

**Regional Monetary Cooperation Beyond Western Europe:  
The Role of Colonial Legacies and Economic Interdependence**

Paper Presented at International Political Economy Society

Inaugural Conference, November 2006

Princeton, New Jersey

**Scott Cooper**

Political Science Department  
Brigham Young University  
762 Kimball Tower  
Provo, UT 84602

scott\_cooper@byu.edu

(801) 422-4053

## **Regional Monetary Cooperation Beyond Western Europe: The Role of Colonial Legacies and Economic Interdependence**

Political scientists studying regional monetary cooperation have focused much attention on the extraordinary Western European efforts leading up to the creation of the Euro, but there have been many other regional projects involving monetary cooperation in the postwar era. These range from full-fledged currency unions like the West African franc zone and the former Soviet ruble zone to payments arrangements like the Central American Clearing House. In fact, since 1960 almost every region of the world has attempted or discussed monetary cooperation in some form. This article is the first large-N analysis of regional monetary cooperation worldwide to include both political and economic variables as well as a diverse set of control variables. The dependent variable is measured on a 31-point scale of the level of regional institutionalization—from no cooperation to full currency union.

I argue that the strongest explanation for observed regional monetary cooperation is in previous institutional legacies, especially colonial legacies. The establishment of regional currency institutions in colonial times has a powerful effect on post-independence cooperation. Earlier institutions create powerful reinforcing effects that make later, post-independence cooperation more likely. While many colonial monetary institutions did *not* lead to later cooperation, the persistence of so many of these institutions suggests the need for additional study of how regional monetary institutions change incrementally over time.

I show that levels of regional economic interdependence are only weakly related to observed patterns of regional monetary cooperation. In fact, many of the most successful efforts at monetary cooperation occur in the *least* interdependent regions. Taken together, these results demonstrate that economic explanations for currency cooperation are most useful when combined with careful analysis of institutional legacies.

Path dependence is a way to narrow conceptually the choice set and link decision making through time. It is not a story of inevitability in which the past neatly predicts the future. (Douglass North)<sup>1</sup>

Since the 1991 signing of Europe's Treaty on Economic and Monetary Union (EMU), scholarly attention to the topic of regional monetary cooperation has mushroomed. However, frequently overlooked in this monetary revival have been the many non-European regional currencies created or attempted in the post-World War II era.<sup>2</sup> Regional central banks in Africa and the Caribbean have been quietly issuing unified currencies for decades with little scholarly attention. Many other regions have created, or attempted to create, unified currencies in that time period—including Central America, the Persian Gulf, Southeast Asia, Eastern Europe, and the post-Soviet states. Still other regions have discussed regional currencies without reaching agreement—including states in South America, the Arab Middle East, and East Asia. Nearly a dozen less binding payments arrangements have been created during that same time period. The purposes of this article are to draw attention to this broader range of cases of regional monetary cooperation beyond Western Europe and to begin explaining the observed variation in cooperative institution-building.

This article provides the first large-N analysis of the causes of regional monetary cooperation to include both political and economic explanations.<sup>3</sup> I focus particularly on regionally-approved institutions that limit countries' exchange rate freedom—examples include both fixed exchange rate systems like the European Monetary System (EMS) and single

---

<sup>1</sup> 1990:98-99.

<sup>2</sup> The most systematic exception is Cohen (1993; 1998; 2004). See also Abdelal (2001), Helleiner (2003), Stasavage (2003), and the economics literature on optimum currency areas.

currencies like the euro. This study, therefore, should be seen as a complement to the existing quantitative literature on the political economy of exchange rates.<sup>4</sup> That literature emphasizes economic dependent variables—typically exchange regime choice or exchange rate variation—with the analytic focus on an individual country’s exchange rate regime choice. I focus instead on a political-institutional dependent variable: regionally institutionalized cooperation.

Benjamin Cohen describes the two options as “subordinating” versus “sharing” a currency. The economic analysis of the two choices is similar, but the political implications are very different.<sup>5</sup>

Setting up a regional currency institution with a regional central bank and single regional currency creates much higher exit costs than a unilateral exchange rate peg or currency board. Joining a regional currency also usually means abandoning a core aspect of state sovereignty—currency issue—and takes currency’s potent nation-building symbolism away from the state. As the Archbishop of Canterbury summed up his strong opposition to EMU, “I want the Queen’s head on the bank notes” (Helleiner, 1997:3). Because of their political significance, regional currency institutions are worth studying as a class of their own.<sup>6</sup>

Based on a dataset of all world regions between 1960 and 1995, I compare two explanations for observed regional monetary cooperation using a diverse set of control variables and two different statistical procedures: (1) the Arellano-Bond method of first differencing and instruments for a lagged dependent variable and (2) a fixed effects model with panel-corrected standard errors and a lagged dependent variable. To demonstrate that these results do not depend on any particular operationalization, I test multiple operationalizations of the independent and

---

<sup>3</sup> The literature on optimum currency areas, cited below, analyzes regional currency unions using economic independent variables.

<sup>4</sup> The seminal article is Frieden (1991). Other influential examples include Bernhard and Leblang (1999), Broz and Frieden (2001), and Bernhard, Broz, and Clark (2002).

<sup>5</sup> See Cohen (1998:47-91) for analysis of similarities and differences.

<sup>6</sup> Regional currency unions are also highly interesting because of their substantial economic effects; see Rose

dependent variables. My analysis also controls for economic factors such as the economic size and development level of countries in the region, and for political factors such as continuing ties to great powers and intra-regional power disparities.

The first explanation tested, *economic interdependence*, is favored by economists—who call it optimum currency area theory—and political economists who focus on interest groups. Optimum currency theorists suggest that regional monetary cooperation is more likely in regions with greater levels of regional openness and with more symmetrical response to economic shocks.<sup>7</sup> Similarly, political economists predict that trade openness increases the likelihood of regional monetary cooperation because interest groups that benefit from openness will be stronger and will lobby more effectively for closer regional ties.<sup>8</sup>

The second explanation focuses on the role of *institutional experience*, especially within colonial institutions, in shaping the development of later regional cooperation. Historical institutionalism argues that institutions are sticky, but not permanent. Earlier institutional experience may transform domestic interests, ideas, and power relationships in ways that keep old institutions functioning, even after dramatic shocks like decolonization.<sup>9</sup> This suggests that the pattern of colonial institution-building should crucially influence the success of later cooperation attempts.

Applying both theories to global data, I find that colonial institutional experience provides the more robust explanation of regional monetary cooperation. Decisions made by colonial officials in London or Paris, while far from decisive in the post-colonial era, have a strong impact on later choices by independent governments. Not every colonial institution

---

(2000).

<sup>7</sup> The seminal works are Mundell (1961), McKinnon (1963), and Kenen (1969).

<sup>8</sup> Frieden (1991; 1996), Garrett (1998), and Mattli (1999).

survived decolonization, but regional cooperation today is much more likely in regions that had the option of building on colonial foundations. In fact, it appears that every successful, or even temporarily successful, regional currency since 1960 was built on the foundations of prior regional monetary institutions.<sup>10</sup> Conversely, attempts to create monetary cooperation from scratch in regions with no pre-existing monetary institutions to build on—e.g., in Central America—failed to reach fruition. Because this article relies on large-N methods, it does not spell out a full-fledged model of institutional change over time. Future research on this subject should include historical process tracing to show why and how institutions change, as well as why they persist. To paraphrase Paul Pierson, we need to move away from “snapshot explanations” and towards “moving pictures” (2000:263).

I find a less robust relationship between economic interdependence and regional monetary cooperation. In conjunction with institutional variables and appropriate controls, regional trade ties do seem to play a role in encouraging cooperation, but this result depends on the type of statistical model. The underlying empirical problem for the theory is that cooperation occurs in many of the least interdependent regions, and does not occur in many of the most interdependent regions. At the same time, economic interdependence is frequently statistically significant, so these variables should continue to be explored in future work.

This article thus both reinforces and extends Benjamin Cohen’s seminal analysis of the causes of regional monetary cooperation. My findings confirm Cohen’s blunt conclusion that “economics may matter, but politics matters more,” but I also provide a first statistical analysis

---

<sup>9</sup> For example, see North (1990), Pierson (2000), Acemoglu, Johnson, and Robinson (2001; 2002), Mahoney (2003), and Lange (2004).

<sup>10</sup> Even the euro was built on the foundations of predecessors like EMS, the snake, and EPU.

for which political factors are most important in a cross-regional dataset.<sup>11</sup> I show that economic ties matter, but only within an institutional context that depends heavily on colonial legacies. Future research, whether quantitative or qualitative, must integrate both economic and institutional influences on regional currencies.

This research echoes recent literature connecting types of colonial rule to later economic and political development. For example, Acemoglu, Johnson, and Robinson (2002) provide evidence that where colonizers established extractive institutions to take advantage of abundant resources, long-run economic development has been hindered by powerful elites who prevent beneficial economic change that undermines their status. On the other hand, in resource-poor areas where colonizers encouraged settlement, institutions were created that protected property rights and over the very long term contributed to exemplary economic growth. Similarly, Lange (2004) shows that Britain's choice of indirect or direct mechanisms of rule in its colonies created persistent governance problems in indirectly ruled areas after decolonization. My findings add to this literature by showing that the colonizers' choice between regional and national currency institutions resonates in the post-colonial area. Post-colonial regionalism is much more likely—but still far from certain—in areas of colonial regionalism.

My findings also caution against the misconception that developing world currency unions are simply a function of colonial powers' preferences. In fact, many colonial institutions broke down at independence, as newly independent national leaders asserted their sovereign right to issue national currencies. Similarly, post-independence ties with great powers are no predictor of regional monetary cooperation. For example, there is a robust *negative* relationship between the control variable for French influence and the level of regional cooperation,

---

<sup>11</sup> Cohen (1998:84). See also Mintz (1970:33), Goodhart (1995:449), DeGrauwe (2005:116), and the sources in

suggesting that, across all decolonized regions, links to France actually make post-colonial cooperation less likely. I also find that regions with strong trade ties to a single external power—such as the U.S. role in Central America—are statistically less likely to form regional monetary ties. This is not to say that, for example, France’s role does not matter anywhere—it obviously does in some cases. But looking at French (and British and American) influence more generally shows that the pattern of regional cooperation worldwide is far more than just the whim of great powers.

The analysis proceeds in four parts. The first section provides a descriptive summary of the level of regional monetary cooperation in every world region over the period of this study and explains how this dependent variable is operationalized. The second section summarizes economic and institutional theories and derives testable hypotheses. The third section discusses modeling issues and presents the statistical findings. The fourth section looks at implications for theories of monetary cooperation and institution-building and suggests directions for further institutional work, including research on Western European monetary development.

