

REVIEW ESSAY:

**Reappraising the Legacy of Colonialism: The Value of an Island Sample  
A Response to Bertram**

James Feyrer  
Dartmouth College  
Hanover, NH  
USA  
[james.feyrer@dartmouth.edu](mailto:james.feyrer@dartmouth.edu)

&

Bruce Sacerdote  
Dartmouth College  
Hanover, NH  
&  
National Bureau of Economic Research, Inc. (NBER)  
Cambridge MA  
USA  
[bruce.sacerdote@dartmouth.edu](mailto:bruce.sacerdote@dartmouth.edu)

**Abstract**

In this brief article, we respond to Geoff Bertram's overview of the current state of research into the legacy of colonial institutions. We make the general case for islands as a useful unit of observation in thinking about cross country income differences. The nature of island exploration and settlement provides a unique natural experiment that is not available in a mainland sample of countries. However, we feel that the results provide useful insights to the general literature about the relationship between colonialism and income. We also respond to Bertram's criticisms of our data and sample selection. In many cases, problems he identifies have been addressed in the most recent version of our work.

*Keywords:* islands, colonialism, sailing ships, wind, income

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**Introduction**

Geoff Bertram has written an interesting and fair overview of the current state of research into the legacy of colonial institutions (Bertram, 2007). We greatly appreciate the attention he gives to our work.

It is true that we are not island specialists. We have, however, two major motivations for looking at islands as a unit of observation. First, the use of islands allows us to go beyond

the standard data sets that have been used in empirical investigations of economic growth. Since the Penn World Tables were first published, papers numbering in the thousands have been produced relying on this data. It is therefore very difficult to find new and interesting results using the Penn World Tables.

Second, finding causal relationships within cross country data is exceedingly difficult. Of the many studies written using the Penn World Tables, the vast majority are identifying correlations, not causal relationships. As pointed out by Bertram, the most successful papers in this literature of late have been produced by Acemoglu *et al.* (2001; 2002). Their instrumental variable approach, using settler mortality as a predictor of modern institutions, is very clever. It is not, however, without its critics.

The use of islands allows us to get to causal relationships in a much more straightforward manner. There are three characteristics of islands that were crucial for our study. First, the islands in our sample have much more homogenous initial conditions than continental countries. Second, the islands in our sample are small and remotely located. Third, the only way to reach these islands during the colonial period was using sailing ships.

The first two characteristics result in a significant random component in the colonial history of islands. We start with a collection of small, similar islands spread out over a vast area. Europeans were largely interested in getting across the Pacific, not staying there. The colonization of these islands is therefore going to be highly related to ease of travel across the ocean and not so affected by the intrinsic productive capacity of the individual islands. This is heightened by the relative homogeneity of island geography (at least as compared to mainland countries).

This random component is the key to thinking about causality in our work. For continental countries, the timing and nature of colonialism is inextricably linked to geographic factors which may be affecting output today. For the islands, this channel of reverse causality is arguably much weaker. The fact that islands are only accessible by sail during the colonial period is crucial for testing the hypothesis of randomness. By using wind patterns as an instrument for length of colonial period, we are able to show that causality is indeed running from length of colonialism to income.

## **Mechanisms**

Moving from the basic result to a more detailed institutional analysis is unfortunately difficult. As Bertram (2007) notes:

“Having achieved an important contribution to the general development literature, but not really having engaged with the specifically small-island aspects of their story, Feyrer & Sacerdote call a halt. Their explanations of why longer colonial exposure should translate to higher modern incomes, other things being equal, remain only crudely articulated and little-developed, without clear transmission mechanisms to the present.”

To this we would plead partially guilty. Since the NBER working paper, there have been two substantial changes to the paper. First, the main paper (which is forthcoming in *The Review of Economics and Statistics*) has been largely stripped of the mechanisms and focuses very clearly on the central questions of the timing and the identity of the colonizing country. Our work on the specific mechanisms has been expanded in a follow up paper which should be in working paper form soon. Utilizing newly collected data, we look at the impact of intensity of colonial rule in the form of administrators in residence on the islands and find that years with direct administration are more beneficial than mere designation of colonial status or rule from afar. We also find weak evidence that missionary schools are associated with better outcomes.

We do, however, confess that the identification of specific institutional transfers is extremely difficult and limited by data availability. We attempt to provide some insight into mechanisms, but our attempts are admittedly crude and incomplete. In the work of Acemoglu *et al.*, there is a reliance on modern measures of institutional quality; these are simply unavailable in our island sample. It should be noted, however, that even the best current institutional work treats institutions as something of a black box. We do not have good empirical evidence on the efficacy of specific institutional features and instead rely on broad proxies such as “risk of expropriation.”

