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A Faith-based Initiative: Does a Flexible Exchange Rate Regime Really Facilitate Current Account Adjustment?
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ABSTRACT

The assertion that a flexible exchange rate regime would facilitate current account adjustment is often repeated in policy circles. In this paper, we compile a data set encompassing data for over 170 countries are included, over the 1971-2005 period, and examine whether the rate of current account reversion depends upon the de facto degree of exchange rate fixity, as measured by two popular indices. We find that there is no strong, robust, or monotonic relationship between exchange rate regime flexibility and the rate of current account reversion, even after accounting for the degree of economic development, the degree of trade and capital account openness. We also find that the endogenous selection of exchange rate regimes does not explain the observed lack of correlation.

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"We also agreed that an orderly unwinding of global imbalances, while sustaining global growth, is a shared responsibility involving ... greater exchange rate flexibility ..."

G-20 Communiqué, Meeting of Finance Ministers and Central Bank Governors, Cape Town, South Africa, November 17-18, 2007.

"*The third part of the strategy [to address global current account imbalances] was to increase exchange rate flexibility in order to facilitate the adjustment of the current account over time."*

John Taylor, Professor of Economics at Stanford University, speech at the IMF on April 21, 2006.

"From a global perspective, exchange rate flexibility ... would also help contribute to an orderly process for resolving global current account imbalances."

IMF Staff, "People's Republic of China: Staff Report for the 2006 Article IV Consultation."

I. Introduction

It is often asserted that a more flexible exchange rate regime would promote current account adjustment. The three quotes at the beginning of the paper come from a group of large national governments, a prominent academic, and a premier international financial institution, respectively. Moving to a more flexible exchange rate in order to facilitate current account adjustment is a frequent policy recommendation made by the IMF and others. Curiously, this is not a proposition that emerges from formal models in international macroeconomics as codified in the graduate-level textbooks by Obstfeld and Rogoff (1996) and Vegh (forthcoming). The lack of a formal model is not a problem for the proposition if it is considered self evident by now. Indeed, the logic was expounded more than half a century ago by Milton Friedman in his famous essay, "The case for flexible exchange rates" (Friedman, 1953). However, the Friedman essay was written during an era of limited financial integration which could be different from today's world with substantially more cross-border capital flows. In any case, there is no systematic statistical evidence that we can find supporting this supposition, for either the recent period of elevated financial integration, or the earlier period. Until one finds persuasive evidence, the policy recommendation is only a faith-based initiative – based on something widely assumed to be true, actively peddled to countries as a truth, but with little solid empirical support.

Indeed, it is not difficult to find counter-examples. While both Egypt and China have a relatively rigid exchange rate regime, Egypt has a relatively fast current account convergence but China does not. On the other hand, while both South Africa and Japan have a flexible exchange rate regime, South Africa has a relatively fast convergence but Japan does not. While we can come up with other examples, there is a limit to how much we can learn from individual cases.

In this paper, we seek to address this deficiency by systematically investigating any relationship in the data between exchange rate regimes and speed of current account adjustment. Rather than using officially announced exchange rate regimes, we appeal to *de facto* regimes in place. We utilize two well-established and familiar approaches to classifying a country's exchange rate regime on a de facto basis, by Levy-Yeyati and Sturzenegger (2003a,b), and by Reinhart and Rogoff (2004), respectively.

It is important to note that we focus on the speed of current account convergence toward the mean. If an "orderly current account adjustment" has other connotations, they would lie outside the scope of our investigation. Moreover, we are not making the claim that a faster current account adjustment necessarily represent higher welfare., In general, a free float does not necessarily lead to efficient levels of exchange rates, as highlighted by Corsetti et al. (forthcoming). The mapping between welfare and exchange rate regime depends on whether the financial market is complete and prices are flexible and whether exporters predominantly follow "local currency pricing" or "producer currency pricing," among other things. Our goal is more limited, in that we seek to determine whether more rapid adjustment in a statistical sense occurs under more flexible regimes. Given the enormous effort by international financial institutions and some national governments in linking more flexible regimes with faster current account adjustments, this research question should still have important relevance for economic policy making.

To anticipate the results, after experimenting with a large number of statistical specifications, we find no support in the data for the notion that countries on a more flexible exchange rate regime robustly exhibit a faster convergence of their current account (as a percentage of their GDP) to the long run equilibrium, regardless of which *de facto* exchange rate regime classification scheme we employ. This is true when we control for trade and financial openness; and when we separate large and small countries.

To be sure, the current account balance does have a tendency to revert to its long run steady state; it does not wander off or stay away from the long run equilibrium forever. This is clearly reflected in our empirical work. However, the speed of adjustment is not systematically related to the degree of flexibility of a country's nominal exchange rate regime.

This empirical result presents a challenge to the Friedman (1953) hypothesis on the merit of a flexible regime in promoting faster external adjustment, and a challenge to a key policy recommendation by international financial institutions in using exchange rate flexibility to reduce global current account imbalances. To understand why the pattern may be reasonable, the second part of our analysis examines whether the nature of a country's nominal exchange rate regime significantly affects the pace of real exchange rate adjustment. The current account responds to real exchange rate, not the nominal exchange rate. If the real exchange rate adjustment does not depend on the nominal exchange rate regime, then the current account adjustment would not depend on nominal exchange rate regime either. Indeed, we find that the real exchange rate adjustment is not systematically related to how flexible a country's nominal exchange rate regime is. Again, this is true regardless of which *de facto* exchange rate regime classification we use. If anything, there is slight, but not very robust evidence that less flexible nominal exchange rate regimes sometimes exhibit faster real exchange rate adjustment. While the evidence on real exchange rate adjustment is suggestive, we hope this paper could inspire additional work in re-thinking the role of a nominal exchange rate regime in an economy's external adjustment.

The literature on current account is too large to be comprehensively summarized here. In terms of relatively recent theoretical work, Blanchard (2007) points out that one cannot automatically assume that a current account imbalance needs to be corrected by a policy unless one has clearly identified the relevant distortions. For recent empirical work on estimating current account adjustment, an excellent set of papers is collected in Clarida (2007), which in turn contains references to the earlier literature. As far as we know, the existing literature has not systematically addressed the question of whether a flexible exchange rate regime speeds up convergence of the current account. In this sense, this paper fills an important void.

The rest of the paper is organized as follows. Section 2 lays out the empirical methodology, data, and benchmark results. Section 3 conducts a series of extensions and robustness checks. Finally, Section 4 concludes.

II. Benchmark Statistical Results

We start by explaining our econometric specifications and the definitions and sources of the key variables. We then present and discuss benchmark regressions results.

A. Methodology

We estimate the rate at which current account balances (expressed as a share of GDP) revert to their mean values, using variations on this basic autoregression:

$$ca_{it} = \rho_0 + \rho_1 ca_{it-1} + v_{it} \quad (1)$$

Where ca_{it} is the current account to GDP ratio for country *i* in year *t*.[1] One can determine how the autoregressive coefficient varies with the exchange rate regime in a variety of ways. The simplest would be to order the exchange rate regimes by degree of flexibility, and then interact with the lagged endogenous variable. Since this approach imposes a monotonic relationship between the degree of exchange rate flexibility and the rate of current account reversion, we do not focus on this approach in our presentation.[2] Rather, we discuss estimates obtained by either of two methods: (i) stratifying the sample by exchange rate regime and running separate regressions by regime, or (ii) interacting binary dummy variables for each regime with the lagged current account, and estimating the differential effects in a single regression.

For simplicity of exposition, equation (1) assumes a fixed mean value of the current account. Subsequently, we allow this mean to vary over time. In general, a country's current account need not be zero even in the steady state. Kraay et al. (2005) arrive at this result by treating foreign asset holdings (cumulative current account balance) as a portfolio choice problem. Ju and Wei (2007) argue that the relative size of frictions to capital flows versus frictions to goods trade can affect the size of current response to a given shock. As a result, the average size of current account across countries could partly reflect the relative importance of frictions to capital flows versus goods trade. Caballero et al. (2009) focus on the implications of cross-country differences in financial development. They argue that a country with a weak financial development tend to send savings to a country with a strong financial system. As a result, the weak-finance country runs a current account surplus while the strong-finance country runs a deficit. If one models financial frictions differently, Ju and Wei (2010) argue that the current account patterns become less clear cut. An intensified competition in the marriage market as triggered by a rise in the ratio of young men to young women could lead to a rise in the aggregate savings rate and a rise in the current account imbalance (see Du and Wei, 2010, for a theoretical model and some cross-country evidence, and Wei and Zhang, forthcoming, for household and regional-level evidence from China.) While the current account would still be balanced in the steady state, a higher sex ratio could produce a large and positive current account that persists for many periods. In a finite sample, this may show up as a non-zero mean for the current account. In order to be general, we do not restrict the mean of the current account to be zero..

The first approach relies upon estimating equation (1) for each category of exchange rate regime. The second approach involves estimating (2):

$$ca_{it} = \rho_0 + \rho_1 ca_{it-1} + \theta_{0j} \sum_{j=0}^{k} regime_{jit} + \theta_{1j} (ca_{it-1} \times \sum_{j=0}^{k} regime_{jit}) + v_{it} \qquad (2)$$

The variable *regime* is the de facto exchange rate measure.[3] (As an extension, we allow for both country fixed effects and year fixed effects. This does not alter the basic conclusion of the paper.)

The first approach imposes the fewest assumptions, but might yield imprecise estimates due to substantially decreased number of observations for each regression. The second approach will yield the same point estimates as obtained in the first approach but different estimated standard errors. The validity of this approach for making inference depends on the condition that the error term is distributed in a similar fashion across exchange rate regimes.

It's important to allow a different constant for each regime, given the Friedman hypothesis (1953) which argued that flexible exchange rates would be consistent with more rapid adjustment. In our context, one might think that flexible exchange rate regimes would generate smaller current account imbalances on average. There is some evidence of this effect in the aggregate, and for the non-industrial countries (although it is entirely absent for industrial countries), on an unconditional basis.[4]

In all instances, we would like to control for other structural variables that might also affect the rate of reversion. In the case of equation (2), we augment the equation with level and interaction effects.

$$ca_{it} = \rho_0 + \rho_1 ca_{it-1} + \theta_{0j} \sum_{j=0}^{k} regime_{jit} + \theta_{1j} (ca_{it-1} \times \sum_{j=0}^{k} regime_{jit}) + controls_{it} + v_{it} \qquad (3)$$

Where the list of *controls* includes different measures of economic openness, including trade and financial openness, described in greater depth below.