## **I. Dependent Variable: Regional Monetary Cooperation**

This study compares monetary regime choice cross-regionally. The dependent variable is similar to the existing study of national exchange rate regime choice, but involves two departures from that literature. First, I am interested in regionally institutionalized cooperation, rather than national policies. By “regional,” I mean groups of at least three geographically proximate, independent countries. Most quantitative analysis of currency choices involves national datasets looking at each country’s exchange rate regime choice, or dyadic datasets measuring the level of

---

footnote 2.

exchange rate variability between pairs of countries. That literature provides useful insights into the reasons for various exchange rate relationships between countries. What it cannot tell us, however, is why *regional* relationships like the euro zone or West African franc zone are established. The decision to form a regional institution is not a decision that countries A and B can make alone; their efforts and perhaps even their preferences are contingent on choices of neighbors C, D, and E. For example, some members of West African Currency Board desired a continued currency union after their independence from Britain. But the currency board's membership varied from small colonies Gambia and Sierra Leone to larger Ghana and giant Nigeria and spread across the length of West Africa. Once Ghana decided it would not join a regional currency and issued its own national currency, the other three countries were too dissimilar and distant to seriously consider long-term institutions. In short, currency cooperation between Sierra Leone and Nigeria was effectively contingent on Ghana's choices.<sup>12</sup> Similarly, the failure of the post-Soviet ruble zone was largely sealed when the three Baltic states and Ukraine jumped ship, regardless of the preferences of other states. My goal is to probe the factors that enable regions to share currencies, above and beyond any national characteristics or dyadic relationships between states.

Of course, using the region as the unit of analysis has limitations. One is the difficulty in determining the "natural" pattern of regions for testing. Rather than creating my own list of world regions—which might unintentionally bias the empirical tests—I rely on the United Nations' classification of regions, resulting in seventeen regions spanning the entire globe.<sup>13</sup> In addition, the regional focus abstracts away from important country-level information.

---

<sup>12</sup> Rathbone 1992. To avoid confusion, I generally refer to colonies by their post-colonial names.

<sup>13</sup> United Nations 1996:Annex I. The seventeen regions are North, South, and Central America; Caribbean; West and East Europe; Former Soviet; Middle East; North, West, Central, East, and Southern Africa; South, East, and

Ultimately, however, my contention is not that regional analysis supersedes national or dyadic analysis: rather regional analysis complements existing studies by allowing us to examine patterns of multilateral interaction missed by other methods.

The second departure is that my dependent variable is explicitly political and institutional, rather than economic. The study of national exchange rate regimes and values—pioneered by Jeffrey Frieden (1991; 1994; 1996)—usually looks at economic dependent variables: whether the exchange rate is fixed or floating, and whether the exchange rate is appreciating or depreciating. Scholars have sought to explain these national choices by looking at the role of economic fundamentals, interest groups, political parties, political regimes, and so on.<sup>14</sup> Following the work of Benjamin Cohen, I focus instead on “currency sharing”: when states agree to form a common currency or to link their separate currencies in a fixed exchange rate system. The several European monetary experiments of the past several decades—the snake, the EMS, the euro—exemplify some of the possible variations of currency sharing.<sup>15</sup>

Underlying my choice of dependent variable is a conviction that regional currency sharing is fundamentally different from a national decision to peg to another currency. Regional monetary cooperation requires deliberate and multilateral political choices to institutionalize cooperation between states. A national peg, like El Salvador’s peg to the dollar, is frequently unilateral and often involves no real intention between two states to cooperate. Regional cooperation, on the other hand, involves deliberate binding together of policies, institutions, and even currencies—i.e., multiple states cooperating. Because it has been institutionalized, regional cooperation is harder to undo—technically more difficult to unwind and politically more costly

---

Southeast Asia; and Oceania. Unlike the UN, I separate Europe along Cold War fault lines. All statistical tests control for the different number of countries across regions.

<sup>14</sup> See footnote 4.

to dissolve—and perhaps more credible economically as a result. Especially when currencies are linked, regional institutions dilute the sovereignty of independent countries as they give up their right to issue their own currency and make their own monetary policies autonomously. Currency cooperation is therefore fundamentally political in nature, because it requires political cooperation and harmonization rather than just exchange rate linkage and monetary harmonization.

For example, Finland maintained a fixed exchange rate against the Deutschmark, and therefore against the entire European Monetary System, even before joining the European Union. Its decision to join the eurozone made little economic difference as its currency had long linked it economically to German monetary policy. Politically, however, abandoning the markka was a choice to abandon a symbol of Finnish nationalism, to adopt a more European identity, and to forswear monetary autonomy for the long term. As the literature on exchange rate regimes shows, the time horizons of an exchange rate peg depend heavily on the government's electoral fortunes (Bernhard and Leblang 1999). Regional institutions are not necessarily permanent, but they are meant to last much longer and in practice frequently endure for decades (Cohen 1993). As before, my point is not that exchange rate pegs are uninteresting—rather, the existing study of exchange rate choices should be expanded to include study of regional monetary Cooperation.

In this study, *Regional Monetary Cooperation* includes all *sustained efforts by independent national leaders in a specific region to merge monetary policies by means of a formal agreement or institution*. In practice, this definition requires us to evaluate any regional effort on two criteria: Is there a formal institution or agreement intended to make the effort durable and long-lasting? If so, did the institution actually come into effect for a substantial time

---

<sup>15</sup> See Cohen (1998, ch. 3-4) for thorough discussion of similarities and differences between currency sharing and

period?<sup>16</sup> High-profile plans for regional institutions litter the world but are not scored as cooperation unless they are implemented in practice. Neither is mutual adjustment of monetary policies scored as monetary cooperation unless specific institutions are explicitly created to manage that adjustment.<sup>17</sup> Non-formalized or ad hoc monetary cooperation exists, of course, but formally institutionalized cooperation comprises an important subset for study.<sup>18</sup>

Three main categories of regional monetary institutions fit this definition. First, “currency union” refers to the creation of a common currency and, following convention in the economics literature, also includes systems where exchange rates between separate currencies have been “irrevocably” fixed (as in the 1999-2001 eurozone). Second, “exchange rate union” includes all sustained efforts to reduce the level of exchange rate fluctuation within a region by creating and enforcing links between exchange rates, short of unifying currencies to do away with exchange rates altogether. This includes such well-known categories as pegged or fixed exchange rates and the use of target zones or parity bands—as long as these arrangements are created multilaterally rather than unilaterally. The European Monetary System is the best-known example. “Payments arrangements” are efforts to facilitate regional transactions by increasing the usefulness of members’ currencies. This involves regularizing rules for exchanging currency so that members can more freely trade with one another without the risk of being stuck with partners’ inconvertible currencies. Crucially, guarantees regarding short-term exchange rates are provided so that devaluations do not undercut creditors’ claims during the settlement period.

---

currency subordination.

<sup>16</sup> I exclude transitional arrangements designed only to fill the time it takes for newly independent countries to issue their own currencies—e.g. the breakup of the Federation of Rhodesia and Nyasaland.

<sup>17</sup> The definition also requires the participation of sovereign states and excludes colonial institutions. The legacy of colonial institutions will, however, play a role as an independent variable.

<sup>18</sup> This article also necessarily excludes what Cohen (1997) calls “currency regions,” a market-driven phenomenon where a country’s money is used beyond its national boundaries.

This leads to a 7-point scale of monetary cooperation based on the level of exchange rate freedom allowed:

Strongest Monetary Cooperation (Lowest Exchange Rate Freedom)

- 6 Currency union with a single currency in circulation
- 5 Currency union between separate currencies
- 4 Exchange rate union with narrow exchange rate bands
- 3 Exchange rate union with wide exchange rate bands
- 2 Payments arrangements covering the major portion of intra-regional trade transactions
- 1 Payments arrangements covering only a minor portion of regional trade transactions
- 0 No institutionalized constraints on exchange rate freedom

No Cooperation (Highest Exchange Rate Freedom)

These categories are comparable in several ways. First and foremost, moving along the continuum from no cooperation to currency union involves successive increases in the level, or “bindingness,” of monetary cooperation. At each successive step, the commitment required by the institution increases, and the possibility of exit is more constrained. Second, as policies shift from no cooperation toward full currency union, money becomes increasingly effective as a medium of exchange within the region. Finally, building on the first two points, successive levels of cooperation necessitate increasing levels of macroeconomic policy coordination, and decreasing levels of national monetary policy autonomy. As cooperation increases from a payments arrangement to an exchange rate union to a currency union, the resulting increases in

regional capital mobility and exchange rate rigidity imply, *ceteris paribus*, decreases in monetary policy autonomy.<sup>19</sup> Countries that are not willing to abandon the cooperative institution will find it increasingly difficult to coordinate exchange rates with regional partners without ensuring that domestic monetary and macroeconomic policies are also synchronized. Significantly, this does *not* mean that cooperation must and will progress from one type of cooperation to another—only that the types are similar enough to compare on the same scale or continuum.

To further differentiate cooperation levels, the level of monetary cooperation is scored higher for any regional institution possessing either or both of the following features: (1) the presence of a fund to provide balance-of-payments support to member states, (2) a requirement that key decisions be made on a multilateral basis. Balance-of-payments support funds (including reserve pools, swap arrangements, and other credit mechanisms) help members facing short-term balance-of-payments problems to maintain their financial obligations without devaluing their currency. In regions where there is a significant credit mechanism that members can tap for balance-of-payments support, I add 0.3 to the regional score in order to reflect members' increased ability to maintain their declared exchange rate values. If there is a weak mechanism that provides only marginal support relative to GDP, I add 0.1 instead. The distinction between multilateral and unilateral decisionmaking is another key to gauging the strength and persistence of exchange rate regimes. When exchange rates are fixed by multilateral consensus, they are harder for the individual country to alter; therefore, the commitment made is a stronger one and the required level of cooperation higher. I thus add 0.3

---

<sup>19</sup> Mundell 1960; 1963; Fleming 1962. The *ceteris paribus* condition is significant. Factors like outside subsidies to national governments or norms of multilateral macroeconomic policy coordination (both of which are outside the scope of this project) may also affect the level of monetary autonomy possessed by governments.

to the score of any regional monetary institution that requires multilateral decisionmaking.<sup>20</sup>

Overall then, Regional Monetary Cooperation has 31 potential values ranging from 0 to 6.6, with 20 of those values actually observed in the dataset. As a robustness check, I also test the data using the base 7-point scale, but obtain nearly identical results.