This may be an area where island specialists can fill in substantial holes. Understanding the modern heterogeneity in small country institutions may allow us to gain insight into institutions generally. Since these islands are small, it may be possible to study institutions much more cleanly than in larger countries where there may be more regional variation. In addition, we like to think that our work suggests that island institutions suffer from somewhat less reverse causality than in mainland countries. This proposition may be testable using our instruments.

We would also like to address Bertram’s comments on our findings regarding slavery. As noted, we do not find a significant negative impact on modern income from the importation of black slaves. We also find that any increase in the proportion of the population that was brought by Europeans, be it black or white, is positively associated with income. This inability to find a negative association between modern income and the use of production technologies that promote inequality (i.e. plantation agriculture) contrasts with the results of Engerman & Sokoloff (2003; 2005) whose sample includes a set of very heterogeneous countries.

### **Data Issues**

Geoff Bertram points out a number of data inconsistencies. There are two main criticisms of the data as presented in our NBER working paper. First, we have GDP numbers that appear to be incorrect and second, the years of colonial rule is too low for several of our islands. Both these concerns are valid and we would like to thank him for pointing them out. Luckily, the issues stem from two sources and have been rectified since the NBER version of the paper.

First, the GDP numbers are simply incorrect in the appendix table of the NBER version of the paper and are not the figures used in the regressions. For many islands still under the control of a colonial power, we had two GDP columns in our data. The first was a uniform set of GDP numbers based on the UN GDP data for the home country. This column would therefore have the GDP for France in any islands under the control of France but would be correct for fully independent islands. The second column held island specific GDP figures for those islands where the home country GDP is clearly inappropriate. The GDP figures used in our regressions were an appropriate blend of these two sets, replacing the home country GDP with island specific figures. If we could not find an island specific GDP in these cases the data point was not used. Unfortunately, we included the incorrect column in the appendix of the earlier version of the paper. This has been fixed in the most recent version. We want to reiterate that the incorrect GDP figures were never the basis of our regression analysis and only appeared in the appendix table.

The second issue with the data revolves around years of colonization. It is correct that we ignored years of New Zealand colonization in the initial version of our paper. Our initial definition of colonialism included only colonial rule by Britain, France, Netherlands, Portugal, Spain, Germany, USA and Japan. We were, however, convinced by a subsequent referee that years of New Zealand colonization should be included. The forthcoming version of the paper includes years as a New Zealand colony. For example, the Cook Islands are now coded as having been a colony for 77 years, as suggested. These changes in the coding do not however affect our results in any significant way.

### **Selection of Islands**

The other criticism leveled by Bertram is toward our selection of sample. There are many reasons why islands were left out of the sample. As Bertram points out, there are 327 inhabited UNEP islands of which we use only 80. The first criterion is that the island must only be reachable through open ocean sailing. We were interested in finding islands whose colonial experience was randomly determined. Islands off the African coast, such as the Cape Verde Islands or São Tomé y Príncipe were naturally found as explorers picked their way down the African coast. It was essentially impossible for these islands to be explored after the islands in the Pacific. For this reason, they are incompatible with our identification strategy which relies on the relatively random (or wind based) nature of island colonization. Within the sample of countries satisfying this criterion, there were many without data available or where the islands were indistinguishable from others in their group. For example, there are several inhabited islands in Hawaii, but only the main island is included in our data since the other islands would have identical data for colonization and income. We only include multiple islands in a group if there is heterogeneity in either income or colonial history.

The most controversial selection issue involves the larger islands we excluded. We would argue that islands such as Java in Indonesia do not satisfy our open ocean sailing requirement. Sailing close to coasts, it was inevitable that the Europeans would visit Java before the islands in the open Pacific. We were also wary of large islands because their largeness was certain to affect their colonization pattern all else being equal. Their size is

also likely to affect their modern outcome in ways that are unaffected by the colonial experience. The idea that the difference between Guam and Fiji's colonial experience represents random variation is much more plausible than the same claim between Java and New Zealand. This being said, we are open minded to the idea that our selection is flawed and would welcome any attempts to expand the data set. We suspect that our results are robust to adding data points.

## **Conclusion**

We would like to thank Geoff Bertram for taking an interest in our work and putting it into the context of the institutions and growth literature. We also appreciate the attention paid to our data. We feel confident in our conclusions, but we are open-minded to suggestions for better sources and methods.

As we are not island specialists, we also appreciate the insight into how our work interacts with more island focused work. We appreciate the opportunity *Island Studies Journal* is providing us to discuss and further disseminate information about our work. We hope that our paper can serve as a starting point for more cross island scholarship. There is no doubt that this is an under-explored area and has ramifications for development questions for mainland as well as island countries.

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