B. Data

The current account and trade openness data are from the World Bank's *World Development Indicators.* The trade openness variable is the standard measure (the sum of imports and exports divided by GDP). 170 countries are included, over the 1971-2005 period. The sample encompasses both developed and developing countries (as classified by the IMF).

The de facto exchange rate regime variables come from two sources: the Levy-Yeyati and Sturzenegger (2003a,b) and the Reinhart and Rogoff (2004) measures. The Levy-Yeyati and Sturzenegger index ranges from 1 to 5, with 1 indicating "inconclusive" determination, 2 free float, 3 dirty float, 4 dirty float/crawling peg, and 5 fix. In this study, we drop 1's, and subtract 2 off the index, so that the revised index ranges from 0 to 3 (hereafter the LYS index).

The Reinhart and Rogoff index ranges from 1 to 14, ranging from more to less fixity. We aggregated the series into 3 categories. The first is fixed (from no legal tender to de facto peg); the second is intermediate (from pre announced crawling peg to moving band that is narrower than or equal to ± 2%); the third is floating (managed floating to freely floating).[5] These categories are then reversed so the index (hereafter the RR index) ranges from low values (high flexibility) to high values (high fixity).

While it is well understood that a country's actual exchange rate regime often differs from its *de jure* regime, Frankel (2007) notes that the two popular *de facto* classification schemes have a correlation of only 0.40, indicating that they have much disagreement over how to classify a given country in a given year. Given this disagreement, we opt to work with both classification schemes. Figures 1 and 2 present the histograms for the LYS and RR indices, respectively. The number of observations on LYS and RR are comparable, at around 4000. There are some differences in the distribution of regimes, but the same general pattern is replicated. The fewest observations are in the freest floating category, while the greatest number of observations is found in the most fixed category.

C. The Basic Results

We estimate country by country the autoregressive parameter in (1), incorporating shifts due to different exchange rate regimes. Since some countries are only on the same exchange rate regime for a short period, a caveat is that some of the autoregressive parameters are estimated over relatively short samples. In any case, one sees in Figure 3 a slight impression of higher degrees of persistence as one moves to higher degrees of exchange rate fixity.[6] However, a closer examination indicates that the impression is being driven by the lack of negative coefficients in the least flexible regimes. The mean of the estimated coefficients are virtually the same across regimes. This result holds up if a deterministic trend is included in the specifications; the resulting distributions are displayed in Figure 4. The bottom line: No clear evidence that more flexible exchange rate regimes are associated with a faster current account adjustment.

Other ways to formally quantify the effect of each regime is to stratify the data by each regime and run separate regressions, or alternatively to interact the LYS variable with the autoregressive parameter in a pooled regression.

First we present the results obtained by stratifying the sample by exchange rate regime. In Tables 1A and 1B, the LYS index is used to categorize the regimes. Moving from left to right is increasing degrees of fixity. In the first four columns of Table 1A, pertaining to the full sample, the degree of persistence is 0.63 under the most flexible regime, and rises to 0.76 and 0.79 as the regime gets progressively less flexible. Thus far, these results are in accord with the conventional wisdom. However, this is not robust or at least non-linear. When one gets to the most fixed regime, the degree of persistence *declines* to 0.74. Beyond the point estimates, it is important to note one cannot reject the hypothesis that any pair of these AR(1) coefficients are the same. Therefore, there is no statistical evidence that a more flexible exchange rate regime is associated with a faster current account adjustment.

There is a high degree of heterogeneity in the sample, given the sample encompasses both industrial, developing and oil exporting countries. Focusing on the industrial countries, one finds the greatest degree of persistence (essentially a random walk) in an intermediate regime category. In any case, the industrial countries have not been the focus of the policy discussions. Rather it is the non-industrial countries upon which most analysts have concentrated on.

Moving to Table 1B, one finds that indeed the fastest rate of reversion is in the floating category. However, once again the relationship is nonlinear. Increasing degrees of fixity lead to greater persistence, until one gets to the fixed regime. Then the degree of persistence declines. This pattern is replicated if one focuses on non-oil-exporting non-industrial countries. While this outcome might be taken as partial vindication of the conventional wisdom, it is of interest that transition that is most relevant to the current policy debate is that between the fixed and dirty float/crawling peg. And here the results are counter to what has been argued. For instance, China's move from a de facto fixed regime to a dirty float would result – if other countries' experience is any guide based on our estimation – in *slower* current account reversion.

An alternative means of identifying the differences in current account persistence across regimes is to use interactive dummies, as indicated in equation (2). The only substantive difference between the two methods involves the second moment; the dummy variable approach assumes that the same error distribution applies to all regimes. To verify this, note that in Table 2, the point estimate for the full sample rate of reversion under freely floating is the same using the two methods. The estimated coefficient on the interaction term (lagcurrent1) is the implied effect on the reversion coefficient of being in the dirty float versus the free float, in the LYS schema. Adding 0.132 to 0.630 yields 0.762, which equals the point estimate in column (2) of Table 1A. The only additional information provided by this dummy variable approach is that it allows for direct assessment of whether the differences in reversion rates are statistically significant or not.[7]

Consider column 1 (all Countries) in Table 2. Using a standard t-test, none of the coefficients on the interaction terms are statistically significant. In other words, there are no statistically significant differences in estimated degrees of persistence across exchange rate regimes. This continues to be true when we look at various subsamples of countries (the set of industrial countries in Column 2, developing countries in Column 3, and ex-oil developing countries in Column 4), with the sole exception of the industrial country category. There, the current account in the managed floating category exhibits more persistence than in either the floating or other categories (including fixed). This exception is hardly the case in which most policy discussions have been focused on. These results hold if country fixed effects or time fixed effects are included in the specifications (not reported to save space).[8]

Are our results sensitive to the measure of de facto exchange rate regime? To address this question, Tables 3A and 3B report the results using the Reinhart and Rogoff classification of exchange rate regimes (now there are only three different regimes, instead of four), and the stratification approach (analogous to Table 1A, B). A similar pattern is detected. Focusing on the non-industrial country results (Table 3B), one finds in columns 1-3 that while the intermediate regimes exhibit slower reversion than the floating, it is also slower than that exhibited by the fixed regimes. Excluding the oil exporters does not change the basic pattern. Interestingly, now the fastest rate of reversion is for the fixed regimes!

The bottom line of this section is a conspicuous absence of a strong and robust association in the data between the degree of exchange rate flexibility and the speed of current account adjustment. This empirical pattern rejects the widely accepted wisdom in the corridors of international financial institutions and powerful national treasuries that more exchange rate flexibility brings about a faster speed of current account adjustment.

III. Extensions and Other Robustness Tests

The conclusion of the last section could arise either because it is true, or because the empirical relationship is mis-specified. In order to ensure that our results are robust, we undertake several additional checks, including controlling for other plausible determinants of the speed of current account adjustment, accounting for nonlinearities and asymmetries, and investigating the possible endogeneity of exchange rate regimes.

A. Allowing for Trends

The basic specification outlined in equation (1) incorporates mean reversion. An alternative is to allow for trends in the current account to GDP ratio. Consistent with the approach adopted in the literature, we detrend the current account ratio before testing for patterns across exchange rate regimes. The results, reported in Tables 4A and 4B (for four different samples), suggest little change in the conclusions one would take from the analysis.

All the autoregressive coefficients drop relative to the results based on un-detrended data. And in the full sample (Table 4A), the floating exchange rate regime exhibits the most rapid rate of reversion. However, in contrast to the data without detrending, this pattern is not true for the industrial country grouping; there the most rapid rate of reversion comes from the dirty float/crawling peg regime, although with only a few observations.

Our focus is on the developing countries, reported in Table 4b. While the most rapid rate of reversion (toward the HP-defined trend) is for the pure floaters, the slowest rate of reversion is estimated for the dirty float regime (for both non-industrial and non-industrial ex-oil country groupings). The fixed regime in fact exhibits the second highest speed of convergence. We conclude that once again, moving from a fixed regime to a less fixed regime does not necessarily lead to more rapid adjustment of the current account.

B. Adding Variables: Openness to trade and to capital flows

Two key missing regressors are trade openness and capital account openness. One might conjecture that greater trade openness makes it easier for trade account to respond to real exchange rate changes, and therefore is associated with a faster current account reversion. On the other hand, greater capital account openness makes an economy more susceptible to financing shocks, which may result in more frequent current account reversals. Without controlling for the effects of trade and capital account openness, the true relationship between exchange rate regimes and current account adjustment may be more difficult to detect.

There are a number of variables that could be used to proxy for trade and capital account openness. We appeal to two commonly used and easy to interpret measures. For trade openness, we use the sum of imports and exports to GDP ratio (OPEN). On the capital account openness side, we appeal to the Chinn and Ito (2006) financial openness index (KAOPEN). This measure is the first principal component of four categories of restrictions on external transactions, including dual foreign exchange rates, restrictions on current account transactions, restrictions on capital account transactions and finally the surrender of export proceeds. We switch the sign so that higher values of this index represent greater financial openness.

Table 5A presents the results from specifications incorporating these variables (in the context of the LYS index). Notice first in the full sample that the estimated rates of reversion do differ from those obtained in Table 2. This outcome is to be expected, to the extent that the openness terms, when interacted with the lagged current account balance, are statistically significant. What the results indicate is a lack of a clear pattern – for any country grouping – between degrees of exchange rate fixity and current account persistence. The estimated autoregressive coefficient (holding at zero trade and financial openness) is never the highest in the fixed regime. Rather it is often the dirty float/managed peg category that exhibits the greatest persistence.

Here are some other notable points. First, in the dummy variable regressions (not shown), current account balances in the fixed exchange rate regimes exhibit *less* persistence than the freely floating regimes. In the full sample and the non-industrial country sample, the difference is statistically significant. Second, trade openness does not appear to be an important determinant of current account persistence, but financial openness does. In the dummy variable regressions (not shown), a country with a more open capital account tends to exhibit a greater persistence in current account imbalance, and this is true in every country grouping. The effect is statistically significant for every grouping save the non-industrial ex-oil group, and is most pronounced for the industrial country group. Similar results are obtained using the Reinhart-Rogoff measure, although in this case, we also find lower persistence for the non-industrial ex-oil group as well.

One question is whether treatment of openness as a continuous variable, as in Table 5, is appropriate. One could alternatively ask if the rates of reversion differ under fixed and flexible exchange rates when each openness indicator is viewed as dichotomous. Then one could examine the rate of adjustment under four combinations of high/low trade and financial openness. In order to examine this issue, we defined high trade and financial openness as instances where the indicators are higher than the mean values. For the combinations to have an interesting impact, the coefficients on the resulting dummy variables need to be statistically significant.