### Summary of Regional Monetary Cooperation Data

The dataset contains annual data from 1960 to 1995 for all seventeen regions, or 574 cases.<sup>21</sup> For each region and year, I measure the level of exchange rate freedom allowed by the most intensive monetary institution, even if that institution only included a subset of regional members. Appendix 1 shows how each regional monetary institution is scored by year, along with the name of the regional institution and a frequency table of institution types. As shown in the frequency table, one-third of the cases involve no cooperation and an additional 20% involve only the most limited balance-of-payment obligations, but nearly half of the cases in the dataset involve a more significant type of cooperation. Especially common are regional currency unions and payments arrangements—each around 20% of the dataset. Notice in particular that several other regions besides Western Europe have witnessed deeply institutionalized monetary cooperation, including the West African franc zone, the Southern African rand zone, and the East Caribbean dollar. Shorter-lived efforts include East African monetary union and the former Soviet ruble zone. With the exception of Benjamin Cohen's several studies, there is virtually no cross-regional comparison of these efforts in the political science literature.

---

<sup>20</sup> For a currency union, multilateral decisionmaking is typically reflected in the creation of a single central bank in which all members participate. For an exchange rate union, multilateralism is reflected in rules requiring a country to win its partners' approval before changing its exchange rate peg. For a payments arrangement, the essential difference is in whether settlement takes place on a multilateral or bilateral basis.

<sup>21</sup> Data is gathered from 1966 for Southern Africa and from 1992 for the former Soviet region; before those years, each region contained only one independent country. Due to that data limitation, the former Soviet region drops out

Regional exchange rate unions, by contrast, have been surprisingly rare empirically: all the observed cases are in Western Europe—from the Benelux economic union to the snake and the European Monetary System. The snake and the European Monetary System are part of the well-known trajectory of monetary cooperation that led more recently to the euro. Benelux monetary cooperation in the 1960s and early 1970s is less well recognized, but it is an indicator of the special attraction of monetary cooperation for the countries of the region. For all the attention to Western Europe’s various monetary institutions, we might have expected it to typify a broader trend. In fact, the data shows that Western Europe is completely exceptional in this regard. As a result, all statistical analysis in this study includes a Western European dummy to ensure that the region is not skewing the results.

Overall, the data demonstrate a diverse pattern of regional cooperation including numerous payments arrangements and currency unions that have rarely (or never) been addressed by political scientists. Some regions have had sustained cooperation while others have seen great fluctuation. Some regions have built intimate cooperative institutions while others have aimed high but achieved very little. The next section contrasts two possible explanations for this wealth of variance.

## **II. Theories and Hypotheses**

### **Economic Interdependence: Optimum Currency Areas**

In economics the standard framework used in the analysis of both European and non-European monetary cooperation is the theory of “optimum currency areas.” This theory originated in the work of Robert Mundell (1961) and has developed into a wide-ranging study of

---

of virtually all analysis.

the costs and benefits of forming currency areas.<sup>22</sup> Strictly speaking, optimum currency theory suggests costs and benefits of regional monetary cooperation but does not predict where it will occur. However, much recent work by economists has moved optimum currency analysis in the direction of prediction. For example, in a study of the utility of monetary cooperation in North America, Bayoumi and Eichengreen state:

[W]e find that the costs of monetary union due to relinquishing the exchange rate as an instrument of adjustment are likely to be higher in North America. . . . The negative correlation of supply shocks to Mexico with those to the industrial regions of the United States suggests that Mexico would incur higher costs than Southern Europe from a rigid currency link. Thus, we see little prospect for a currency union, even in the very long run, in North America. (1994a:126)

In other words, a North American currency area would be costly; therefore it is unlikely.<sup>23</sup> As Eric Helleiner points out, the theory “was intended to be more normative than explanatory,” but “the link between normative prescription and empirical explanation often appears blurred in recent writing in this tradition” (2003:6).

According to optimum currency theory, benefits of a currency area include a reduction of transaction costs, conservation of foreign exchange reserves, the elimination of destabilizing speculative capital flows, and a potential increase in the government’s anti-inflation credibility—but these benefits must be weighed against the loss of the exchange rate as a tool of adjustment and the reduction of national monetary policy autonomy. This cost-benefit tradeoff indicates that not all countries will find a currency area advantageous. In general, monetary cooperation will be most beneficial for groups of countries that are economically interdependent even before forming a currency area. These countries will have extensive trade ties, high factor mobility,

---

<sup>22</sup> Other key works include McKinnon 1963; Kenen 1969. For recent overviews, see Tavlas 1993; and De Grauwe 2005.

<sup>23</sup> For other examples, see Eichengreen (1992; 1998), Bayoumi and Eichengreen (1994b; 1997), and Alesina, Barro, and Tenreyro (2002).

flexible wages and prices, fiscal integration, diversified economies, and symmetrical responses to external shocks.

Although even economists doubt that economic interdependence will be perfectly correlated with political outcomes, economic interdependence is presumed to be a key causal factor in many political theories of cooperation as well. In these studies, the causal mechanism is interest group lobbying. In regions with closer economic ties, interest groups that benefit from close ties are strengthened and lobby to lock in those economic relationships. Governments are then more likely to bow to those pressures and create institutionalized regional monetary cooperation. For example, Mattli argues that “areas with strong market pressure for integration and undisputed leadership are most likely to experience integration” (1999:43). Garrett uses market integration and symmetry of business cycles as key predictors of which countries are likely to join European Monetary Union (1998). Jeffrey Frieden suggests that “those countries most strongly integrated into the [European] Union should have been those most interested in such movement toward monetary integration” (1994:94). He makes the link to economic theory especially clear: “Higher levels of capital mobility and intra-EU trade increase economic and political pressures for monetary integration. . . .The argument presented here grows out of, and is broadly consonant with, the economics literature on optimal currency areas and related macroeconomic policies” (1996:195). Of course, none of these authors ever proposes a perfect correlation between economic interdependence and monetary cooperation; all three see economic demands mediated in some way through political institutions or structures (see especially Frieden, 2001). But all conclude that political cooperation is far more likely to exist in regions of high economic interdependence.

Despite more than four decades of work on the costs and benefits of currency areas, economic theory provides no well-specified model with a utility function to serve as a baseline for analysis (Tavlas, 1993:667; Krugman, 1995:511-12; Melitz, 1995). In the absence of a system of equations specifying when the benefits of currency area outweigh the costs, economists have proposed numerous variables that might serve as rules of thumb—and no two economists cite exactly the same list. But two factors are repeated most often: (1) regional economic openness and (2) the symmetry of economic shocks.<sup>24</sup>

Regional economic openness refers to the level of goods market integration within the region.<sup>25</sup> McKinnon observed that an open economy with *flexible* exchange rates relative to its trade partners may face damaging fluctuations in domestic price levels because its prices are so strongly influenced by the price of imports (1963). Similarly, an open economy receives fewer benefits from exchange rate flexibility because exchange rate changes will be offset by changes in domestic prices, with few net benefits to the balance of payments. Finally, the more open the economy, by definition the greater the foreign exchange transactions that must be conducted, and therefore the greater the resources devoted to exchanging currencies and translating prices (Eichengreen, 1994:80). As a result, in a more open economy the national currency is less useful as a unit of account or medium of exchange. For all these reasons, economies that are more open to one another will benefit more—and suffer less—from fixing their exchange rates relative to one another or forming a full currency union. High regional trade integration implies greater benefits and fewer costs from currency area formation. Thus, we would expect to see more monetary cooperation where regional economic openness is highest.

---

<sup>24</sup> For example, see De Grauwe (1994:ch. 4), Frankel and Rose (1996:19), and Eichengreen (1994:ch. 6). Note also that many economists are somewhat uncomfortable with these criteria; see Tavlas (1993:667), Frankel and Rose (1996), and Eichengreen (1994:87-94).

Regional economic openness can be measured in several ways. I use two different operationalizations to verify the robustness of my results. The most straightforward way is to measure *Trade Encapsulation*: I calculate the level of regional trade encapsulation as the sum of all exports by independent regional states to all other actors within the region as a percentage of the total exports by independent regional states. This ratio shows the extent to which countries in each region are open to and dependent on trade within the region, as opposed to trade with extra-regional states (Kawai, 1992:79; Bayoumi and Eichengreen, 1994a:130-32). For the seventeen regions, the highest level of regional Trade Encapsulation is found, not surprisingly, in Western Europe, where intra-regional exports averaged fully 65% of total exports between 1960 and 1995.<sup>26</sup> In half of all regions, though, the level of regional trade encapsulation averaged less than 10%. The other variant of regional openness measures *Trade as a Share of Output*: intra-regional trade as a percentage of total regional GDP.<sup>27</sup> The two regional openness variables have a correlation coefficient of 0.74. (They are never used at the same time, so multicollinearity is not an issue.) Using either variable, regions with higher levels of intra-regional activity would be more likely to form monetary institutions.<sup>28</sup>

A currency linkage is also more beneficial when countries in the region face economic shocks that are symmetric or highly correlated. The absence of national monetary policy autonomy within the region means that national governments have fewer instruments at their disposal with which to respond to economic shocks. If members face symmetric shocks, then

---

<sup>25</sup> Notice that regional economic openness in this discussion refers to the level of *intra*-regional openness (i.e., the openness of regional states to each other) rather than the *external* openness of the region to the worldwide economy.

<sup>26</sup> Trade Encapsulation data were calculated from the annual editions of the *Direction of Trade Statistics Yearbook* (International Monetary Fund).

<sup>27</sup> For this variable, regional trade data are calculated in the same manner as for Trade Encapsulation and regional GDP data are calculated from the Penn World Tables (Heston and Summers, 1991).

