our classification requires the tighter restriction of staying within the same +/- 2% bands over the entire year, not simply having each month be smaller than +/- 2%. Thus, the odds of “accidentally” coding a peg are, in fact, quite low. We see further evidence from the fact that well known floats, such as the three mentioned above, are never coded as pegs in our classification system. Also, the undeclared pegs in our coding, those countries/year observations that we code as de facto pegs but are not de jure pegs, are typically instances generally recognize as pegs, such as East Asian countries in the early 1990’s.

NOTE: see also, appendix from this paper which details differences across classifications

3 Obstfeld and Rogoff (1995) identify 27 small countries with long lasting pegs in their Tables 2 and 3. By dropping countries with small populations, and currency unions, we retain only 8 of these 27; Bahrain, Djibouti, Lesotho, Namibia, Oman, Qatar, Swaziland, and United Arab Emirates. We set the population hurdle at 400,000 in order to retain in our data set the smallest country that Obstfeld and Rogoff keep (Luxembourg) and yet to exclude most of the countries they exclude.

4 Countries not based on the dollar, such as EMS countries or African countries pegged to the Franc, also show roughly 60% chances of being within 2.5%. Again, this suggest only a 0.2% chance of happening 12 months in a row and an even lower chance of being within the same 2% bands over a year.

5 Shambaugh (2004), by requiring two consecutive years of staying in a band to have an observation qualify as a peg, effectively ruled out any coding of unintentional pegs. We do not follow this procedure since dropping single year pegs would bias our results towards finding longer pegs by eliminating short lived pegs. In addition, Shambaugh (2004) considered one-time discrete devaluations (one month with a change in the exchange rate greater than 2%, but 11 months exactly equal to zero) as pegs, but here we count these as breaks in the peg to avoid a bias towards finding long lasting pegs and to avoid artificially increasing the length of peg spells by, for example, defining a country as pegging even if it devalues every other year but otherwise stays pegged. As discussed in more detail in the appendix, this treatment of devaluations distinguishes the main coding used here from Reinhart and Rogoff, Shambaugh, and de jure classifications that allow devaluations, making the main coding quite similar to the way Obstfeld and Rogoff scheme.