For the non-industrial countries, these dummy variables do not exhibit statistical significance in many cases (results not reported). For floating rates, countries with high trade openness display higher reversion, irrespective of financial openness. For fixed-rates countries, high financial openness is associated with slower reversion, regardless of trade openness. These results are only slightly different from those reported in Table 5B. Holding constant trade and financial openness, there is no evidence that a move to a more flexible exchange rate regime necessarily produces a faster current account convergence.

C. Nonlinearities and Asymmetric Effects

A number of observers have pointed out that large current account deficits appear to adjust in a different fashion from small deficits.[9] This suggests that there are nonlinearities and threshold effects in current account adjustment that we need to test for. In addition, Ghosh, Terrones, and Zettelmeyer (2008) argue that such effects might invalidate our results.

To address the first issue of nonlinearity, we proceed by estimating for each regime:

$$ca_{it} = \rho_0 + \rho_1 ca_{it-1} + \rho_2 ca_{it-1}|ca_{it-1}| + controls_{it} + v_{it} \qquad (4)$$

It would be possible to account for nonlinearities in equation (3) for the pooled sample, but at the cost of introducing many additional interaction terms (e.g., regime by current account size). Hence, we rely upon separate regressions on stratified samples. We allow for the nonlinearity to enter in a smooth – rather than discrete – fashion.[10]

The results of estimating equation (4) are presented in Table 6. They show clear evidence of nonlinear effects. However, accounting for these effects does not overturn our previous conclusions. The nonlinear effect is obscured in the full sample encompassing industrial and non-industrial countries, and shows up only for the fixed exchange rate regime. It is true that in that instance, larger balances – either large or small – induce faster reversion, at least in a statistical sense. However, the other coefficients associated with the posited nonlinearity are not statistically significant. Similarly, inference regarding the strength of the nonlinear effects is hampered in the industrial country sample by the small number of observations in certain categories. The only conclusion that can be made is that the rate of reversion under fixed rates does not appear to be any slower than flexible rates. This is true either controlling for and holding constant the absolute size of the current account balance, or taking into account the average size of the absolute current account balance.

Since the issue of current account adjustment and exchange rate regimes is centered on non-industrial countries, we direct our attention to Table 6B. Holding constant the average absolute current account balance, the rates of reversion in the dirty float/crawl regime and the fixed regime appear about equal. Evaluating the reversion coefficient at the respective means of the average absolute current account balances, it would appear that reversion in the fixed category is definitely faster than under dirty float/crawling peg category.[11]

A separate but related issue is whether reversion rates differ when a surplus is being run, as opposed to a deficit. In order to examine this type of asymmetry, we define a dummy variable, *posCA* = 1 if *CA* > 0, and 0 otherwise, and estimate the following equation:

$$ca_{it} = \rho_0 + \rho_1 ca_{it-1} + \rho_3 ca_{it-1} posCA_{it-1} + controls_{it} + v_{it} \qquad (5)$$

The coefficient ρ_1 represents the rate of reversion when the current account balance is negative, whereas the sum of two coefficients $\rho_1 + \rho_3$ represents the rate of reversion when the current account balance is positive. The estimates are reported in Table 7.

While there is some evidence of an asymmetry in the full sample, this seems to be an artifact of pooling. Among industrial countries, there is an indication that the asymmetry exists only for those on floating rates, and in this case there is no evidence of reversion. The point estimate is 1.36, suggesting explosive behavior for surplus countries.[12] Even when the balance is negative, the evidence for reversion is weak, since the point estimate is 0.96. In contrast, under fixed rates, the rate of reversion is 0.67, and no evidence for this type of asymmetry.

Turning attention to the most important categories, the non-industrial and non-industrial ex-oil countries, one finds the asymmetry shows up only in the intermediate categories. When countries are experiencing current account deficits, it's clearly true that the rate of reversion is slowest in the dirty float/crawling peg regime. When experiencing a current account surplus, there is some evidence that the intermediate regimes have the fastest rates of reversion. The evidence is particularly marked for the non-industrial countries (taking out the oil exporters weakens the result, so only in the dirty float/crawling peg regime does the rate of reversion look substantially faster than in the other regimes). One notable result is that the floating regime and fixed regime rates of reversion are about the same regardless of whether these countries are running a surplus or deficit.

We also investigated whether the nonlinear effect shows up after accounting for asymmetry. While there is some evidence of both effects being present, only in *one* case are both effects manifested simultaneously: non-oil non-industrial countries under a fixed exchange rate regime. Reversion is faster when the current account balances are bigger, and are yet faster when the current account balance is positive. In no other case do both effects show up. In other words, sometimes the nonlinear effect is symmetrical, and in other instances, the nonlinear effect only occurs (at statistically significant levels) when balances are positive or negative.

An important finding in these set of results allowing for both nonlinearities and asymmetries is that the *slowest* rate of reversion in each category of countries is often though not always the dirty float/crawling peg regime.[13] In any case, after allowing for asymmetries and non-linearity, we still do not find robust evidence that increasing exchange rate flexibility would deliver a faster current account adjustment.

D. Size

Country size could affect pattern of current account dynamics: for a large country, the only way for its current account deficit to shrink, is for the rest of the world to do an opposite adjustment. This means that the adjustment of a large country's current account depends on factors that affect other countries' adjustment, potentially including other countries' exchange rate regimes (Ju and Wei, 2007). A simple way to account for this possibility is to run separate regressions for large and small economies.

Table 8 reports results stratified by economic size. We used both the dollar measure and the PPP measure of GDP to split the samples by average GDP. That is, for each year, we calculated the average GDP for the entire sample, and placed countries in either the high or low sub-sample. We then re-estimated the dummy variable specifications to examine whether the effect of exchange rate regimes differed depending on economic size.

We report only the results for PPP-defined size (the results using market exchange rates are similar, but less statistically significant). First note that a simple autoregressive characterization (no controls) indicates very similar degrees of current account persistence across large and small countries. However, differences become highlighted when additional controls are added. With the exchange regime dummy variables are included, the large country current account balances are much less persistent than those for the smaller countries, even though few of the regime variables are statistically significant. The big difference comes when the openness variables are also included. Then for the large countries, all regimes exhibit less persistence than the free float, although the difference is not significant for the dirty float/crawling peg.

Another way to break the groups into large and small is to focus on the G-7 countries as opposed to all others. In this case, the most important features are that, unconditionally, G-7 current account balances are much more persistent than other countries' (results not reported). When regime and openness effects are allowed for, it appears that financial openness in particular induces much greater persistence (especially in the G-7 countries, although the effect is visible for both sets of countries).

Turning to the regime results, for the G-7, a dirty float/crawling peg induces much greater persistence, in both economic and statistical terms. For the non-G-7, a fixed exchange rate induces much *less* persistence. This effect is statistically significant. This seems counter to the general presumption (although it must be allowed that the result obtains only when the openness variables are included).

E. Inflation

One could argue that the exchange rate regimes proxy for other, more fundamental, factors. Given the popularity of nominal anchor argument as a means of reducing inflation, it makes sense to examine robustness by including inflation in our regressions.

We augment the basic specifications using dummies for the LYS indicator variable with CPI inflation measured as the log difference in the CPI (the results are not reported to save space). It turns out that we retain the basic pattern highlighted in Table 2. In particular, exchange rate regimes still do not display a statistically significant impact on reversion rates, and to the extent that they do, more rigid regimes are associated with faster reversion rates after controlling for inflation. Indeed, the only instances in which the inflation rate variable comes into play are those involving the industrial countries. There, higher inflation *is* associated with faster reversion.

F. Endogeneity

The preceding discussion assumes that one can take the exchange rate regime selection as exogenous with respect to current account persistence. But we cannot take this assumption for granted. Hence, we undertake an examination to see whether the conclusions are robust to possible endogeneity of exchange rate regimes.

What variables enter into the determination of de facto exchange rate regimes? Levy-Yeyati and Sturzenegger (2003b) present evidence that the regime selection depends upon initial foreign exchange reserves, a dummy for islands, economic size, area and average exchange rate regime in the region.

Motivated by their results, we use a two-stage procedure to re-estimate the equations for specifications excluding and including openness variables. In the first stage, we estimate a multinomial probit model for each indicator variable (regime 0 through regime 3, ranging from floating to fixed), using as regressors the initial foreign exchange reserve to GDP ratio, GDP in PPP terms, land area, and a dummy variable for islands. The probit regressions yield probabilities which we then use in the second stage regressions. Note that the probit regressions are more successful for the extreme regimes than for the intermediate regimes.

The second stage regression results are reported in Table 9. In the regressions excluding openness variables, they indicate that, except for the industrial countries, there is no evidence that differing exchange rate regimes are associated with statistically significantly differing rates of current account reversion. And in this case, the implied rates of adjustment for the intermediate regimes do not make a lot of sense. In any case, there is little evidence that there is a difference in the adjustment rates between the fully floating and fully fixed regimes.

A Hausman test for the exogeneity of the regime variables rejects in almost all cases involving non-industrial countries. Hence, treating the regime indicator variables as endogenous is appropriate. The Sargan test statistic for overidentifying restrictions fails to reject in all instances. In a pure statistical sense, these instruments are uncorrelated with the error term in the main regression.

We also attempted to back out binary indicator variables based on the predicted probabilities from the multinomial probit regressions. However, because the model has a difficult time predicting the intermediate regimes, the estimated dirty float and dirty float/crawling peg variables are collinear, and hence we are unable to obtain independent effects from each of these regimes. We find that the rate of adjustment in the fully fixed regime is not statistically different from that of the fully flexible regime; hence, once again we fail to discern a strong association between exchange rate rigidity in nominal terms and current account adjustment.

IV. Exchange Rate Regimes and Persistence of the Real Exchange Rate

Why doesn't a more flexible exchange rate regime generate a faster convergence of the current account? This section aims to investigate this question. Our hypothesis is that the current account responds to *real* exchange rate, not nominal exchange rate. If the real exchange rate adjustment does not depend very much on the nominal exchange rate regime, then the current account adjustment would not depend very much on nominal exchange rate regime either. We now examine whether the nature of a country's nominal exchange rate regime significantly affects the adjustment process of its real exchange rate.

In order to accomplish this aim, we repeat a similar process in the previous section, except that we replace the current account with real effective exchange rates - CPI-deflated trade-weighted indices[14] - as calculated by the IMF.