<sup>28</sup> Political studies that use trade encapsulation to operationalize the argument include Frieden (1991; 1996), Haggard and Maxfield (1996), and Quinn and Inclan (1997).

having a single, region-wide monetary response to those shocks is appropriate. But if shocks affect the various countries asymmetrically, lost monetary policy autonomy will impose significant economic costs. Region-wide monetary policy may be deflationary, for example, at a time when one or more countries would benefit more from an expansionary policy. Because national monetary autonomy is relatively more important in regions facing asymmetric shocks, we would expect to see fewer successful monetary institutions in such regions.<sup>29</sup>

Measuring the symmetry of economic shocks is difficult, but the most straightforward solution is to compare national output statistics over time to calculate the extent of correlation between changes in real variables in different countries.<sup>30</sup> Data on real per capita GDP and on population for nearly 150 countries were obtained from the Penn World Tables and used to calculate annual real growth rates for each country, as well as an average annual regional growth rate (weighted by each country's economic size). I again created two measures to demonstrate robustness. The first measure, *Standard Deviation of Growth*, is computed as simply the standard deviation of the annual growth rates for all the countries in that region in a given year. Low scores indicate higher symmetry. The lowest values are for North America and Western Europe. The highest values are for the Middle East and sub-Saharan Africa. The alternate measure, *Average Divergence of Growth*, was computed as the average of each country's divergence (absolute value) from the regional average growth rate. The correlation between the

---

<sup>29</sup> See De Grauwe (1994:86-94), Eichengreen (1994:81-82), Masson and Taylor (1993:17-20), and Garrett (1998:26-28). Technically, much of the optimum currency literature focuses on the mechanisms for economic adjustment in regions where economic shocks are *not* symmetric. Important mechanisms include labor mobility, wage and price flexibility, or fiscal transfers. Empirical evidence, however, suggests that the influence of these mechanisms is typically low, even in Western Europe; see Bayoumi and Eichengreen (1994b:5-6), Eichengreen (1994:ch. 1), De Grauwe (1994: 86-89), Masson and Taylor (1993:8), and Garrett (1998: 26-27). Moreover, cross-national, cross-temporal data on these variables is not readily available (if at all). For these reasons, this article focuses on the level of regional economic symmetry, rather than on proposed mechanisms for overcoming asymmetry.

<sup>30</sup> Bayoumi and Eichengreen (1994a:139-46; 1994b:14-20; 1997b:196-97) and Garrett (1998:26-28).

two measures is 0.85.<sup>31</sup> For both economic symmetry variables, scores for the more developed regions—such as East Asia, Southeast Asia, Oceania, and Eastern Europe—are much lower than for the less developed economies of Latin America and Africa.

### Institutional Experience

My explanation for the causes of regional currency formation focuses on the crucial influence of earlier institutions. The most relevant institutional experience for twentieth-century regional monetary cooperation is provided by colonial institutions in Africa, Asia, and Latin America. Abundant research asserts that colonial institutions left a legacy for post-colonial states in these regions. Scholars studying long-term patterns of economic growth argue that colonial institutions left their legacy in terms of varying education levels, income inequality, protection of property rights, and limited government across countries—all of which affect growth.<sup>32</sup> Other scholars have focused on political outcomes such as democratization, concentration of authority, and good governance. For example, Lange shows that indirect colonial rule (i.e., allowing more latitude to indigenous leaders) is associated with post-colonial states that are less effective, more corrupt, less bound by rule of law, and somewhat less democratic overall (2004).<sup>33</sup> Even though none of these scholars looks directly at regional institutions, they provide strong evidence that colonial institutions continue to influence post-colonial institutional development well after independence. In the words of Africanist Crawford Young, “A genetic code for the new states of Africa was already imprinted on its embryo within the womb of the African colonial state” (1994:283).

---

<sup>31</sup> As with the trade openness variables, these two are not included jointly in models, so multicollinearity does not arise.

<sup>32</sup> See Grier (1999), Sokoloff and Engerman (2000), Acemoglu Johnson, and Robinson (2001; 2002), Brown (2000),

I hypothesize that regional monetary institutions reflect a similar dynamic. When first colonized in the 19<sup>th</sup> and early 20<sup>th</sup> centuries, most of these regions used the home currency of the colonial power—the British pound or French franc. But starting in the 20<sup>th</sup> century, colonial rulers decided to create “currency boards” (British) or “monetary institutes” (French) to manage a separate local currency. The driving force behind these changes was typically the local colonial governor who desired local currencies as a revenue source, arguing that seigniorage revenues from local currency issue should stay within the colony itself. A locally issued currency could be tightly pegged to the pound or franc, but still earn revenues for the local administration. A local currency would also reduce cash shortages and currency transportation delays that plagued local economies. Starting after World War I and continuing until the 1950s, Britain and France created local currencies in most of their remaining colonial territories—despite the protests of expatriate bankers and businessmen who preferred to retain the home currency.<sup>34</sup>

Importantly, many of these local currencies were established on a regional basis over groups of colonies, rather than establishing a separate currency for each colony. For example, the British created the East African Currency Board in 1919 with Kenya and Uganda, and later Tanganyika and Zanzibar, as members. France divided its sub-Saharan African colonies into two large federations—French West Africa and French Equatorial Africa—with a separate monetary institute for each part. In short, local currencies were created along colonial administrative lines to meet the needs of colonial administrators rather than along territorial lines. In an extreme case, Britain’s West African Currency Board included the geographically

---

and Mahoney (2003).

<sup>33</sup> See also Firmin-Sellers (1995; 2000), Morris MacLean (2002), and Englebert (2000).

<sup>34</sup> See especially Helleiner (2003:ch. 8); also Clauson (1944), Greaves (1953), Newlyn and Rowan (1954), and King

non-contiguous British territories of Nigeria, Ghana, Sierra Leone, and Gambia. This colonial regionalism helped lay the foundation for post-colonial regional monetary cooperation.

When these areas became independent in the post-World War II era, many of the colonial federations and other political structures were broken up along new national lines. For example, the French colony of Ivory Coast insisted on national independence and the breakup of the federation of French West Africa. But many colonial monetary institutions were redesigned and extended. Former British colonies in East and Southern Africa, Southeast Asia, and the Caribbean and former French colonies in West and Central Africa agreed to post-independence regional monetary cooperation using colonial institutions as a foundation.<sup>35</sup> Where institutions were redesigned, the existing currency board was typically renamed and given the broader discretionary powers of a central bank, but former managers, staff, and properties were retained. Existing rules were amended, not rewritten from scratch. These cases are counterintuitive because control of a national currency is usually seen as a central aspect of sovereignty and we might expect newly independent countries to rush to establish their own separate currencies (as, in fact, many did). But more than three dozen new states that had experienced previous regional institutions refrained from establishing national currencies in the decades after decolonization.

The economic analysis of “increasing returns” provides a helpful analytical framework for understanding this institutional continuity. Some processes create reinforcing mechanisms that make it more costly to switch to a different path in the future. Mechanisms for path dependence spelled out in economic theory include large setup costs, learning, actors’ changed expectations, and uncertainty. As a result of these increasing returns effects, technological

---

(1957). Notice that economic interdependence does not explain the original creation of colonial currencies: powerful expatriate interest groups were overruled by the needs of colonial governors.

<sup>35</sup> A similar dynamic is observable in the former Soviet ruble zone.

choices, once made, are very difficult to change. Pierson shows that these mechanisms apply to political institutions, and I argue that these four mechanisms help create continuity in regional monetary institutions.<sup>36</sup>

First, institutions involve high setup costs. Creating new institutions from scratch involves large initial costs in the form of barriers to be overcome, bargains to be made, and resources to be allocated. Modifying an existing institution is usually much less costly. A new national currency generally implies a national central bank—including a building, technical staff, initial funding, enabling legislation, and rules of operation—as well as technicalities of currency design, production, transportation, and issue. And the ideological and distributive issues underlying central bank design are politically difficult.

Second, institutions become more effective with learning. As a result, over time their value increases, as do the opportunity costs of starting from scratch. In the highly technical realm of monetary management, past learning creates an especially valuable asset for an existing institution. Even if pre-independence regional monetary institutions are not fully prepared for the post-independence policy environment, their accumulated learning provides them a valuable head start compared to newly created national institutions.

Third are the changed expectations of actors, especially including organized actors like parties, interest groups, and bureaucracies. Even actors that are disadvantaged by the regional status quo may come to believe that the institution will endure, which may discourage them from challenging it. The habit of thinking your country should manage its own currency—or that it is not ready to do so—can become persistent.

---

<sup>36</sup> See David (1985), Arthur (1988; 1989), North (1990:92-100), and Pierson (2000).

Fourth, because the world is complicated and decisionmakers face great uncertainty, they may prefer the security of the status quo to the insecurity of change (North, 1990:100). This creates an “if it ain’t broke, don’t fix it” mentality that is captured well by the reputed maxim of the British foreign service: “All actions have consequences: consequences are unpredictable: therefore take no action” (Joll, 1992:239). Even if decisionmakers might prefer an alternate institution in theory, tinkering with the status quo in an evolutionary fashion is safer and therefore often preferable. It is easy to understand why leaders of the first post-colonial governments were often wary of massive changes in economic institutions—especially seemingly arcane monetary ones—at a time when they had so many other changes to implement.

These reinforcing mechanisms are especially salient in the case of monetary institutions because of the high levels of trust and significant network externalities required for creating a viable money.<sup>37</sup> A given monetary unit becomes viable when individuals believe other actors are likely to accept the money for future commercial and financial transactions. This social contingency of money increases the value of existing, familiar units relative to new, untried units. For newly independent states, switching to a new money required either a substantial level of public trust in the government issuing the new currency (as evidenced perhaps by highly nationalist, charismatic rulers in Ghana and Guinea) or a large scale use of political capital by governments to coerce and enforce the new money. In parts of sub-Saharan Africa and Asia, for example, colonial officials had already worked painstakingly for decades just to draw indigenous people into the monetarized economy based on a particular colonial currency (Helleiner 2003, ch. 8). Fully aware of the massive effort required, some newly independent governments hesitated to force an unfamiliar new currency on reluctant populations. In short, while many

---

<sup>37</sup> Zelizer 1994; Kaelberer 2004.

institutions create self-reinforcing processes, the social or network properties of money make monetary institutions especially resistant to change.

This analysis also suggests why regions *without* colonial currency ties have struggled to establish regional monetary institutions—indeed, why they have so rarely even attempted regional institution-building. In these cases, institutional experience works against regionalism. The existing monetary institution of separate national currencies creates the same reinforcing mechanisms, only it is separation that is reinforced. The mechanisms of learning, setup costs, uncertainty, and actors' expectations all favor the national currency over an abstract and untried regional one. For example, even though six Persian Gulf governments pledged in 1981 to form a common currency—and successfully established trade and intelligence cooperation—monetary bargaining broke down over the issue of how strongly to weight the dollar in creating an external target value for the new currency. Saudi Arabia has issued its own currency since 1928 and has long pegged its currency to the dollar. Kuwait, which has issued its own currency since 1961, pegs to a currency basket involving the dollar and other currencies (Pick and Sedillot, 1971). Both countries' currency policies were strongly tied to political concerns regarding how closely to align with the United States. In the end, these governments that had so successfully cooperated on other issues chose to continue issuing separate currencies (Cooper 2004). The lack of common currency institutions to build on put substantial obstacles in the way of cooperation, even where both sides agreed cooperation would have strengthened the existing trade agreements.

Thus, previous institutions play a key role in influencing later cooperative efforts. Once on the path of regional institutions, reinforcing mechanisms make later regional cooperation

more likely. But in the absence of earlier institutions to build on, currency separation is reinforced and attempted cooperation is harder to accomplish.