We estimate the basic specification, then augment with dummy variables for the regime, and then incorporate the openness measures. In Table 10, one finds that the results indicate little evidence that the nature of the exchange rate regime matters. In column 1, a simple AR(1) specification indicates a 20% rate of real exchange rate reversion for the entire sample of countries; adding in regime interaction terms yields an essentially unchanged rate of reversion (22%), and no hint that any of the interaction terms with exchange rate regimes are anywhere near statistical significance (column 2). This conclusion is not altered at all by the inclusion of two openness measures. The rate of reversion is still the same (21%).

As an aside, it is interesting that we find that real exchange rates are mean reverting. This result is in line with other panel studies of real exchange rates (e.g., Murray and Papell, 2005). In addition, greater trade openness is associated with faster reversion of the real exchange rate. This finding does not fit in with Cheung and Lai (2000), Cheung et al. (2001), and Cashin and McDermott (2006), but is in accord with the panel study of Alba and Papell (2007). (Trade openness is also associated with a stronger real exchange rate on average).

These results appear to be driven by the developing countries; they do not appear in the industrial country category (columns 4-6). It is notable that for the developing countries the estimated rate of real exchange rate persistence is not altered noticeably when one includes indicators for exchange rate regimes, and measures of economic openness.

It turns out that the results – at least pertaining to the exchange rate regime – do depend upon whether one accounts for time fixed effects or not.[15] In Table 11, the specifications are augmented with time fixed effects. More fixed exchange rate regimes are not generally associated with slower reversion. That is, going from a floating rate to a dirty float/crawling peg does not result in a slower rate of reversion. However, we do find that – except for the industrial country sample – the fixed regime induces substantially slower real exchange rate reversion.[16]

To put this into perspective, for the non-industrial ex-oil countries, the rate of reversion under flexible rates is 0.37. Under fixed exchange rates, the rate of reversion is 0.18. The half-life of a deviation in the former case is 1.5 years, while in the latter it is 3.5 years. However, this result is somewhat sensitive to the choice of specifications and country samples. For example, without the two openness measures (as in Columns 2, 5, and 8), there is no statistical difference between fixed and flexible exchange rate regimes.

To summarize, there is no strong and robust evidence of a monotonic relationship from more flexibility in an exchange rate regime to a faster speed in the convergence of real exchange rates toward the long run equilibrium. This pattern is consistent with a lack of a strong and robust relationship between exchange rate regimes and adjustment speed of current accounts.

V. Conclusion

The notion that more flexibility in an exchange rate regime implies speedier adjustment in current account is very plausible *ex ante*. The only problem is that it does not hold in the data. In this paper, we examine the connection between the two for over 170 economies during 1971-2005. We make use of two leading classification schemes of *de facto* exchange rate regimes. The key finding is an utter absence of any robust association between the *de facto* nominal exchange rate regime and the speed of current account adjustment.

We further explore the reasons behind the disconnect. What matters for current account adjustment is real, not nominal, exchange rate. Yet, there is no strong monotonic relationship between flexibility of a nominal exchange regime and the speed of convergence in real exchange rates. This finding again is independent of which *de facto* exchange rate regime classification scheme we use.

Accounting for the most obvious explanations – such as the omission of important determinants of current account reversion – fails to overturn these findings. The endogeneity of the exchange rate regimes also does not seem to explain the lack of a relationship between exchange rate regimes and rates of current account adjustment.

We therefore conclude that there is no robust and systematic association between a country's nominal exchange rate regime and the speed of current account adjustment. If public policies can work on the level of real exchange rate directly, they may have some hope of altering the pattern of current account imbalances. However, changing nominal exchange rate regimes does not reliably alter the *pace* of real exchange rate reversion.

We regard our empirical results as a challenge to the well-known Friedman (1953) hypothesis in favor of a flexible exchange rate regime. This is true even in cases where the degree of financial openness is low, as it was during the time when Friedman first forwarded his argument. Hence, our results pose a challenge to an increasingly assertive policy recommendation by international financial institutions on the virtue of a flexible regime in promoting current account adjustment. We hope future work will be inspired by the evidence in the paper to re-think the role of a nominal exchange rate regime in an economy's external adjustment.

Data Appendix

The data used in this paper were drawn from a number of different sources. We provide below a listing of the mnemonics for the variables used in the analysis, descriptions of these variables and the source(s) from which the primary data for constructing these variables were taken. A listing of the countries in the final sample, along with the country groupings used in the analysis, is provided in the working paper version of this paper. For most countries, data were available from 1971 through 2005.

Mnemonic	**Source***	**Variable description**
CAGDP	WDI	Current account to GDP ratio
REER	IFS	Real effective exchange rate, CPI deflated
OPEN	WDI	Openness indicator: ratio of exports plus imports of goods and nonfactor services to GDP
RYUS	WDI	Real GDP in USD
RYPPP	WDI	Real GDP in PPP terms
RER	IFS	Real effective exchange rate
KAOPEN**	CI	Capital account openness
LYS	LYS	Levy-Yeyati/Sturzenegger de facto exchange rate regime measure
RR	RR	Reinhart/Rogoff de facto exchange rate regime measure
AREA	Rose	Area in square km
ISLAND	Rose	Island dummy
Reserves	IFS	Foreign exchange reserves ex. gold

* These are mnemonics for the sources used to construct the corresponding. CI: Chinn and Ito (2006); WDI: *World Development Indicators* (2006). IFS: *International Financial Statistics*. LYS: Levy-Yeyati

and Sturzenegger (2003), updated to 2004 from http://200.32.4.58/~fsturzen/Base_2005.zip . RR: Reinhart and Rogoff (2004), updated to 2004 by Eichengreen and Razo-Garcia from http://www.econ.berkeley.edu/~eichengr/updated_rr_nat_class.pdf .

Rose denotes data set downloaded from http://faculty.haas.berkeley.edu/arose/StabData.zip .

RR is an aggregated version of the Reinhart Rogoff index, with a reversed ordering. RR1 encompasses regimes from freely floating to managed floating; RR2 encompasses regimes from moving band that is narrower than or equal to ± 2% to pre announced crawling peg to; RR3 encompasses regimes from de facto peg to no legal tender.

** *KAOPEN* is the first principal component of four indices; in order to simplify interpretation, this variable is adjusted such that the minimum value is zero, i.e., *KAOPEN* ranges between zero and some positive value.

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Table 1A: Current Account Persistence by Country Sample, by Regime

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	All				Industrial Countries			
	Floating	Dirty float	Dirty/Crwl	Fixed	Floating	Dirty float	Dirty/Crwl	Fixed
CA(-1)	0.630	0.762	0.788	0.735	0.867	1.060	0.893	0.929
	(0.111)***	(0.068)***	(0.065)***	(0.030)***	(0.044)***	(0.066)***	(0.120)***	(0.033)***
Constant	-0.010	0.002	-0.006	-0.012	-0.001	0.003	-0.001	0.000
	(0.004)***	(0.003)	(0.003)**	(0.002)***	(0.001)	(0.003)	(0.004)	(0.001)
Observations	769	278	388	2125	209	50	35	279
Adjusted R-squared	0.38	0.55	0.64	0.58	0.71	0.88	0.8	0.78

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Notes: Dependent Variable: CA. Exchange rate regimes are based on Levy-Yeyati and Sturzenegger definitions.

Table 1B: Current Account Persistence by Country Sample, by Regime

	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Non-Industrial Countries				Non-Industrial Countries ex-Oil			
	Floating	Dirty float	Dirty/Crwl	Fixed	Floating	Dirty float	Dirty/Crwl	Fixed
CA(-1)	0.596	0.726	0.781	0.728	0.564	0.717	0.797	0.701
	(0.122)***	(0.078)***	(0.068)***	(0.031)***	(0.133)***	(0.071)***	(0.072)***	(0.039)***
Constant	-0.014	0.000	-0.007	-0.014	-0.016	-0.001	-0.006	-0.020
	(0.005)***	(0.004)	(0.004)*	(0.002)***	(0.006)***	(0.004)	(0.004)	(0.003)***
Observations	560	228	353	1846	529	209	331	1579
Adjusted R-squared	0.34	0.5	0.62	0.57	0.33	0.49	0.65	0.51

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Notes: Dependent Variable: CA. Exchange rate regimes are based on Levy-Yeyati and Sturzenegger definitions.

Table 2: Current Account Persistence, by Country Sample

	(1)	(2)	(3)	(4)
	All	Industrial Countries	Non-Industrial Countries	Non-Industrial Countries ex-oil
CA(-1)	0.630	0.867	0.596	0.564
	(0.111)***	(0.044)***	(0.122)***	(0.133)***
CA(-1) x LYS1	0.132	0.193	0.131	0.153
	(0.130)	(0.079)**	(0.145)	(0.151)
CA(-1) x LYS2	0.158	0.026	0.185	0.233
	(0.128)	(0.125)	(0.140)	(0.152)
CA(-1) x LYS3	0.105	0.062	0.132	0.137
	(0.115)	(0.055)	(0.126)	(0.139)
LYS1	0.012	0.003	0.014	0.016
	(0.005)**	(0.003)	(0.007)**	(0.007)**
LYS2	0.004	-0.001	0.007	0.011
	(0.005)	(0.004)	(0.006)	(0.007)
LYS3	-0.002	0.001	0.000	-0.003
	(0.004)	(0.002)	(0.006)	(0.006)
Constant	-0.010	-0.001	-0.014	-0.016
	(0.004)***	(0.001)	(0.005)***	(0.006)***
Observations	3560	573	2987	2648
Adjusted R-squared	0.57	0.79	0.56	0.52

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Notes: Dependent Variable: CA. LYS1 is a dummy variable for dirty float regime; LYS2 is a dummy variable for dirty float/crawling peg; LYS3 is a dummy variable for fixed.

Table 3A: Current Account Persistence, by Country Sample, by Reinhart Rogoff Exchange Rate Regime

	(1)	(2)	(3)	(4)	(5)	(6)
		All			Industrial Countries	
	Floating	Band/Crwl	Fixed	Floating	Band/Crwl	Fixed
CA(-1)	0.663***	0.799***	0.719***	0.925***	0.840***	0.946***
	(0.0639)	(0.0595)	(0.0455)	(0.0427)	(0.0424)	(0.0417)
Constant	-0.005*	-0.005**	-0.015***	-0.000	-0.001	0.001
	(0.003)	(0.002)	(0.003)	(0.001)	(0.002)	(0.001)
Observations	619	1275	1179	204	307	200
Adjusted R-squared	0.442	0.666	0.51	0.784	0.663	0.84

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Notes: Dependent Variable: CA. Exchange rate regimes are based on Reinhart-Rogoff definitions. “Free fall” regime observations omitted.

Table 3B: Current Account Persistence, by Country Sample, by Reinhart Rogoff Exchange Rate Regime

	(7)	(8)	(9)	(10)	(11)	(12)
		Non-Industrial Countries			Non-Industrial ex-oil	
	Floating	Band/Crwl	Fixed	Floating	Band/Crwl	Fixed
CA(-1)	0.621***	0.795***	0.688***	0.656***	0.800***	0.655***
	(0.071)	(0.063)	(0.048)	(0.084)	(0.066)	(0.054)
Constant	-0.007**	-0.006**	-0.021***	-0.009**	-0.007**	-0.026***
	(0.004)	(0.003)	(0.003)	(0.005)	(0.003)	(0.004)
Observations	415	968	979	348	921	905
Adjusted R-squared	0.391	0.662	0.47	0.445	0.673	0.431

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Notes: Dependent Variable: CA. . Exchange rate regimes are based on Reinhart-Rogoff definitions. “Free fall” regime observations omitted.

Table 4A: HP Detrended Current Account Persistence, by Country Sample, by Exchange Rate Regime

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		All countries			Industrial countries			
	Floating	Dirty float	Dirty/Crwl	Fixed	Floating	Dirty float	Dirty/Crwl	Fixed
CA(-1)	0.114	0.485	0.287	0.161	0.457	0.484	0.205	0.423
	(0.152)	(0.119)***	(0.116)**	(0.042)***	(0.079)***	(0.177)***	(0.237)	(0.069)***
Constant	-0.001	0.007	-0.002	0.000	0.000	0.000	-0.001	0.001
	(0.001)	(0.003)**	(0.002)	(0.001)	(0.001)	(0.003)	(0.003)	(0.001)
Observations	770	279	388	2139	209	50	35	281
Adjusted R-squared	0.01	0.15	0.08	0.03	0.19	0.18	0.01	0.17

*** p<0.01, ** p<0.05, * p<0.1
Robust standard errors in parentheses

Table 4B: HP Detrended Current Account Persistence, by Country Sample, by Exchange Rate Regime

	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
		Developing countries			Developing countries ex-oil exporters			
	Floating	Dirty float	Dirty/Crwl	Fixed	Floating	Dirty float	Dirty/Crwl	Fixed
CA(-1)	0.098	0.486	0.288	0.158	0.058	0.448	0.335	0.170
	(0.156)	(0.121)***	(0.117)**	(0.042)***	(0.165)	(0.140)***	(0.122)***	(0.050)***
Constant	-0.001	0.009	-0.002	0.000	0.000	0.009	0.000	-0.001
	(0.002)	(0.004)**	(0.002)	(0.002)	(0.002)	(0.003)***	(0.002)	(0.002)
Observations	561	229	353	1858	530	210	331	1595
Adjusted R-squared	0.01	0.15	0.08	0.03	0.00	0.18	0.11	0.03

*** p<0.01, ** p<0.05, * p<0.1
Robust standard errors in parentheses

Notes: Dependent Variable: HP Detrended CA. Exchange rate regimes are based on Levy-Yeyati and Sturzenegger definitions.

Table 5A: Current Account Persistence with Openness, by Country Sample, by Exchange Rate Regime

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		All				Industrial Countries		
	Floating	Dirty float	Dirty/Crwl	Fixed	Floating	Dirty float	Dirty/Crwl	Fixed
CA(-1)	0.725	0.536	0.832	0.656	0.809	0.569	1.959	0.657
	(0.055)***	(0.102)***	(0.150)***	(0.073)***	(0.123)***	(0.382)	(0.644)***	(0.107)***
CA(-1) x Trade	0.086	0.257	-0.067	0.037	-0.127	0.368	-1.845	0.064
Openness	(0.073)	(0.084)***	(0.116)	(0.075)	(0.21)	(0.570)	(0.848)**	(0.110)
CA(-1) x Financial	0.059	-0.001	0.078	0.034	0.063	0.188	0.166	0.108
Openness	(0.019)***	(0.057)	(0.030)**	(0.017)*	(0.027)**	(0.091)**	(0.087)*	(0.035)***
Trade Openness	-0.001	-0.001	0.000	-0.008	0.007	-0.029	0.006	0.001
	(0.004)	(0.008)	(0.009)	(0.004)*	(0.005)	(0.033)	(0.013)	(0.003)
Financial Openness	0.002	0.001	0.002	0.007	0.003	0.000	0.004	0.002
	(0.001)**	(0.002)	(0.002)	(0.001)***	(0.001)**	(0.003)	(0.003)	(0.001)**
Constant	-0.006	0.000	-0.006	-0.009	-0.010	0.008	-0.010	-0.007
	(0.003)**	(0.007)	(0.006)	(0.003)***	(0.003)***	(0.015)	(0.006)	(0.003)**
Observations	727	245	357	1917	206	36	31	266
Adjusted R-squared	0.6	0.58	0.65	0.54	0.72	0.92	0.83	0.79

Robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

Notes: Dependent Variable: CA. Exchange rate regimes are based on Levy-Yeyati and Sturzenegger definitions.

Table 5B: Current Account Persistence with Openness, by Country Sample, by Exchange Rate Regime

	Non-Industrial Countries				Non-Industrial Countries ex-Oil			
	Floating	Dirty float	Dirty/Crwl	Fixed	Floating	Dirty float	Dirty/Crwl	Fixed
CA(-1)	0.705	0.436	0.834	0.647	0.690	0.675	0.839	0.630
	(0.078)***	(0.130)***	(0.161)***	(0.076)***	(0.069)***	(0.177)***	(0.173)***	(0.091)***
CA(-1) x Trade Openness	0.101	0.323	-0.067	0.041	0.101	0.103	-0.052	0.063
	(0.09)	(0.097)***	(0.120)	(0.080)	(0.090)	(0.120)	(0.120)	(0.090)
CA(-1) x Financial Openness	0.047	-0.050	0.079	0.032	0.067	0.065	0.068	0.020
	(0.035)	(0.072)	(0.034)**	(0.018)*	(0.031)**	(0.088)	(0.034)**	(0.026)
Trade Openness	0.000	0.005	-0.001	-0.008	-0.001	-0.002	0.008	-0.007
	(0.01)	(0.010)	(0.010)	(0.005)*	(0.010)	(0.010)	(0.010)	(0.010)
Financial Openness	0.001	-0.003	0.002	0.007	0.003	0.004	0.000	0.006
	(0.000)	(0.000)	(0.000)	(0.002)***	(0.002)*	(0.000)	(0.000)	(0.002)***
Constant	-0.007	-0.006	-0.005	-0.009	-0.008	0.002	-0.010	-0.014
	(0.004)*	(0.010)	(0.010)	(0.004)**	(0.003)**	(0.010)	(0.010)	(0.005)***
Observations	521	209	326	1651	490	190	305	1407
Adjusted R-squared	0.57	0.55	0.64	0.52	0.62	0.54	0.67	0.51

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Notes: Dependent Variable: CA.

Table 6A: Current Account Persistence and Nonlinearity with Openness, by Country Sample, by Exchange Rate Regime

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	All				Industrial Countries			
VARIABLES	Floating current	Dirty float current	Dirty/Crwl Current	Fixed current	Floating current	Dirty float current	Dirty/Crwl current	Fixed current
CA(-1)	0.772***	0.456***	0.853***	0.865***	1.225***	0.479	1.773***	0.783***
	(0.080)	(0.130)	(0.155)	(0.063)	(0.165)	(0.351)	(0.511)	(0.153)
CA(-1) x |CA(-1)|	-0.349	0.838	0.031	-0.904***	-3.226*	-7.552***	-4.975**	-1.596**
	(0.277)	(0.566)	(0.219)	(0.190)	(1.740)	(2.606)	(1.797)	(0.753)
CA(-1) x Trade Openness	0.104	0.148**	-0.081	0.101	-0.262	1.287**	-0.895	0.131
	(0.080)	(0.067)	(0.131)	(0.068)	(0.235)	(0.507)	(0.730)	(0.160)
CA(-1) x Financial Openness	0.021	0.075	0.069**	-0.008	-0.056	0.222**	0.113	0.097***
	(0.021)	(0.053)	(0.028)	(0.017)	(0.045)	(0.087)	(0.093)	(0.034)
Trade Openness	0.000	0.003	0.002	-0.004	0.003	-0.004	0.0346***	0.002
	(0.005)	(0.007)	(0.009)	(0.004)	(0.006)	(0.032)	(0.011)	(0.004)
Financial Openness	-0.001	0.001	0.003	0.000	-0.002**	-0.006	-0.005	0.000
	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.006)	(0.006)	(0.001)
Constant	-0.004	-0.003	-0.007	-0.006	-0.002	-0.010	-0.022**	-0.003
	(0.003)	(0.008)	(0.006)	(0.004)	(0.002)	(0.014)	(0.009)	(0.003)
Observations	647	186	301	1476	183	29	24	229
Adjusted R-squared	0.599	0.596	0.667	0.554	0.714	0.933	0.864	0.787
Implied AR(1)	0.76	0.51	0.85	0.79	1.14	0.17	1.61	0.73

*** p<0.01, ** p<0.05, * p<0.1

Robust standard errors in parentheses

Table 6B: Current Account Persistence and Nonlinearity with Openness, by Country Sample, by Exchange Rate Regime