Of course, not every post-colonial government chose to the path of continued regionalism. The West African Currency Board was immediately doomed by independent Ghana's decision to issue its own currency, several former French colonies left the franc zone, planned monetary cooperation disintegrated at the last minute in British Southeast Asia, and the ruble zone and East African monetary union both died prematurely. Earlier institutional experience by no means guarantees later cooperation. But such experience does broaden the range of possible choices to include a regional option and reduces barriers to regional cooperation if that is the chosen option.<sup>38</sup>

Previous institutional experience is difficult to model quantitatively, so I again create two different indicators of earlier institutional ties. Each indicator is imperfect, but together they allow us to test different ways that earlier institutions help promote later monetary cooperation. *Past Currency Union* is scored true for a given region whenever there is a past currency institution in the region, whether it involved colonies or sovereign states. It is also true in the aftermath of state breakups such as the disintegration of the Soviet Union and Yugoslavia. Once the dummy is initially true, it remains true in every succeeding year. This variable measures whether there is any past currency institution in the region—however remote in time—on which current states could build.<sup>39</sup>

---

<sup>38</sup> A full theory of institutional evolution should include mechanisms for institutional dynamism and even dissolution in addition to these mechanisms for institutional continuity. Unfortunately, there is no space for that topic in this article. See Cooper and Asay (2003) for a first attempt.

<sup>39</sup> The variable is true in the Caribbean (1979-), East Africa (1963-), West Africa (1960-), Central Africa (1960-), Southern Africa (1966-), Southeast Asia (1984-), East Europe (1991-), Former Soviet (1992-), and the Middle East (1971-).

The more nuanced indicator of institutional experience is *Colonial Currency Institution*. This variable is scored true for any region where there was an earlier currency institution, even among non-sovereign units, but it is only true for five years after its members obtained sovereignty. Where Past Currency Union includes both colonial currencies and state breakups (i.e., Yugoslavia and the USSR), Colonial Currency Institution targets only French and British colonial currencies.<sup>40</sup> Colonial Currency is also narrower in that it targets a five-year window after the conclusion of a colonial currency, whereas Past Currency is true for an unlimited time after an earlier currency institution. The intuition is that if newly sovereign states are going to build new institutions on an earlier foundation, they are most likely to do so within a short span. After having had separate currencies for more than five years, any cooperation that occurs is better characterized as “new” rather than as “built on earlier foundations.” To use an extreme example, 1960s Central American leaders’ rhetoric suggested that their planned regional institutions were a continuation of unification efforts started in the 1820s—but the century and a half of separate national institution-building in the region suggests that this is rhetoric, not path dependence. The five-year window for this variable is of course arbitrary, but it is intended to separate rhetorical linkage from substantive institutional linkages. Including these historical variables in the analysis allows me to test whether prior institutional experience between states (even when that experience preceded national independence) influences their later level of cooperation.

---

<sup>40</sup> There are no comparable institutions established by other colonial powers. The variable is true in the Caribbean (1979-93), East Africa (1963-67), West Africa (1960-64), Central Africa (1960-64), Southern Africa (1966-70), and the Middle East (1971-75).

Because the two variables approach prior institutional experience in very different ways, their correlation coefficient is only 0.32. By testing both, we can better gauge the robustness of the institutional argument.

### **III. Statistical Testing**

Two primary statistical issues arise in creating a model for this time-series cross-sectional dataset. First, the dependent variable, Regional Monetary Cooperation, changes slowly; this implies the likelihood of autocorrelation and implies a dynamic specification. I use a standard lagged dependent variable approach to deal with autocorrelation (Beck and Katz, 2004). Second, differences across regions raise the strong possibility of unit heterogeneity (and perhaps panel heteroskedasticity) and suggest the usefulness of a fixed effects specification—i.e., regional dummy variables. In this context, fixed effects provide a statistically conservative method of reducing the omitted variable bias in the panel (Wilson and Butler, 2004). Unfortunately, ordinary least squares using both fixed effects and a lagged dependent variable produces inconsistent estimators because the lagged dependent variable is correlated with the error term (Nickell, 1981; Greene, 2000:582-83; Hsiao, 2003:70-72). The textbook solution to the problem is an instrumental variable approach such as the one developed by Arellano and Bond (1991). They use differencing to remove unit heterogeneity from the model and then use previous levels of the lagged dependent variable as instruments for the lagged dependent variable.<sup>41</sup> Greene (2000:582-84) and Hsiao (2003:69-102) show that this process leads to consistent, normally distributed parameter estimates.

---

<sup>41</sup> In other words, instead of introducing regional dummy variables as in a fixed effects model, the Arellano-Bond method wipes out regional differences by means of first differencing. Then it uses previous values of the lagged dependent variable as proxies for the lagged dependent variable itself, in order to reduce correlation of the

The textbook model has come under some criticism from practitioners, however. Beck and Katz (2004) argue that the bias resulting from fixed effects and a lagged dependent variable is relatively small and that the efficiency loss of the instrumental variable approach outweighs the reduced bias. Some recent Monte Carlo work supports their claim (Judson and Owen, 1999; Adolph, Butler, and Wilson, 2005). These studies suggest that for cross-sectional data with relatively long time series—like the more than 30-year series in my dataset—the fixed effects lagged dependent variable model is at least as good as the Arellano-Bond technique. To demonstrate the robustness of my results, I use both methods: (1) the Arellano-Bond model and (2) a fixed effects model with a lagged dependent variable (and panel-corrected standard errors).<sup>42</sup>

Notice in particular that both methods are very effective in dealing with a dependent variable that changes slowly or not at all from year to year. In the Arellano-Bond procedure, the dependent variable is differenced ( $y_t - y_{t-1}$ ): the model thus picks up only *change* in the dependent variable, not continuity. Similarly, in the fixed effects models, if there is no variation over time in a particular region, then the regional dummy will *completely* explain that variance. Including regional dummies thus biases the model *against* finding an effect of the independent variables in this case.<sup>43</sup> In short, both methods are statistically conservative in dealing with a dependent variable that changes little over time. This bias against my argument makes the strong positive findings below all the more significant.

---

independent variables with the error term.

<sup>42</sup> Results are also robust to a Beck and Katz (1995) specification using a lagged dependent variable and no fixed effects.

## Control Variables

In both sets of models, I include both economic and political control variables: *Average Economic Size* controls for the economic size of countries in the region and is measured for each region as the average of the log of each country's GDP; economic theory suggests smaller economies should be more likely to have fixed exchange rates, presumably including regional monetary cooperation (McKinnon, 1963). *Development Level* is computed as the average of the countries' per capita real GDP, weighted by population. Interestingly, Development Level is *negatively* correlated with the dependent variable (-0.23, or -0.36 with West Europe excluded), suggesting again that highly developed Europe's monetary cooperation is more the exception than the rule. *Size of Region* is measured as the number of sovereign countries in the region in a particular year; this control is necessary in models using Trade Encapsulation because, *ceteris paribus*, regions with more countries will have higher intra-regional trade.<sup>44</sup>

We might expect that regional monetary cooperation would be more likely in regions where former colonial powers continue to play a strong role after decolonization. To control for this possibility, I create dummy variables for *British Influence* and *French Influence*. Each is true in any region where there are three or more independent former colonies of the respective colonial power—in other words, where either Britain or France maintained post-World War II colonies, protectorates, or mandate territories. The actual level of influence by the former colonizer of course varies somewhat across countries, but very few newly independent countries broke all ties to the colonizer, and both France and Britain have continued to provide various forms of support to the vast majority of former colonies. It is therefore reasonable to assume that

---

<sup>43</sup> Wilson and Butler, 2004. For this same reason, in an early article Beck and Katz (1995) argued that fixed effects models should not generally be used because they are *too conservative*.

<sup>44</sup> Economic data are from the Penn World Tables. Dates of independence are from the CIA *World Factbook*.

these former colonial powers maintained a degree of influence in any region where they had multiple colonies.<sup>45</sup> Notice that these two variables are measuring something very different than the independent variable Colonial Currency Institutions. British and French Influence variables control for possible post-independence ties between Britain and France and their former colonies. Colonial Currency Institutions measures only whether there was a regional currency institution established in colonial times that could provide a basis for post-colonial institution-building. Correlation coefficients between Colonial Currency and the British/French control variables are very low—0.16 and 0.03 respectively. By including both colonial influence and institutional experience in the models below, I test whether previous institutional experience is significant even *after* controlling for the likelihood of continuing ties to the colonial power after independence.

More broadly, we might also expect that economic ties with any great power, former colonizer or not, could affect regional institutionalized cooperation (Crone 1993; Grieco 1999). To test that possibility, I create a control variable for external influence, *Trade with External Power*, which is a continuous variable measuring each region's trade with its largest extra-regional trade partner as a share of total trade. The intuition is that a regional monetary institution pegging to an external power's currency is more likely if there are strong regional trade ties to that power. The largest external partner is most frequently the United States (e.g., in the three Latin American regions as well as West Europe and East Asia) or Japan (in Southeast Asia, South Asia, Oceania, and the Middle East). But a handful of other great powers are also represented: Britain and France in their former colonial areas, the USSR in Eastern Europe,

---

<sup>45</sup> British Influence is true in the Caribbean (1966-95), East Africa (1963-95), West Africa (1961-95), Southern Africa (1968-95), South Asia (1960-95), Southeast Asia (1984-95), the Middle East (1960-95), and Oceania (1980-95). French Influence is true in West Africa (1960-95), Central Africa (1960-95), North Africa (1962-95), East

Germany in Eastern Europe and the former Soviet Union, and even Italy in North Africa.<sup>46</sup> The highest values for this variable are found in Latin America: in Central American and the Caribbean, trade with the U.S. averages above 40% of total trade by the region. Eight other regions have averages above 20%. The lowest values are for Western Europe (7% on average) and for North America (set to 0 by definition).<sup>47</sup>

Finally, because some scholars have suggested that regional monetary cooperation is more likely where there is an intra-regional hegemon to bribe or coerce smaller states (Cohen 1993; Mattli 1999), I also control for intra-regional power disparities. The variable *Intra-Regional Hegemon* is measured as the largest GDP in the region as share of the total regional GDP.

Descriptive statistics for all variables can be found in Appendix 2.