	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Non-Industrial Countries				Non-Industrial Countries ex-Oil			
VARIABLES	Floating current	Dirty float current	Dirty/Crwl Current	Fixed current	Floating current	Dirty float current	Dirty/Crwl current	Fixed current
CA(-1)	0.735***	0.329**	0.842***	0.841***	0.700***	0.452**	0.833***	0.830***
	(0.104)	(0.157)	(0.165)	(0.069)	(0.084)	(0.184)	(0.187)	(0.083)
CA(-1) x |CA(-1)|	-0.253	1.057*	0.049	-0.876***	-0.191	0.823	0.024	-0.951***
	(0.310)	(0.609)	(0.223)	(0.195)	(0.272)	(0.639)	(0.202)	(0.210)
CA(-1) x Trade Openness	0.117	0.189**	-0.078	0.108	0.131	0.142	-0.053	0.134*
	(0.090)	(0.074)	(0.133)	(0.069)	(0.086)	(0.094)	(0.129)	(0.073)
CA(-1) x Financial Openness	0.023	0.052	0.068**	-0.009	0.023	0.060	0.066**	-0.027
	(0.027)	(0.064)	(0.029)	(0.018)	(0.027)	(0.072)	(0.029)	(0.021)
Trade Openness	0.002	0.005	0.001	-0.003	0.003	0.005	0.010	-0.004
	(0.005)	(0.008)	(0.009)	(0.004)	(0.005)	(0.009)	(0.008)	(0.005)
Financial Openness	-0.001	0.001	0.003*	0.001	-0.001	0.000	0.001	0.001
	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.003)	(0.002)	(0.001)
Constant	-0.007*	-0.008	-0.008	-0.010*	-0.009***	-0.009	-0.012*	-0.012**
	(0.004)	(0.011)	(0.007)	(0.005)	(0.003)	(0.011)	(0.007)	(0.005)
Observations	464	157	277	1247	435	144	259	1073
Adjusted R-squared	0.572	0.558	0.654	0.537	0.631	0.555	0.682	0.525
Implied AR(1)	0.72	0.40	0.85	0.76	0.69	0.50	0.83	0.75

*** p<0.01, ** p<0.05, * p<0.1

Robust standard errors in parentheses

Table 7A: Current Account Persistence and Asymmetry with Openness, by Country Sample, by Exchange Rate Regime

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		All				Industrial Countries		
VARIABLES	Floating current	Dirty float current	Dirty/Crwl current	Fixed current	Floating current	Dirty float current	Dirty/Crwl current	Fixed current
CA(-1)	0.706***	0.640***	0.970***	0.664***	0.964***	0.330	2.339***	0.667***
	(0.060)	(0.125)	(0.140)	(0.084)	(0.115)	(0.400)	(0.699)	(0.135)
CA(-1)xd(CA(-1)>0)	0.127	-0.237	-0.438*	0.057	0.400**	0.286	0.376	0.083
	(0.171)	(0.242)	(0.241)	(0.116)	(0.158)	(0.586)	(0.452)	(0.102)
CA(-1) x Trade Openness	0.082	0.184***	-0.095	0.051	-0.426**	0.522	-2.368**	0.106
	(0.086)	(0.060)	(0.119)	(0.085)	(0.210)	(0.468)	(0.954)	(0.166)
CA(-1) x Financial Openness	0.027	0.070	0.065**	0.009	-0.042	0.121	0.024	0.076**
	(0.019)	(0.055)	(0.031)	(0.023)	(0.034)	(0.168)	(0.142)	(0.032)
Trade Openness	-0.002	0.003	0.008	-0.001	0.003	-0.018	0.045***	0.005
	(0.005)	(0.007)	(0.010)	(0.005)	(0.006)	(0.047)	(0.009)	(0.004)
Financial Openness	-0.001	0.001	0.003*	0.000	-0.002***	-0.002	-0.009	0.000
	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.005)	(0.007)	(0.001)
Constant	-0.005**	0.003	-0.003	-0.014***	-0.007***	-0.001	-0.033***	-0.007*
	(0.003)	(0.008)	(0.006)	(0.004)	(0.003)	(0.019)	(0.009)	(0.004)
Observations	647	186	301	1476	183	29	24	229
Adjusted R-squared	0.599	0.593	0.683	0.535	0.709	0.906	0.849	0.784

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 7B: Current Account Persistence and Asymmetry with Openness, by Country Sample, by Exchange Rate Regime

	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Non-Industrial Countries				Non-Industrial Countries ex-Oil			
VARIABLES	Floating current	Dirty float current	Dirty/Crwl current	Fixed current	Floating current	Dirty float current	Dirty/Crwl current	Fixed current
CA(-1)	0.684***	0.580***	0.961***	0.628***	0.662***	0.629***	0.930***	0.590***
	(0.077)	(0.137)	(0.143)	(0.088)	(0.070)	(0.150)	(0.138)	(0.101)
CA(-1)xd(CA(-1)>0)	0.115	-0.481*	-0.480*	0.082	0.151	-0.457	-0.522*	0.074
	(0.191)	(0.258)	(0.258)	(0.120)	(0.204)	(0.296)	(0.278)	(0.178)
CA(-1) x Trade Openness	0.096	0.251***	-0.085	0.065	0.100	0.219**	-0.051	0.089
	(0.102)	(0.064)	(0.123)	(0.087)	(0.096)	(0.095)	(0.113)	(0.100)
CA(-1) x Financial Openness	0.028	0.048	0.0607*	0.004	0.026	0.053	0.0599*	-0.009
	(0.024)	(0.060)	(0.032)	(0.023)	(0.024)	(0.067)	(0.033)	(0.028)
Trade Openness	0.000	0.008	0.008	0.000	0.000	0.009	0.017*	-0.001
	(0.006)	(0.008)	(0.010)	(0.005)	(0.006)	(0.008)	(0.009)	(0.006)
Financial Openness	-0.001	0.001	0.00316*	0.001	-0.001	0.000	0.001	0.001
	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.003)	(0.002)	(0.001)
Constant	-0.008**	0.001	-0.004	-0.019***	-0.010***	-0.002	-0.009	-0.023***
	(0.004)	(0.010)	(0.006)	(0.004)	(0.003)	(0.010)	(0.006)	(0.005)
Observations	464	157	277	1247	435	144	259	1073
Adjusted R-squared	0.572	0.56	0.672	0.519	0.632	0.559	0.704	0.5

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 8: Current Account Persistence by Country Size

	(1)	(2)	(3)	(4)	(5)	(6)
		Large			Small	
CA(-1)	0.760	0.475	1.021	0.731	0.691	0.652
	(0.042)***	(0.271)*	(0.111)***	(0.028)***	(0.050)***	(0.073)***
CA(-1) x LYS1		0.076	-0.358		0.119	0.111
		(0.297)	(0.204)*		(0.092)	(0.093)
CA(-1) x LYS2		0.239	-0.165		0.121	0.086
		(0.280)	(0.119)		(0.096)	(0.099)
CA(-1) x LYS3		0.269	-0.275		0.026	-0.012
		(0.277)	(0.091)***		(0.059)	(0.054)
LYS1		0.009	0.006		0.014	0.014
		(0.007)	(0.006)		(0.005)***	(0.005)***
LYS2		0.003	0.001		0.005	0.005
		(0.005)	(0.005)		(0.005)	(0.006)
LYS3		0.001	-0.003		-0.003	-0.005
		(0.007)	(0.005)		(0.004)	(0.004)
CA(-1) x Trade Openness			-0.144			0.066
			(0.130)			(0.070)
Trade Openness			-0.006			-0.005
			(0.006)			(0.004)
CA(-1) x Financial Openness			0.017			0.043
			(0.026)			(0.018)**
Financial Openness			0.003			0.005
			(0.001)*			(0.001)***
Constant	-0.005	-0.006	0.000	-0.011	-0.012	-0.008
	(0.002)**	(0.004)	(0.003)	(0.002)***	(0.003)***	(0.004)**
Observations	1126	889	770	3365	2655	2462
Adjusted R-squared	0.64	0.61	0.5	0.55	0.53	0.56

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Notes: Dependent Variable: CA. LYS1 is a dummy variable for dirty float regime; LYS2 is a dummy variable for dirty float/crawling peg; LYS3 is a dummy variable for fixed.

Table 9: Current Account Persistence Accounting for Regime Endogeneity

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	All	Industrial	Non-Industrial	Non-Industrial ex oil	All	Industrial	Non-Industrial	Non-Industrial ex oil
CA(-1)	0.766**	1.255***	0.512	0.739	0.730*	1.707***	0.377	0.610
	(0.355)	(0.324)	(0.472)	(0.505)	(0.404)	(0.392)	(0.570)	(0.626)
CA(-1) x LYS1hat	-0.621	3.831**	-0.115	-1.216	-0.176	4.552**	0.653	-0.381
	(1.684)	(1.775)	(2.102)	(2.375)	(2.227)	(1.990)	(2.918)	(3.614)
CA(-1) x LYS2hat	0.988	-2.322	1.416	1.393	0.404	-6.806**	0.999	1.210
	(1.182)	(2.573)	(1.251)	(1.373)	(1.664)	(3.209)	(1.697)	(1.740)
CA(-1) x LYS3hat	-0.202	-0.916***	0.040	-0.167	-0.185	-1.592***	0.132	-0.125
	(0.331)	(0.299)	(0.439)	(0.465)	(0.373)	(0.559)	(0.498)	(0.533)
LYS1hat	0.194***	0.146**	0.220**	0.193*	0.167***	0.147*	0.215**	0.182
	(0.058)	(0.064)	(0.096)	(0.108)	(0.064)	(0.082)	(0.101)	(0.120)
LYS2hat	0.156***	-0.002	0.161***	0.144**	0.150*	-0.128	0.156*	0.157*
	(0.050)	(0.062)	(0.058)	(0.057)	(0.079)	(0.090)	(0.087)	(0.082)
LYS3hat	-0.023***	-0.0134*	-0.024	-0.026	-0.025**	-0.048***	-0.024	-0.023
	(0.009)	(0.008)	(0.017)	(0.017)	(0.013)	(0.014)	(0.021)	(0.020)
CA(-1) x Trade Openness					0.061	0.447**	0.068	0.079
					(0.085)	(0.210)	(0.090)	(0.100)
CA(-1) x Financial Openness					0.019	0.034	0.014	0.003
					(0.019)	(0.024)	(0.020)	(0.022)
Trade Openness					0.003	0.0175***	0.004	0.001
					(0.004)	(0.005)	(0.004)	(0.004)
Financial Openness					0.000	-0.001	0.001	0.000
					(0.001)	(0.001)	(0.001)	(0.001)
Constant	-0.033***	-0.009	-0.035*	-0.032	-0.031***	0.009	-0.037	-0.034
	(0.010)	(0.007)	(0.020)	(0.020)	(0.012)	(0.009)	(0.022)	(0.021)
Observations	2877	454	2423	2170	2309	393	1916	1710
Constant	-0.033***	-0.009	-0.035*	-0.032	-0.031***	0.009	-0.037	-0.034
	(0.010)	(0.007)	(0.020)	(0.020)	(0.012)	(0.009)	(0.022)	(0.021)
Observations	2877	454	2423	2170	2309	393	1916	1710
Adjusted R-sq	0.553	0.805	0.534	0.533	0.576	0.813	0.558	0.559
Wu-Hausman test	60.684	2.454	53.445	2.454	41.567	4.810	35.669	21.499
p-value	0.000	0.484	0.000	0.484	0.000	0.186	0.000	0.000
Sargan test	0.724	1.491	0.019	1.491	2.137	1.531	2.506	2.082
p-value	0.395	0.222	0.890	0.222	0.144	0.216	0.113	0.149

Robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

Notes: Dependent Variable: CA. LYS1hat is a predicted dummy variable for dirty float regime; LYS2hat is a predicted dummy variable for dirty float/crawling peg; LYS3hat is a predicted dummy variable for fixed. Wu-Hausman test is test for exogeneity of the three regime variables. Sargan test is a test for overidentifying restrictions.

Table 10: Real Exchange Rate Persistence, by Country Sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
		All			Industrial			Non-industrial			Non-industrial ex-oil	
REER(-1)	0.797	0.782	0.785	0.624	0.579	0.704	0.803	0.814	0.832	0.779	0.733	0.728
	(0.024)***	(0.056)***	(0.053)***	(0.055)***	(0.103)***	(0.102)***	(0.024)***	(0.054)***	(0.060)***	(0.030)***	(0.043)***	(0.066)***
REER(-1) x LYS1		-0.042	-0.029		0.035	-0.119		-0.063	-0.034		0.001	0.019
		(0.075)	(0.072)		(0.159)	(0.141)		(0.077)	(0.074)		(0.083)	(0.083)
REER(-1) x LYS2		-0.101	-0.115		-0.124	-0.107		-0.120	-0.125		-0.033	-0.068
		(0.111)	(0.106)		(0.152)	(0.159)		(0.110)	(0.106)		(0.095)	(0.096)
REER(-1) x LYS3		0.064	0.093		0.075	0.022		0.032	0.074		0.097	0.126
		(0.083)	(0.073)		(0.104)	(0.095)		(0.084)	(0.076)		(0.099)	(0.094)
LYS1		0.181	0.121		-0.171	0.546		0.280	0.136		-0.002	-0.092
		(0.349)	(0.340)		(0.732)	(0.647)		(0.360)	(0.353)		(0.394)	(0.403)
LYS2		0.450	0.517		0.611	0.518		0.529	0.557		0.140	0.307
		(0.507)	(0.487)		(0.701)	(0.729)		(0.503)	(0.483)		(0.444)	(0.449)
LYS3		-0.248	-0.377		-0.351	-0.106		-0.073	-0.270		-0.366	-0.500
		(0.386)	(0.339)		(0.490)	(0.445)		(0.390)	(0.352)		(0.471)	(0.450)
REER(-1) x Trade Openness			-0.115			-0.122			-0.130			-0.134
			(0.052)**			-0.135			(0.056)**			(0.057)**
REER(-1) x Financial Openness			-0.029			-0.055			-0.007			-0.036
			(0.024)			(0.037)			(0.029)			(0.044)
Trade Openness			0.359			0.408			0.423			0.410
			(0.212)*			(0.602)			(0.233)*			(0.242)*
Financial Openness			0.129			0.267			0.025			0.148
			(0.112)			(0.171)			(0.139)			(0.206)
Constant	0.956	1.001	1.129	1.749	1.957	1.454	0.932	0.840	0.918	1.037	1.205	1.420
	(0.111)***	(0.258)***	(0.255)***	(0.256)***	(0.481)***	(0.462)***	(0.112)***	(0.245)***	(0.295)***	(0.139)***	(0.205)***	(0.333)***
Observations	2489	1936	1728	687	571	515	1802	1365	1213	1587	1176	1024
Number of cn	92	90	88	24	23	22	92	67	66	92	59	58
R-squared	0.64	0.63	0.66	0.46	0.47	0.49	0.65	0.64	0.67	0.61	0.59	0.64

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Notes: Dependent Variable: REER. LYS1 is a dummy variable for dirty float regime; LYS2 is a dummy variable for dirty float/crawling peg; LYS3 is a dummy variable for fixed.

Table 11: Real Exchange Rate Persistence with Time Fixed Effects, by Country Sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
		All			Industrial			Non-industrial			Non-industrial ex-oil	
REER(-1)	0.776	0.739	0.731	0.624	0.585	0.696	0.768	0.731	0.719	0.750	0.645	0.627
	(0.024)***	(0.055)***	(0.050)***	(0.057)***	(0.097)***	(0.112)***	(0.026)***	(0.056)***	(0.063)***	(0.032)***	(0.046)***	(0.071)***
REER(-1) x LYS1		-0.011	0.001		-0.026	-0.135		-0.011	0.013		0.062	0.067
		(0.071)	(0.070)		(0.142)	(0.151)		(0.072)	(0.069)		(0.077)	(0.077)
REER(-1) x LYS2		-0.092	-0.102		-0.071	-0.096		-0.092	-0.100		0.017	-0.016
		(0.110)	(0.104)		(0.195)	(0.214)		(0.111)	(0.104)		(0.099)	(0.099)
REER(-1) x LYS3		0.089	0.122		0.059	-0.040		0.095	0.141		0.164	0.192
		(0.080)	(0.068)*		(0.093)	(0.107)		(0.082)	(0.071)*		(0.093)*	(0.085)**
LYS1		0.034	-0.023		0.091	0.609		0.023	-0.099		-0.304	-0.336
		(0.331)	(0.329)		(0.655)	(0.695)		(0.338)	(0.330)		(0.363)	(0.373)
LYS2		0.411	0.455		0.357	0.462		0.387	0.426		-0.107	0.046
		(0.507)	(0.478)		(0.915)	(0.997)		(0.506)	(0.475)		(0.462)	(0.460)
LYS3		-0.381	-0.533		-0.290	0.173		-0.425	-0.650		-0.739	-0.885
		(0.368)	(0.313)*		(0.439)	(0.500)		(0.383)	(0.332)*		(0.443)	(0.405)**
REER(-1) x Trade Openness			-0.107			-0.057			-0.113			-0.104
			(0.056)*			(0.165)			(0.057)*			(0.058)*
REER(-1) x Financial Openness			-0.032			-0.061			-0.023			-0.046
			(0.021)			(0.038)			(0.028)			(0.040)
Trade Openness			0.326			0.047			0.352			0.309
			(0.245)			(0.784)			(0.255)			(0.253)
Financial Openness			0.162			0.289			0.110			0.206
			(0.100)			(0.175)			(0.128)			(0.186)
Constant	1.052	1.236	1.487	1.763	1.965	1.553	1.089	1.218	1.635	1.174	1.615	2.123
	(0.113)***	(0.265)***	(0.257)***	(0.287)***	(0.494)***	(0.587)**	(0.118)***	(0.322)***	(0.338)***	(0.149)***	(0.298)***	(0.370)***
Time Fixed Effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Observations	2489	1936	1728	687	571	515	1802	1365	1213	1587	1176	1024
Number of cn	92	90	88	24	23	22	92	67	66	92	59	58
R-squared	0.68	0.68	0.73	0.52	0.53	0.57	0.71	0.71	0.77	0.67	0.67	0.74

Robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

Notes: Dependent Variable: REER. LYS1 is a dummy variable for dirty float regime; LYS2 is a dummy variable for dirty float/crawling peg; LYS3 is a dummy variable for fixed.

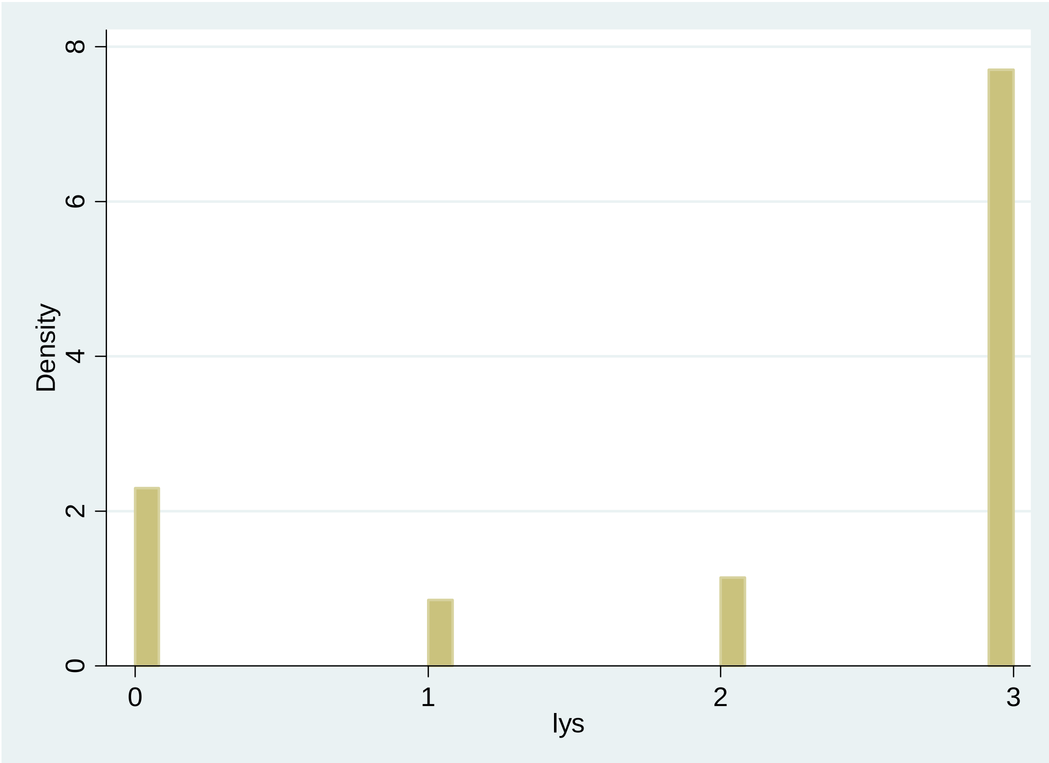

Figure 1: Levy-Yeyati and Sturzenegger index (higher values are more fixed)