#### Findings: Institutional Experience and Political Control Variables

The first two columns of Table 1 present statistical results using the Arellano-Bond method; the last two use fixed effects and a lagged dependent variable. Results were obtained using Stata 9.1's *Xtabond* and *Xtpcse* commands. As suggested by Arellano and Bond, I report *Xtabond* parameter estimates and autocorrelation parameters using the Robust option and Sargan test results using the Twostep option. In all Arellano-Bond models the null hypothesis of no second-order autocorrelation can be accepted, a key condition for the use of the method. Sargan test results do not indicate specification problems. For each fixed effects model, an F-test shows that the regional dummy variables are jointly significant, indicating that regional fixed effects are

---

Africa (1977-95), and Southeast Asia (1960-95).

<sup>46</sup> As trading partners change over time, this variable continues to measure external trade with whatever state is the largest single partner in a given year. For example, South Asia's largest trade partner is initially Britain, later

appropriate. Because I use the AR1 correction option with the Xtpcse command, these models are estimated by the Prais-Winsten technique; a Lagrange multiplier test on the transformed residuals shows that the technique successfully removed autocorrelation. For all models, residuals appear normally distributed.

Finally, remember that because the independent and dependent variables are differenced in the Arellano-Bond method, the coefficients in columns 1-2 are not directly comparable to those in columns 3-4.

[Table 1 about here]

The table presents interesting findings and non-findings. First, both institutional experience variables—Colonial Currency and Past Currency—are significant in all models. This result is surprisingly robust, given the limitations inherent in quantitative indicators of previous institutional ties. The presence of earlier colonial institutions in a region makes post-independence regional monetary cooperation significantly more likely than regions without earlier institutions to build on. In a nutshell, colonialism's institutional legacies matter.

The other strong findings are more surprising: French Influence and Trade with an External Power are robustly significant but with negative signs. The former suggests that, *ceteris paribus*, former French colonies are *less* likely to establish regional monetary cooperation. In fact, several regions where France has maintained extensive post-colonial ties have not established regional monetary institutions—e.g., North Africa. Of course, there are two decolonized French regions with long-standing regional monetary cooperation—the franc zone in West Africa and Central Africa—but the overall effect of ties to France seems to be negative once we have controlled for other factors. Further tests show that this variable is strongly

---

switches to Japan, and in the 1990s switches to the US.

significant in the same direction even when the institutional experience variables (Colonial Currency and Past Currency) are omitted. It is also significant if we omit the West African and Central African regional dummy variables from the fixed effects models.

The robust negative sign for Trade with an External Power probably has a similar logic: despite the economic rationale for establishing a regional link to the external power, political factors rule out many such efforts in practice. For example, even though the Latin American regions all have strong ties to the United States, there has been no significant regional monetary cooperation. Remember also that these results do not rule out unilateral (as opposed to regional) currency ties to an extra-regional currency.

Looking at the other control variables, British Influence is not significant, reflecting the fact that British colonies can be found both creating institutions and tearing them down; the two effects probably cancel out. As discussed previously, the real British effect seems to be through colonial institutional legacies, not in post-colonial ties to London. Intra-regional Hegemony is not significant in any of the four models.

All these results are extremely robust: institutional experience and these two control variables continue to be statistically significant if we (a) substitute the alternate economic interdependence variables described in Section 2, (b) omit the economic interdependence variables entirely, (c) omit some of the control variables, or (d) omit the West European region as an outlier. None of these tests substantively changes the results.

As discussed above, both statistical methods are highly conservative with regards to a slow-moving dependent variable. Nevertheless, to show that my results do not depend on this modeling choice, I created an alternate dataset that measures the independent and dependent

---

<sup>47</sup> This variable is not significantly correlated with the dummy variables for French or British influence.

variables at 5-year increments, instead of annually. The compressed dataset omits much useful information, but does not significantly change the reported results.<sup>48</sup>

### Findings: Economic Interdependence

The economic interdependence findings are more mixed. Trade Encapsulation, a measure of regional openness, is significant in only 2 of the 4 models.<sup>49</sup> Moreover, even this partial success only occurs when the institutional experience variables are included. When we omit institutional experience, Trade Encapsulation is no longer significant in either fixed effects or Arellano-Bond models. Equally troubling for economic interdependence, the measure of economic symmetry, Standard Deviation of Growth, is not significant in any of the four models, although it does consistently have the correct sign (and is sporadically significant in some of the robustness checks described above).<sup>50</sup>

The economic control variables fare no better. Average Economic Size, a measure of whether the region contains large or small economies, is significant in 1 of the 4 models, but with the wrong sign. Development Level is significant in 2 of the 4 models, with a sign suggesting regional monetary cooperation is the province of less developed regions.<sup>51</sup>

Data plots in Figures 1 and 2 make obvious the problems with the economic interdependence variables: Even though high Trade Encapsulation in Western Europe is associated with persistent regional monetary cooperation, none of the cases of moderate Trade

---

<sup>48</sup> Results available on request.

<sup>49</sup> The alternate operationalization, Trade as a Share of Output, is also significant about half the time—i.e., in most fixed effects models but not in Arellano-Bond models.

<sup>50</sup> Substituting the alternate operationalization of symmetry does not change this result.

<sup>51</sup> Examining correlation coefficients for all the variables in these models suggests only one area of possible multicollinearity: three of the economic variables—Trade Encapsulation, Average Economic Size, and Development Level—are correlated at the 0.5-0.6 level. However, omitting different combinations of the three to eliminate multicollinearity does not change the reported results.

Encapsulation (i.e., about 20 to 40%) is associated with significant monetary cooperation. Outside Western Europe, we would expect to see monetary cooperation in regions with trade openness and high economic symmetry—such as North America, Eastern Europe, and Southeast Asia—but none is observed in those regions. And the most extensive monetary cooperation is observed at the very lowest levels of trade openness and economic symmetry: monetary institutions in sub-Saharan Africa and the Caribbean contradict the expectations of economic interdependence. In Western Europe, high levels of economic interdependence *are* associated with regional institution formation. But other regions of relatively high interdependence—i.e., North America, East Asia, Oceania, and Southeast Asia—have not attempted substantial monetary institutionalization.

[Figures 1 and 2 about here]

Another way to look at these findings is to examine the substantive effects of each variable in isolation. Table 2 shows the predicted effect on the dependent variable of a one-unit change in the independent variable. Using the final column for easier comparison, the institutional and political variables (Colonial Currency, Past Currency, and French Influence) have the largest effects on the dependent variable. Institutional experience raises the predicted value of regional monetary cooperation by 1.1-1.8 points on the 0-6.6 scale. The predicted value for regions with former French colonies is 2.6 points lower. A one-standard-deviation change in Trade Encapsulation increases cooperation by 0.8 points on the same scale. The other control variables have somewhat smaller effects.

[Table 2 about here]

#### IV. Conclusion

This article has provided quantitative evidence that institutional experience plays a key role in understanding observed patterns of regional monetary cooperation. The repeated positive relationship between institutional experience and regional cooperation strongly suggests that there is a dynamic historical process at work that demands closer scrutiny. Even though Colonial Currency Institution and Past Currency Union have a correlation coefficient of only 0.32, both are strongly related to Regional Monetary Cooperation. Changes in these institutional variables also have large substantive effects. Interestingly, the revolutionary wave of post-1960 decolonization frequently led to only evolutionary changes in regional monetary institutions. Institutions imposed from London and Paris on their colonies were often chosen by newly sovereign decisionmakers as the solution to post-independence dilemmas—sometimes for the long term and sometimes only temporarily.

These results also caution against extrapolating from the African franc zone to a general explanation of post-colonial influence by imperial powers like France and Britain. Post-independence ties to Britain have no effect on later cooperation and ties to France have a statistically significant negative relationship to cooperation. The problem is not that great power influence doesn't matter. In some cases and on some issues it certainly does (Chipman, 1989; McNamara, 1989). But in most areas of the world, Britain and France either chose not to promote regional monetary institutions or failed to persuade newly independent states to go along.<sup>52</sup>

My findings are mixed about the usefulness of economic interdependence as a predictor of where cooperation will occur. Regional trade openness does often seem to have a modest

---

<sup>52</sup> Examples of the latter include Britain's failed promotion of post-independence regional monetary unions in the

effect on regional monetary cooperation. But this result is not robust, and economic symmetry does not appear to have any effect on cooperation. Moreover, the economic variables are significant only *after* we control for past institutional experience. Optimum currency theory is a useful model of the theoretical costs and benefits of regional monetary cooperation, but the actual pattern of cooperation seems much more heavily influenced by political and institutional factors. Overall, economic theory should be used cautiously in predicting cooperation.

These results are important in part because economic interdependence is widely used by both political scientists and economists as the starting point for analysis of currency areas. This article implies that economic rationality is, at most, only one consideration of political decisionmakers. Non-economic factors must be involved in any meaningful explanation of the decision to cooperate regionally.

This conclusion echoes Jonathan Kirshner's *Monetary Orders: Ambiguous Economics, Ubiquitous Politics* (2003). Kirshner and his collaborators point out that in many real-world situations, economic theory gives no clear-cut answers for policymakers. As a result, choices among economic alternatives are more heavily influenced by political interests and pressures: the "difference between many plausible policies is of ambiguous or, at most, modest economic effect. Economic logic limits the range of policy choices to a plausible set, but the outcomes observed are largely attributable to politics. . ." (2003:4). Political calculation is therefore ubiquitous, even in the sometimes arcane realm of monetary institutionalization.

This research also shows that past institutions influence *but do not determine* future institutions. Many newly independent countries abandoned existing regional ties and instead established separate national currencies. In British West Africa and the Federation of Rhodesia

and Nyasaland, post-independence leaders quickly disposed of regional ties. In Southeast Asia and East Africa (as well as the former Soviet Union), national leaders agreed at first to continue regional currencies, but soon reversed course and chose to dismantle them in favor of separate national currencies. And even in regions with continuing currency ties, some countries chose not to participate, such as Guinea leaving the West African franc zone and Botswana leaving the Southern African rand zone. Thus, there is clear evidence of the role of colonial legacies but also that post-independence national leaders still had choices. Returning to the epigraph, historical experience “is a way to narrow conceptually the choice set,” but “is not a story of inevitability in which the past neatly predicts the future” (North, 1990:98-99).

The main task of future research in this area will be to flesh out political mechanisms of institutional reproduction and institutional change. Large-N statistical studies of colonial institutional legacies must be balanced with careful process tracing examining why some governments chose to maintain inherited institutions while others abandoned them. New research will also have to look at the role of domestic actors, including economic interest groups and governments. But, as this article shows, the answer must surely involve not just economic cost-benefit analysis but careful attention to the historical development of institutions.

## WORKS CITED

- Abdelal, Rawi. (2001) *National Purpose in the World Economy*. Ithaca, NY: Cornell University Press.
- Acemoglu, Daron, Simon Johnson, and James Robinson. (2001) The Colonial Origins of Comparative Development. *American Economic Review* 91 (December): 1369-1401.
- \_\_\_\_\_. (2002) Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution. *Quarterly Journal of Economics* 117 (November): 1231-94.
- Adolph, Christopher, Daniel Butler, and Sven Wilson. (2005) Like Shoes and Shirt, One Size Does Not Fit All: Evidence on Time-series Cross-section Estimators and Specifications from Monte Carlo Experiments. Unpublished manuscript.
- Alesina, Alberto, Robert J. Barro, and Silvana Tenreyro. (2002) *Optimal Currency Areas*. NBER Working Paper Series, no. 9072. Cambridge, MA: National Bureau of Economic Research.
- Arellano, Manuel, and Stephen Bond. (1991) Some Tests of Specification for Panel Data. *Review of Economic Studies* 58 (April): 277-97.
- Arthur, W. Brian. (1988) Self-reinforcing Mechanisms in Economics. *The Economy as an Evolving Complex System*, edited by Philip W. Anderson, Kenneth J. Arrow, and David Pines, pp. 9-31. Reading, MA: Addison-Wesley.
- \_\_\_\_\_. (1989) Competing Technologies, Increasing Returns, and Lock-in by Historical Events. *Economic Journal* 99 (March): 116-31.
- Bayoumi, Tamim, and Barry Eichengreen. (1994a) Monetary and Exchange Rate Arrangements for NAFTA. *Journal of Development Economics* 43 (February): 125-65.
- \_\_\_\_\_. (1994b) One Money or Many? Analyzing the Prospects for Monetary Unification in Various Parts of the World. *Princeton Studies in International Finance*, no. 76. Princeton, NJ: International Finance Section, Department of Economics, Princeton University.
- \_\_\_\_\_. (1997) Optimum Currency Areas and Exchange Rate Volatility: Theory and Evidence Compared. *International Trade and Finance: New Frontiers for Research*, edited by Benjamin J. Cohen, pp. 184-215. Cambridge, United Kingdom: Cambridge University Press.
- Beck, Nathaniel, and Jonathan N. Katz. (1995) What to Do (and Not to Do) with Time-series Cross-section Data. *American Political Science Review* 89 (September): 634-47.

- \_\_\_\_\_. (1996) Nuisance vs. Substance: Specifying and Estimating Time-series-cross-section Models. *Political Analysis* 6: 1-36.
- \_\_\_\_\_. (2004) Time-series-cross-section Issues: Dynamics, 2004. Unpublished manuscript.
- Bernhard, William, J. Lawrence Broz, and William Roberts Clark, eds. (2002) The Political Economy of Monetary Institutions. Special issue of *International Organization* 56 (Autumn).
- Bernhard, William, and David Leblang. (1999) Democratic Institutions and Exchange-rate Commitments. *International Organization* 53 (Winter): 71-97.
- Brown, David S. (2000) Democracy, Colonization, and Human Capital in Sub-Saharan Africa. *Studies in Comparative International Development* 35 (Spring): 20-40.
- Broz, J. Lawrence, and Jeffrey A. Frieden. (2001) The Political Economy of International Monetary Relations. *Annual Review of Political Science* 4: 317-43.
- Chipman, John. (1989) *French Power in Africa*. Oxford, UK: Basil Blackwell.
- Clauson, G. L. M. (1944) The British Colonial Currency System. *Economic Journal* 54 (April): 1-25.
- Cohen, Benjamin J. (1993) Beyond EMU: The Problem of Sustainability. *Economics and Politics* 5 (July): 187-203.
- \_\_\_\_\_. (1997) The Political Economy of Currency Regions. *The Political Economy of Regionalism*, edited by Helen Milner and Edward Mansfield, pp. 50-76. New York: Columbia University Press.
- \_\_\_\_\_. (1998) *The Geography of Money*. Ithaca, NY: Cornell University Press.
- \_\_\_\_\_. (2004) *The Future of Money*. Princeton, NJ: Princeton University Press.
- Cooper, Scott. (2004) State-Centric Balance-of-Threat Theory: Explaining the Misunderstood Gulf Cooperation Council. *Security Studies* 13 (Winter): 306-49.
- Cooper, Scott, and Clark Asay. (2003) East African Monetary Union: The Domestic Politics of Institutional Survival or Dissolution. *Perspectives on Global Development and Technology* 2 (June): 131-60.
- David, Paul. (1985) Clio and the Economics of QWERTY. *American Economic Review* 75 (May): 332-37.
- De Grauwe, Paul. (1994) *The Economics of Monetary Integration*. Oxford, United Kingdom: Oxford University Press.

- Eichengreen, Barry. (1992) Should the Maastricht Treaty be Saved? *Princeton Studies in International Finance*, no. 74. Princeton, NJ: International Finance Section, Department of Economics, Princeton University.
- \_\_\_\_\_. (1994) *International Monetary Arrangements for the 21st Century*. Washington, DC: The Brookings Institution.
- \_\_\_\_\_. (1998) Does Mercosur Need a Single Currency? *NBER Working Papers*, no. 6821. Cambridge, MA: National Bureau of Economic Research.
- Englebert, Pierre. (2000) Pre-Colonial Institutions, Post-Colonial States, and Economic Development in Tropical Africa. *Political Research Quarterly* 53 (March): 7-36.
- Firmin-Sellers, Kathryn. (1995) The Concentration of Authority: Constitutional Creation in the Gold Coast. *Journal of Theoretical Politics* 7 (no. 2): 201-22.
- \_\_\_\_\_. (2000) Institutions, Context, and Outcomes: Explaining French and British Rule in West Africa. *Comparative Politics* 32 (April): 253-72
- Fleming, J. Marcus. (1962) Domestic Financial Policies Under Fixed and Under Floating Exchange Rates. *International Monetary Fund Staff Papers* 9 (November): 369-79.
- Frankel, Jeffrey, and Andrew Rose. (1996) Economic Structure and the Decision to Adopt a Common Currency. *CIDER Working Papers*, no. C96-073. Berkeley, CA: Center for International and Development Economics.
- Frieden, Jeffrey. (1991) Invested Interests: The Politics of National Economic Policies in a World of Global Finance. *International Organization* 45 (Autumn): 425-51.
- \_\_\_\_\_. (1994) Exchange Rate Politics: Contemporary Lessons from American History. *Review of International Political Economy* 1 (Spring): 81-103.
- \_\_\_\_\_. (1996) The Impact of Goods and Capital Market Integration on European Monetary Politics. *Comparative Political Studies* 29 (April): 193-222.
- \_\_\_\_\_. (2001) Making Commitments: France and Italy in the European Monetary System, 1979-1985. *The Political Economy of European Monetary Unification*, edited by Barry Eichengreen and Jeffrey Frieden, pp. 23-47. Boulder, CO: Westview Press.
- Garrett, Geoffrey. (1998) The Transition to Economic and Monetary Union. *Forging an Integrated Europe*, edited by Barry Eichengreen and Jeffrey Frieden, pp. 21-47. Ann Arbor, MI: University of Michigan Press.
- Goodhart, Charles A. E. (1995) The Political Economy of Monetary Union. In *Understanding Interdependence: The Macroeconomics of the Open Economy*, ed. Peter B. Kenen, 448-

505. Princeton: Princeton University Press.
- Greaves, Ida. (1953) *Colonial Monetary Conditions*. Colonial Research Studies, no. 10. London: Her Majesty's Stationery Office.
- Greene, William H. (2000) *Econometric Analysis*. 4<sup>th</sup> ed. Upper Saddle River, NJ: Prentice Hall.
- Grier, Robin. (1999) Colonial Legacies and Economic Growth. *Public Choice* 98 (March): 317-35.
- Haggard, Stephan, and Sylvia Maxfield. (1996) The Political Economy of Financial Internationalization in the Developing World. *International Organization* 50 (Winter): 35-68.
- Helleiner, Eric. (2003) *The Making of National Money: Territorial Currencies in Historical Perspective*. Ithaca, NY: Cornell.
- Heston, Alan, and Robert Summers. (1991) The Penn World Table (Mark 5): An Expanded Set of International Comparisons, 1950-88. *Quarterly Journal of Economics* 106 (May): 327-68.
- Hsiao, Cheng. (2003) *Analysis of Panel Data*. 2d ed. Cambridge, UK: Cambridge University Press.
- Joll, James. (1992) *The Origins of the First World War*. 2nd ed. London: Longman.
- Judson, Ruth, and Ann Owen. (1999) Estimating Dynamic Panel Data Models: A Guide for Macroeconomists. *Economics Letters* 65: 9-15.
- Kawai, Masahiro. (1992) Optimum Currency Areas. *The New Palgrave Dictionary of Money and Finance*, edited by Peter Newman, Murray Milgate, and John Eatwell, vol. 3: pp. 78-81. London: Macmillan.
- Kenen, Peter B. (1969) The Theory of Optimum Currency Areas: An Eclectic View. *Monetary Problems of the International Economy*, edited by Robert A. Mundell and Alexander K. Swoboda, pp. 41-60. Chicago: University of Chicago Press.
- King, Frank H. H. (1957) *Money in British East Asia*. London: Her Majesty's Stationery Office.
- Kirshner, Jonathan, ed. (2003) *Monetary Orders: Ambiguous Economics, Ubiquitous Politics*. Ithaca, NY: Cornell University Press.
- Krugman, Paul. (1995) What Do We Need to Know about the International Monetary System? In *Understanding Interdependence: The Macroeconomics of the Open Economy*, edited by Peter B. Kenen, pp. 509-29. Princeton, NJ: Princeton University Press.