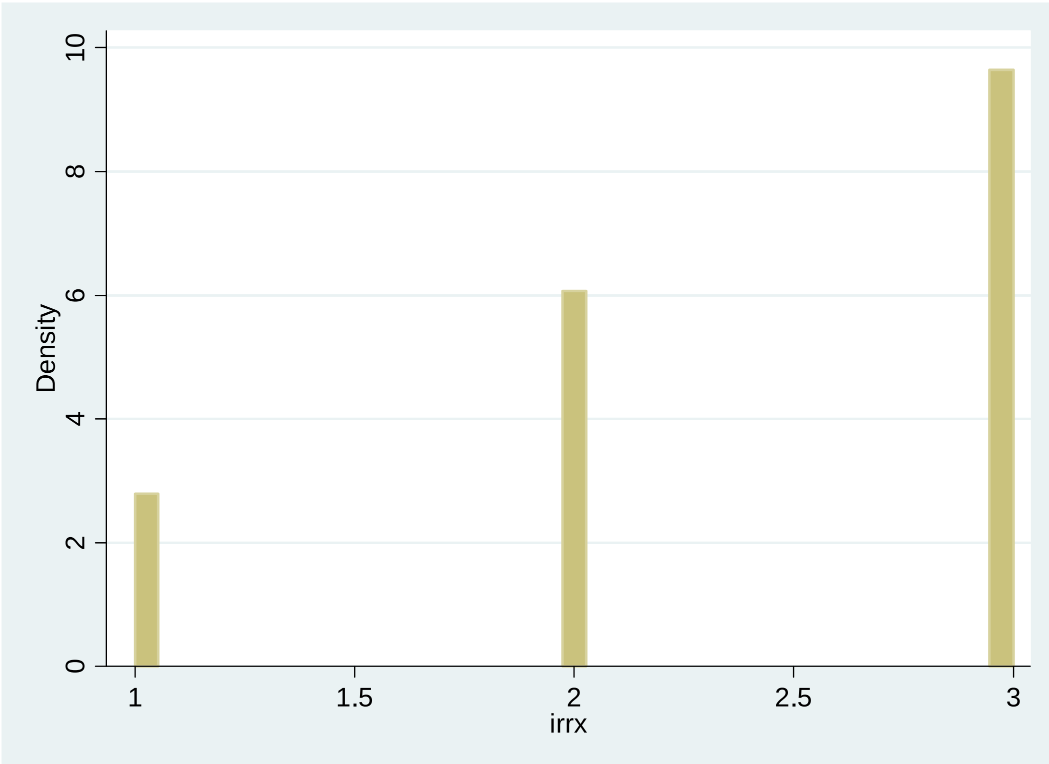

Figure 2: Reinhart and Rogoff index, aggregated and inverted (higher values are more fixed). "Freely falling" regime observations omitted

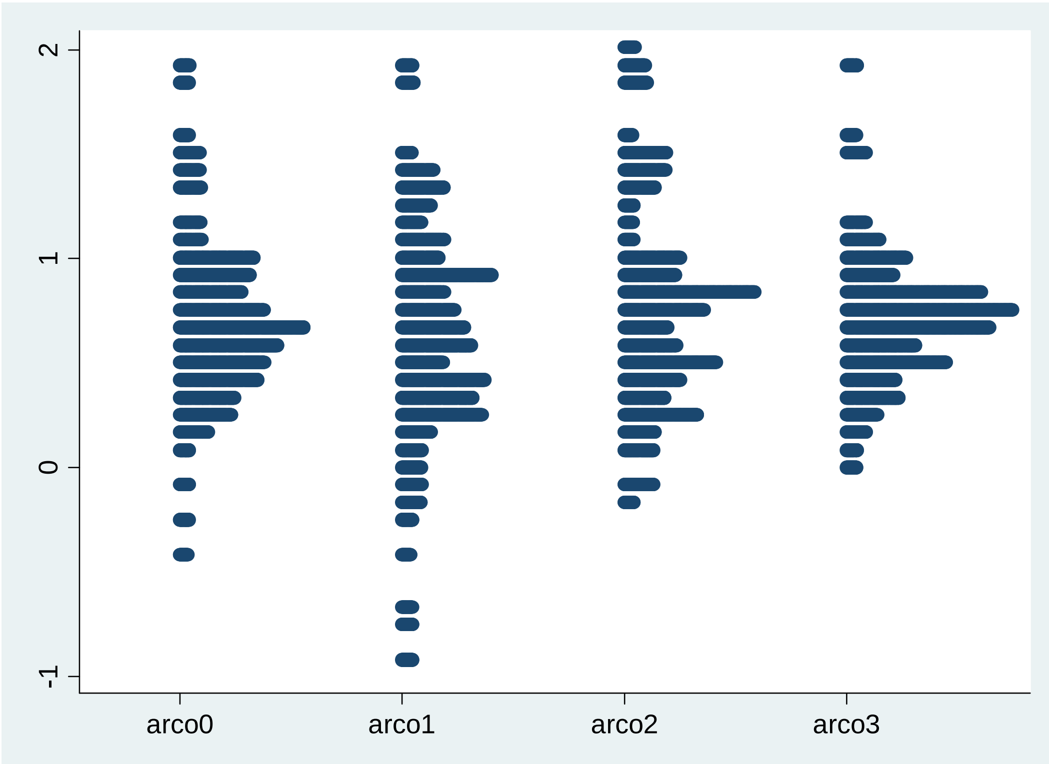

Figure 3: Individual autoregressive coefficients (no trend) for LYS categories (higher indicates more fixity).

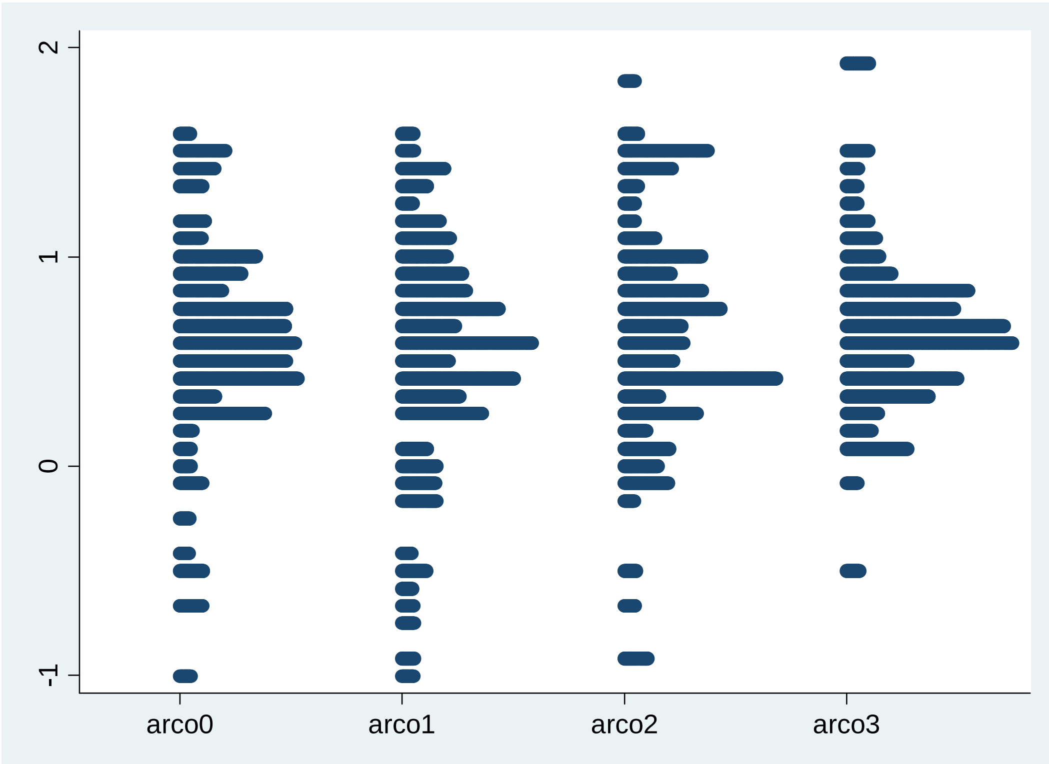

Figure 4: Individual autoregressive coefficients (with trend) for LYS categories (higher indicates more fixity).

Endnotes

[1] We check for higher order autoregressive terms, and find that an AR(1) is sufficient for the annual data. The sole exception is for the category of non-industrial countries (and non-industrial ex.-oil exporters) under a fixed exchange rate regime. In that case the 2nd lag is typically statistically significant. However, the pattern of persistence, as measured by the sum of the autoregressive coefficients, is unchanged relative to the baseline specification.

[2] We did estimate regressions of this form, and did not obtain any significant results. Subsequent results indicate a lack of the requisite monotonicity which explains why this approach does not yield significant estimates.

[3] We have also employed the *de jure* index based upon the IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions* instead of the *de facto* measures. The results indicate no systematic relationship.

[4] A panel regression of the absolute value of current account balances on regime dummies indicates a significant positive effect for the fixed exchange rate dummy in the full, and non-industrial country samples. Industrial countries exhibit no pattern, either allowing for fixed effects or not.

[5] This means we have omitted the "freely falling" regime observations, following Graciela Kaminsky's observation that such episodes are fundamentally distinct from freely *floating*.

[6] The samples have been truncated below at -1.5 and above at 2, to eliminate imprecisely estimated coefficients.

[7] It has been pointed out that the response of current account reversion to exchange rate regime might differ if the regimes change every year or couple of years. Hence, we have checked to see if the results remain unchanged if we drop all observations where the regime has changed over the past three years. We then find that for LDC samples, CA persistence does rise with exchange rate fixity, but that this

finding is *not* robust to inclusion of openness variables. Once these variables are included, there is no evidence that greater exchange rate fixity leads to greater exchange rate persistence.

[8] If country fixed effects are included, then the estimated rates of reversion for all regimes and country groupings rise – that is persistence is less marked once each current account is allowed to revert to a country-specific mean.

[9] See for instance Milesi-Ferretti and Razin (1997, 1998) and Edwards (2004).

[10] Ghosh et al. (2008) finds that large surpluses, defined as surpluses above the 75 percentile, are more persistent in fixed and intermediate regimes, while large deficits exhibit less persistence in intermediate regimes. We cannot replicate these exact results, using our measures of de facto exchange rates and our sample of countries. We also find that the results vary substantially by country grouping. The industrial country grouping, in particular, exhibits different patterns from the non-industrial country grouping.

[11] Here, we incorporate the nonlinear effects only when the relevant coefficient is statistically significant.

[12] There are too few observations in the dirty float and dirty float/crawling peg categories to make inferences.

[13] While Ghosh et al. (2008) pool over all countries in a given regression, we break down by groupings in our finest detail. Our specification is in principle more general and more flexible. In addition, our samples are also larger.

[14] See Chinn (2006) for a discussion of effective exchange rates.

[15] Mark and Sul (2008) have argued that the standard practice of using time fixed effects overstates the rate of convergence when there is serial correlation in the common factor. To the extent that their argument is valid in our sample, it would tend to reduce the discrepancy between the reversion rates estimated for each exchange rate regime.

[16] Cashin and McDermott (2004) obtain similar results using the Reinhart-Rogoff classifications.