- Lange, Matthew. (2004) British Colonial Legacies and Political Development. *World Development* 32 (June): 905-22.
- Mahoney, James. (2003) Long-Run Development and the Legacy of Colonialism in Spanish America. *American Journal of Sociology* 109 (July): 50-106.
- Masson, Paul R., and Mark P. Taylor. (1993) Currency Unions: A Survey of the Issues. *Policy Issues in the Operation of Currency Unions*, edited by Paul R. Masson and Mark P. Taylor, pp. 3-51. Cambridge, United Kingdom: Cambridge University Press.
- Mattli, Walter. (1999) *The Logic of Regional Integration: Europe and Beyond*. Cambridge, United Kingdom: Cambridge University Press.
- McKinnon, Ronald I. (1963) Optimum Currency Areas. *American Economic Review* 53 (September): 717-25.
- McNamara, Francis Terry. (1989) *France in Black Africa*. Washington, DC: National Defense University Press.
- Melitz, J. (1995) The Current Impasse in Research on Optimum Currency Areas. *European Economic Review* 39 (April): 492-500.
- Mintz, Norman N. (1970) *Monetary Union and Economic Integration*. Bulletin, no. 64. New York: New York University, Graduate School of Business Administration, Institute of Finance.
- Mundell, Robert. (1960) The Monetary Dynamics of International Adjustment Under Fixed and Flexible Exchange Rates. *Quarterly Journal of Economics* 74 (May): 227-57.
- \_\_\_\_\_. (1961) A Theory of Optimum Currency Areas. *American Economic Review* 51 (September): 657-64.
- \_\_\_\_\_. (1963) Capital Mobility and Stabilization Policy Under Fixed and Flexible Exchange Rates. *Canadian Journal of Economic and Political Science* 29 (November): 475-85.
- Newlyn, W. T., and D. C. Rowan. (1954) *Money and Banking in British Colonial Africa: A Study of the Monetary and Banking Systems of Eight British African Territories*. Oxford: Clarendon Press.
- Nickell, Steven. (1981) Biases in Dynamic Models with Fixed Effects. *Econometrica* 49 (November): 1417-26.
- North, Douglass C. (1990) *Institutions, Institutional Change and Economic Performance*. Cambridge, United Kingdom: Cambridge University Press.
- Pick, Franz, and Rene Sedillot. (1971). *All the Monies of the World*. New York: Pick Publishing.

- Pierson, Paul. (2000) Increasing Returns, Path Dependence, and the Study of Politics. *American Political Science Review* 94 (June): 251-67.
- Quinn, Dennis, and Carla Inclan. (1997) The Origins of Financial Openness. *American Journal of Political Science* 41 (July): 771-813.
- Rose, Andrew. (2000) One Money, One Market: The Effect of Common Currencies on Trade. *Economic Policy* 30: 9-45.
- Sokoloff, Kenneth, and Stanley Engerman. (2000) Institutions, Factor Endowments, and Paths of Development in the New World. *Journal of Economic Perspectives* 14 (Summer): 217-32.
- Stasavage, David. (2003) *The Political Economy of a Common Currency: The CFA Franc Zone Since 1945*. Aldershot, UK: Ashgate.
- Tavlas, George S. (1993) The 'New' Theory of Optimum Currency Areas. *World Economy* 16 (November): 663-85.
- United Nations. (1996) *Statistical Yearbook, 1994*. 41st ed. New York: United Nations.
- Wilson, Sven, and Daniel Butler. (2004) A Lot More to Do: The Promise and Peril of Panel Data in Political Science. Unpublished manuscript.
- Young, Crawford. (1994) *The African Colonial State in Comparative Perspective*. New Haven: Yale University Press.

TABLE 1

## Explaining Regional Monetary Cooperation

		ARELLANO-BOND		FIXED EFFECTS WITH LAGGED DEPENDENT VARIABLE	
	Lagged Regional Cooperation (#)	<b>0.53*</b> <b>(2.52)</b>	0.40 (1.83)	<b>0.27**</b> <b>(2.69)</b>	<b>0.24*</b> <b>(2.35)</b>
Institutional Experience	Colonial Currency (dummy)	<b>0.68*</b> <b>(2.48)</b>		<b>1.11***</b> <b>(3.90)</b>	
	Past Currency (dummy)		<b>2.88**</b> <b>(2.63)</b>		<b>1.75***</b> <b>(5.92)</b>
Economic Interdependence	Trade Encapsulation	0.030 (1.62)	0.027 (1.74)	<b>0.049**</b> <b>(2.73)</b>	<b>0.045*</b> <b>(2.53)</b>
	Std Deviation of Growth	-2.89 (-1.57)	-2.26 (-1.72)	-1.82 (-1.26)	-2.01 (-1.37)
Economic Controls	Average Economic Size	-0.31 (-0.47)	0.54 (0.94)	<b>0.55*</b> <b>(2.55)</b>	0.25 (1.35)
	Development Level	-0.000022 (-0.46)	-0.000049 (-0.86)	<b>-0.00012**</b> <b>(-2.72)</b>	<b>-0.000082*</b> <b>(-2.11)</b>
Other Controls	French Influence	<b>-2.81*</b> <b>(-1.97)</b>	<b>-2.51*</b> <b>(-2.04)</b>	<b>-2.68***</b> <b>(-3.69)</b>	<b>-2.57***</b> <b>(-3.62)</b>
	British Influence	0.75 (0.80)	-0.13 (-0.20)	0.37 (1.37)	-0.027 (-0.11)
	Intra-Regional Hegemon	0.40 (0.30)	-0.054 (-0.05)	1.77 (1.60)	1.98 (1.83)
	Trade with External Power	<b>-0.040*</b> <b>(-2.19)</b>	<b>-0.035*</b> <b>(-2.28)</b>	<b>-0.028*</b> <b>(-2.37)</b>	<b>-0.036***</b> <b>(-3.27)</b>
	Size of Region	<b>0.19*</b> <b>(2.21)</b>	-0.051 (-0.86)	<b>0.19**</b> <b>(3.00)</b>	0.070 (1.11)
	Constant	0.018	-0.0012	(dropped)	(dropped)
	N	434	434	463	463
	Wald Chi-square	10577	19064	100718	203792
	R-squared			0.8513	0.8570
	Rho			0.493	0.489
	2 <sup>nd</sup> -order autocorrelation test (p-value)	0.1556	0.1449		
	Sargan test (p-value)	1.0000	1.0000		

Z-scores in parentheses. Fixed effects coefficients omitted from columns 3-4.

# Lagged Regional Cooperation is instrumented in Arellano-Bond method.

\* significant at .05 level; \*\* significant at .01 level; \*\*\* significant at .001 level

TABLE 2

## Substantive Effects for Statistically Significant Variables

VARIABLE	ARELLANO-BOND (#)		FIXED EFFECTS WITH LAGGED DEPENDENT VARIABLE	
	CHANGE IN INDEPENDENT VARIABLE	CHANGE IN DEPENDENT VARIABLE (0-6.6 SCALE)	CHANGE IN INDEPENDENT VARIABLE	CHANGE IN DEPENDENT VARIABLE (0-6.6 SCALE)
Colonial Currency Institution	0-1	0.68	0-1	1.11
Past Currency Union	0-1	2.88	0-1	1.75
Trade Encapsulation			1 s.d.	0.75
Development Level			1 s.d.	-0.40
Average Economic Size			1 s.d.	0.39
French Influence	0-1	-2.66	0-1	-2.62
Trade with External Power	1 s.d.	-0.49	1 s.d.	-0.42
<p>Substantive effects computed for coefficients in Table 1. If variable is significant in both Colonial Currency and Past Currency columns, then average effect is reported. If variable is significant in only one column, that effect is reported. Cell is blank if the variable was not significant in either column.</p> <p># Because all variables are first differenced in Arellano-Bond procedure, the reported effect represents a 1-unit change in the variable between time T-1 and time T.</p>				

## APPENDIX 1

### Dependent Variable: Regional Monetary Cooperation (1960-95)

#### 6-6.6: Currency Union With Single Currency

Caribbean 1979-95 (East Caribbean Central Bank)

East Africa 1963-65 (East African Currency Board)

West Africa 1960-95 (West African Monetary Union)

Central Africa 1960-95 (Central African Monetary Area)

Southern Africa 1974-85, 1992-95 (Rand Monetary Area, Common Monetary Area)

Former Soviet 1992-93 (Ruble Zone)

#### 5-5.6: Currency Union With Separate Currencies

East Africa 1967-76 (East African Monetary Union)

Southern Africa 1986-91 (Common Monetary Area)

#### 4-4.6: Exchange Rate Union With Narrow Bands

Western Europe 1960-92 (Benelux Economic Union, Snake, European Monetary System)

#### 3-3.6: Exchange Rate Union With Wide Bands

Western Europe 1993-95 (European Monetary System)

#### 2-2.6: Payments Arrangements Covering Most Trade

Central America 1961-82 (Central American Clearing House)

Caribbean 1977-78 (Caribbean Community Multilateral Clearing Facility)

South America 1965-86 (Latin American Integration Association Multilateral Clearing Mechanism)

South Asia 1984-95 (Asian Clearing Union)

#### 1-1.6: Payments Arrangement Covering Little Trade

Caribbean 1969-76 (Caribbean Community Multilateral Clearing Facility)

South America 1987-95 (Latin American Integration Association Multilateral Clearing Mechanism)

East Africa 1984-95 (Common Market for Eastern and Southern Africa Clearing House)

South Asia 1967-83 (Regional Cooperation for Development Union for Multilateral Payments Arrangements, Asian Clearing Union)

#### 0.1-0.6: Freestanding Balance-of-Payments Support Fund<sup>53</sup>

Southeast Asia 1977-95 (ASEAN swap arrangement)

Middle East 1977-95 (Arab Monetary Fund)

North Africa 1977-95 (Arab Monetary Fund)

East Europe 1964-90 (International Bank for Economic Cooperation)

North America 1962-95 (US-Canada swap arrangement)

---

<sup>53</sup> This category excludes balance-of-payments support funds that are embedded within more extensive regional institutions, such as currency unions that also provide balance-of-payments support to members.

0: No Cooperation

All other cases, including all years for the following regions:

East Asia

Former Soviet Union

Frequency Table: Regional Monetary Cooperation

Cooperation Level	Frequency	Percent
0	190	33.10
0.1-0.6	118	20.56
1-1.6	46	8.01
2-2.6	58	10.10
3-3.6	3	0.52
4-4.6	33	5.75
5-5.6	16	2.79
6-6.6	110	19.16
Total	574	

APPENDIX 2

Descriptive Statistics

Variable	Minimum	Maximum	Mean	Std. Dev.	Observations
DV: Regional Monetary Cooperation	0	6	1.793043	2.387676	575
Colonial Currency	0	1	0.0521739	0.2225712	575
Past Currency Institution	0	1	0.3443478	0.4755689	575
Trade Encapsulation	0.3	71.1	15.12071	15.95651	548
Trade as Share of Output	0.000065	0.2766623	0.0150365	0.0339386	440
Std. Dev. of Growth	0.0006787	0.1826629	0.0482485	0.0289926	519
Average Divergence of Growth	0.0006787	0.1471738	0.0412099	0.0239104	520
Average Economic Size	9.151032	12.15733	10.28038	0.7140514	522
Size of Region	2	19	9.393043	4.462225	575
Development Level	613.6897	18040.45	3869.377	3924.928	520
Trade with External Power	0	78.6	23.44075	13.17816	573
French Influence	0	1	0.28	0.4493898	575
British Influence	0	1	0.3930435	0.4888516	575
Intra-Regional Hegemon	0.1410478	0.9405215	0.5158542	0.2439307	482